

**IN THE MATTER OF THE PETITION OF WSA PROPERTIES, ET AL. TO VACATE
OCCIDENTAL AVENUE SOUTH BETWEEN THE NORTH MARGIN OF SOUTH HOLGATE
STREET AND A LINE PARALLEL AND 30 FEET SOUTH OF THE CENTERLINE OF SOUTH
MASSACHUSETTS STREET IN THE SOUTH DOWNTOWN NEIGHBORHOOD OF SEATTLE**

CLERK FILE 312905

The City Council hereby grants conditional approval of the petition from WSA Properties, et al. (hereafter WSA or Petitioner) for the vacation of the Occidental Avenue South between the north margin of south Holgate Street and a line parallel and 30 feet south of the centerline of South Massachusetts Street in the South Downtown neighborhood of Seattle, described as:

That portion of South Occidental Avenue South lying east of Block 320, and west of Block 319, Seattle Tide Lands, more particularly described as follows:

Beginning at the southwest corner of Block 319, Seattle Tide Lands, in King County, Washington, as shown on the official maps on file in the Office of Commissioner of Public Lands at Olympia, Washington;

Thence north 88°51'24" west along the westerly extension of the southerly line of said Block 319 for a distance of 30.00 to the centerline of Occidental Avenue South:

Thence north 88°49'39" west along the easterly extension of the southerly line of block 320 of said Seattle Tide Lands for a distance of 30.00 feet to the southeast corner thereof;

Thence north 01°08'29" west along the easterly line of said Block 320 and that portion of vacated South Massachusetts Street, City of Seattle Vacation Ordinance #117475 for a distance of 680.18 feet;

Thence south 88°50'27" east parallel and 30.00 feet southerly of the centerline of South Massachusetts Street 60.00 feet to the easterly margin of Occidental Avenue South;

Thence south 01°08'29" west 680.17 feet to the point of beginning.

The street proposed for vacation includes approximately 40,811 square feet of right-of-way.

FINDINGS

- A. On March 7, 2013, WSA Properties, Inc. submitted a petition to vacate Occidental Avenue S. between S Massachusetts Street and S Holgate Street.
- B. The Seattle Department of Planning and Development (DPD) issued a Determination of Significance and Notice of Scoping on October 25, 2012 and on August 15, 2013

published a Draft Environmental Impact Statement (DEIS) analyzing the vacation of Occidental Avenue S and development of a multi-sport Arena. On May 7, 2015, DPD published a Final Environmental Impact Statement (FEIS) and on October 29, 2015, published an Addendum to that FEIS related to pedestrian impacts.

The FEIS found that the proposal would have no significant unavoidable adverse primary impacts to geology, air, water, scenic resources, noise, land use, historic and cultural resources, public services and utilities, street systems, public transportation, bicyclists, or bicycle corridors. The FEIS further found that the order of magnitude in change in traffic volumes associated with the proposal falls within the range of current event experience; there would be an increase in traffic volumes during peak conditions on event days, which would occur more frequently with an arena. On event days, delays to freight traffic may occur as a result of additional arena traffic, just as current delay occurs presently on event days. On event days, increased parking demand would occur as it does on current event days. Increased frequency of events and the proximity of the arena to the S Holgate Street rail crossing would increase the potential for conflict between pedestrians and rail, east of the site. Potential mitigation measures for those impacts were identified by the FEIS, and have been incorporated into the conditions for the street vacation.

- C. The Seattle Design Review Board held a number of public meetings to provide Early Design Guidance and to review the final proposed design of a multi-sport Arena, and on September 1, 2015 recommended approval of the proposed design and departures with conditions. Those conditions are required to be resolved before the Master Use Permit can be issued for the project.
- D. The Seattle Design Commission held a number of public meetings to review the urban design merit and the public benefit features related to the requested street vacation and on September 3, 2015 recommended conditional approval of the street vacation. Recommended conditions related to additional review of the Public Art Plan and of the permanent and programmable elements of the Plaza and Living Machine. Those conditions have been incorporated into the conditions for the street vacation.
- E. Based on review of the proposed vacation by the Seattle Design Commission, the Seattle Design Review Board, the FEIS and its addendum, review by City Departments and public and private utilities, comments from members of the public, the Port of Seattle, the Washington State Public Stadium Authority, the Washington State Major League Baseball Stadium Public Facilities District, the Seattle Mariners, First and Goal, Inc., on November 30, 2015, the Seattle Department of Transportation made a recommendation to approve the street vacation with conditions.
- F. On February 8, 2016, the City Council adopted Resolution 31650, setting March 15, 2016 as the date for a public hearing on the requested vacation. The Seattle City

Council's Sustainability and Transportation Committee held a public hearing held on March 15, 2016.

- G. The City Council has reviewed the recommendation provided by the Seattle Department of Transportation (SDOT), the Street Vacation Policies, the City's SEPA Ordinance, the comment letters and other documentation provided by community members and interested parties, the file forwarded by SDOT which contains the material from the review of the vacation petition, including all comment letters received.
- H. The City Council accepts and adopts the recommendation and analysis provided by SDOT as amended by the conditions. The City Council has determined that the petition is consistent with the Street Vacation Policies and that there is a compelling reason to grant the vacation; the development of sports and event arena to provide a facility for professional sports and concerts and other activities. The vacation serves the public interest in a significant way by creating a development site of sufficient size to accommodate the proposed arena.
- I. In reaching its decision the City Council has balanced all of the policy guidance and criteria outlined in the Street Vacation Policies. The Policies provide for three areas of review including:
 - 1. Protection of the public trust, defined as providing for circulation, access, utilities, light, air, open space, and views. The City Council has determined that the impacts from loss of the portion of the street and the subsequent development of the site are not significant and can be adequately mitigated.
 - 2. Protection from adverse land use impacts, defined as assuring that the project is consistent with City policies. The City Council has determined that the development of the project is consistent with the Comprehensive Plan goals, the Stadium Overlay District, and the zoning.
 - 3. Provision of public benefit, defined as providing a long-term public benefit for the general public. The City Council has determined that the public benefit proposal is adequate as balanced with what is achieved by the Petitioner.

Now, therefore, the vacation is granted upon the Petitioner meeting the following conditions. The Petitioner shall demonstrate, to the satisfaction of the City, that all conditions imposed on the vacation by the City Council have been satisfied: all utility work relating to the vacation including easements or other agreements is completed; all public benefit elements have been provided; any other agreements or easements have been completed and recorded as necessary; and all fees paid, prior to the passage of the street vacation ordinance.

CONDITIONAL APPROVAL

The vacation shall be granted upon the Petitioner meeting the following conditions. The Petitioner shall demonstrate that all conditions imposed by the City Council have been satisfied and all fees paid, prior to the passage of the street vacation ordinance.

1. The vacation is granted solely to allow the Petitioner to build a project substantially in conformance with the project described in the Memorandum of Understanding (MOU) approved by Ordinance 124019 and reviewed by the City Council and for no other purpose.
2. All street improvements shall be designed to City standards, as modified by these conditions to implement the Public Benefit requirements, and be reviewed and approved by the Seattle Department of Transportation through a Street Improvement Permit.
3. The utility issues shall be resolved to the full satisfaction of the affected utility prior to the approval of the final vacation ordinance. Prior to the commencement of any development activity on the site, the Petitioner shall work with the affected utilities and provide for the protection of the utility facilities. This may include easements, restrictive covenants, relocation agreements, or acquisition of the utilities, which shall be at the sole expense of the Petitioner. Utilities impacted may include:
 - DOIT
 - SPU Sewer
 - SPU Water
 - PSE Gas
 - Seattle City Light; and
 - CenturyLink Communications.
4. Pursuant to the Street Vacation Policies, conditional approval of the vacation petition is effective for five years from the date of City Council conditional approval. The Petitioner shall meet all of the conditions imposed on the vacation, to the satisfaction of the City, within the five-year time frame. The Petitioner shall provide the Seattle Department of Transportation with Quarterly Reports, following Council approval of the vacation, which describe the status of: the development activity, the development schedule, and Petitioner's progress toward meeting the vacation conditions. The Seattle Department of Transportation shall determine that all conditions imposed by this vacation have been satisfied, and that all fees required by City departments have been paid before the Petitioner may request or the Seattle Department of Construction and Inspection may issue a Final Certificate of Occupancy.

5. In addition to the conditions imposed through the vacation process, the project, as it proceeds through the permitting process, is subject to SEPA review and to conditioning pursuant to various City codes and through regulatory review processes including SEPA.
6. The Petitioner shall develop a parking garage in order to provide the Code-required parking for the facility. Parking should be developed in a multi-level parking structure across Holgate Street to the south of the project, on a site controlled by the Petitioner. It is anticipated that approximately 1,750 stalls would be provided; the exact number of parking stall will be determined by the formula in Seattle Municipal Code (SMC) 23.54.015, Table A. The size of this parking facility would be reduced to the extent alternative dedicated parking in the vicinity becomes available for use by the project as determined by the Master Use Permit. The Petitioner should work to identify parking opportunities for event staff in areas that do not compete with event attendee parking. The provision of parking shall include accommodation for modal options such as vanpools and other share transportation options (Uber, Lift, car2go, etc.) to the extent practicable. The Petitioner will be required to participate in the City's e-Park Program and should:
 - Provide a centrally coordinated event parking program that would allow fans to reserve and pre-purchase parking passes at convenient facilities;
 - Pre-sell parking and incorporate it as part of ticket packages.
7. The Petitioner shall provide for a new traffic signal at South Walker Street and 1st Avenue South should traffic warrants be met by the arena and the proposed parking garage.
8. The Petitioner is required to provide a pro-rata monetary payment to the South Lander Street Grade Separation Project based impacts identified in the FEIS. The amount of payment will be determined at a later date when the Lander Street project moves forward and may not be known until after completion of the vacation process.
9. The Petitioner shall develop a pedestrian bridge at South Holgate Street to provide a grade-separated means for event patrons and the general public to cross the rail lines in South Holgate Street. The pedestrian bridge shall provide for pedestrians and bicycles and shall be ADA compliant. The dimension, ramps, and location must be generally consistent with the pedestrian bridge presented to SDOT and to the Design Commission. In addition to SIP review, the pedestrian bridge will require a term permit from SDOT and an indemnification agreement. Development of the pedestrian overpass may require pedestrian enhancements at 4th Avenue South such as additional pedestrian lighting. Timing of implementation of the pedestrian bridge, and interim

shuttle service pending bridge completion, shall be set forth in the Master Use Permit decision for the project.

10. Both Safeco Field and CenturyLink Field currently operate in the Stadium District Overlay area. The Operators of those facilities (defined below) are party to an existing event scheduling agreement designed to minimize conflicts between events at their respective facilities. The Arena, if approved and constructed, will bring an additional event venue to this area. Arena events shall be scheduled according to the requirements outlined below in order to minimize overlapping events and to avoid conflicts between egress and ingress of same-day events at the several facilities. Under Section 21 of the MOU, ArenaCo is required to coordinate with the Seattle Mariners, the Seattle Sounders and the Seattle Seahawks, as well as the Washington State Public Stadium Authority ("PSA", the owner of CenturyLink Field) and the Washington State Major League Baseball Stadium Public Facilities District ("PFD", the owner of Safeco Field), to minimize the number of conflicting and overlapping events held at the existing stadiums and the proposed Arena. Event scheduling at the Arena shall comply with the following:

1. The Arena may schedule events, sporting or otherwise, of up to 5,000 attendees (cumulative total, if multiple smaller events at the Arena overlap) without regard to the scheduling requirements herein.
2. No Major Event at the Arena may start between 4pm and 7pm on a Weekday. The Seattle Department of Transportation may grant exceptions if required for playoffs or "premier" events (national or international), such as an All-Star Game, NCAA tournament game, etc., or otherwise up to three times per year if there are no Overlapping or Sequential Events at another venue.
3. No Major Event may occur at the Arena at any time where the Arena Major Event would overlap with both a Major Event at Safeco Field and a Major Event at CenturyLink Field, if the reasonably anticipated combined attendance at the Arena, Safeco Field and CenturyLink Field would exceed 45,000 attendees if on a Weekday and 55,000 attendees if on a Weekend. If the Arena has a Major Event that overlaps with Major Events at both Safeco Field and CenturyLink Field and is permissible because combined attendance is below these limits, the Arena will coordinate with the Operators of the other venues and with the City of Seattle on a traffic plan to manage the traffic flow in the best way possible.
4. Additional Rules for NBA Games:
 - a. For pre-season games: No NBA pre-season game may be scheduled as an Overlapping Event with an MLB, NFL or MLS regular season or post-season

home game at either CenturyLink Field or Safeco Field if the reasonably anticipated combined attendance at the several venues involved would exceed 45,000 on a Weekday, or 55,000 on a Weekend.

b. For regular season games:

i. No NBA regular season game may be scheduled as an Overlapping Event with (w) any Seahawks home game, (x) the Mariners' season home opener, (y) any Sounder's home game with an anticipated attendance of 45,000 or greater on a Weekday or 55,000 or greater on a Weekend, or (z) any other Major Event at CenturyLink Field with an anticipated attendance of 45,000 or greater on a Weekday, or 55,000 or greater on a Weekend.

ii. The Arena will make best efforts working with the NBA to avoid scheduling regular season home games as Overlapping Events with Mariners or Sounders home games or Major Events at CenturyLink Field (other than those specifically prohibited in 4.b.i above), recognizing that this may not be possible in all instances. To assist this, the Operator of Safeco Field and the Operator of CenturyLink Field will be asked to provide the Arena with a draft schedule as soon as it is reasonably reliable. In addition, the Arena shall provide the Operator of Safeco Field and the Operator of CenturyLink Field with a draft schedule as soon as it is reasonably reliable. The operators of the three venues are encouraged to coordinate on schedule setting. If the Arena is unable to avoid scheduling an Overlapping Event, the NBA game will start at least one hour after the start time of the Mariners or Sounders game or other Major Event at CenturyLink Field, and the Arena and the Operator of the venue involved will work together with the City of Seattle on a traffic plan to manage the dual event in the best way possible. The one-hour start time delay may be reduced to 30 minutes if mutually agreeable to the Operators of the venues involved, and approved by the City of Seattle.

c. For playoff games: It is assumed that NBA playoff games cannot be changed or rescheduled, and will proceed as the NBA dictates. If an Overlapping Event is unavoidable, the Arena will work together with the Operator of the venue involved and the City of Seattle on a traffic plan to manage the dual event in the best way possible. Staggered start times of at least one hour will be required, but may be reduced to 30 minutes if mutually agreeable to the Operators of the venues involved, and approved by the City of Seattle.

5. Additional Rules for Events Other than NBA Games:

- a. On a Weekday, an Arena Major Event (excluding NBA games, which are addressed in Section 4 above) cannot be scheduled as an Overlapping Event with a Major Event at Safeco Field or a Major Event at CenturyLink Field if the reasonably anticipated combined attendance at the venues involved would exceed 45,000.
 - b. On a Weekend, an Arena Major Event (excluding NBA games, which are addressed in Section 4 above) cannot be scheduled as an Overlapping Event with a Major Event at Safeco Field or a Major Event at CenturyLink Field if the reasonably anticipated combined attendance at the venues involved would exceed 55,000.
 - c. If the Operators of CenturyLink Field and Safeco Field provide the Arena with a schedule of non-sport Major Events at their respective venues at least 90 days in advance of such events, the Arena will make best efforts to avoid scheduling Major Events at the Arena as Overlapping Events with the identified events at Safeco Field or CenturyLink Field.
6. In the case of Sequential Events, the Arena shall ensure it allows at least 3 hours between the projected end of the first event and the scheduled start time of the second event.
 7. If the Arena becomes the host venue for a professional sports team other than an NBA team, the Additional Rules for Events Other than NBA Games shall apply until such time as the Arena can reach a mutually agreeable revision to these scheduling requirements with the Operators of CenturyLink Field and Safeco Field.
 8. Definitions Used:
 - a. *CenturyLink Field*: CenturyLink Field and Event Center, including the WAMU Theatre.
 - b. *Major Event*: an event of any kind with a fixed starting or ending time and which is reasonably anticipated to generate an aggregate attendance of 5,000 or more at the venue specified.
 - c. *Operator of CenturyLink Field*: the party granted authority to operate CenturyLink Field by the PSA, currently First & Goal Inc., which party shall have responsibility for coordinating with the Seahawks and Sounders.

- d. *Operator of Safeco Field*: the party granted authority to operate Safeco Field by the PFD, currently The Baseball Club of Seattle, LLLP, which party shall have responsibility for coordinating with the Mariners.
- e. *Overlapping Event*: an Arena Major Event that overlaps in time with a Major Event at Safeco Field or a Major Event at CenturyLink Field. Overlaps occur when the scheduled start time of one event is prior to the projected end time of another event.
- f. *Sequential Event*: an Arena Major Event that occurs on the same day, but not overlapping in time, with a Major Event at Safeco Field or Major Event at CenturyLink Field.
- g. *Weekday*: Monday through Friday, not including Seattle city holidays.
- h. *Weekend*: Saturday, Sunday or Seattle city holidays.

These scheduling requirements shall be incorporated in the MUP decision for the project, if approved. The Arena and the other teams and venues are encouraged to enter into further scheduling agreements that adopt and provide further detail to implement these requirements. The Seattle Department of Transportation may, from time to time, approve exceptions to these requirements for individual events if agreeable to Petitioner and to the Operators of CenturyLink Field and Safeco Field. These requirements may only be modified if agreeable to Petitioner and to the Operators of CenturyLink Field and Safeco Field, and approved by the Seattle Department of Transportation and Seattle Department of Construction and Inspections.

11. The Petitioner shall develop and implement a Transportation Management Plan (TMP), subject to the conditions set forth in the Master Use Permit (MUP) decision for the project in order to reduce and manage vehicular traffic and parking demand associated with the Arena as disclosed during the EIS process. The TMP shall include specific goals, objectives, and strategies to reduce the number of vehicles that travel to the venue, and facilitate and promote alternative transportation options to and from the arena. The TMP goals shall be established and included as specific conditions of approval of the MUP decision, and shall include two measures: a maximum number of vehicles per thousand attendees, and a transit mode split for weekday, weeknight and weekend events. The TMP goals shall be reviewed and adjusted over time to be commensurate with the level of transportation infrastructure and transit service, including rail, to and from the arena.
12. In addition to the goals, objectives, and strategies outlined in the TMP, the Petitioner should work on innovative Intelligent Transportation System (ITS) upgrades in the vicinity of the arena. The ITS elements should include:

- Participation in the e-Park program and integration of the parking garage entrance/exit into the signal system;
 - Help pay for advanced signal timing progression which allows signals to communicate with other signals based on data input, and Closed Circuit Television (CCTV) at three intersections (1st Avenue South & South Holgate Street; 1st Avenue South & South Massachusetts Street; and 4th Avenue South & South Holgate Street); and
 - Help pay for other ITS investments in the SODO area; this would likely include Dynamic Message Signs (DMS), Closed Circuit Television (CCTC), advanced signals and new technology as it develops.
 - Specific requirements for ITS contributions shall be identified in the Master Use Permit decision for the project.
13. The Petitioner shall, within one year after occupancy by a major tenant, be required to evaluate traffic conditions, assess the effects of arena-generated traffic on area intersections, conduct a comprehensive travel survey to better understand travel behavior of arena visitors and assess the transit service operations before and after events. The information will be provided to DPD and SDOT to determine whether the mitigation goals and strategies specified in the MUP must be adjusted either upward or downward. Following that assessment, the TMP, including goals, demonstrated performance, and strategies will be reviewed by the Parking and Access Review Committee (PARC) annually, similar to the reviews for the existing Safeco Field and CenturyLink Stadium. Goals shall be reviewed and strategies adjusted at least every 5 years to reflect goals commensurate with the transportation infrastructure and transit/rail service to and from the arena.
14. The Petitioner shall be required to participate as a member of the Parking and Access Review Committee (PARC), which was established to monitor TMP implementation for both Safeco Field and CenturyLink Stadium, to review their annual TMP reports and proposed TMP program changes and now should include the participation of the proposed arena.
15. In addition to the goals, the TMP, as set forth in the MUP conditions, should also include specific measures and strategies for meeting those goals, including but not limited to event coordination protocols and management strategy, event access guide, incentives, communication, marketing and outreach. Measures and strategies may include, but are not limited to:
- Communications, Marketing, and Outreach:
 - A dedicated public information coordinator to ensure accurate and consistent travel information provided over several medium;

- An Arena call center with a central phone number specifically for transportation and access, parking information and referral;
- A webpage that is up to date and easy to use incorporating information on multi-modal transportation options to the arena;
- An Event Access App to provide advance planning and real time travel options providing a range of information and links to alternate transportation modes to real-time information regarding congested routes and alternative access;
- An Event Access and Parking Guide listing alternatives to driving, parking areas that offer carpool incentives, neighborhood dinner/parking promotions and other programs to assist ticket holders with options for traveling to and from the area;
- Cross marketing with area businesses to extend arrival and departure times of fans traveling to and from the area;
- Use social media and mass email broadcasts to provide alerts of travel options and incidents and real-time congestion issues;
- Use of broadcast advisory to actively promote alternative modes of travel in advance of games and major events, and to provide real-time information within four hours prior to an event. Real-time information should be coordinated with WSDOT and SDOT traffic control centers;
- Provide direct notice to all affected area business and residents concerning event schedules, including periodic updates as necessary to inform about revisions to the schedule.
- Alternative Transportation Modes:
 - Coordinate with King County Metro and Sound Transit to identify express bus service that connects Park-and-Ride lots in Northgate, South Kirkland, Eastgate, and Federal Way with off-loading in the vicinity of the arena. Use under-capacity return routes at the end of the commuter peak. Stage coaches on Occidental Avenue north of the arena or south of Holgate;
 - Operate fixed route shuttles on a fixed headway that link the arena site to the Washington State Ferry Terminal, Link Light Rail, and Transit Stations;
 - Work with King County Metro, Sound Transit, and Washington State Ferries to offer attendees a discount to regular fares to encourage use of these travel modes;

- Work with neighborhood businesses and service providers to develop packages that involve meals, event admission, and charter bus transportation or for rail/lodging/meal packages with tickets for events at the arena;
- Work with Sound Transit to increase the capacity from two to four cars of regularly scheduled Link Light Rail prior to and following events, as feasible;
- Work with Washington State Ferries to promote use of ferries from Bremerton and Bainbridge. Explore the feasibility of operating a shuttle between the ferry terminal and the arena during winter months;
- Work with King County to extend ferry passenger service to and from West Seattle on major event days, as feasible;
- Discourage driving to events, except for carpools/vanpools. Provide high occupancy vehicle (rate to be determined in TMP) promotions such as parking or reserved parking at reduced rates in parking facilities close to the arena.
- Ensure easy access to bicycle parking racks and include a provision for a bicycle valet during events. If warranted, portable bike racks could be added during certain events.
- Work with the City to purchase and install at least 2 PRONTO bikeshare stations in the vicinity of the arena.
- Clearly identify areas within walking distance, north and south of the arena to accommodate buses, limos, and shared vehicles and passenger drop-off and pick-up.
- Specific TMP measures shall be identified in the Master Use Permit decision for the project.

16. The project shall conform to the following conditions that were imposed as part of the Safeco Field vacation of Occidental Avenue South:

- The Petitioner shall provide a community liaison position during the construction and operation of the arena. This role shall be filled by a person who is fully responsible for carrying out the task. This person will work with the neighboring businesses and residents to resolve traffic, parking, noise, and other environmental, construction, and operational issues arising from the project. This person will also be available to answer questions and keep the arena operator informed as to community issues. The liaison's contact information shall be distributed to neighborhood groups and stated on the project's website.
- Security and Emergency Access Plan. The Petitioner shall provide the city with a plan detailing security and emergency access procedures. The arena shall pay

the cost of developing such plan and shall coordinate with the Seattle Police Department, Seattle Fire Department, and other government agencies and adjacent communities. The plan, at a minimum, shall address security on adjacent streets before and after games and events, security at arena parking locations, emergency access to the arena and to the surrounding communities, and additional measures necessary for dual events. The emergency and security plan must be approved by SDOT and the plan shall be in place prior to the issuance of a C of O for the arena. A summary of the plan shall be publicly available and any substantive changes to the plan shall be publicized. The plan may be modified with approval by the Fire Chief.

- The Petitioner shall pay for equipment and services for security, emergency response, and crowd control that are over and above what is provided in the absence of arena events. Examples of such equipment and services include but are not limited to having crowd control around the arena, having paramedics on-site, and having adequate security inside the arena during events. When such equipment and services are provided by the City of Seattle, the arena shall reimburse the City annually for costs incurred by the City.
- Clean Up Plan. The Petitioner shall provide the City with a plan detailing clean-up procedures following games and events. The arena shall pay the costs of developing such a plan and shall coordinate with the City and the adjacent communities in preparing the plan. The arena shall review the area within a 3,000-foot radius from the arena site. Major pedestrian and vehicular routes shall be identified and a specific clean-up program with a defined radius and routes shall be prepared. The arena shall pay the costs of the clean-up activity after arena events. The arena is encouraged to provide such clean-up services by coordinating with the existing community clean-up programs/MID in Pioneer Square and/or the International District, or with the SODO BIA. The plan must be approved by SDOT and shall be in place prior to the issuance of the final C of O for the arena. The plan may be modified with the approval of SDOT.

17. The Petitioner shall develop and maintain the public benefit elements described below.

The Petitioner shall execute and record a Property Use and Development Agreement (PUDA) or other binding mechanism that ensures that the public benefit elements are open and accessible to the public 24 hours a day, except that temporary closures are permitted for reasons such as maintenance, safety, or to provide private functions. The PUDA shall describe maintenance obligations for the public benefit elements. The PUDA shall describe the approximate square footage dimensions of public benefit elements.

The Petitioner is required to allow free speech activities at the Arena Plaza. Those activities include but are not limited to hand billing, signature gathering, and holding

signs. The Petitioner may not ask persons engaged in free speech activities to leave the Plaza unless those persons are obstructing access to the Arena or adjacent areas, or unreasonably interfering with enjoyment of those spaces by others. The Petitioner shall provide signage that identifies areas open to public access and that describes free speech activity that is permitted. The signage is subject to approval by SDOT.

Additional Design Commission review is required for review of the Public Art Plan and of the permanent and programmable elements of the Plaza and Living Machine. When developing and implementing the Public Art Plan the Petitioner shall seek recommendations from artists, tribes and tribal artists from the area and across the state, and other members of communities in the vicinity of the Duwamish Manufacturing/Industrial Center (MIC), including the Chinatown/International District, Beacon Hill, Georgetown, South Park, and Delridge neighborhoods.

The final design of the public benefit elements requires review and approval by SDOT. SDOT may request additional review by the Design Commission of the implementation of the public benefit elements, pedestrian enhancements, or the final design of 1st Avenue South. Public benefit elements located in the right-of-way require street use permits and indemnification agreements. The Petitioner is required to place markers in the sidewalk to demarcate public and private areas. The public benefit elements are:

Public Benefit		Description
On Site		
1	Living Machine	<ul style="list-style-type: none"> • On-site gray and black water treatment and reuse with 4 million gallon capacity • Explore the feasibility of including additional capacity to allow future other users to connect in a “District” fashion
2	Arena Plaza	<ul style="list-style-type: none"> • 31,800 s.f. of publicly accessible neighborhood open space <ul style="list-style-type: none"> ○ 2 water features ○ 2 drinking fountains ○ Pedestrian lighting achieving 1 foot candle average ○ 300 l.f. of permanent public seating ○ Temporary public seating per programming needs

Public Benefit		Description
		<ul style="list-style-type: none"> • Plaza will include public programming for non-event days with focus on equitable programming <ul style="list-style-type: none"> ○ Plaza includes utility connections (water, power) to facilitate programming flexibility ○ 500 s.f. event storage space for programming in arena building • Provides access to arena public restrooms during non-event days to facilitate programming
3	Public Art Plan	<ul style="list-style-type: none"> • Art Program Budget is 1.5% of total project cost <ul style="list-style-type: none"> ○ Program led by collaborating/lead artist ○ Art will be coordinated between arena building and pedestrian bridge ○ At least 1 piece of anchor art in plaza shall be provided with the participation of artists from communities in the vicinity of the Duwamish MIC as well as tribes and tribal artists from the area and across the state, ○ Several other pieces of permanent integrated art ○ Temporary artworks, installations, programming as part of Art Plan ○ Project cost defined as construction cost plus consultant fees
Adjacent Public R.O.W.		
4	S. Massachusetts ROW Realignment and Curbless Street	<ul style="list-style-type: none"> • Dedication of 2,400 s.f. of private property to public ROW • Creation of curbless street between 1st and Occidental <ul style="list-style-type: none"> ○ 16,000 s.f. of concrete and granite resurfacing, drainage, channelization and new signage ○ 15 street trees ○ 20 linear feet of seating ○ Pedestrian lighting 1 foot candle average

Public Benefit		Description
5	1 st Ave S. Improvements on Property Frontage	<ul style="list-style-type: none"> • Expanded and upgraded pedestrian streetscape, includes: <ul style="list-style-type: none"> ○ Rain garden/swale ○ Pedestrian lighting 1 foot candle average ○ Permanent pedestrian seating
6	S. Holgate Improvements on Property Frontage	<ul style="list-style-type: none"> • Enhanced pedestrian streetscape, subject to SDOT design of S. Holgate St., includes: <ul style="list-style-type: none"> ○ Rain garden/swale ○ Pedestrian lighting 1 foot candle average
Off-Site Benefits		
7	Implement Bicycle Master Plan Improvements	<ul style="list-style-type: none"> • Complete public bicycle facilities from existing waterfront trail to arena site to Starbucks • Improvements implement the Bicycle Master Plan <ul style="list-style-type: none"> ○ Improve Atlantic Street multi-use trail (600 l.f.) ○ Complete and repave Utah Avenue Neighborhood Greenway from S. Atlantic St. to S. Stacy (2,800 l.f.) ○ Complete S. Massachusetts multi-use trail (175 l.f.) ○ Complete S. Holgate St. multi-use trail (160 l.f.) ○ Bicycle wayfinding signage (12+ signs) ○ Bicycle signal at S. Atlantic St. Crossing to Waterfront Trail
8	S. Massachusetts ROW between Utah and 1 st Ave	<ul style="list-style-type: none"> • Realignment of street, construction of curb & gutter, drainage, channelization and signage on both sides of S. Massachusetts St. <ul style="list-style-type: none"> ○ 12,500 s.f. of new asphalt resurfacing, curb & gutter, channelization and signage ○ 8 street trees ○ 2,600 s.f. of rain garden/swale

Public Benefit		Description
9	S. Holgate St. off-site (south side of S. Holgate)	<ul style="list-style-type: none"> • Street realignment, asphalt resurfacing and repair, channelization and signage, per SDOT direction <ul style="list-style-type: none"> ○ Drainage improvements as required ○ Sidewalks ○ Rain garden/swale ○ 8 street trees
10	1 st Ave. S. between S. Massachusetts and Edgar	<ul style="list-style-type: none"> • Construct new frontage improvements per SDOT approval <ul style="list-style-type: none"> ○ New sidewalks ○ Street trees ○ Rain garden/swales ○ Pedestrian lighting at 1 foot candle average

18. The Petitioner shall allow use of the Arena plaza for public events that are approved by the City. The Petitioner shall allow no fewer than 12 events per year. The Petitioner is not required to allow events that conflict with scheduled events or “hold dates.” The Petitioner may not charge a use fee for use of the Plaza but may charge a fee to pay for additional costs incurred by ArenaCo to accommodate the event.

19. The Petitioner shall construct and maintain a paved north-south road along the east side of the proposed Arena site, between South Holgate Street and the extension of South Massachusetts Street, parallel to the proposed vacated Occidental Avenue South. The primary, but not exclusive, purpose of the road is to provide access to the Arena parking and loading areas. The road shall also provide public vehicular access to the Safeco Field garage and Safeco Field surface parking, emergency and service vehicle access to the Arena and Safeco Field sites, and vehicular staging and access for Major Events at CenturyLink Field and CenturyLink Field Event Center. The road shall have a driving surface of at least 20 feet in width. The Arena shall keep the access road clear of obstacles, including parked vehicles, at least three hours before through at least two hours after any scheduled event that is anticipated to generate 500 or more cars in the Safeco Field garage/surface parking area and during load in and load out dates for Major Events at CenturyLink Field and CenturyLink Field Event Center; however, the access road may continue to be used for customary Arena use not creating an obstruction during these periods. Prior to the final street vacation approval by the City Council or the issuance of a certificate of occupancy for the Arena (whichever comes first), the Petitioner shall execute and record a permanent, non-exclusive

access easement containing these terms for the benefit of the Washington State Major League Baseball Stadium Public Facilities District and Washington State Public Stadium Authority properties.

20. It is the Council's intent that the Occidental Avenue South vacation fee will be fully allocated to the SODO Transportation Infrastructure Fund to be used to fund transportation improvements in the area south of Downtown Seattle, as provided in the MOU.
21. The Petitioner shall work with the Seattle department of Transportation to improve the illumination along the Key Pedestrian Routes with "Minimal" or "Poor" illumination as shown on Figure 2-53 of FEIS Appendix E - Transportation. Petitioner shall pay to improve lighting on these routes so that there is at least a 1 foot-candle average illumination along each block face.
22. **1st Avenue S. Street Frontage** – a pedestrian zone necessary to accommodate pedestrian flows shall be maintained on the east side of 1st Avenue S. between S. Massachusetts Street and S. Holgate Street, as follows:
 - a. 23 feet of contiguous unobstructed (no permanent intrusion) walking surface shall be provided between the building façade and any landscaped/tree/permanent street furniture zone;
 - b. The 23-foot unobstructed space may be located within the public right-of-way (public sidewalk) or on a combination of public sidewalk and private property;
 - c. **On days with events in excess of 15,000 attendees** (inclusive of the proposed Arena and all stadia and exhibition halls to the north) the 23-foot pedestrian zone shall be kept free of all temporary obstacles (such as chairs, tables, etc.) to allow for unimpeded pedestrian flow;
 - d. **On low-attendance event days** (equal to or less than 15,000 attendees at the Arena and all stadia and exhibition halls to the north) the required unobstructed pedestrian zone shall be a minimum of 18.5 feet. Any use of public sidewalk area for outside dining (tables, chairs, railing, etc.) must be approved through a street use permit issued by SDOT and will not be allowed to encroach upon the required minimum 18.5-foot pedestrian zone.
 - e. **On non-event days** (inclusive of all stadia and exhibition halls) the required unobstructed pedestrian zone shall be a minimum of 10 feet.
23. Occidental Avenue S shall not be altered and shall remain open for transportation purposes, including vehicles, pedestrians, and bicycles, until a construction management plan is approved by the Seattle Department of Construction and Inspections and all buildings on the blocks adjacent to Occidental Avenue S north of S

Holgate Street and south of S Massachusetts Street are demolished, or until the Seattle Fire Department approves closure of the street.

24. The Petitioner may not construct or operate the Arena in a manner that requires it to seek a permit from SDOT for any temporary closure of South Massachusetts Street that does not leave at least two travel lanes on S. Massachusetts St. east of 1st Ave. S open at all times. If the Petitioner seeks to close any other portion of S. Massachusetts St. for construction of the Arena and its associated improvements, the closure must be approved by a street use permit issued by SDOT. Before applying for a street use permit, the Petitioner shall consult with the operators of Safeco Field and CenturyLink Field and CenturyLink Field Event Center to determine if the proposed temporary closure would impair access to the Safeco Field driveway or impair access and staging for CenturyLink Field and CenturyLink Field Event Center. The Petitioner shall advise SDOT Street Use in writing of any concerns raised by the operators of Safeco Field and CenturyLink Field and CenturyLink Field Event Center regarding a temporary closure of a portion of S. Massachusetts St. Conditions may be imposed on the street use permit by SDOT as necessary to maintain access to the Safeco Field driveway and access and staging for CenturyLink Field and CenturyLink Field Event Center.
25. The Petitioner shall pay for the improvement of the north-south crossing of Atlantic Street at Occidental Avenue South in order to facilitate pedestrian travel to the Link Light Rail Stadium Station by constructing a staircase to the south side of S Atlantic Street connecting to 3rd Avenue S. If the Seattle Department of Transportation determines that a staircase is not feasible in this location, the Petitioner shall provide manual traffic control at the north-south crossing of S Atlantic Street at Occidental Avenue S.

Dated this _____ day of _____, 2016.

City Council President

**IN THE MATTER OF THE PETITION OF WSA PROPERTIES, ET AL. TO VACATE
OCCIDENTAL AVENUE SOUTH BETWEEN THE NORTH MARGIN OF SOUTH HOLGATE
STREET AND A LINE PARALLEL AND 30 FEET SOUTH OF THE CENTERLINE OF SOUTH
MASSACHUSETTS STREET IN THE SOUTH DOWNTOWN NEIGHBORHOOD OF SEATTLE**

CLERK FILE 312905

The City Council hereby grants conditional approval of the petition from WSA Properties, et al. (hereafter WSA or Petitioner) for the vacation of the Occidental Avenue South between the north margin of south Holgate Street and a line parallel and 30 feet south of the centerline of South Massachusetts Street in the South Downtown neighborhood of Seattle, described as:

That portion of South Occidental Avenue South lying east of Block 320, and west of Block 319, Seattle Tide Lands, more particularly described as follows:

Beginning at the southwest corner of Block 319, Seattle Tide Lands, in King County, Washington, as shown on the official maps on file in the Office of Commissioner of Public Lands at Olympia, Washington;

Thence north 88°51'24" west along the westerly extension of the southerly line of said Block 319 for a distance of 30.00 to the centerline of Occidental Avenue South:

Thence north 88°49'39" west along the easterly extension of the southerly line of block 320 of said Seattle Tide Lands for a distance of 30.00 feet to the southeast corner thereof;

Thence north 01°08'29" west along the easterly line of said Block 320 and that portion of vacated South Massachusetts Street, City of Seattle Vacation Ordinance #117475 for a distance of 680.18 feet;

Thence south 88°50'27" east parallel and 30.00 feet southerly of the centerline of South Massachusetts Street 60.00 feet to the easterly margin of Occidental Avenue South;

Thence south 01°08'29" west 680.17 feet to the point of beginning.

The street proposed for vacation includes approximately 40,811 square feet of right-of-way.

FINDINGS

- A. On March 7, 2013, WSA Properties, Inc. submitted a petition to vacate Occidental Avenue S. between S Massachusetts Street and S Holgate Street.
- B. The Seattle Department of Planning and Development (DPD) issued a Determination of Significance and Notice of Scoping on October 25, 2012 and on August 15, 2013

published a Draft Environmental Impact Statement (DEIS) analyzing the vacation of Occidental Avenue S and development of a multi-sport Arena. On May 7, 2015, DPD published a Final Environmental Impact Statement (FEIS) and on October 29, 2015, published an Addendum to that FEIS related to pedestrian impacts.

The FEIS found that the proposal would have no significant unavoidable adverse primary impacts to geology, air, water, scenic resources, noise, land use, historic and cultural resources, public services and utilities, street systems, public transportation, bicyclists, or bicycle corridors. The FEIS further found that the order of magnitude in change in traffic volumes associated with the proposal falls within the range of current event experience; there would be an increase in traffic volumes during peak conditions on event days, which would occur more frequently with an arena. On event days, delays to freight traffic may occur as a result of additional arena traffic, just as current delay occurs presently on event days. On event days, increased parking demand would occur as it does on current event days. Increased frequency of events and the proximity of the arena to the S Holgate Street rail crossing would increase the potential for conflict between pedestrians and rail, east of the site. Potential mitigation measures for those impacts were identified by the FEIS, and have been incorporated into the conditions for the street vacation.

- C. The Seattle Design Review Board held a number of public meetings to provide Early Design Guidance and to review the final proposed design of a multi-sport Arena, and on September 1, 2015 recommended approval of the proposed design and departures with conditions. Those conditions are required to be resolved before the Master Use Permit can be issued for the project.
- D. The Seattle Design Commission held a number of public meetings to review the urban design merit and the public benefit features related to the requested street vacation and on September 3, 2015 recommended conditional approval of the street vacation. Recommended conditions related to additional review of the Public Art Plan and of the permanent and programmable elements of the Plaza and Living Machine. Those conditions have been incorporated into the conditions for the street vacation.
- E. Based on review of the proposed vacation by the Seattle Design Commission, the Seattle Design Review Board, the FEIS and its addendum, review by City Departments and public and private utilities, comments from members of the public, the Port of Seattle, the Washington State Public Stadium Authority, the Washington State Major League Baseball Stadium Public Facilities District, the Seattle Mariners, First and Goal, Inc., on November 30, 2015, the Seattle Department of Transportation made a recommendation to approve the street vacation with conditions.
- F. On February 8, 2016, the City Council adopted Resolution 31650, setting March 15, 2016 as the date for a public hearing on the requested vacation. The Seattle City

Council's Sustainability and Transportation Committee held a public hearing held on March 15, 2016.

- G. The City Council has reviewed the recommendation provided by the Seattle Department of Transportation (SDOT), the Street Vacation Policies, the City's SEPA Ordinance, the comment letters and other documentation provided by community members and interested parties, the file forwarded by SDOT which contains the material from the review of the vacation petition, including all comment letters received.
- H. The City Council accepts and adopts the recommendation and analysis provided by SDOT as amended by the conditions. The City Council has determined that the petition is consistent with the Street Vacation Policies and that there is a compelling reason to grant the vacation; the development of sports and event arena to provide a facility for professional sports and concerts and other activities. The vacation serves the public interest in a significant way by creating a development site of sufficient size to accommodate the proposed arena.
- I. In reaching its decision the City Council has balanced all of the policy guidance and criteria outlined in the Street Vacation Policies. The Policies provide for three areas of review including:
 - 1. Protection of the public trust, defined as providing for circulation, access, utilities, light, air, open space, and views. The City Council has determined that the impacts from loss of the portion of the street and the subsequent development of the site are not significant and can be adequately mitigated.
 - 2. Protection from adverse land use impacts, defined as assuring that the project is consistent with City policies. The City Council has determined that the development of the project is consistent with the Comprehensive Plan goals, the Stadium Overlay District, and the zoning.
 - 3. Provision of public benefit, defined as providing a long-term public benefit for the general public. The City Council has determined that the public benefit proposal is adequate as balanced with what is achieved by the Petitioner.

Now, therefore, the vacation is granted upon the Petitioner meeting the following conditions. The Petitioner shall demonstrate, to the satisfaction of the City, that all conditions imposed on the vacation by the City Council have been satisfied: all utility work relating to the vacation including easements or other agreements is completed; all public benefit elements have been provided; any other agreements or easements have been completed and recorded as necessary; and all fees paid, prior to the passage of the street vacation ordinance.

CONDITIONAL APPROVAL

The vacation shall be granted upon the Petitioner meeting the following conditions. The Petitioner shall demonstrate that all conditions imposed by the City Council have been satisfied and all fees paid, prior to the passage of the street vacation ordinance.

1. The vacation is granted solely to allow the Petitioner to build a project substantially in conformance with the project described in the Memorandum of Understanding (MOU) approved by Ordinance 124019 and reviewed by the City Council and for no other purpose.
2. All street improvements shall be designed to City standards, as modified by these conditions to implement the Public Benefit requirements, and be reviewed and approved by the Seattle Department of Transportation through a Street Improvement Permit.
3. The utility issues shall be resolved to the full satisfaction of the affected utility prior to the approval of the final vacation ordinance. Prior to the commencement of any development activity on the site, the Petitioner shall work with the affected utilities and provide for the protection of the utility facilities. This may include easements, restrictive covenants, relocation agreements, or acquisition of the utilities, which shall be at the sole expense of the Petitioner. Utilities impacted may include:
 - DOIT
 - SPU Sewer
 - SPU Water
 - PSE Gas
 - Seattle City Light; and
 - CenturyLink Communications.
4. Pursuant to the Street Vacation Policies, conditional approval of the vacation petition is effective for five years from the date of City Council conditional approval. The Petitioner shall meet all of the conditions imposed on the vacation, to the satisfaction of the City, within the five-year time frame. The Petitioner shall provide the Seattle Department of Transportation with Quarterly Reports, following Council approval of the vacation, which describe the status of: the development activity, the development schedule, and Petitioner's progress toward meeting the vacation conditions. The Seattle Department of Transportation shall determine that all conditions imposed by this vacation have been satisfied, and that all fees required by City departments have been paid before the Petitioner may request or the Seattle Department of Construction and Inspection may issue a Final Certificate of Occupancy.

5. In addition to the conditions imposed through the vacation process, the project, as it proceeds through the permitting process, is subject to SEPA review and to conditioning pursuant to various City codes and through regulatory review processes including SEPA.
6. The Petitioner shall develop a parking garage in order to provide the Code-required parking for the facility. Parking should be developed in a multi-level parking structure across Holgate Street to the south of the project, on a site controlled by the Petitioner. It is anticipated that approximately 1,750 stalls would be provided; the exact number of parking stall will be determined by the formula in Seattle Municipal Code (SMC) 23.54.015, Table A. The size of this parking facility would be reduced to the extent alternative dedicated parking in the vicinity becomes available for use by the project as determined by the Master Use Permit. The Petitioner should work to identify parking opportunities for event staff in areas that do not compete with event attendee parking. The provision of parking shall include accommodation for modal options such as vanpools and other share transportation options (Uber, Lift, car2go, etc.) to the extent practicable. The Petitioner will be required to participate in the City's e-Park Program and should:
 - Provide a centrally coordinated event parking program that would allow fans to reserve and pre-purchase parking passes at convenient facilities;
 - Pre-sell parking and incorporate it as part of ticket packages.
7. The Petitioner shall provide for a new traffic signal at South Walker Street and 1st Avenue South should traffic warrants be met by the arena and the proposed parking garage.
8. The Petitioner is required to provide a pro-rata monetary payment to the South Lander Street Grade Separation Project based impacts identified in the FEIS. The amount of payment will be determined at a later date when the Lander Street project moves forward and may not be known until after completion of the vacation process.
9. The Petitioner shall develop a pedestrian bridge at South Holgate Street to provide a grade-separated means for event patrons and the general public to cross the rail lines in South Holgate Street. The pedestrian bridge shall provide for pedestrians and bicycles and shall be ADA compliant. The dimension, ramps, and location must be generally consistent with the pedestrian bridge presented to SDOT and to the Design Commission. In addition to SIP review, the pedestrian bridge will require a term permit from SDOT and an indemnification agreement. Development of the pedestrian overpass may require pedestrian enhancements at 4th Avenue South such as additional pedestrian lighting. Timing of implementation of the pedestrian bridge, and interim

shuttle service pending bridge completion, shall be set forth in the Master Use Permit decision for the project.

10. Arena events shall be scheduled according to the requirements outlined below and as defined under the terms of a Master Use Permit decision for the project, if approved, in order to avoid conflicts between egress and ingress of different events at different facilities. Under Section 21 of the MOU, ArenaCo is required to coordinate with the Seattle Mariners, the Seattle Sounders and the Seattle Seahawks, as well as the Washington State Public Stadium Authority (CenturyLink Field) and the Washington State Major League Baseball Stadium Public Facilities District (Safeco Field), to minimize the number of conflicting and overlapping events held at the existing stadiums and the proposed Arena. Event scheduling at the Arena shall comply with the following:

- Events at the Arena on any non-holiday weekday or weeknight shall be separated from other events at the Arena by a minimum of 3 hours between the projected end time of one event and the scheduled start time of the next event.
- No Arena event on any non-holiday weekday or weeknight may be scheduled to begin or end within one hour of the scheduled start or end time of any event at Safeco Field or CenturyLink Field, or both, if 1) the reasonably anticipated attendance at the Arena and one or more of those fields is more than 45,000 attendees, or 2) there would otherwise be three scheduled events starting or ending within an hour of each other at the Arena, Safeco Field or CenturyLink Field.
- No Arena event shall start between 4:00 pm and 7:00 pm on non-holiday weekdays if 1) the reasonably anticipated attendance at Safeco Field, CenturyLink Field, and the Arena would exceed 15,000 persons, and 2) the Arena event is otherwise scheduled to occur within an hour of the start or end times of events at Safeco Field or CenturyLink or both.
- These scheduling requirements may be reviewed and revised by the Seattle Department of Transportation and Seattle Department of Construction and Inspections, after consultation with Safeco Field, CenturyLink Field, and the Port of Seattle, if additional means of limiting transportation impacts are provided. There will be no exceptions from the combined attendance levels for concurrent or overlapping weekday events involving Arena events. Amendments to the scheduling requirements may take into account playoff schedules for MLB/MLS/NBA/ NFL/NHL/WNBA games; and
- These scheduling requirements shall be incorporated in the MUP decision for the project, if approved.

11. The Petitioner shall develop and implement a Transportation Management Plan (TMP), subject to the conditions set forth in the Master Use Permit (MUP) decision for the project in order to reduce and manage vehicular traffic and parking demand associated with the Arena as disclosed during the EIS process. The TMP shall include specific goals, objectives, and strategies to reduce the number of vehicles that travel to the venue, and facilitate and promote alternative transportation options to and from the arena. The TMP goals shall be established and included as specific conditions of approval of the MUP decision, and shall include two measures: a maximum number of vehicles per thousand attendees, and a transit mode split for weekday, weeknight and weekend events. The TMP goals shall be reviewed and adjusted over time to be commensurate with the level of transportation infrastructure and transit service, including rail, to and from the arena.
12. In addition to the goals, objectives, and strategies outlined in the TMP, the Petitioner should work on innovative Intelligent Transportation System (ITS) upgrades in the vicinity of the arena. The ITS elements should include:
 - Participation in the e-Park program and integration of the parking garage entrance/exit into the signal system;
 - Help pay for advanced signal timing progression which allows signals to communicate with other signals based on data input, and Closed Circuit Television (CCTV) at three intersections (1st Avenue South & South Holgate Street; 1st Avenue South & South Massachusetts Street; and 4th Avenue South & South Holgate Street); and
 - Help pay for other ITS investments in the SODO area; this would likely include Dynamic Message Signs (DMS), Closed Circuit Television (CCTC), advanced signals and new technology as it develops.
 - Specific requirements for ITS contributions shall be identified in the Master Use Permit decision for the project.
13. The Petitioner shall, within one year after occupancy by a major tenant, be required to evaluate traffic conditions, assess the effects of arena-generated traffic on area intersections, conduct a comprehensive travel survey to better understand travel behavior of arena visitors and assess the transit service operations before and after events. The information will be provided to DPD and SDOT to determine whether the mitigation goals and strategies specified in the MUP must be adjusted either upward or downward. Following that assessment, the TMP, including goals, demonstrated performance, and strategies will be reviewed by the Parking and Access Review Committee (PARC) annually, similar to the reviews for the existing Safeco Field and CenturyLink Stadium. Goals shall be reviewed and strategies adjusted at least every 5

years to reflect goals commensurate with the transportation infrastructure and transit/rail service to and from the arena.

14. The Petitioner shall be required to participate as a member of the Parking and Access Review Committee (PARC), which was established to monitor TMP implementation for both Safeco Field and CenturyLink Stadium, to review their annual TMP reports and proposed TMP program changes and now should include the participation of the proposed arena.

15. In addition to the goals, the TMP, as set forth in the MUP conditions, should also include specific measures and strategies for meeting those goals, including but not limited to event coordination protocols and management strategy, event access guide, incentives, communication, marketing and outreach. Measures and strategies may include, but are not limited to:

- Communications, Marketing, and Outreach:
 - A dedicated public information coordinator to ensure accurate and consistent travel information provided over several medium;
 - An Arena call center with a central phone number specifically for transportation and access, parking information and referral;
 - A webpage that is up to date and easy to use incorporating information on multi-modal transportation options to the arena;
 - An Event Access App to provide advance planning and real time travel options providing a range of information and links to alternate transportation modes to real-time information regarding congested routes and alternative access;
 - An Event Access and Parking Guide listing alternatives to driving, parking areas that offer carpool incentives, neighborhood dinner/parking promotions and other programs to assist ticket holders with options for traveling to and from the area;
 - Cross marketing with area businesses to extend arrival and departure times of fans traveling to and from the area;
 - Use social media and mass email broadcasts to provide alerts of travel options and incidents and real-time congestion issues;
 - Use of broadcast advisory to actively promote alternative modes of travel in advance of games and major events, and to provide real-time information within four hours prior to an event. Real-time information should be coordinated with WSDOT and SDOT traffic control centers;

- Provide direct notice to all affected area business and residents concerning event schedules, including periodic updates as necessary to inform about revisions to the schedule.
- Alternative Transportation Modes:
 - Coordinate with King County Metro and Sound Transit to identify express bus service that connects Park-and-Ride lots in Northgate, South Kirkland, Eastgate, and Federal Way with off-loading in the vicinity of the arena. Use under-capacity return routes at the end of the commuter peak. Stage coaches on Occidental Avenue north of the arena or south of Holgate;
 - Operate fixed route shuttles on a fixed headway that link the arena site to the Washington State Ferry Terminal, Link Light Rail, and Transit Stations;
 - Work with King County Metro, Sound Transit, and Washington State Ferries to offer attendees a discount to regular fares to encourage use of these travel modes;
 - Work with neighborhood businesses and service providers to develop packages that involve meals, event admission, and charter bus transportation or for rail/lodging/meal packages with tickets for events at the arena;
 - Work with Sound Transit to increase the capacity from two to four cars of regularly scheduled Link Light Rail prior to and following events, as feasible;
 - Work with Washington State Ferries to promote use of ferries from Bremerton and Bainbridge. Explore the feasibility of operating a shuttle between the ferry terminal and the arena during winter months;
 - Work with King County to extend ferry passenger service to and from West Seattle on major event days, as feasible;
 - Discourage driving to events, except for carpools/vanpools. Provide high occupancy vehicle (rate to be determined in TMP) promotions such as parking or reserved parking at reduced rates in parking facilities close to the arena.
 - Ensure easy access to bicycle parking racks and include a provision for a bicycle valet during events. If warranted, portable bike racks could be added during certain events.
 - Work with the City to purchase and install at least 2 PRONTO bikeshare stations in the vicinity of the arena.

- Clearly identify areas within walking distance, north and south of the arena to accommodate buses, limos, and shared vehicles and passenger drop-off and pick-up.
- Specific TMP measures shall be identified in the Master Use Permit decision for the project.

16. The project shall conform to the following conditions that were imposed as part of the Safeco Field vacation of Occidental Avenue South:

- The Petitioner shall provide a community liaison position during the construction and operation of the arena. This role shall be filled by a person who is fully responsible for carrying out the task. This person will work with the neighboring businesses and residents to resolve traffic, parking, noise, and other environmental, construction, and operational issues arising from the project. This person will also be available to answer questions and keep the arena operator informed as to community issues. The liaison's contact information shall be distributed to neighborhood groups and stated on the project's website.
- Security and Emergency Access Plan. The Petitioner shall provide the city with a plan detailing security and emergency access procedures. The arena shall pay the cost of developing such plan and shall coordinate with the Seattle Police Department, Seattle Fire Department, and other government agencies and adjacent communities. The plan, at a minimum, shall address security on adjacent streets before and after games and events, security at arena parking locations, emergency access to the arena and to the surrounding communities, and additional measures necessary for dual events. The emergency and security plan must be approved by SDOT and the plan shall be in place prior to the issuance of a C of O for the arena. A summary of the plan shall be publicly available and any substantive changes to the plan shall be publicized. The plan may be modified with approval by the Fire Chief.
- The Petitioner shall pay for equipment and services for security, emergency response, and crowd control that are over and above what is provided in the absence of arena events. Examples of such equipment and services include but are not limited to having crowd control around the arena, having paramedics on-site, and having adequate security inside the arena during events. When such equipment and services are provided by the City of Seattle, the arena shall reimburse the City annually for costs incurred by the City.
- Clean Up Plan. The Petitioner shall provide the City with a plan detailing clean-up procedures following games and events. The arena shall pay the costs of developing such a plan and shall coordinate with the City and the adjacent

communities in preparing the plan. The arena shall review the area within a 3,000-foot radius from the arena site. Major pedestrian and vehicular routes shall be identified and a specific clean-up program with a defined radius and routes shall be prepared. The arena shall pay the costs of the clean-up activity after arena events. The arena is encouraged to provide such clean-up services by coordinating with the existing community clean-up programs/MID in Pioneer Square and/or the International District, or with the SODO BIA. The plan must be approved by SDOT and shall be in place prior to the issuance of the final C of O for the arena. The plan may be modified with the approval of SDOT.

17. The Petitioner shall develop and maintain the public benefit elements as defined by the City Council. A Property Use and Development Agreement (PUDA) or other binding mechanism shall be required to ensure that the public benefit elements remain open and accessible to the public and to outline future maintenance obligations of the improvements. Signage clearly identifying public access is required at the public open space elements and shall require the review of SDOT Street Vacations. The final design of the public benefit elements shall require the review and approval of SDOT Street Vacations. Additional Design Commission review will be required for review of the Public Art Plan and of the permanent and programmable elements of the Plaza and Living Machine. SDOT may request additional review by the Design Commission of the implementation of the public benefit elements or the pedestrian enhancements; and of the final design of 1st Avenue South, as necessary. Public benefit elements in the right-of-way require additional street use permits and indemnification, public and private areas must be distinguished and markers in the sidewalk shall be required. The public benefit requirements include the following features as well as corresponding development standards, including approximate square footage dimensions, which shall be outlined in the PUDA:

Public Benefit		Description
On Site		
1	Living Machine	<ul style="list-style-type: none"> • On-site gray and black water treatment and reuse with 4 million gallon capacity • Explore the feasibility of including additional capacity to allow future other users to connect in a “District” fashion
2	Arena Plaza	<ul style="list-style-type: none"> • 31,800 s.f. of publicly accessible neighborhood open space <ul style="list-style-type: none"> ○ 2 water features

Public Benefit		Description
		<ul style="list-style-type: none"> ○ 2 drinking fountains ○ Pedestrian lighting achieving 1 foot candle average ○ 300 l.f. of permanent public seating ○ Temporary public seating per programming needs ● Plaza will include public programming for non-event days with focus on equitable programming <ul style="list-style-type: none"> ○ Plaza includes utility connections (water, power) to facilitate programming flexibility ○ 500 s.f. event storage space for programming in arena building ● Provides Park-Hour access to arena public restroom during non-event days to facilitate programming
3	Public Art Plan	<ul style="list-style-type: none"> ● Art Program Budget is 1.5% of total project cost <ul style="list-style-type: none"> ○ Program led by collaborating/lead artist ○ Art will be coordinated between arena building and pedestrian bridge ○ At least 1 piece of anchor art in plaza ○ Several other pieces of permanent integrated art ○ Temporary artworks, installations, programming as part of Art Plan ○ Project cost defined as construction cost plus consultant fees
Adjacent Public R.O.W.		
4	S. Massachusetts ROW Realignment and Curbless Street	<ul style="list-style-type: none"> ● Dedication of 2,400 s.f. of private property to public ROW ● Creation of curbless street between 1st and Occidental <ul style="list-style-type: none"> ○ 16,000 s.f. of concrete and granite resurfacing, drainage, channelization and new signage

Public Benefit		Description
		<ul style="list-style-type: none"> ○ 15 street trees ○ 20 linear feet of seating ○ Pedestrian lighting 1 foot candle average
5	1 st Ave S. Improvements on Property Frontage	<ul style="list-style-type: none"> ● Expanded and upgraded pedestrian streetscape, includes: <ul style="list-style-type: none"> ○ Rain garden/swale ○ Pedestrian lighting 1 foot candle average ○ Permanent pedestrian seating
6	S. Holgate Improvements on Property Frontage	<ul style="list-style-type: none"> ● Enhanced pedestrian streetscape, subject to SDOT design of S. Holgate St., includes: <ul style="list-style-type: none"> ○ Rain garden/swale ○ Pedestrian lighting 1 foot candle average
Off-Site Benefits		
7	Implement Bicycle Master Plan Improvements	<ul style="list-style-type: none"> ● Complete public bicycle facilities from existing waterfront trail to arena site to Starbucks ● Improvements implement the Bicycle Master Plan <ul style="list-style-type: none"> ○ Improve Atlantic Street multi-use trail (600 l.f.) ○ Complete and repave Utah Avenue Neighborhood Greenway from S. Atlantic St. to S. Stacy (2,800 l.f.) ○ Complete S. Massachusetts multi-use trail (175 l.f.) ○ Complete S. Holgate St. multi-use trail (160 l.f.) ○ Bicycle wayfinding signage (12+ signs) ○ Bicycle signal at S. Atlantic St. Crossing to Waterfront Trail
8	S. Massachusetts ROW between Utah and 1 st	<ul style="list-style-type: none"> ● Realignment of street, construction of curb & gutter, drainage, channelization and signage on both sides of S. Massachusetts St. <ul style="list-style-type: none"> ○ 12,500 s.f. of new asphalt resurfacing, curb &

Public Benefit		Description
	Ave	<ul style="list-style-type: none"> gutter, channelization and signage ○ 8 street trees ○ 2,600 s.f. of rain garden/swale
9	S. Holgate St. off-site (south side of S. Holgate)	<ul style="list-style-type: none"> ● Street realignment, asphalt resurfacing and repair, channelization and signage, per SDOT direction ○ Drainage improvements as required ○ Sidewalks ○ Rain garden/swale ○ 8 street trees
10	1 st Ave. S. between S. Massachusetts and Edgar	<ul style="list-style-type: none"> ● Construct new frontage improvements per SDOT approval ○ New sidewalks ○ Street trees ○ Rain garden/swales ○ Pedestrian lighting at 1 foot candle average

18. The Petitioner shall construct and maintain a paved north-south road along the east side of the proposed Arena site, between South Holgate Street and the extension of South Massachusetts Street, parallel to the proposed vacated Occidental Avenue South. The road shall be constructed consistent with the plan for the road submitted in the Petitioner's Master Use Permit application. The primary, but not exclusive, purpose of the road is to provide access to the Arena parking and loading areas. The road shall also provide public vehicular access to the Safeco Field garage and Safeco Field surface parking, and emergency and service vehicle access to the Arena and Safeco Field sites. The road shall have a driving surface of at least 20 feet in width. The Arena shall keep the access road clear of obstacles, including parked vehicles, at least three hours before through at least two hours after any event that is anticipated to generate 500 or more cars in the Safeco Field garage/surface parking area.

19. It is the Council's intent that the Occidental Avenue South vacation fee will be fully allocated to the SODO Transportation Infrastructure Fund to be used to fund transportation improvements in the area south of Downtown Seattle, as provided in the MOU.

20. The Petitioner shall work with the Seattle department of Transportation to improve the illumination along the Key Pedestrian Routes with “Minimal” or “Poor” illumination as shown on Figure 2-53 of FEIS Appendix E - Transportation. Petitioner shall pay to improve lighting on these routes so that there is at least a 1 foot-candle average illumination along each block face.
21. **1st Avenue S. Street Frontage** – a pedestrian zone necessary to accommodate pedestrian flows shall be maintained on the east side of 1st Avenue S. between S. Massachusetts Street and S. Holgate Street, as follows:
- a. 23 feet of contiguous unobstructed (no permanent intrusion) walking surface shall be provided between the building façade and any landscaped/tree/permanent street furniture zone;
 - b. The 23-foot unobstructed space may be located within the public right-of-way (public sidewalk) or on a combination of public sidewalk and private property;
 - c. **On days with events in excess of 15,000 attendees** (inclusive of the proposed Arena and all stadia and exhibition halls to the north) the 23-foot pedestrian zone shall be kept free of all temporary obstacles (such as chairs, tables, etc.) to allow for unimpeded pedestrian flow;
 - d. **On low-attendance event days** (equal to or less than 15,000 attendees at the Arena and all stadia and exhibition halls to the north) the required unobstructed pedestrian zone shall be a minimum of 18.5 feet. Any use of public sidewalk area for outside dining (tables, chairs, railing, etc.) must be approved through a street use permit issued by SDOT and will not be allowed to encroach upon the required minimum 18.5-foot pedestrian zone.
 - e. **On non-event days** (inclusive of all stadia and exhibition halls) the required unobstructed pedestrian zone shall be a minimum of 10 feet.
22. Occidental Avenue S shall not be altered and shall remain open for transportation purposes, including vehicles, pedestrians, and bicycles, until a construction management plan is approved by the Seattle Department of Construction and Inspections and all buildings on the blocks adjacent to Occidental Avenue S north of S Holgate Street and south of S Massachusetts Street are demolished, or until the Seattle Fire Department approves closure of the street.



Seattle City Council

Central Staff – Divided Report

For consideration at Full Council

Committee: Sustainability & Transportation
Council Bill Number: CF 312905
Short Title: Petition of WSA Properties, et al. to vacate Occidental Avenue South
Full Council Date: May 2, 2016
Analyst: Dan Eder, Deputy Director

Overview

WSA Properties, et al. has applied for the vacation of Occidental Avenue South between South Massachusetts Street and South Holgate Street in order to facilitate the development of a 750,000 square foot 18,000-20,000 seat arena that can accommodate professional basketball and hockey games. Street vacations are reviewed by the City Council pursuant to the City's Street Vacation Policies and environmental policies, which are found in Clerk File 310078, and the State Environmental Policy Act (SEPA).

History of Legislation

On April 19, 2016, the Committee voted to recommend approval of the Clerk File by the Full Council.

Yes 4 (O'Brien, Burgess, Harrell, Johnson)
No 1 (Bagshaw)

The Committee held a public hearing on the proposed Clerk File on March 15, 2016. Additionally, the Committee met to discuss and consider action on a recommendation on March 15, 2016; April 5, 2016; and April 19, 2016.

Majority Position (CMs O'Brien, Burgess, Harrell, Johnson)

According to the City's Street Vacation Policies, the Council may approve vacation requests if the Council decides that the vacation is in the public interest. The Street Vacation Policies provide for the analysis of three parts of the public's interest in the right-of-way: (1) the public trust, (2) land use impacts and (3) public benefits.

1. Public Trust

The FEIS analyzed the circulation and access functions of the street to be vacated. Compared to nearby north-south avenues, Occidental Avenue S does not carry much traffic, and is primarily used to access adjacent properties or as a diversion route during times of congestion at nearby intersections. The vacation will not create any emergency access issues; however, the Seattle Fire Department has asked that access be maintained until abutting buildings are demolished. The FEIS notes that if a planned

private access drive along the east side of the property is made available to the Safeco Field garage and surface parking lot, access to and from that facility is enhanced.

According to the FEIS, negative effects of removing the street from the circulation system can be mitigated through (1) planned enhancements to Massachusetts Avenue South, (2) a new pedestrian bridge along S Holgate Street, (3) allowing traffic from the Safeco Field parking garage to use an access road on the east side of the site and (4) maintaining a wider than normal sidewalk in front of the Arena along 1st Avenue South clear of obstructions on event days. All of these mitigation efforts will be paid for by the applicant for the street vacation, ArenaCo.

According to the FEIS, as an underdeveloped industrial street, this block of Occidental Avenue S provides no significant light, air, open space or views to the general public. The resulting block configuration would be consistent with the large blocks found in the Duwamish Manufacturing/Industrial Center. The proposed Arena will provide a public plaza at the corner of 1st Avenue South and S Massachusetts Street and wide sidewalks with public seating along 1st Avenue South, providing more usable open space and mitigating any light, air or open space impacts of the vacation.

2. Land Use Impacts

This part of the analysis determines whether the proposed use is appropriate given the City's plans and the area's zoning.^[1] Instead of two office buildings, which could be built under current zoning, one spectator sports arena would be built as a result of the vacation. The FEIS found no significant adverse land use impacts from the project.

The street vacation policies also state that the Council should consider whether a development project that is facilitated by a street vacation is consistent with land uses envisioned by the Comprehensive Plan. The Plan expressly states that the City's zoning should allow sports stadiums within the Duwamish Manufacturing Industrial Center.^[2] The Council implemented that Plan policy when it adopted the Stadium Transition Overlay zoning district in 2000. Sports stadiums are a land use that is permitted outright within that zone.^[3] Because the Plan specifically allows sports stadiums as a permitted use, the Arena is consistent with the land uses envisioned by the Comprehensive Plan.

3. Public Benefits

The proposed street vacation includes the following public benefits, which are illustrated in a presentation prepared for the Sustainability and Transportation committee meeting on April 19, 2016:

- A 31,800 square foot publicly-accessible open space, including public restrooms;
- A "living machine" to treat and allow for the reuse of blackwater and greywater on-site through biofiltration, with features to educate the public about the living machine;

^[1] Policy 4.

^[2] Comprehensive Plan policy GD-P20.

^[3] SMC 23.50.012.

- Street improvements along Massachusetts Avenue South, including moving the street bed north to better align the right-of-way with the exit to the Safeco Field parking garage and the right-of-way west of 1st Avenue South;
- Enhanced right-of-way improvements along 1st Avenue South, including off-site streetscape improvements;
- Enhanced right-of-way improvements along S Holgate Street, including off-site streetscape improvements;
- A public art program including permanent and temporary art on site and on the pedestrian bridge connecting the project site to 3rd Avenue S.;
- Off-site bicycle network improvements, including greenway improvements along Utah Avenue S, off-street bicycle facilities on S Holgate and S Atlantic streets, shared-use facilities on Occidental Avenue S and S Massachusetts Street, and a bicycle signal; and
- Off-Site wayfinding improvements including directional signs in 15 locations and a kiosk.

These public benefit features exceed requirements of the Code and the Street Improvement Manual and are not required for mitigation of environmental impacts under SEPA, nor are they required under the Memorandum of Understanding. All of these public benefits will be paid for by the applicant for the street vacation, ArenaCo.

Based on our analysis of the three considerations of public interest from our Street Vacation Policies, we believe the proposed street vacation of Occidental Ave South is in the public interest.

In addition to consideration of the street vacation policies, our decision is informed by the FEIS and SEIS and the substantive policies contained in the City's SEPA ordinance. The vacation should be approved subject to compliance with the mitigation conditions described in the SDOT recommendation and the conditions added by the City Council.

Minority Position (CM Bagshaw)

I oppose the vacation of this portion of Occidental Avenue South. Without the assurance of an NBA team, without improved transportation conditions and the careful consideration of the impact on the Port, and without a serious look at the viability of a rebuilt Key Arena, we are giving away the store without getting the appropriate public benefits a project such as this should bring to Seattle. I urge you to reconsider your position on this and vote NO for the street vacation.

First, this vacation is not timely. When we negotiated the MOU nearly four years ago, we all believed that the Sacramento Kings would be sold to Mr. Hansen and Mr. Ballmer, and that our SuperSonics would return to Seattle. I admit that I shared the enthusiasm.

Since then, there has been a great deal of speculation but no team has materialized. Mr. Ballmer left the partnership and bought the Clippers. And, based on the NBA Commissioner's words, ***they have no intention to*** expand the NBA at this time, and there are no teams for sale.

Please refer to [this article](#) from the Seattle Times, published on Thursday, April 21, 2016. Commissioner Silver states, "***Whether or not the arena is shovel ready is not a factor that we are considering in terms of whether or not we expand at this point.***"

I know we are all getting considerable pressure from our favorite sports fans who believe "If Chris builds it the NBA will come." But the NBA tells us that's simply a fantasy. They have no intention of expanding no matter how much we wish for the return of the SuperSonics.

"The Club" is neither selling a team nor expanding the league for Mr. Hansen. So, why are we handing him a street vacation now?

Second, the proposed street vacation does not address the increased traffic problems that would impact buses, cars, and freight in SODO. The expected increase in traffic, the probable impacts on the Port and family wage jobs and the additional congestion on cars, buses and freight should not be ignored. The traffic problems are real on 1st Avenue and 4th Avenue right now; on any given game-day, congestion is bad. Add a Monday night football game, and Downtown traffic is at a stand-still. Imagine adding up to 200 more events in the SODO area without addressing congestion and we have a serious problem on our hands...for no conceivable benefit to the taxpayers, businesses, workers, or residents.

I believe this decision is truly an economic justice issue: why would we jeopardize middle class, family-wage jobs and quality of traffic throughput Downtown when there is no team and the proposal does not address the forecasted traffic problems?

Third, we have not given Key Arena a serious look on property that WE own. The recent AECOM study indicated that we can create an arena in which the NBA and NHL would love to play, and NBA commissioner Silver said he hasn't ruled out anything. "For me, it's a fresh start. Nothing's a closed deal," Silver said of a Key Arena renovation option. "Especially with what an arena renovation looks like these days compared to the old days. It's very different. And so, when somebody talks about renovating KeyArena — depending on how much was invested — it could look just like a new arena, frankly....."And so, the devil is in the details there."

Yes, the devil is in all of these details. Imagine how many people would be delighted to take light rail to Seattle Center when it is completed, in bold contrast to having to take a 20-minute walk from the proposed SODO arena site to light rail which will never get to 1st Avenue? Maybe you and I would walk that far on a dark and rainy night, but really --- how many others?

Lastly, while you are taking these arguments into consideration please re- read what the Port has written about their efforts to keep our trade-dependent region competitive with Prince Rupert, B.C. And please also re-read the letter signed by 36 legislators, urging us not to give away this street because "the site of the proposed street vacation represents the crossroads of international trade, manufacturing, and transportation interests that together form a key economic engine for our state."

Until an NBA team is assured, let's dig deeply into cost/benefit analysis raised in the AECOM study and seriously consider what could be done at Key Arena and what actions would promote Seattle Center. Let's consider the political implications with our partners at the Port, and with our friends in the legislature with whom we need to work.

Let's vote no on this street vacation. There's no legal obligation for the city to give up a street under this proposal at this time. We can do better when and if the time comes.

Thank you for reconsidering and doing what's best for Seattle, the Port and our taxpayers. Many thanks for your support and thoughtfulness.



Seattle City Council

Central Staff – Divided Report

For consideration at Full Council

Committee: Sustainability & Transportation
Council Bill Number: CF 312905
Short Title: Petition of WSA Properties, et al. to vacate Occidental Avenue South
Full Council Date: May 2, 2016
Analyst: Dan Eder, Deputy Director

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Let's vote no on this street vacation. There's no legal obligation for the city to give up a street under this proposal at this time. We can do better when and if the time comes.

Thank you for reconsidering and doing what's best for Seattle, the Port and our taxpayers. Many thanks for your support and thoughtfulness.

**VACATION PETITION TO THE HONORABLE CITY COUNCIL OF THE
CITY OF SEATTLE**

We, the undersigned, being the owners of more than two-thirds of the property abutting on:

That portion of South Occidental Street lying east of Block 320 and West of Block 319, Seattle Tide Lands, as shown on the official maps on file in the Office of the Commissioner of Public Lands at Olympia, Washington,

herein sought to be vacated, petition the City to vacate:

THAT PORTION OF SOUTH OCCIDENTAL AVENUE SOUTH LYING EAST OF BLOCK 320, AND WEST OF BLOCK 319, SEATTLE TIDE LANDS, MORE PARTICULARLY DESCRIBED AS FOLLOWS;

BEGINNING AT THE SOUTHWEST CORNER OF BLOCK 319, SEATTLE TIDE LANDS, IN KING COUNTY WASHINGTON, AS SHOWN ON THE OFFICIAL MAPS ON FILE IN THE OFFICE OF THE COMMISSIONER OF PUBLIC LANDS AT OLYMPIA, WASHINGTON;

THENCE NORTH 88°51'24" WEST ALONG THE WESTERLY EXTENSION OF THE SOUTHERLY LINE OF SAID BLOCK 319 FOR A DISTANCE OF 30.00 TO THE CENTERLINE OF OCCIDENTAL AVENUE SOUTH;

THENCE NORTH 88°49'39" WEST ALONG THE EASTERLY EXTENSION OF THE SOUTHERLY LINE OF BLOCK 320 OF SAID SEATTLE TIDELANDS FOR A DISTANCE OF 30.00 FEET TO THE SOUTHEAST CORNER THEREOF;

THENCE NORTH 01°08'29" EAST ALONG THE EASTERLY LINE OF SAID BLOCK 320 AND THAT PORTION OF VACATED SOUTH MASSACHUSETTS STREET, CITY OF SEATTLE VACATION ORDINANCE #117475 FOR A DISTANCE OF 680.18 FEET;

THENCE SOUTH 88°50'27" EAST PARALLEL AND 30.00 FEET SOUTHERLY OF THE CENTERLINE OF SOUTH MASSACHUSETTS STREET 60.00 FEET TO THE EASTERLY MARGIN OF OCCIDENTAL AVENUE SOUTH;

THENCE SOUTH 01°08'29" WEST 680.17 FEET TO THE POINT OF BEGINNING.

SITUATE IN THE CITY OF SEATTLE, KING COUNTY, WASHINGTON.

CONTAINING 40,811 SQUARE FEET OR 0.937 ACRES, MORE OR LESS.

OR in the alternative, to vacate any portion of said right-of-way so particularly described;

RESERVING to the City of Seattle the right to make all necessary slopes for cuts or fills upon the above described property in the reasonable original grading of any right-of-way abutting upon said property after said vacation; and further,

RESERVING to the City of Seattle the right to reconstruct, maintain and operate any existing overhead or underground utilities in said rights-of-way until the beneficiaries of said vacation arrange with the owner or owners thereof for their removal.

SIGNATURE OF PETITIONERS:


I hereby declare that I am an owner of property that abuts the particular right-of-way described in the petition to the City Council for the above noted right-of-way and understand the discretionary nature of the City Council decision and the vacation review process and all fees and costs and time frame involved. **For corporately held property, provide documentation of signatory authority.**

OWNER
(Printed Name and Signature)

PROPERTY:

WSA Properties, LLC

7666206285, Lots 1-11, Block 319



SIGNATURE DATE 3-7-13

WSA Properties VI, LLC

7666206400, Lots 1-2, Block 320



SIGNATURE DATE 3-7-13

WSA Properties V, LLC

7666206405, Lot 3, Block 320



SIGNATURE DATE 3-7-13

WSA Properties V, LLC

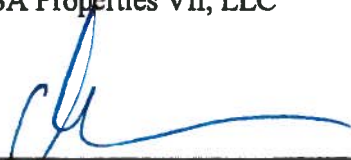
7666206410, Lots 4-5, Block 320



SIGNATURE DATE 3-7-13

WSA Properties VII, LLC

7666206415, Lot 6, Block 320



3-7-13

SIGNATURE

DATE

ADDITIONAL PROPERTY OWNERS ABUTTING THE VACATION:

I/we acknowledge and support the petition to vacate a portion of:

That portion of South Occidental Street lying east of Block 320 and West of Block 319, Seattle Tide Lands, as shown on the official maps on file in the Office of the Commissioner of Public Lands at Olympia, Washington,

herein sought to be vacated, petition the City to vacate:

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SITUATE IN THE CITY OF SEATTLE, KING COUNTY, WASHINGTON.

CONTAINING 40,811 SQUARE FEET OR 0.937 ACRES, MORE OR LESS.

and declare that I/we have no objections to the street/alley vacation.

Coast Cranes LP&
Golden Rainbow Freedom Fund, LP

7666206417, Lot 7, Block 320

Greg Steinhauer

DATE

Coast Cranes, LP&
Golden Rainbow Freedom Fund, LP

7666206420, Lot 8, Block 320

Greg Steinhauer

DATE

Coast Cranes, LP &
Golden Rainbow Freedom Fund, LP

7666206425, Lots 9-11, Block 320

Greg Steinhauer

DATE

Coast Cranes LP &
Golden Rainbow Freedom Fund, LP

7666206417, Lot 7, Block 320

 3-12-2013

SIGNATURE DATE

Coast Cranes, LP &
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 - MGP 3-12-2013

SIGNATURE DATE

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 - MGP 3-12-2013

SIGNATURE DATE

**VACATION PETITION TO THE HONORABLE CITY COUNCIL OF THE
CITY OF SEATTLE**

ACKNOWLEDGEMENT:

I/we NISA Properties, etc acknowledge that:

any expense that may be incurred in preparing, applying or obtaining any land use or construction permits in contemplation of such vacation is the sole risk of the petitioners;

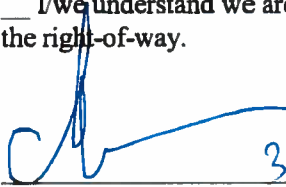
the City Council decision is at the end of the review process;

the City Council decision on the vacation is discretionary, and will be based on the City's Street Vacation Policies adopted by Resolution 310078 and other adopted policies; and

a Council decision to grant the vacation request does not exempt the property from the requirements of the City's Land Use Code or from conditioning of development pursuant to the State Environmental Policy Act (SEPA).

I/we have been informed of the cost, obligations, petition requirements, Street Vacation Policies, the time frame involved in the review of a vacation petition.

I/we understand we are obligated to pay a vacation fee in the amount of the appraised value of the right-of-way.



3-7-13

Petitioner

Date

Petitioner

Date

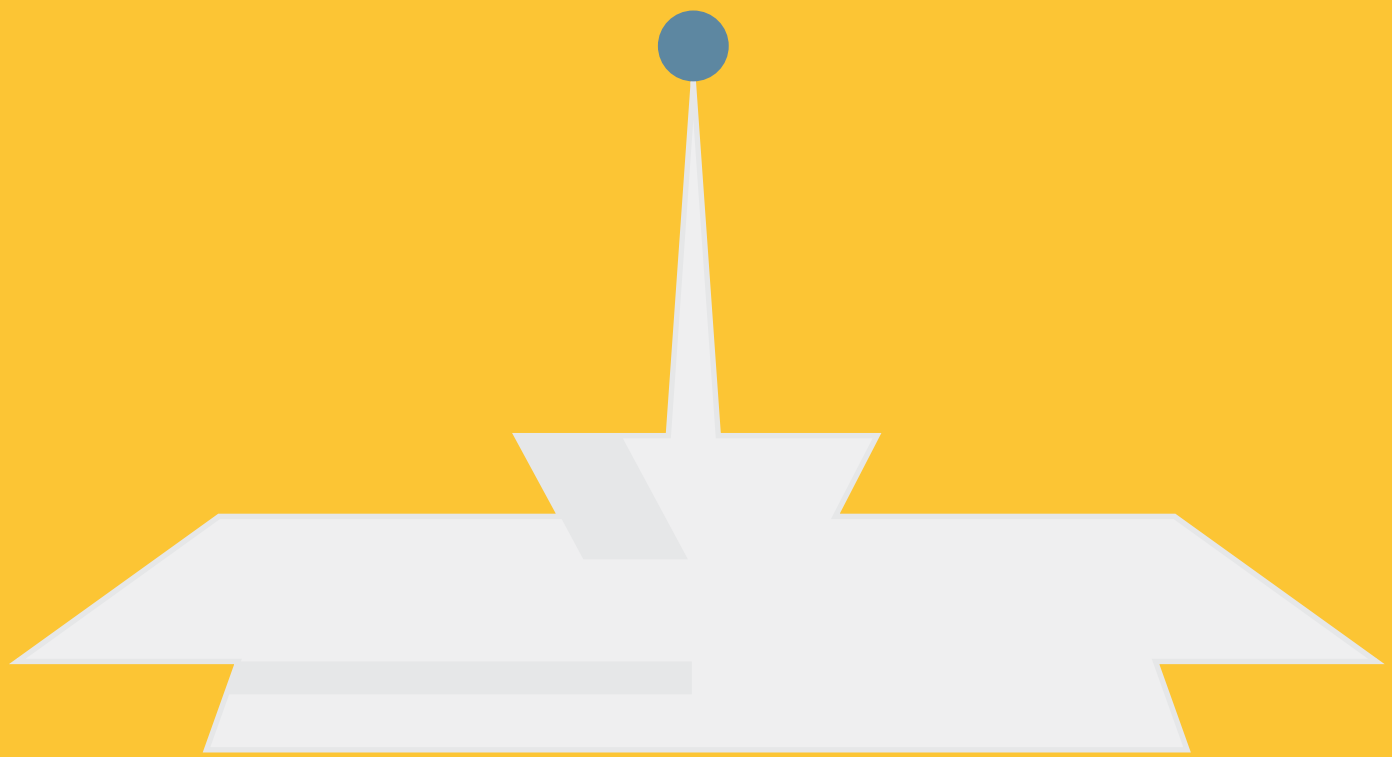
CONTACT INFORMATION:

Petitioners:

WSA Properties, LLC;
WSA Properties V, LLC,
WSA Properties VI, LLC;
WSA Properties VII, LLC
c/o Christopher Hansen

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jessie@mhseattle.com / jack@mhseattle.com



SEATTLE ARENA

MARCH 12, 2013
STREET VACATION PETITION

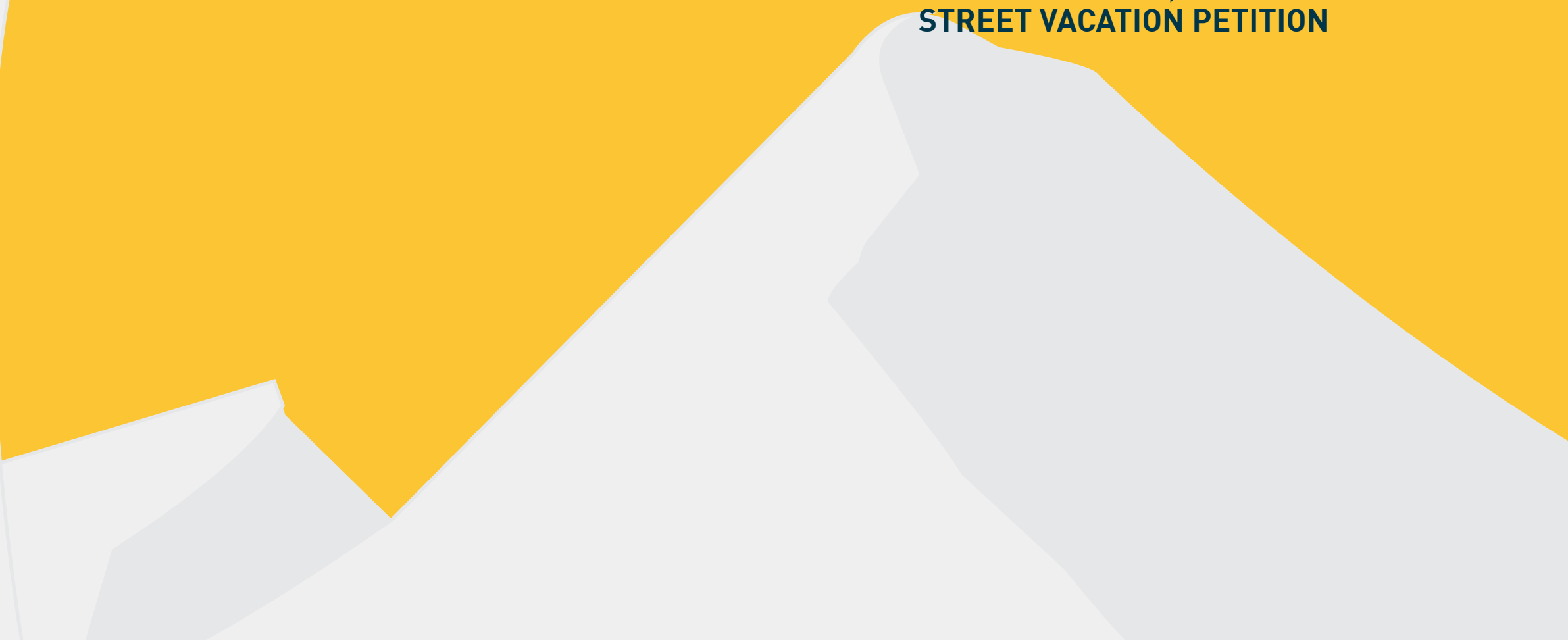
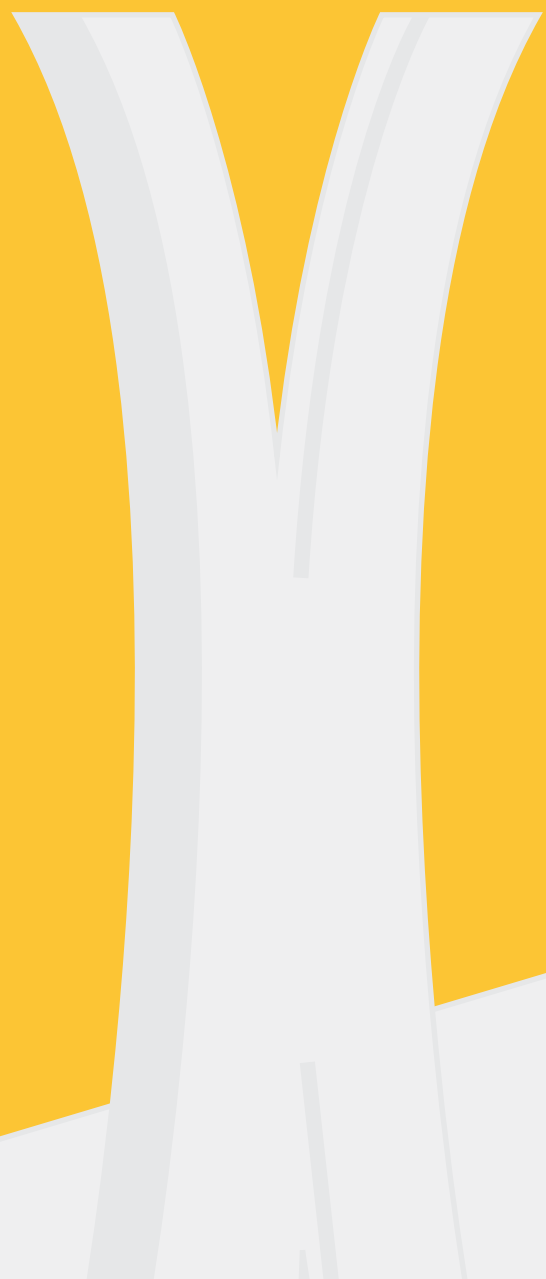


TABLE OF CONTENTS

1	FILING FEE				
2	COMMUNITY MEETINGS	32			
3	PROJECT AREA SITE MAP	33			
4	SITE SURVEY	34			
5	SIGNED PETITION	35			
6	PLAT MAP	36			
7	VACATED RIGHT-OF-WAY: DESCRIPTION & SURVEY				
8	CITY GOALS ADVANCEMENT	37			
	CONTEXT:	38			
9	NEIGHBORHOODS				
10	ZONING BOUNDARIES	39			
11	REASON FOR SEEKING VACATION/CONTRIBUTIONS TO PROJECT DEVELOPMENT	40			
	DEVELOPMENT PLAN:	41			
12	NO STREET VACATION - EXISTING CONDITIONS	42			
13	NO STREET VACATION DEVELOPMENT	43			
14	STREET VACATION DEVELOPMENT	44			
15	DEVELOPMENT POTENTIAL INCREASE	45			
16	SITE CONSTRAINTS/DESIGN ISSUES	46			
17	PROJECT DESCRIPTION	47			
18	FIRST FLOOR PLAN	48			
19	LAND USE ACTIONS	49			
20	TRANSPORTATION IMPACTS	50			
	ACCESS:	51			
22	FREIGHT, RAIL AND VEHICLES	52			
23	DISTRICT STREET GRID ANALYSIS	57			
24	PEDESTRIAN AND BICYCLE	58			
25	9-BLOCK DISTRICT URBAN ANALYSIS	59			
26	AERIAL VIEWS	60			
	STREET VIEWS:	61			
28	FROM NORTH LOOKING SOUTH	62			
29	FROM EAST LOOKING WEST	63			
30	FROM SOUTH LOOKING NORTH	64			
31	FROM WEST LOOKING EAST	65			
			9-BLOCK DISTRICT ACCESS:		
			RAIL AND BUS NORTH	66	
			RAIL AND BUS SOUTH	67	
			FREIGHT, RAIL, AND VEHICULAR NORTH	68	
			FREIGHT, RAIL, AND VEHICULAR SOUTH	69	
			SIDEWALK PEDESTRIAN AND BICYCLE ANALYSIS NORTH	70	
			SIDEWALK PEDESTRIAN AND BICYCLE ANALYSIS SOUTH	71	
			EXISTING SIDEWALK ANALYSIS	72	
			OCCIDENTAL AVE EXISTING USE ANALYSIS	73	
			OCCIDENTAL AVE NO VACTION USE ANALYSIS	74	
			OCCIDENTAL AVE PROPOSED USE ANALYSIS	75	
			PUBLIC TRANSPORTATION IMPACT	76	
			EIS INFORMATION	77	
			NEIGHBORHOOD PLANNING GOALS ADVANCEMENT	78	
				79	
			UTILITY SITE PLANS:	80	
			EXISTING WET UTILITIES	81	
			PROPOSED WET UTILITIES	82	
			EXISTING DRY UTILITIES	83	
			PROPOSED DRY UTILITIES	84	
			DESCRIPTION	85	
			IMPACTS		
			LAND USE IMPACTS		
			NEIGHBORHOOD CHARACTER		
			PUBLIC BENEFIT:		
			MATRIX	86	
			DIAGRAM	87	
			PLAZA DESIGN	88	
			PLAZA PROGRAM DIAGRAM	89	
			PLAZA SITE ZONES	90	
			OCCIDENTAL VIEW EAST	91	
			MASSACHUSETTS VIEW SOUTH	92	
			PLAZA PAVING TYPOLOGY	93	
			STEPS + BLEACHER SEATS TYPOLOGY		
			PUBLIC BENEFIT (cont.):		
			WATERWALL+GREENWALL TYPOLOGY		
			PERSPECTIVE PLAZA LOOKING SOUTHWEST		
			BIRDS-EYE PERSPECTIVE LOOKING SOUTH		
			BIRDS-EYE PERSPECTIVE LOOKING SOUTH		
			SITE PLAN		
			PROJECT INFORMATION TABLE		
			3D RENDERINGS:		
			SOUTHWEST AERIAL		
			HOLGATE LOOKING WEST		
			HOLGATE LOOKING WEST		
			SOUTHWEST ENTRANCE		
			NORTHWEST ENTRANCE		
			FIRST AVE LOOKING SOUTH AT PLAZA		
			FIRST AVE LOOKING NORTH		
			VIEW FROM BEACON HILL AT NIGHT		
			WEST BUILDING ELEVATION		
			EAST BUILDING ELEVATION		
			SOUTH BUILDING ELEVATION		
			NORTH BUILDING ELEVATION		
			FIRST AVENUE STREET SECTION VIEW NORTH		
			SOUTH HOLGATE STREET SECTION VIEW WEST		
			SUSTAINABILITY:		
			GREEN FACTORY OPPORTUNITIES		
			SITE WATER OPPORTUNITIES		
			STORMWATER DIAGRAM		
			ARENA HVAC OPPORTUNITIES		
			BUILDING ENVELOPE OPPORTUNITIES		
			ENERGY OPPORTUNITIES		
			ARENA CO COMPANY INFORMATION		
			DEVELOPMENT SCHEDULE + TIMELINE		



SEATTLE ARENA

MARCH 12, 2013

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A CHECK FOR \$450.00 FOR THE FILING FEES, MADE TO THE
CITY OF SEATTLE DEPARTMENT OF FINANCE, HAS BEEN
INCLUDED WITH THIS PETITION.



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1
FILING FEE

COMMUNITY GROUP/NEIGHBOR:

CONTACTS MET WITH

SEATTLE MARINERS:

CHUCK ARMSTRONG

VARIOUS SMALL BUSINESSES IN SODO:

-

STADIUM DISTRICT STAKEHOLDERS GROUP:

PUBLIC STADIUM AUTHORITY AND ASSOCIATED STAKEHOLDERS IN STADIUM OVERLAY DISTRICT

THE PROJECT HAS ALSO BEEN SUBJECT TO FOUR EARLY DESIGN GUIDANCE MEETINGS, AT WHICH MEMBERS OF THE PUBLIC SUBMITTED PUBLIC COMMENT. THE PROJECT WILL BE SUBJECT TO DESIGN COMMISSION MEETINGS, ALSO PUBLIC MEETINGS, TO REVIEW THE ALLEY VACATION PETITION, AND THE PROJECT WILL BE FURTHER SUBJECT TO AT LEAST ONE MORE DESIGN REVIEW BOARD RECOMMENDATION MEETING. BOTH DESIGN COMMISSION MEETINGS AND DESIGN REVIEW BOARD MEETINGS INCLUDE PUBLIC COMMENT OPPORTUNITIES.

WE REFERENCE THE MOST RECENT EARLY DESIGN GUIDANCE PACKET PRESENTED TO THE DOWNTOWN DESIGN REVIEW BOARD ON MARCH 5, 2013. THIS PACKET MAY BE FOUND AT:

[HTTP://WWW.SEATTLE.GOV/DPD/APPDOCS/GROUPMEETINGS/DRPROPOSAL3014195AGENDAID4269.PDF](http://www.seattle.gov/dpd/appdocs/groupmeetings/drproposal3014195agenda4269.pdf)



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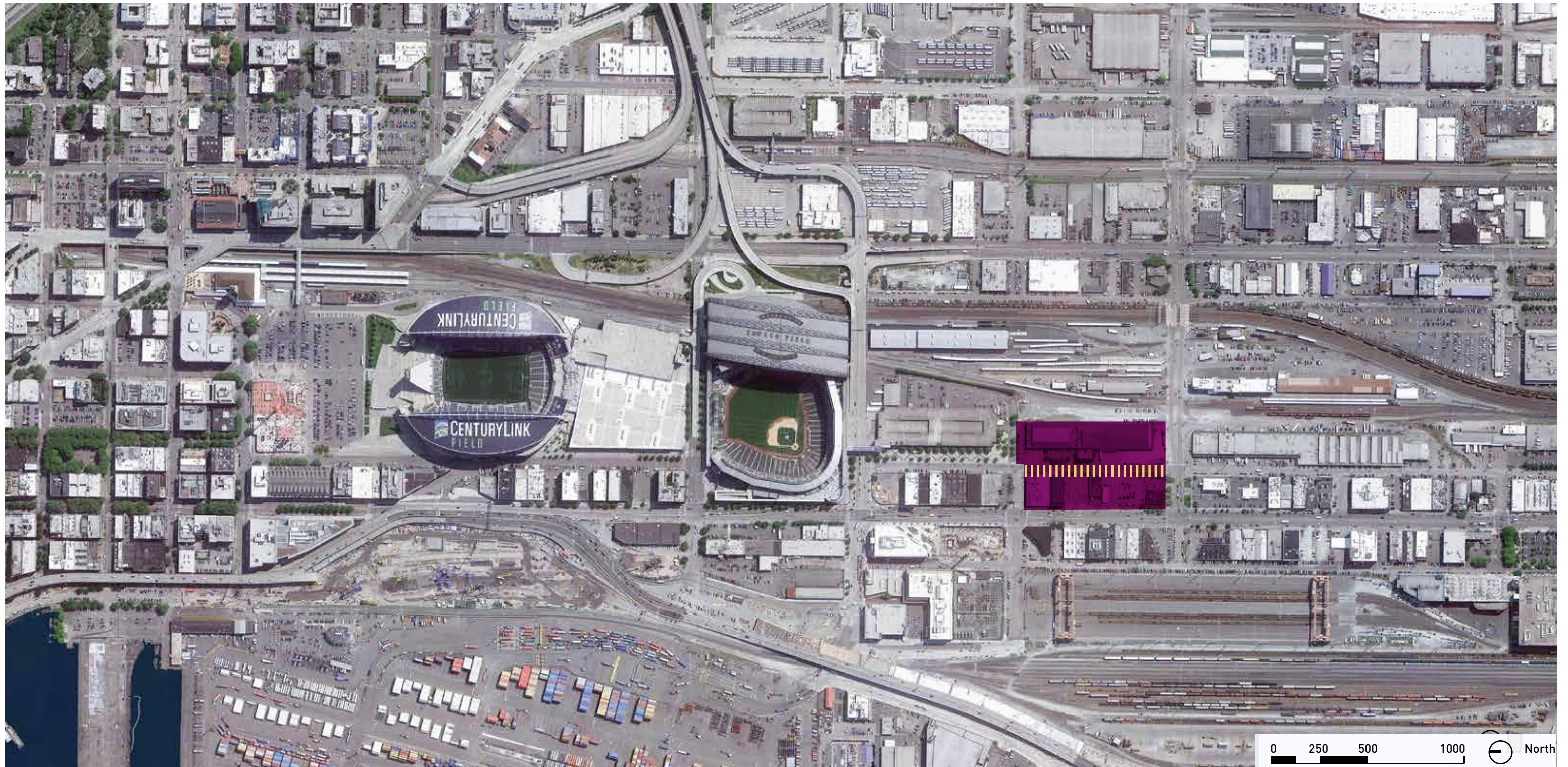
MARCH 12, 2013

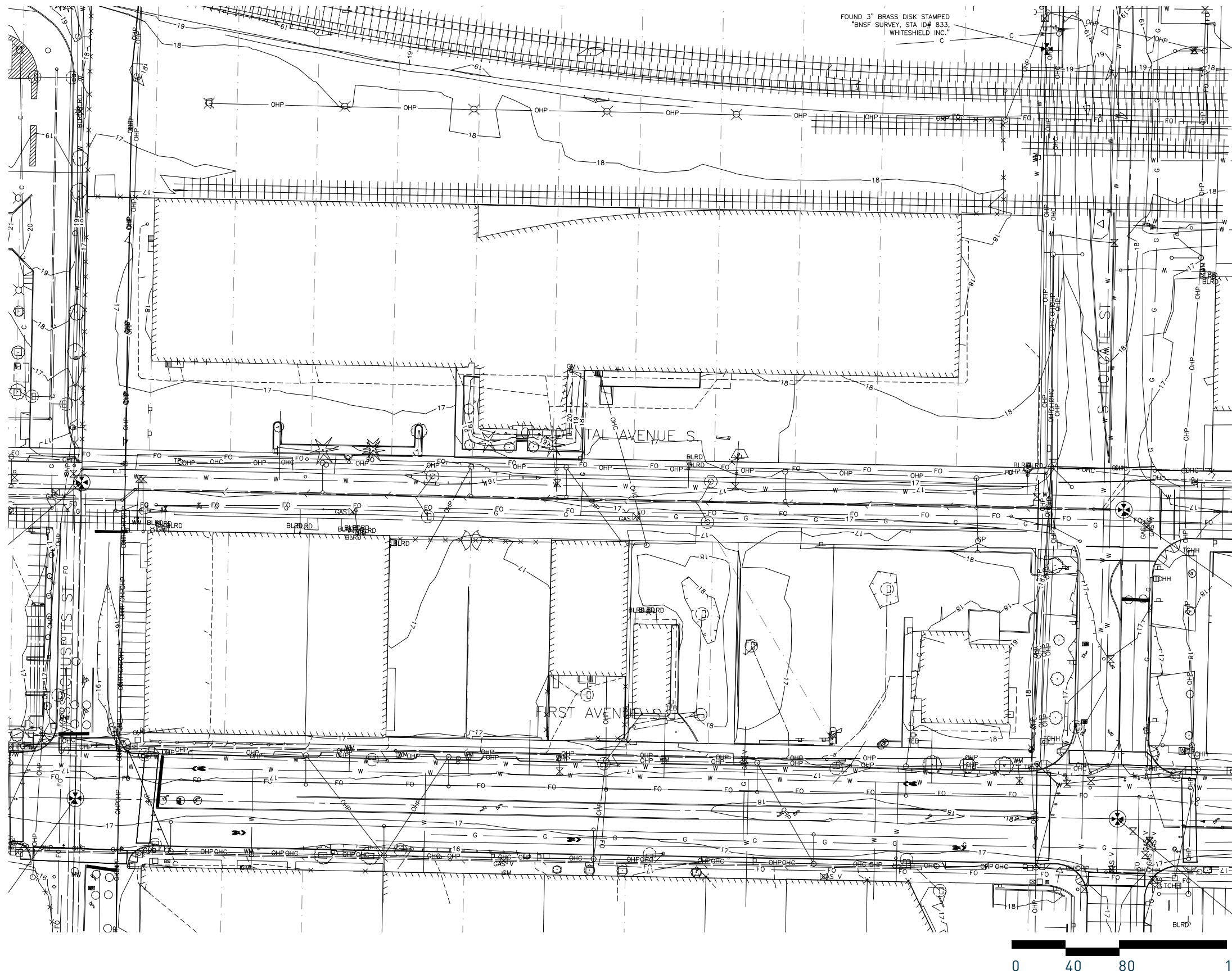
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THE PROJECT'S ADDRESS IS 1700 1ST AVENUE SOUTH, SEATTLE, WASHINGTON. IT IS WITHIN THE BLOCK BOUNDED BY SOUTH HOLGATE STREET TO THE SOUTH, TRAIN TRACKS TO THE EAST, 1ST AVENUE SOUTH TO THE WEST, AND SOUTH MASSACHUSETTS STREET TO THE NORTH. THE PROJECT IS LOCATED IN THE INDUSTRIAL COMMERCIAL-85 ZONE, AND IS LOCATED IN THE STADIUM AREA OVERLAY AND THE GREATER DUWAMISH MANUFACTURING INDUSTRIAL CENTER OVERLAY. THE SITE IS WITHIN THE DOWNTOWN DESIGN REVIEW BOARD'S BOUNDARIES.





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THE SIGNATURES TO THE PETITION ARE ATTACHED TO THIS PETITION.
(FOR PARCEL INFORMATION, SEE FOLLOWING PAGE)



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LEGAL DESCRIPTION

THE WEST 187.5 FEET OF LOTS 1 THROUGH 11, BLOCK 319, SEATTLE TIDE LANDS, IN KING COUNTY, WASHINGTON;

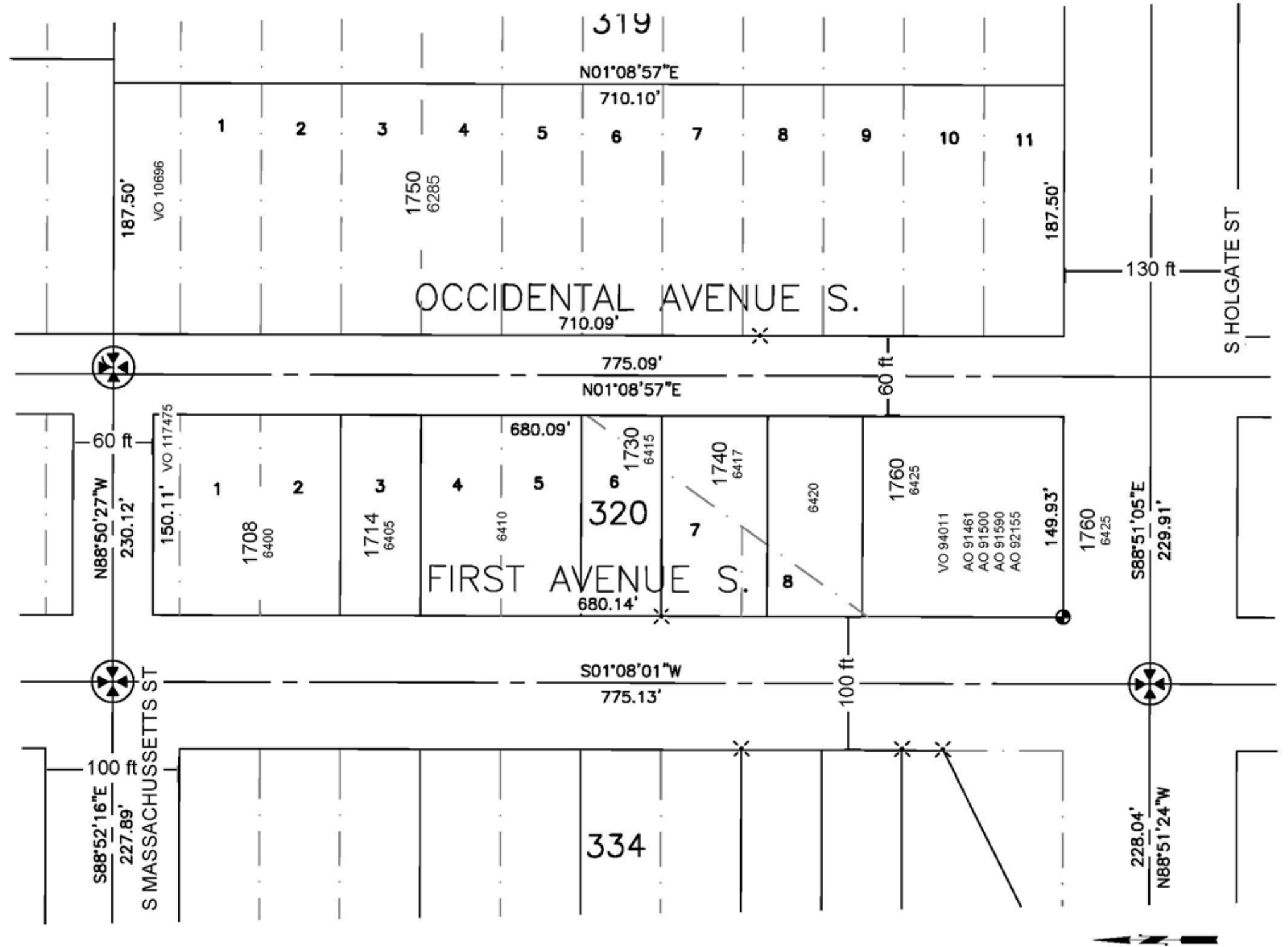
TOGETHER WITH THE SOUTH HALF OF VACATED MASSACHUSETTS STREET ADJOINING THE WEST 187.5 FEET OF SAID LOT 1;

LOTS 1 THROUGH 8 INCLUSIVE, IN BLOCK 320, SEATTLE TIDELANDS, IN KING COUNTY, WASHINGTON, AS SHOWN ON THE OFFICIAL MAPS ON FILE IN THE OFFICE OF THE COMMISSIONER OF PUBLIC LANDS AT OLYMPIA, WASHINGTON;

TOGETHER WITH THE SOUTH 20 FEET OF SOUTH MASSACHUSETTS STREET, ADJACENT, VACATED UNDER ORDINANCE NUMBER 117475, AS WOULD ATTACH BY OPERATION OF LAW;

TOGETHER WITH VACATED SOUTH HOLGATE STREET, VACATED BY THE CITY OF SEATTLE ORDINANCE NO. 94011, DESCRIBED AS FOLLOWS:

SOUTH HOLGATE STREET LYING NORTH OF THE PRODUCTION WEST OF THE SOUTH LINE OF LOT 11, BLOCK 319, SEATTLE TIDE LANDS, AND BETWEEN THE PRODUCTION SOUTH OF THE EAST AND WEST LINES OF BLOCK 320, SEATTLE TIDE LANDS.



OCCIDENTAL AVENUE SOUTH

PLEASE SEE THE ATTACHED SITE PLAN SHOWING THE ALLEY PROPOSED TO BE VACATED, AND A DEPICTION OF THE CONFIGURATION OF THE SITE FOLLOWING ALLEY VACATION.

PLEASE ALSO SEE THE ATTACHED LEGAL DESCRIPTION OF THE ALLEY PROPOSED TO BE VACATED.

THE WEST 187.5 FEET OF LOTS 1 THROUGH 11, BLOCK 319, SEATTLE TIDE LANDS, IN KING COUNTY, WASHINGTON;

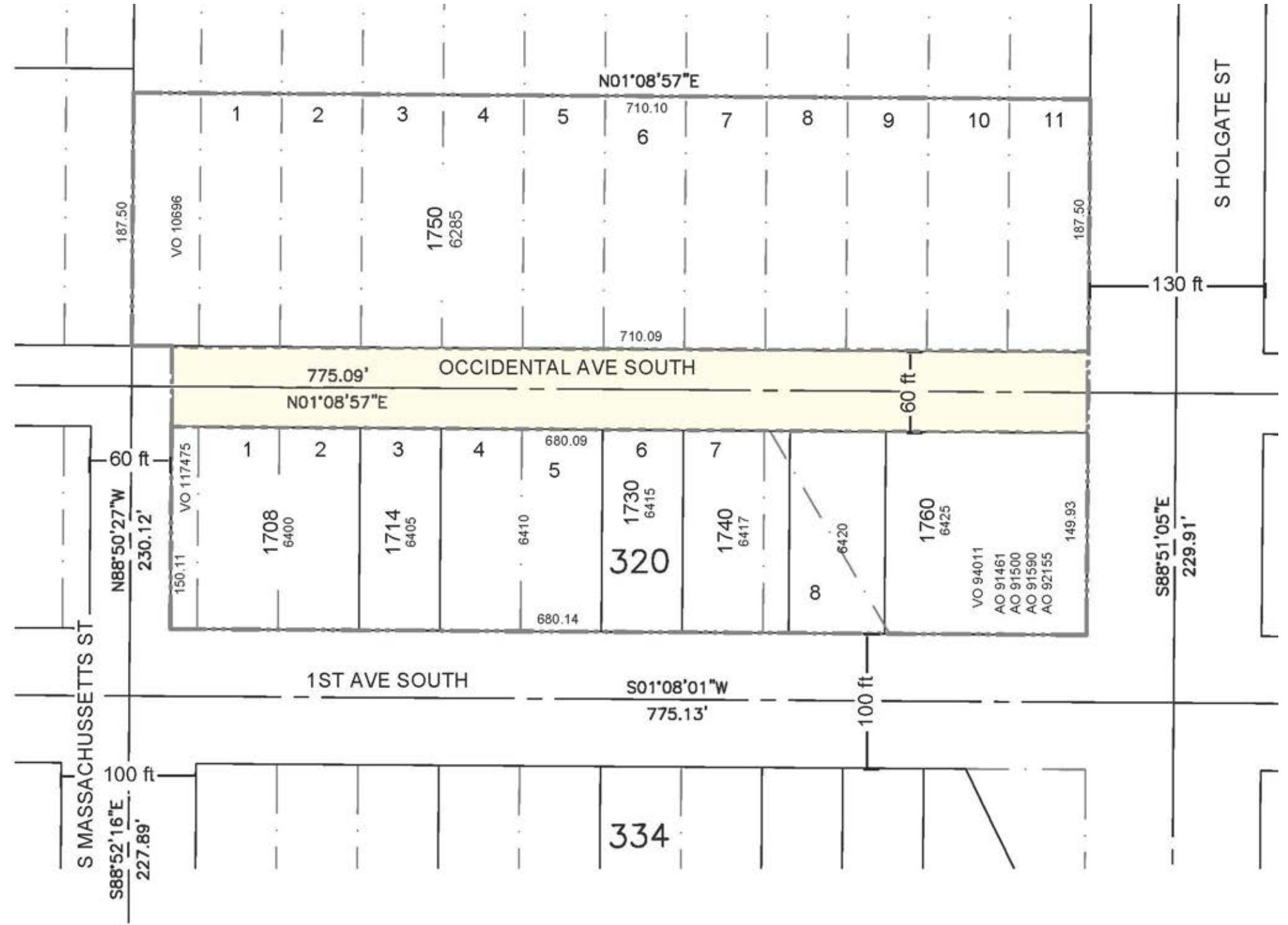
TOGETHER WITH THE SOUTH HALF OF VACATED MASSACHUSETTS STREET ADJOINING THE WEST 187.5 FEET OF SAID LOT 1;

LOTS 1 THROUGH 8 INCLUSIVE, IN BLOCK 320, SEATTLE TIDELANDS, IN KING COUNTY, WASHINGTON, AS SHOWN ON THE OFFICIAL MAPS ON FILE IN THE OFFICE OF THE COMMISSIONER OF PUBLIC LANDS AT OLYMPIA, WASHINGTON;

TOGETHER WITH THE SOUTH 20 FEET OF SOUTH MASSACHUSETTS STREET, ADJACENT, VACATED UNDER ORDINANCE NUMBER 117475, AS WOULD ATTACH BY OPERATION OF LAW;

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SOUTH HOLGATE STREET LYING NORTH OF THE PRODUCTION WEST OF THE SOUTH LINE OF LOT 11, BLOCK 319, SEATTLE TIDE LANDS, AND BETWEEN THE PRODUCTION SOUTH OF THE EAST AND WEST LINES OF BLOCK 320, SEATTLE TIDE LANDS.



THE ARENA PROJECT SITE IS SITUATED WITHIN THE ALREADY ESTABLISHED STADIUM OVERLAY DISTRICT. BY LOCATING THE ARENA AT THE PROPOSED SITE, THE PROJECT IS REINFORCING AND MAKING STRONGER, THE INTENT OF HAVING SIGNIFICANT SPORTS VENUES IN A PLANNED, CONCENTRATED CLUSTER. IT PROVIDES EFFICIENCIES IN PARKING AND TRANSPORTATION STRATEGIES THAT SERVICE THESE VENUES.



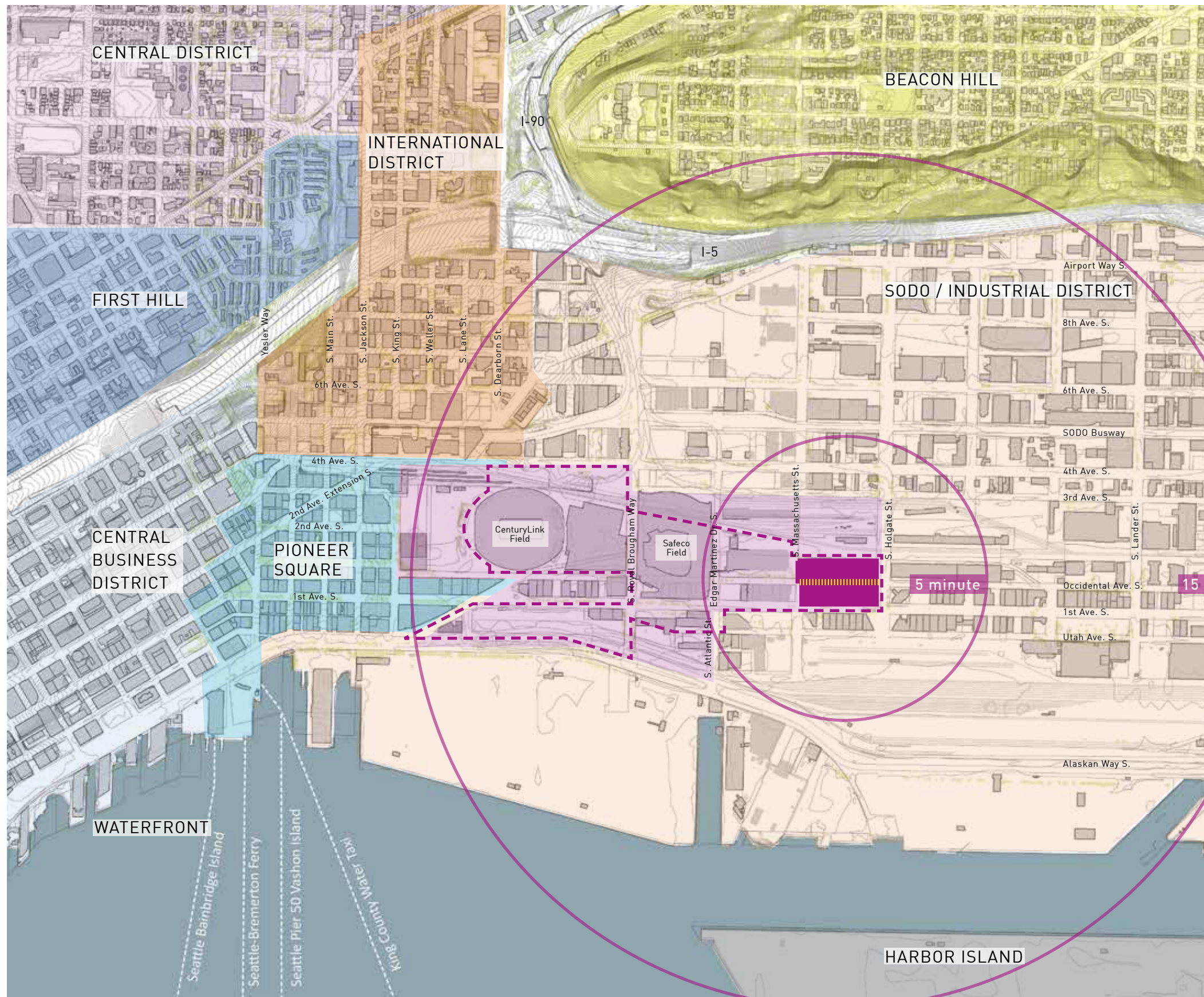
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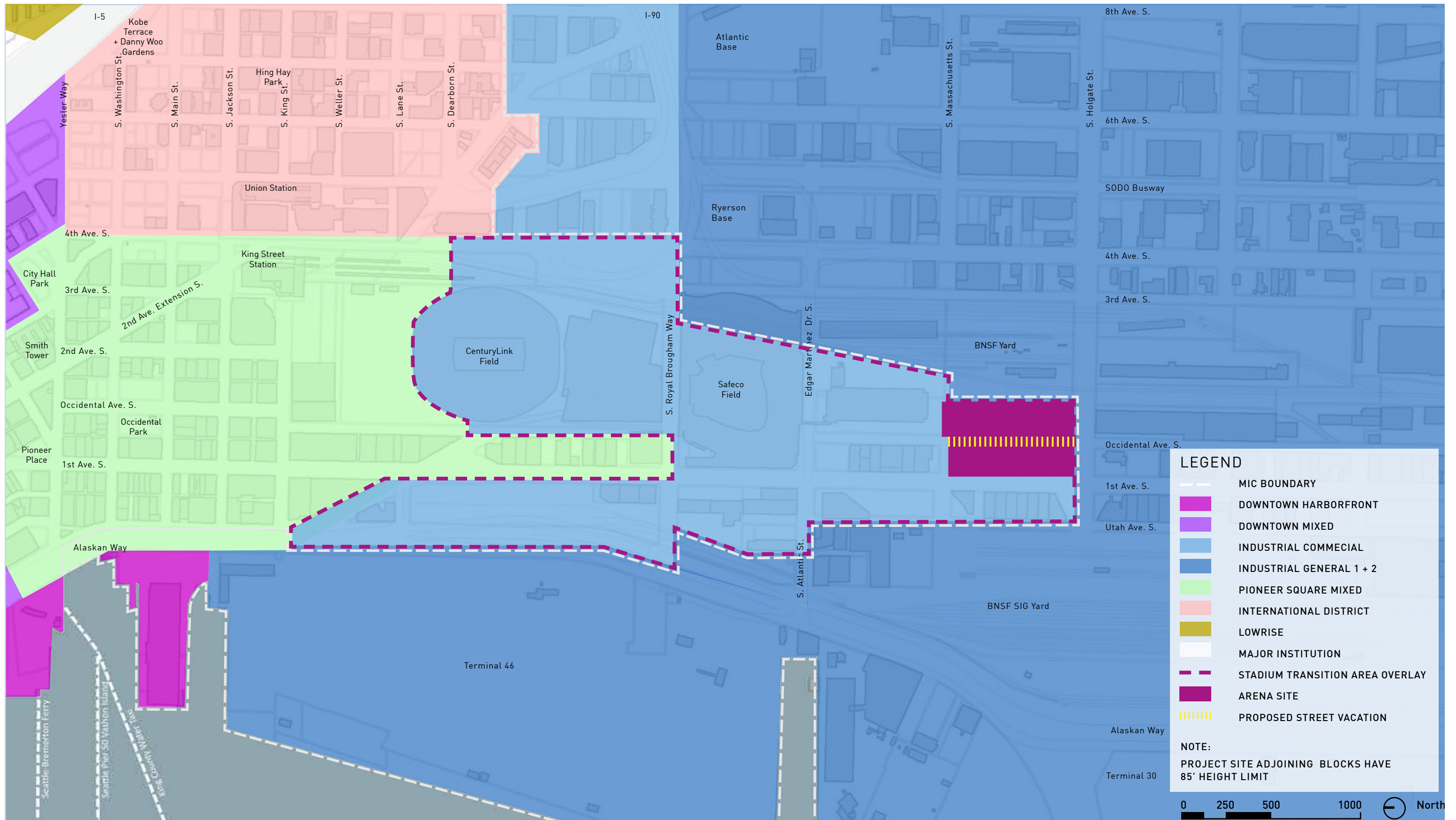


LEGEND

- PIONEER SQUARE
- CENTRAL BUSINESS DISTRICT
- INTERNATIONAL DISTRICT
- HARBOR ISLAND
- SODO/INDUSTRIAL DISTRICT
- BEACON HILL
- FIRST HILL
- CENTRAL DISTRICT
- WALKING DISTANCE
- STADIUM TRANSITION AREA OVERLAY
- ARENA SITE
- PROPOSED STREET VACATION

SOURCE: CITY OF SEATTLE ECONOMIC DEVELOPMENT





PROPOSAL:

THE PROJECT SITE CURRENTLY CONSISTS OF EIGHT PARCELS. ONE LARGE PARCEL IS LOCATED ON THE EAST SIDE OF THE PROJECT SITE AND SEVEN PARCELS FRONT 1ST AVENUE SOUTH ON THE WEST. THE PARCELS ARE BISECTED BY OCCIDENTAL AVENUE SOUTH.

OCCIDENTAL AVENUE SOUTH IS PROPOSED TO BE VACATED AS PART OF THE PROJECT.

THE PROJECT PROPOSES TO CONSTRUCT AN APPROXIMATELY 700,000 SF MULTIPURPOSE ARENA CONTAINING 18,000 TO 20,000 SEATS ON THE SITE.

VACATING THE STREET WILL ALLOW THE PROJECT TO COMBINE THE PARCELS NOW SEPARATED BY OCCIDENTAL AVENUE. THE VACATION ALLOWS FOR A PROJECT SITE THAT IS SUFFICIENTLY SIZED TO ACCOMMODATE A MULTIPURPOSE ARENA. MOST ARENAS ARE 370'-430' WIDE AND 680'-740' LONG BUT VARY BASE ON SITE CONDITIONS.

WITH THE STREET VACATION, THE DEVELOPABLE AREA OF THE PROPERTY INCREASES BY APPROXIMATELY 17.5%.

'NO VACATION' ALTERNATIVE:

IF THE ALLEY WERE NOT VACATED, THE RESULTING "NO VACATION" ALTERNATIVE WOULD CONSIST OF TWO SMALLER DEVELOPMENT PARCELS. THE NO VACATION ALTERNATIVE WOULD NOT ALLOW FOR A MULTIPURPOSE ARENA IN THIS LOCATION GIVEN THE SITE DIMENSIONS AND CHALLENGES. THEREFORE, THE NO VACATION ALTERNATIVE SHOWS WHAT COULD BE BUILT AS POTENTIAL OFFICE OR INDUSTRIAL BUILDINGS ON THE PROJECT SITE.

PLEASE SEE THE ATTACHED SITE PLANS AND MASSING STUDIES OF THE PROJECT SITE WITH THE ALLEY VACATION AND WITHOUT THE ALLEY VACATION



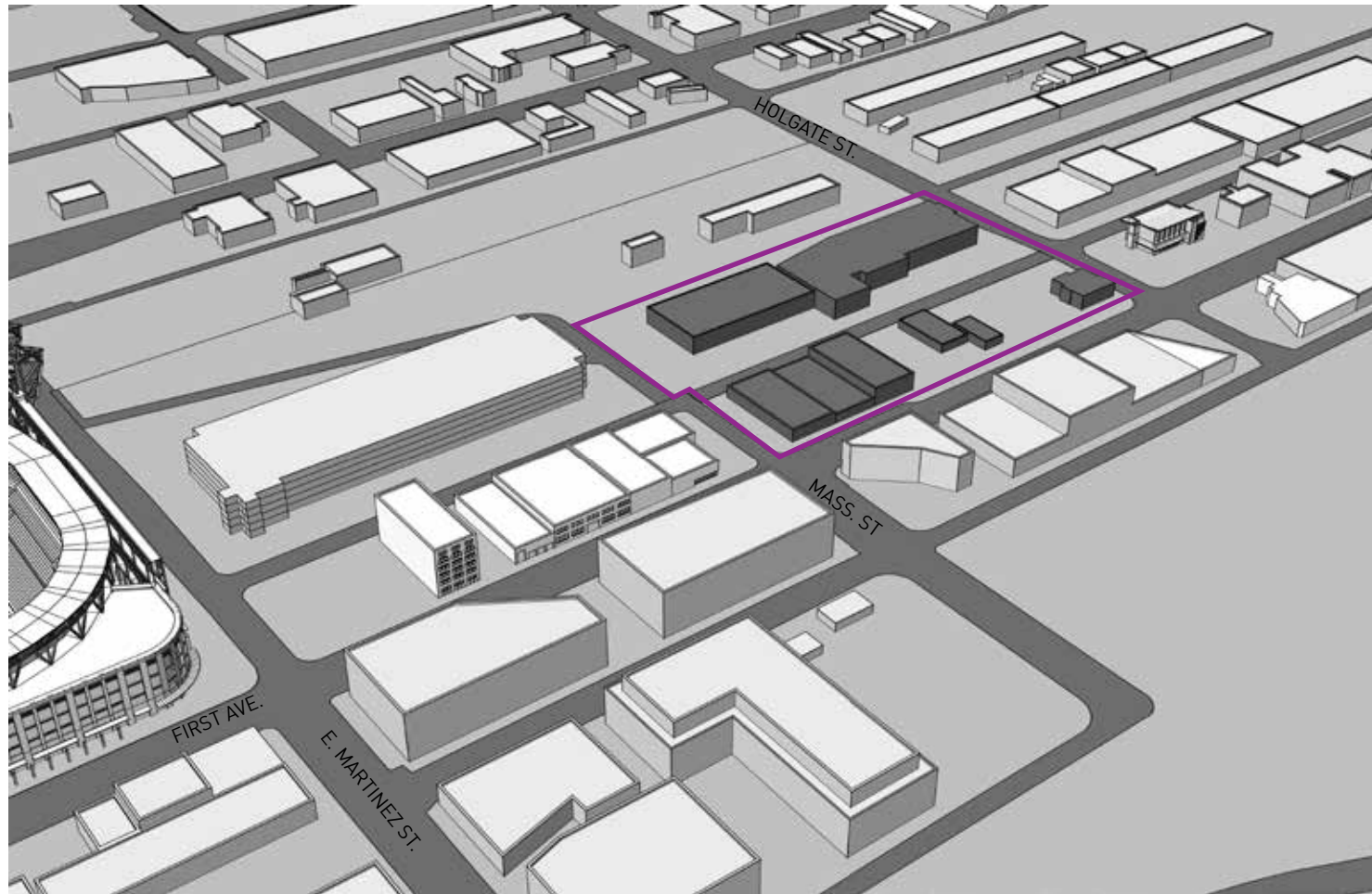
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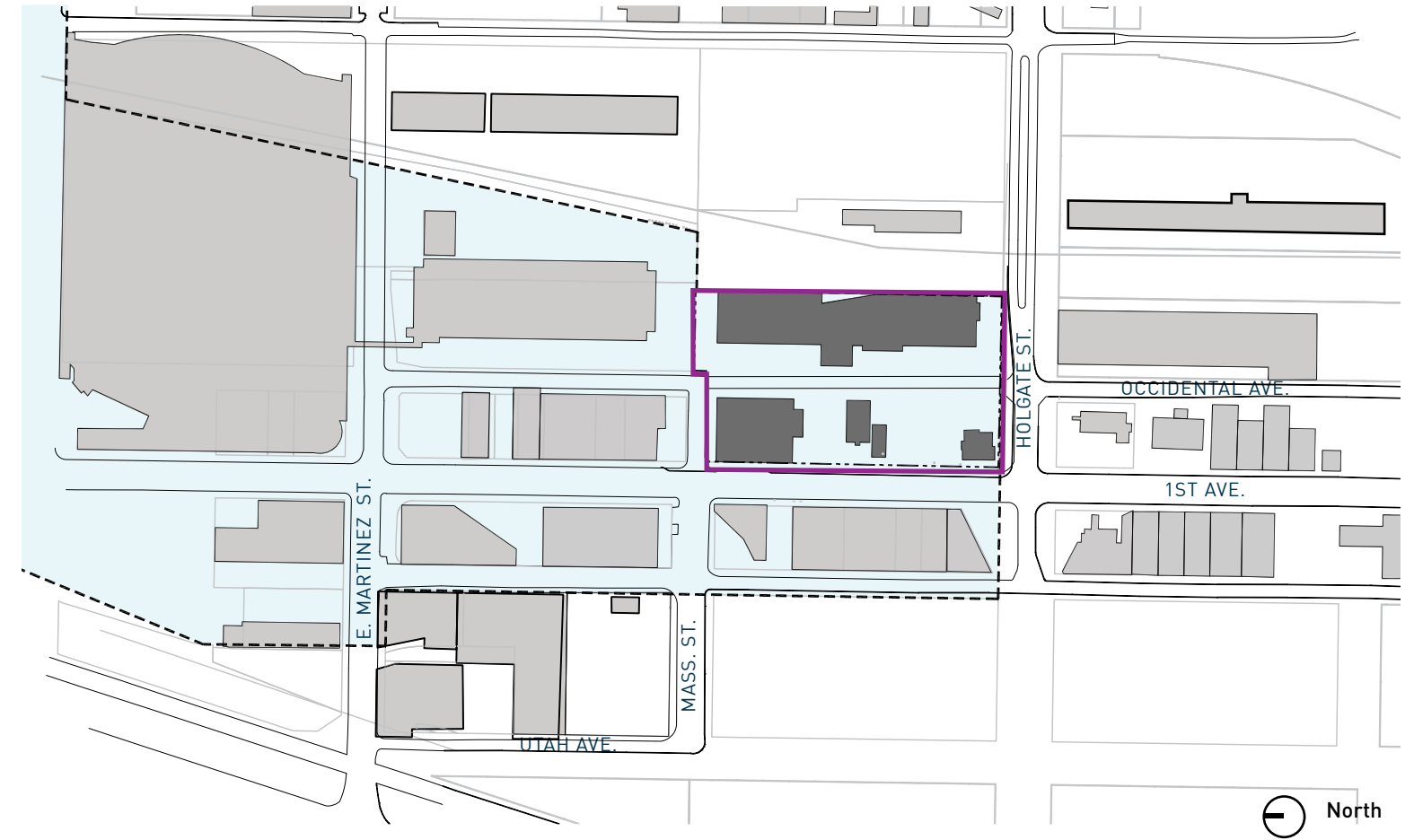
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PROPERTY DEVELOPMENT



- EXISTING
- DEMO
- ARENA
- PUBLIC PLAZA
- MIXED USE



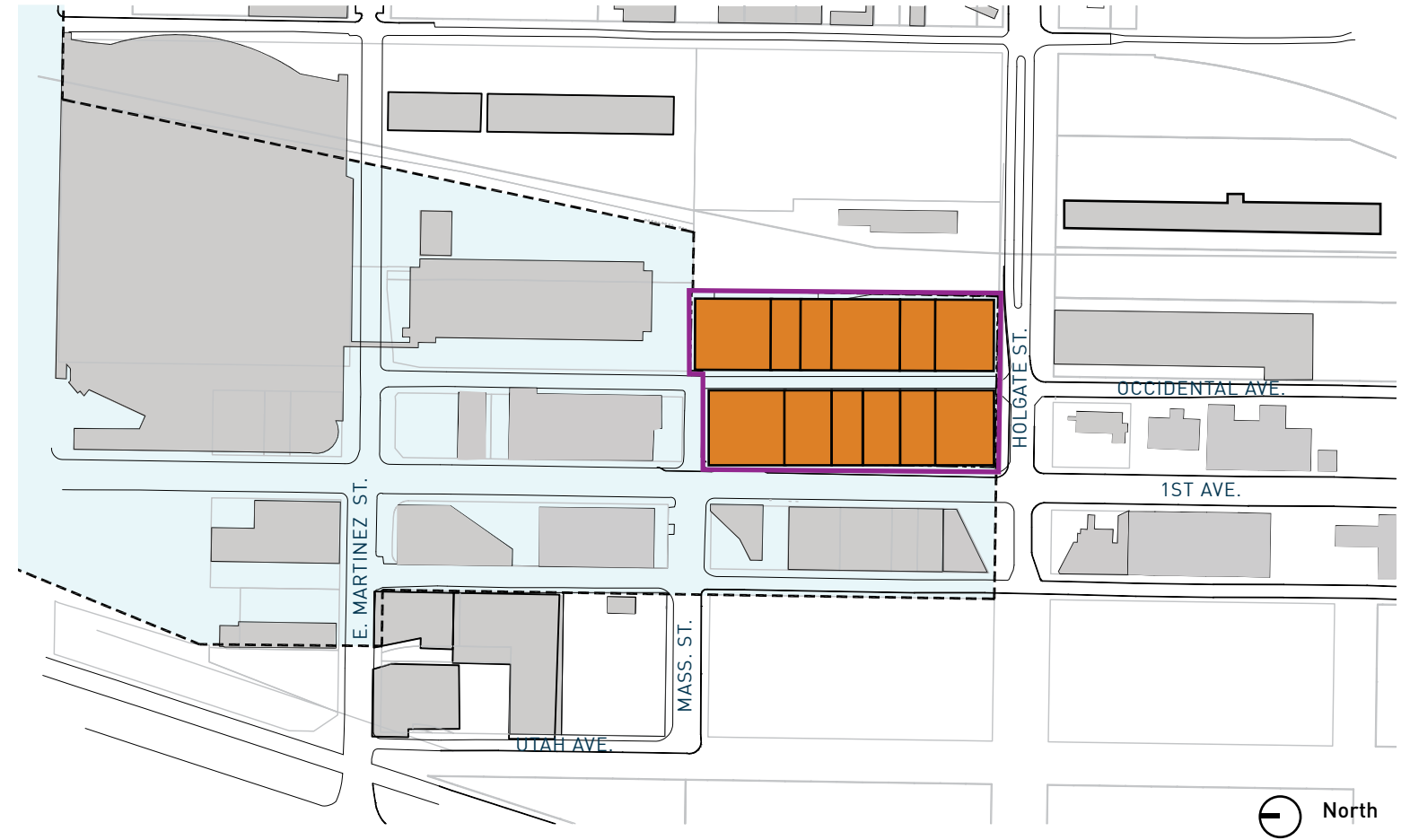







PROPERTY DEVELOPMENT

PROPOSED DEVELOPMENT WITHOUT STREET VACATION

SITE AREA 235,200 SF
 4 FLOORS 1 RETAIL,
 3 OFFICE/RESIDENTIAL

TOTAL BUILT AREA 940,000 SF



- EXISTING 
- DEMO 
- ARENA 
- PUBLIC PLAZA 
- MIXED USE 



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PROPERTY DEVELOPMENT

A. PROPOSED ARENA

SITE AREA	223,200 SF
CAPACITY	18,500

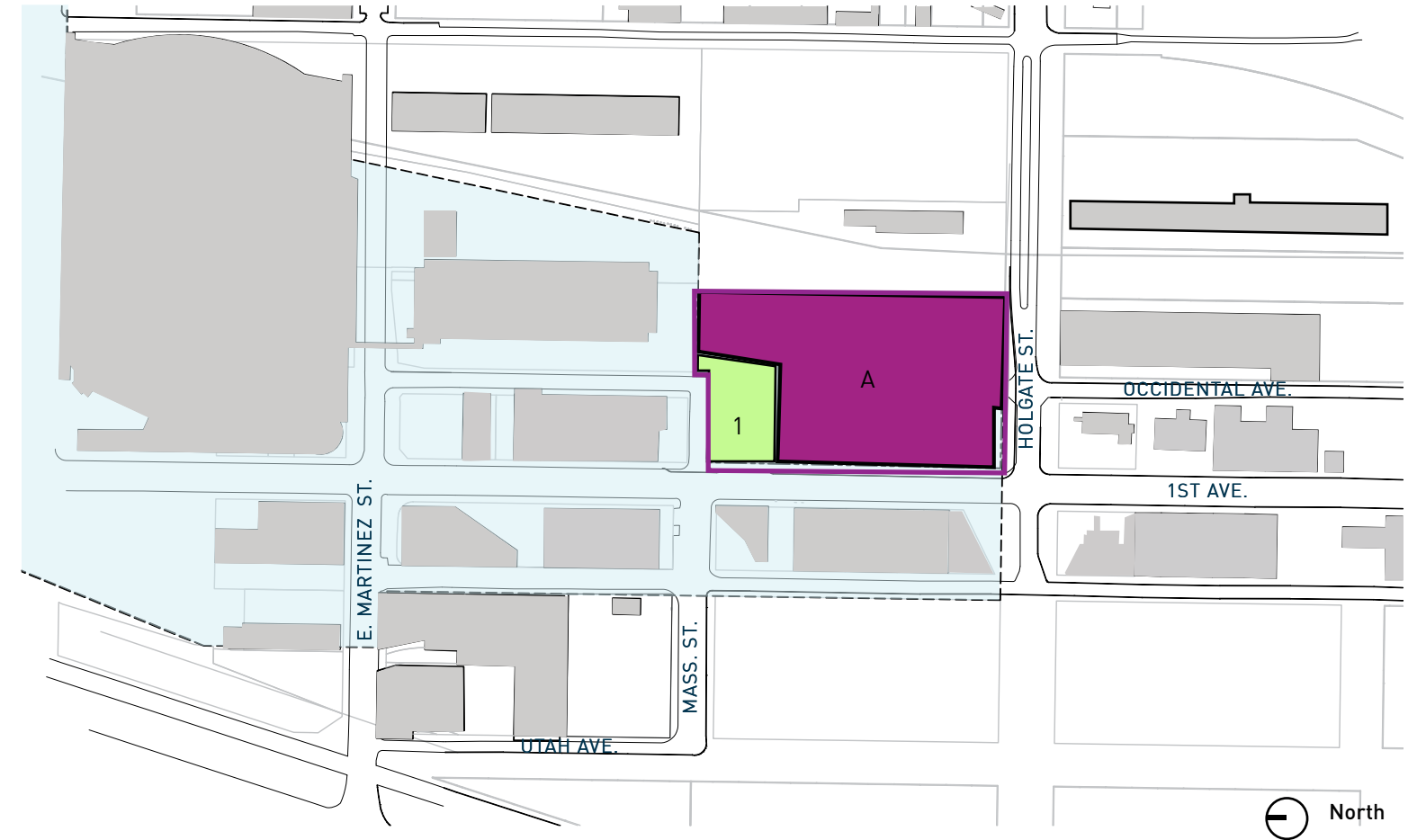
TOTAL BUILT AREA 750,000 SF

****NO MAXIMUM BUILDING HEIGHT PER CODE IN STADIUM OVERLAY DISTRICT****

PUBLIC PLAZA

1. PROPOSED PUBLIC BENEFIT SPACE: ARENA PLAZA

SITE AREA	40,500 SF
-----------	-----------



EXISTING	
DEMO	
ARENA	
PUBLIC PLAZA	
MIXED USE	



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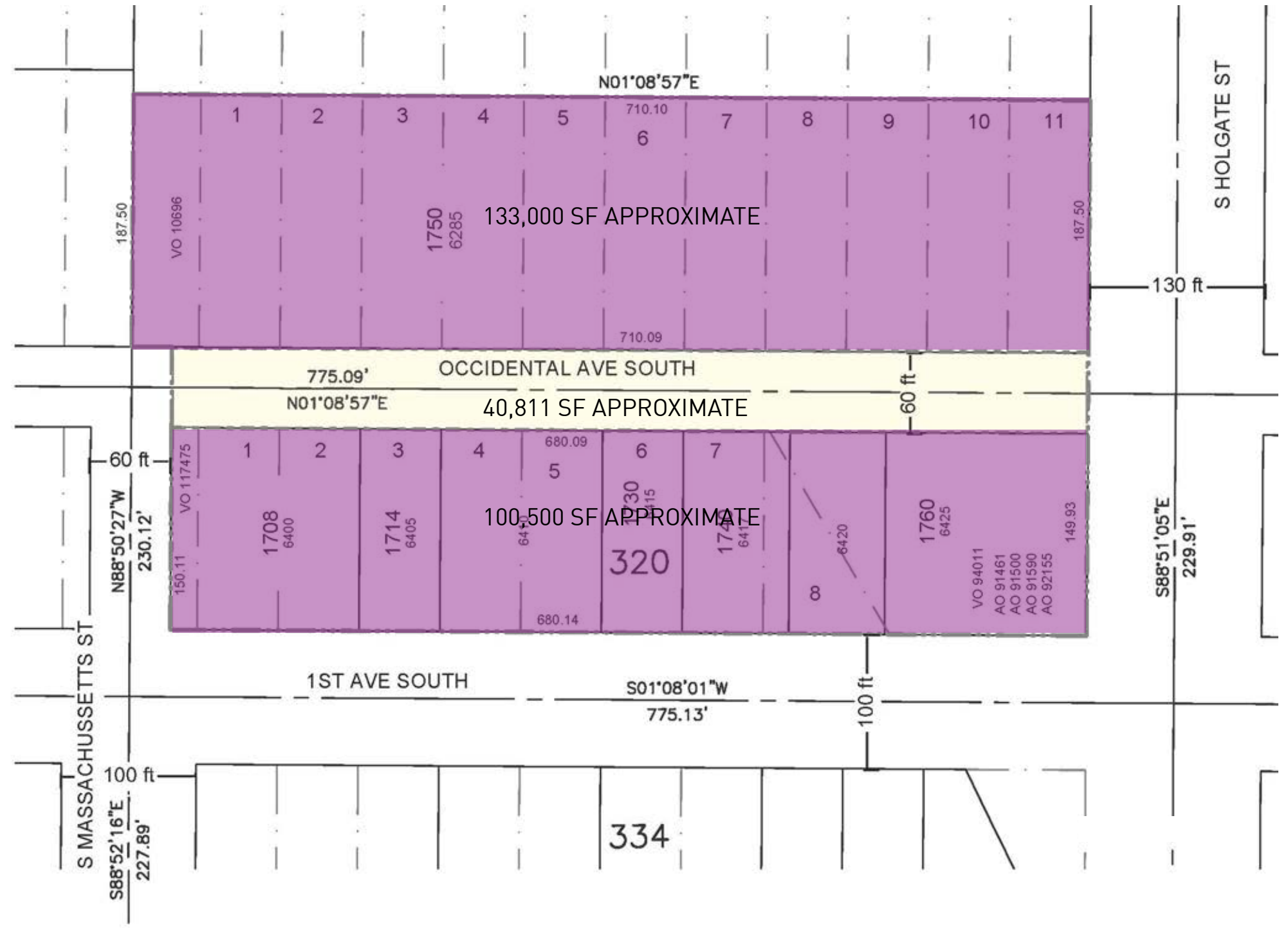
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DEVELOPMENT POTENTIAL INCREASE

THE EXISTING PROPERTIES COMBINE FOR AN APPROXIMATE TOTAL OF 233,500 SF.

THE PROPOSED STREET VACATION CONTAINS 40,811 SF OR +/- 0.937 ACRES.

WITH THE STREET VACATION THE PROPERTY AREA INCREASES TO 274,311 SF OR A 17.5% INCREASE.



EAST/WEST PROPERTY DIMENSION:

REGULATES THE AVAILABLE BUILDING WIDTH IN THE EAST/WEST DIMENSIONS AND INFLUENCES LOADING DOCK ACCESS BY TIGHTENING THE BUILDING ENVELOPE AND IMPLEMENTING A 'COLONNADE' APPROACH TO THE BUILDING FACADE ALONG 1ST AVENUE, THE SITE DESIGN IS ALLOWED A GREATER WIDTH TO ACCOMMODATE PEDESTRIAN FLOW ALONG 1ST AVE.

HIGH WATER TABLE:

INFLUENCES THE DEPTH TO WHICH THE BUILDING CAN BE PUSHED BELOW GRADE. THE BUILDING IS BEING PUSHED BELOW GRADE TO A DEPTH THAT ALLOWS FOR A FULL 'EVENT' LEVEL. HYDROSTATIC PRESSURE INCREASES AS THE BUILDING LOWERS. THE BUILDING IS SET AT THE MAXIMUM DEPTH WITHOUT INCURRING A SIGNIFICANT INCREASE IN COST.

BNSF RAILROAD PROPERTY TO EAST:

LIMITS ACCESS TO THE BUILDING ALONG ITS EAST FACING FACADE. THE BUILDING ALLOWS FOR NORTH/SOUTH ACCESS TO MARINER'S GARAGE ALONG EASTERN PROPERTY LINE.



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PROJECT DESCRIPTION

THE PROJECT CONSISTS OF AN ARENA CAPABLE OF HOSTING NBA GAMES, NHL GAMES AND CONCERT EVENTS. A TRAINING FACILITY FOR AN NBA FRANCHISE WILL BE CONSTRUCTED ALONG WITH ASSOCIATED SITE WORK.

THE ARENA WILL BE DESIGNED AND CONSTRUCTED WITH APPROXIMATELY 750,000 SQUARE FEET OF USABLE SPACE AND SUFFICIENT IMPROVEMENTS TO HAVE A TOTAL APPROXIMATE CAPACITY OF 19,000 ATTENDEES FOR CONCERTS, 18,500 ATTENDEES FOR NBA GAMES, AND 17,500 ATTENDEES FOR NHL GAMES.

AMENITIES PROVIDED IN THE FACILITY WILL INCLUDE, BUT NOT BE LIMITED TO: RETAIL OPERATIONS, RESTAURANT AND CONCESSION OPERATIONS, HALL OF FAME, MEDIA AND BROADCAST FACILITIES, SUPPORT AREAS INCLUDING ARENA AND TEAM OPERATION OFFICES AND FACILITIES, AND LOCKER ROOMS.

THE NBA TEAM TRAINING FACILITY WILL BE DESIGNED AND CONSTRUCTED WITH APPROXIMATELY 40,000 ADDITIONAL SQUARE FEET ATTACHED TO THE ARENA.

PROJECT WORK WILL INCLUDE EXISTING SITE DEMOLITION, SITE IMPROVEMENTS, UTILITY ADJUSTMENTS, CREATION OF PEDESTRIAN PATHWAYS, SITE PLAZA AMENITIES AND CONSTRUCTION OF THE ARENA BUILDING ITSELF.

DURING A TYPICAL CALENDAR YEAR, THE ARENA WILL HOST APPROXIMATELY 150-200 EVENTS. THE EVENTS WILL OCCUR AT VARIOUS TIMES THROUGHOUT THE DAY, WITH THE MAJORITY OCCURRING DURING EVENING HOURS. EVENT DURATION WILL VARY, BUT A TYPICAL NBA EVENT LEVEL WILL LAST APPROXIMATELY 4 HOURS (INCLUDING PRE & POST GAME).

THE SITE ("SITE"), IS LOCATED AT THE NORTHEAST CORNER OF 1ST AVENUE AND HOLGATE STREET, SEATTLE, WASHINGTON, AND IS COMPRISED OF AN APPROXIMATELY 8.1 ACRE PARCEL OF LAND BOUNDED ON THE NORTH BY MASSACHUSETTS AVENUE, ON THE EAST BY VACANT PROPERTY ADJACENT TO THE RAIL ROAD TRACKS PARALLELING OCCIDENTAL, ON THE SOUTH BY HOLGATE STREET AND ON THE WEST BY 1ST AVENUE.



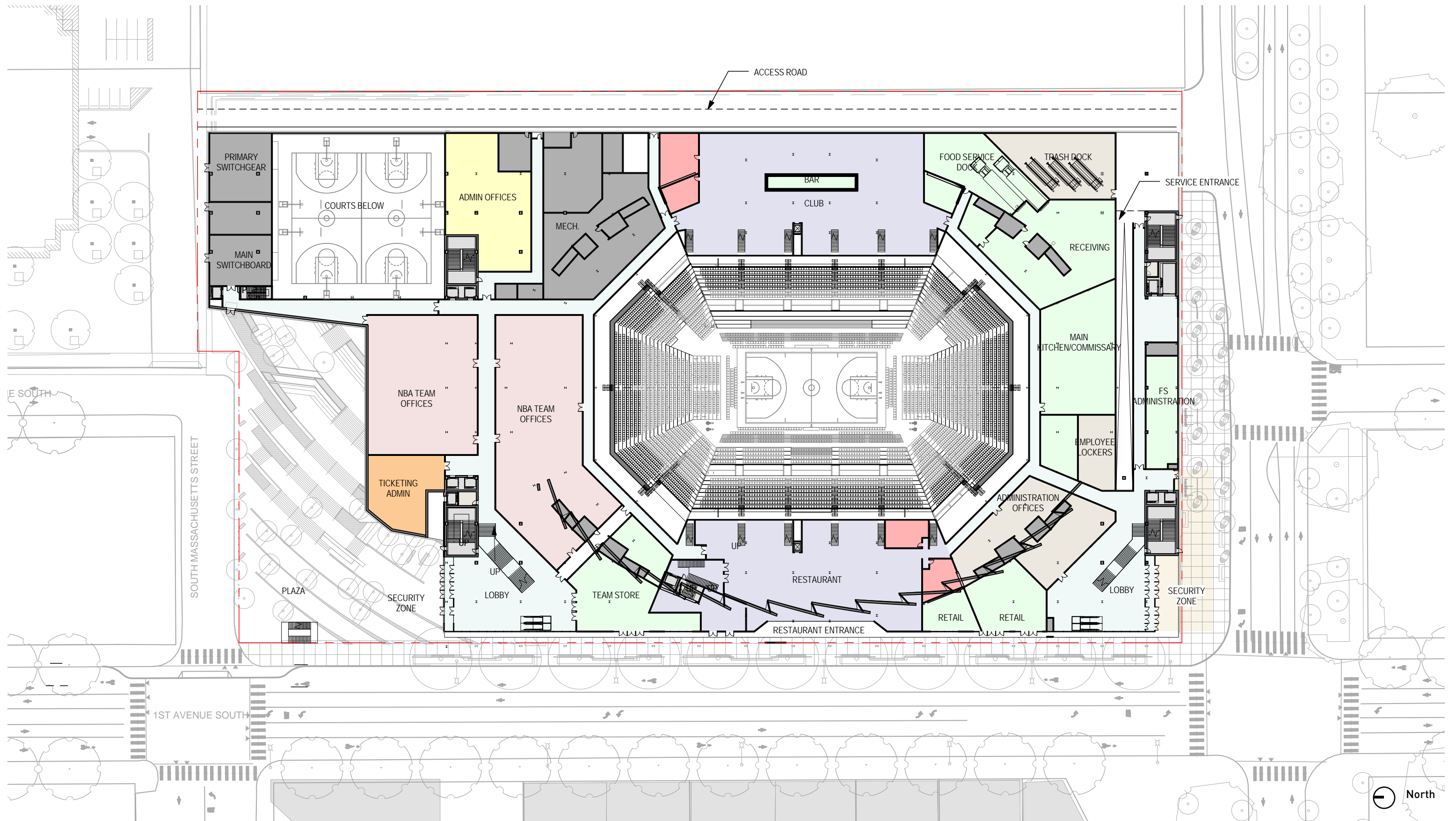
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LAND USE ACTIONS REQUIRED:

- EARLY DESIGN GUIDANCE (COMPLETED)
- MASTER USE PERMIT APPLICATION (APPLICATION TO BE SUBMITTED SPRING 2013)
- ENVIRONMENTAL IMPACT STATEMENT
- ZONING REVIEW (INCLUDED IN MASTER USE PERMIT)
- DESIGN REVIEW BOARD RECOMMENDATION (INCLUDED IN MASTER USE PERMIT)

ASIDE FROM THE ALLEY VACATION, NO OTHER COUNCIL-RELATED LAND USE ACTIONS WILL BE REQUIRED OF THE PROJECT. THE PROJECT REQUIRES VARIOUS CITY AND COUNTY NON-REGULATORY AUTHORIZATIONS DESCRIBED IN THE OCTOBER 2012 MEMORANDUM OF UNDERSTANDING, IN ADDITION TO COMPLETING A FULL ENVIRONMENTAL REVIEW AND PERMITTING REVIEW BY THE CITY OF SEATTLE.



THE CITY COUNCIL WILL NOT VACATE A PUBLIC RIGHT-OF-WAY UNLESS IT DETERMINES THAT THE POTENTIAL DEVELOPMENT AND USE OF THE VESTED RIGHT-OF-WAY WOULD SERVE THE PUBLIC INTEREST IN A SIGNIFICANT WAY.

THIS PROJECT WILL SERVE THE PUBLIC BY ADVANCING THE SPECIFIC GOALS OUTLINED IN THE CITY'S COMPREHENSIVE PLAN, AND BY ADHERING TO THE CITY'S VACATION POLICIES BY PROVIDING OPEN SPACE, ENVIRONMENTALLY FRIENDLY FEATURES, AND OTHER AMENITIES THAT WILL ATTRACT PEDESTRIANS, BUSINESSES, AND FANS TO THIS AREA.

SPECIFICALLY, THE CITY WILL CONSIDER THE PUBLIC TRUST FUNCTIONS OF THE STREET, THE LAND USE IMPACTS OF THE PROPOSAL, AND WHETHER THE VACATION PROPOSAL PROVIDES A LONG-TERM BENEFIT FOR THE PUBLIC.

EACH OF THESE COMPONENTS IS ANALYZED IN THIS STREET VACATION PETITION, AS STATED BY THE CITY'S STREET VACATION POLICIES, WHICH CAN BE FOUND IN RESOLUTION 31142 (CLERK FILE 310078).



PUBLIC INTEREST:

VACATION REQUESTS MAY BE APPROVED ONLY WHEN THEY ARE CLEARLY IN THE PUBLIC INTEREST. RIGHTS-OF-WAY WILL BE RETAINED UNLESS IT CAN BE SHOWN THAT THEY ARE NOT REQUIRED FOR A CURRENT OR FORESEEABLE PUBLIC USE.

THE PUBLIC INTEREST WITH RESPECT TO STREET VACATIONS HAS THREE MAJOR COMPONENTS, ALL OF WHICH MUST BE PRESENT FOR ANY VACATION TO OCCUR. THESE COMPONENTS ARE:

- PROTECTION OF THE PUBLIC TRUST: DEFINED AS PROVIDING FOR CIRCULATION, ACCESS, UTILITIES, LIGHT, AIR, OPEN SPACE, AND VIEWS;
- PROTECTION FROM ADVERSE LAND USE EFFECTS: DEFINED AS ASSURING THAT THE PROJECT DEVELOPED IS CONSISTENT WITH CITY POLICIES; AND
- PROVISION OF PUBLIC BENEFIT: DEFINED AS PROVIDING A LONG-TERM BENEFIT FOR THE GENERAL PUBLIC.

PUBLIC TRUST POLICY 1: CIRCULATION AND ACCESS

VACATIONS MAY BE APPROVED ONLY IF THEY DO NOT RESULT IN NEGATIVE EFFECTS ON BOTH THE CURRENT AND FUTURE NEEDS FOR THE CITY'S VEHICULAR, BICYCLE, OR PEDESTRIAN CIRCULATION SYSTEMS OR ON ACCESS TO PRIVATE PROPERTY, UNLESS THE NEGATIVE IMPACTS CAN BE MITIGATED.

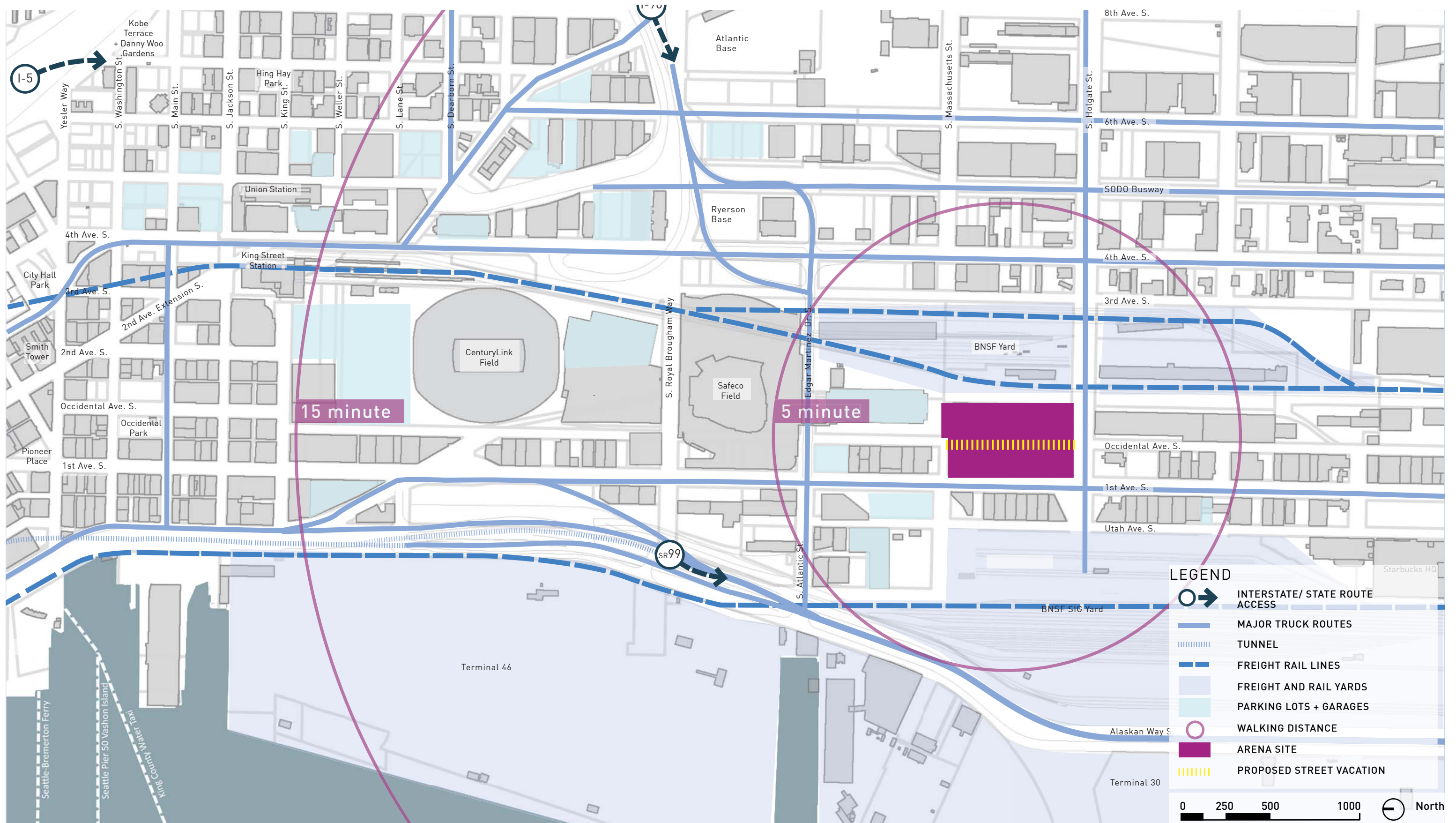
PROJECT ANALYSIS:

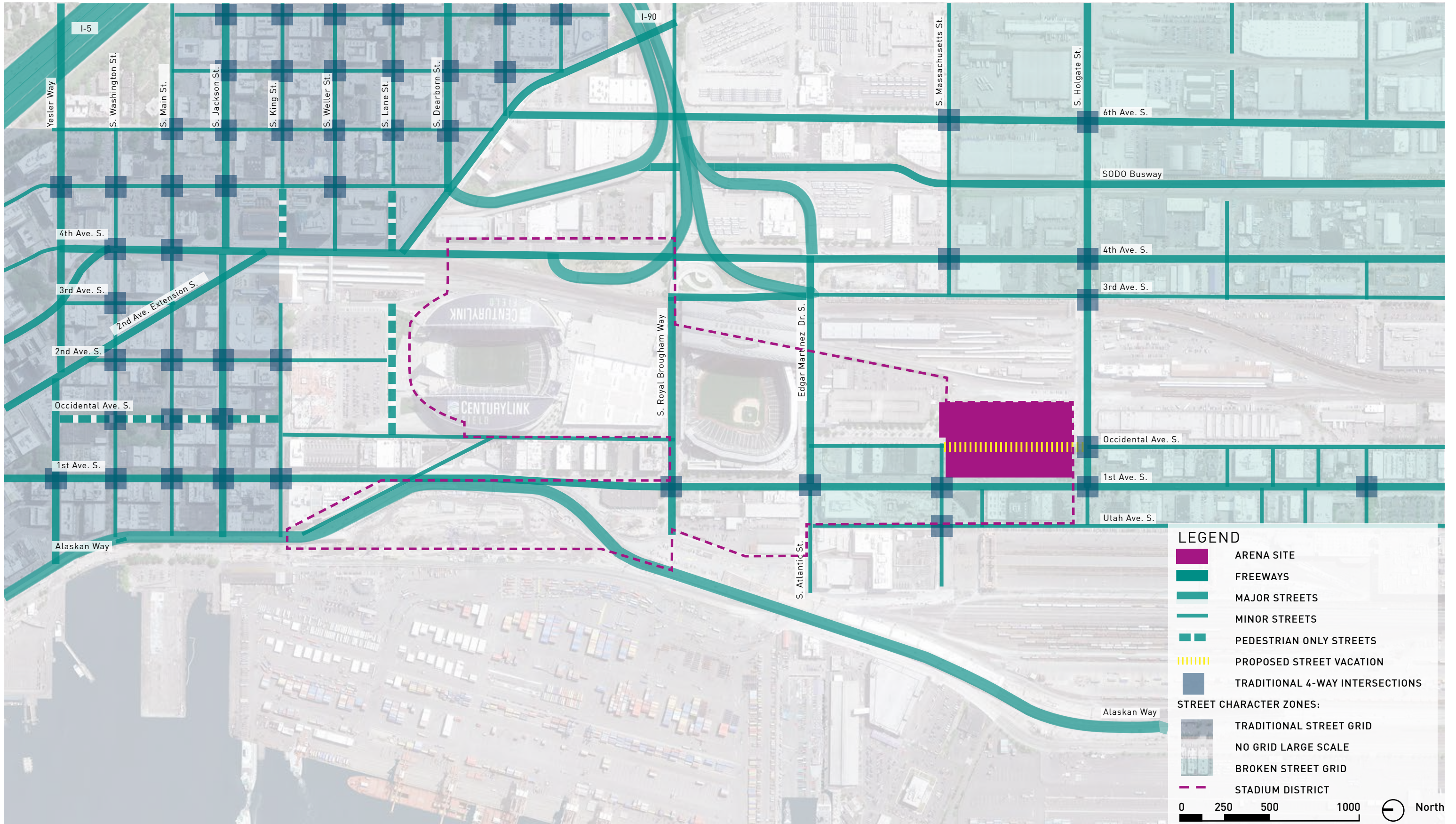
OCCIDENTAL AVENUE SOUTH DOES NOT CONTINUE TO THE NORTH FOR ONE BLOCK BUT DOES NOT CONTINUE TO ROYAL BROUGHAM AS IT HAS BEEN REPLACED BY SAFECO FIELD. IT CONTINUES TO THE SOUTH ACROSS S. HOLGATE STREET FOR SEVERAL BLOCKS UNTIL IT ENDS AT SOUTH HINDS STREET NEAR THE WEST SEATTLE BRIDGE.

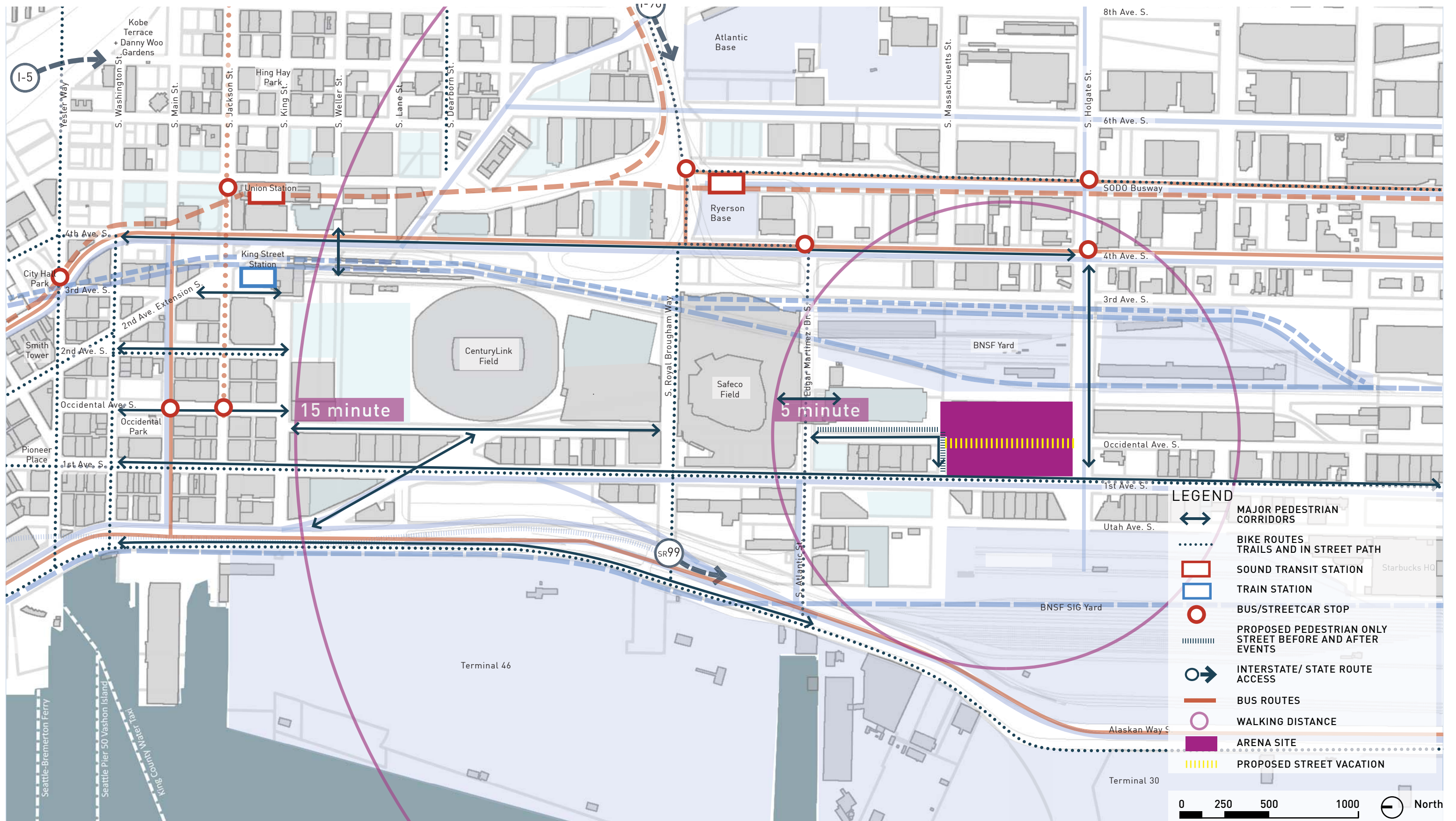
CURRENTLY, THE ONLY PARCELS THAT UTILIZE THIS PORTION OF OCCIDENTAL ARE PARCELS THAT WILL BECOME PART OF THE DEVELOPMENT. THEREFORE, VACATION WILL NOT IMPACT DIRECT ACCESS FOR ANY OTHER PROPERTY NOT INCLUDED AS PART OF THE DEVELOPMENT.

THE PROJECT IS IN THE PROCESS OF BEING ANALYZED BY AN ENVIRONMENTAL IMPACT STATEMENT WHICH WILL INCLUDE A COMPLETE TRANSPORTATION IMPACT ANALYSIS.









9-BLOCK DISTRICT URBAN ANALYSIS

BUILDING CHARACTER:

WITH THE EXCEPTION OF THE STADIUMS, BUILDINGS IN THE DISTRICT ARE TYPICALLY 1 TO 6 STORIES WITH BRICK, CONCRETE, OR WOOD FACADES. THE MAJORITY OF THE BUILDING STOCK DATES FROM THE EARLY 20TH CENTURY. NEWER CONSTRUCTION HAS PRIMARILY OCCURRED ON 1ST AVENUE SOUTH BETWEEN KING STREET AND SOUTH LANDER STREET. PORT AND RAIL INFRASTRUCTURE DOMINATES WEST FROM UTAH AVE SOUTH AND EAST FROM OCCIDENTAL AVENUE SOUTH.

STREETScape:

PARKING LOT FRONTAGES ARE COMMON THROUGHOUT THE 9-BLOCK AREA AND MANY LOTS WITHIN THE DISTRICT ARE SURFACE PARKING LOTS. A MAJORITY OF THE STREETS ARE WITHOUT CURB AND SIDEWALK IMPROVEMENTS. ON THESE STREETS, INCLUDING OCCIDENTAL BETWEEN SOUTH MASSACHUSETTS AND SOUTH HOLGATE, ON-STREET PARKING IS NON-DESIGNATED AND AD-HOC.

ROADWAYS FOR MAJOR ARTERIALS (1ST AVE SOUTH, 4TH AVENUE SOUTH, SOUTH HOLGATE STREET, AND EDGAR MARTINEZ DRIVE SOUTH) ARE NEWER, STRIPPED, AND SIGNALIZED THROUGHOUT. MINOR STREETS ARE TYPICALLY IN DISREPAIR WITH MANY ROADBEDS WORN DOWN TO THE ORIGINAL BRICK PAVING. IN THESE INSTANCES, OLD RAIL TRACKS ARE SOMETIMES VISIBLE.

BLOCKS ARE LARGE DUE TO THE AREA'S HISTORY OF LARGE-SCALE INDUSTRIAL ACTIVITIES AND VACATED STREETS.

STREET TREES ARE MINIMAL WITH THE EXCEPTION OF 1ST AVENUE SOUTH AND FRONTAGES SURROUNDING CENTURYLINK FIELD, SAFECO FIELD AND THE SAFECO GARAGE. FRONTAGES AROUND KING COUNTY METRO'S RYERSON BASE ON 4TH AVE SOUTH INCLUDE STREET TREES AND SOME LARGE STANDS OF TREES EXIST WITHIN THE WSDOT RIGHT-OF-WAY FOR I-90.

PUBLIC OPEN SPACE IS LIMITED TO PLAZAS AROUND CENTURYLINK AND SAFECO FIELDS.

COBRA HEAD STREET LIGHTS ARE TYPICAL ON ALL STREETS. PEDESTRIAN LIGHTING IS PROVIDED AROUND BOTH STADIUMS, ALONG 1ST AVENUE TO ROYAL BROUGHAM, AND WITHIN THE SAFECO GARAGE PLAZA.

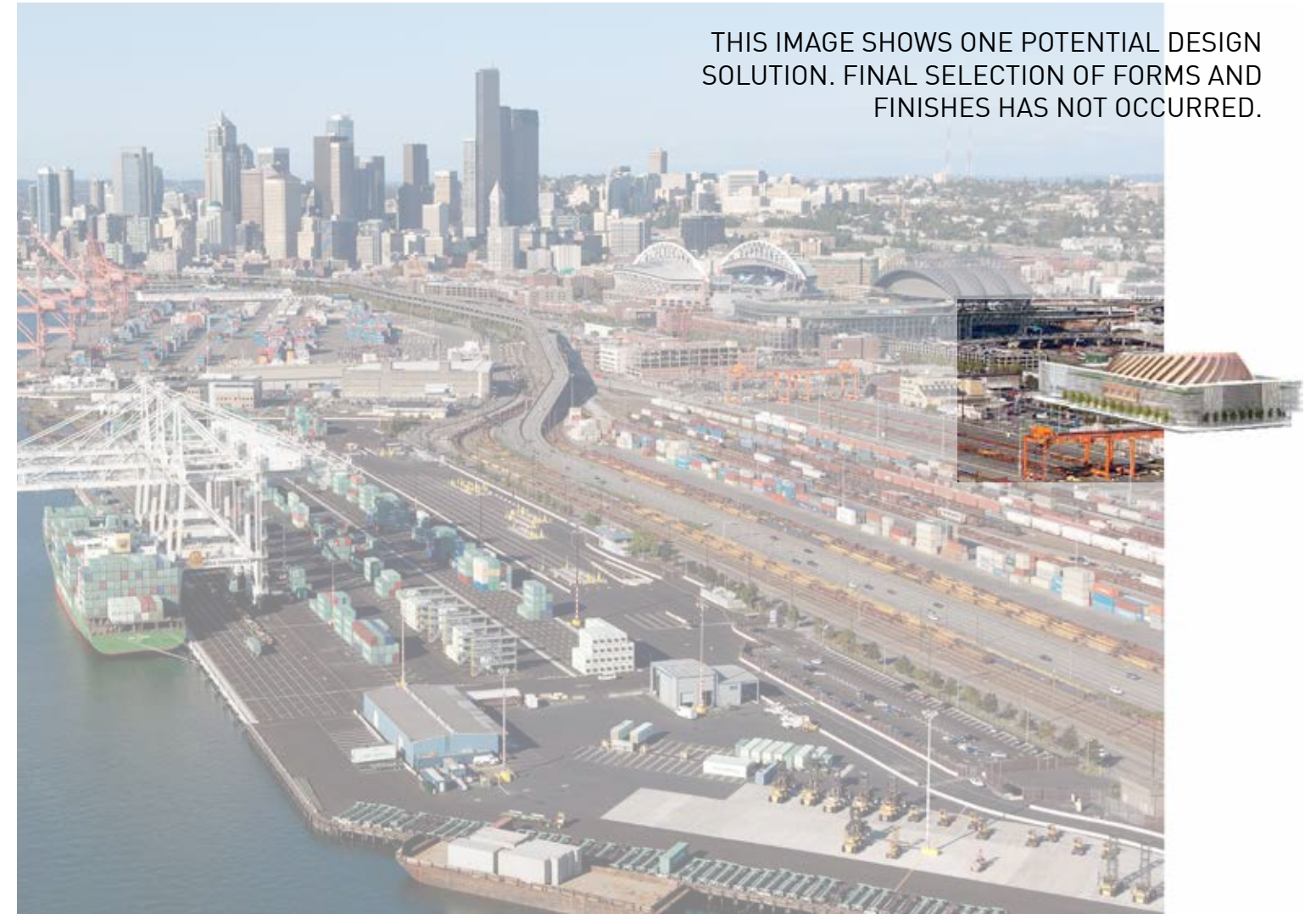


THIS IMAGE SHOWS ONE POTENTIAL DESIGN SOLUTION. FINAL SELECTION OF FORMS AND FINISHES HAS NOT OCCURRED.



FERRY VIEW

THIS IMAGE SHOWS ONE POTENTIAL DESIGN SOLUTION. FINAL SELECTION OF FORMS AND FINISHES HAS NOT OCCURRED.



SOUTHWEST PORT AERIAL



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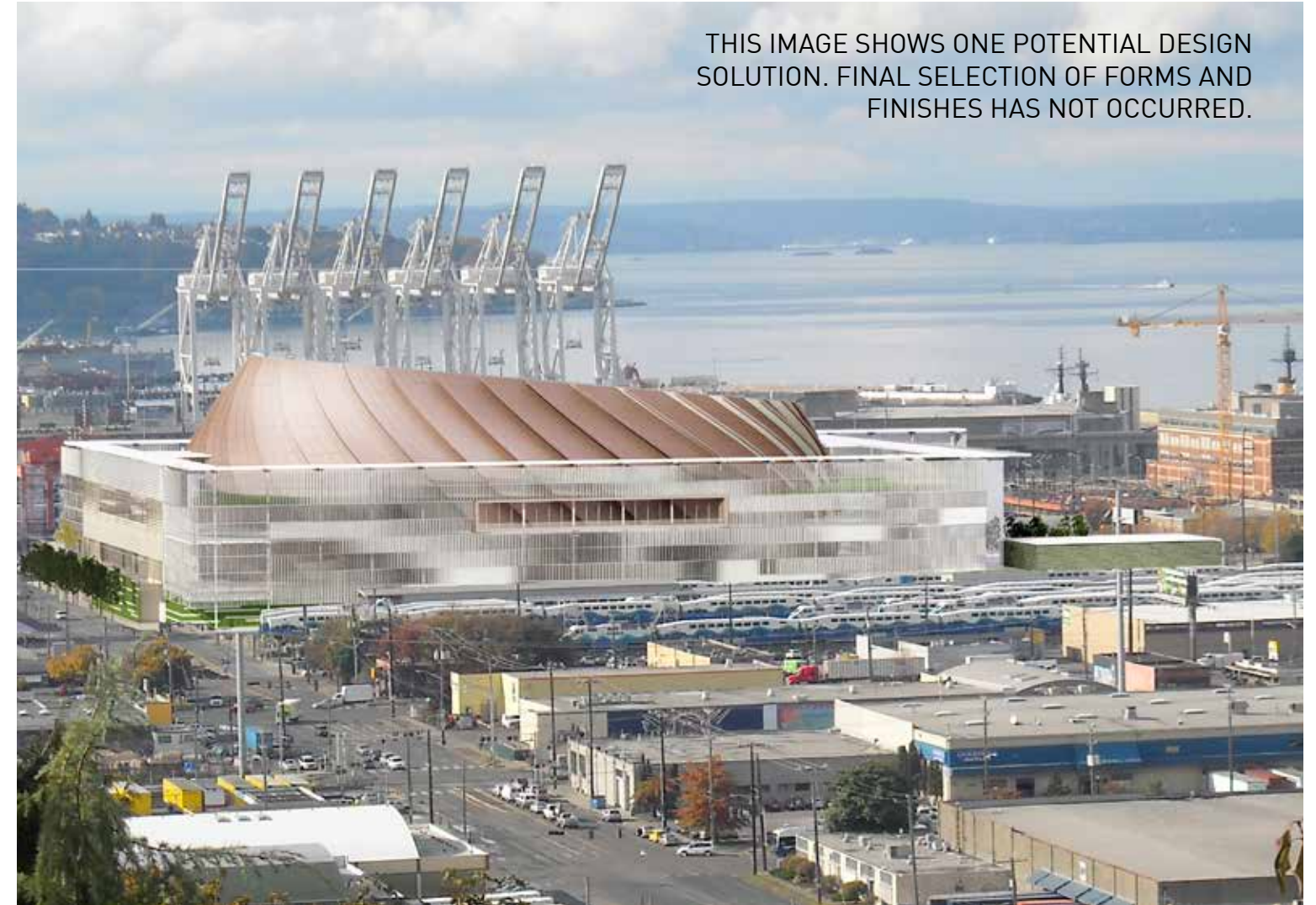


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NORTHWEST CONTEXT AERIAL

THIS IMAGE SHOWS ONE POTENTIAL DESIGN SOLUTION. FINAL SELECTION OF FORMS AND FINISHES HAS NOT OCCURRED.



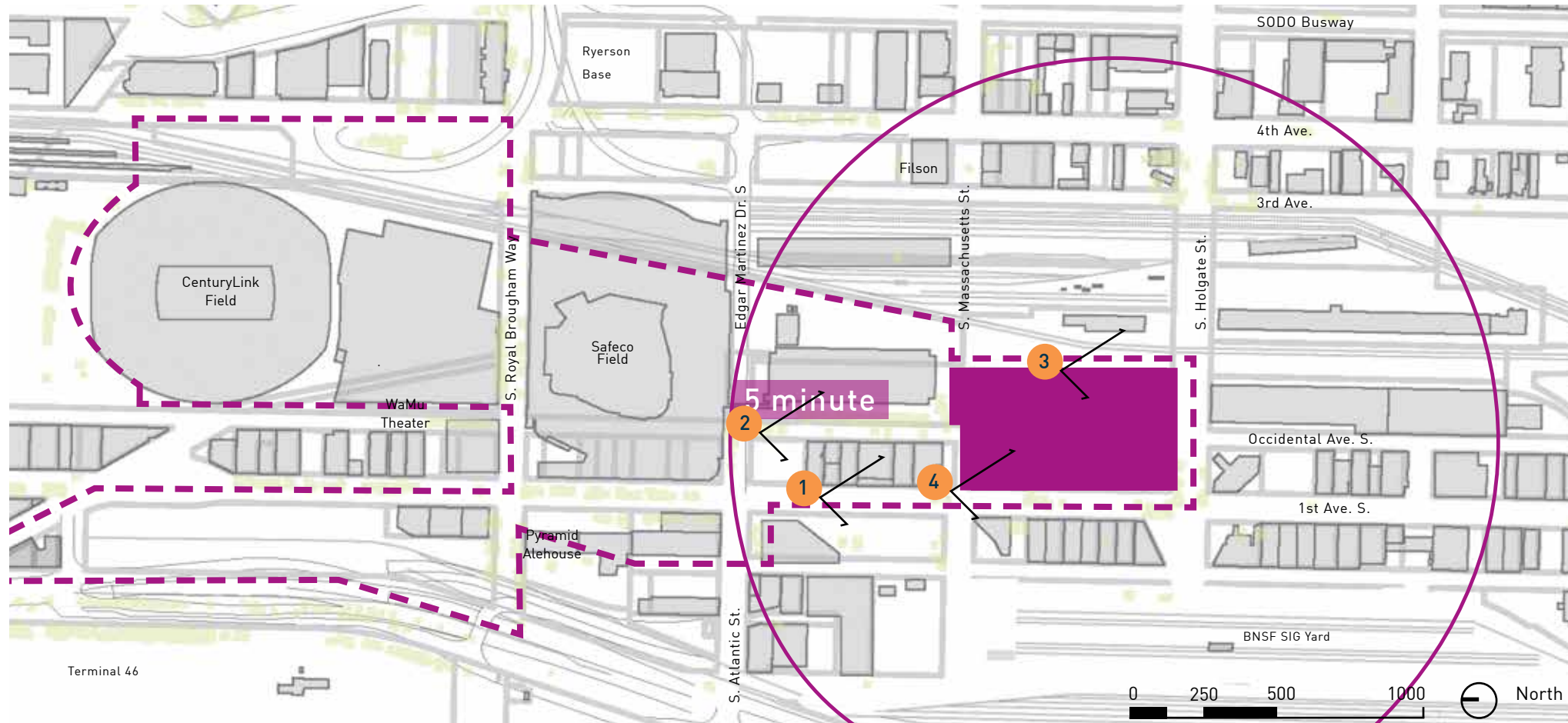
BEACON HILL VIEW

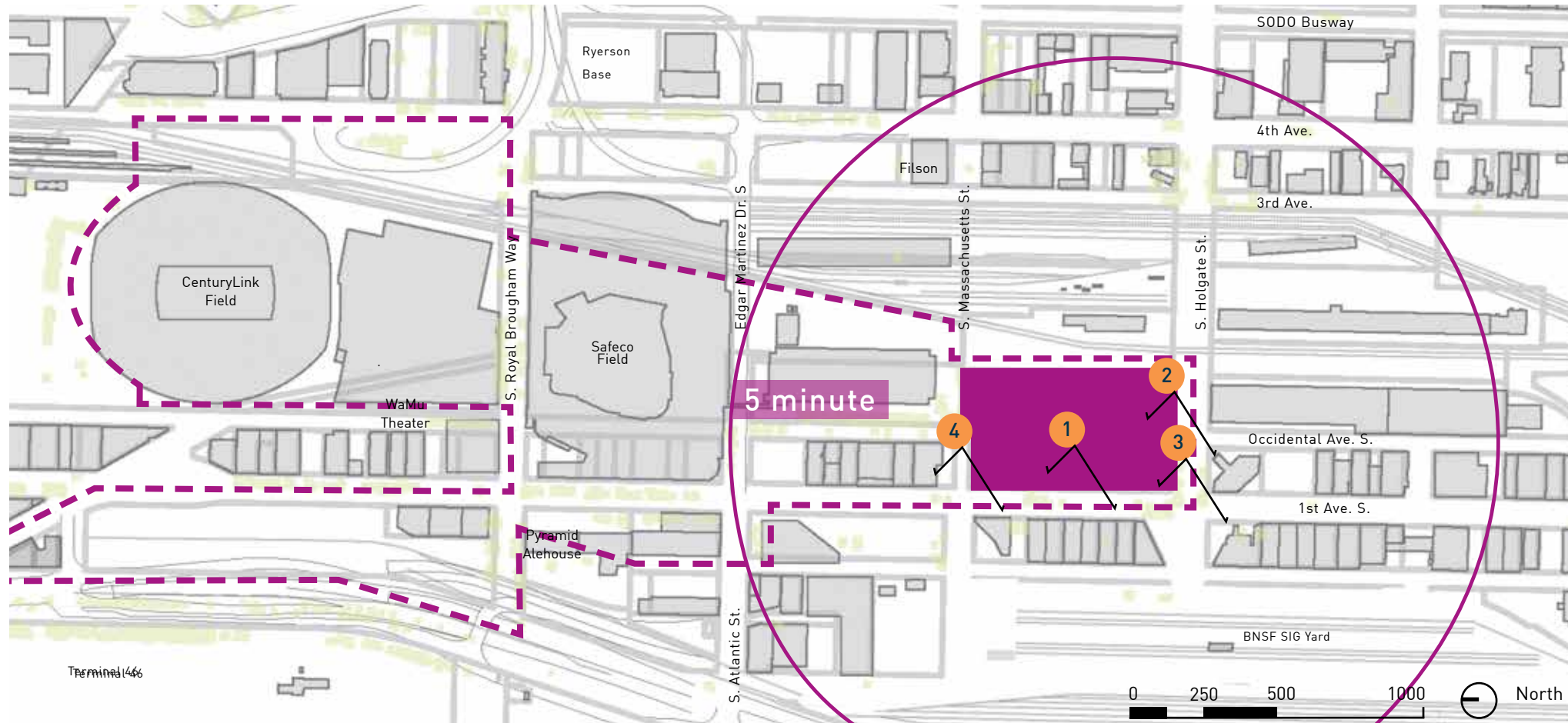


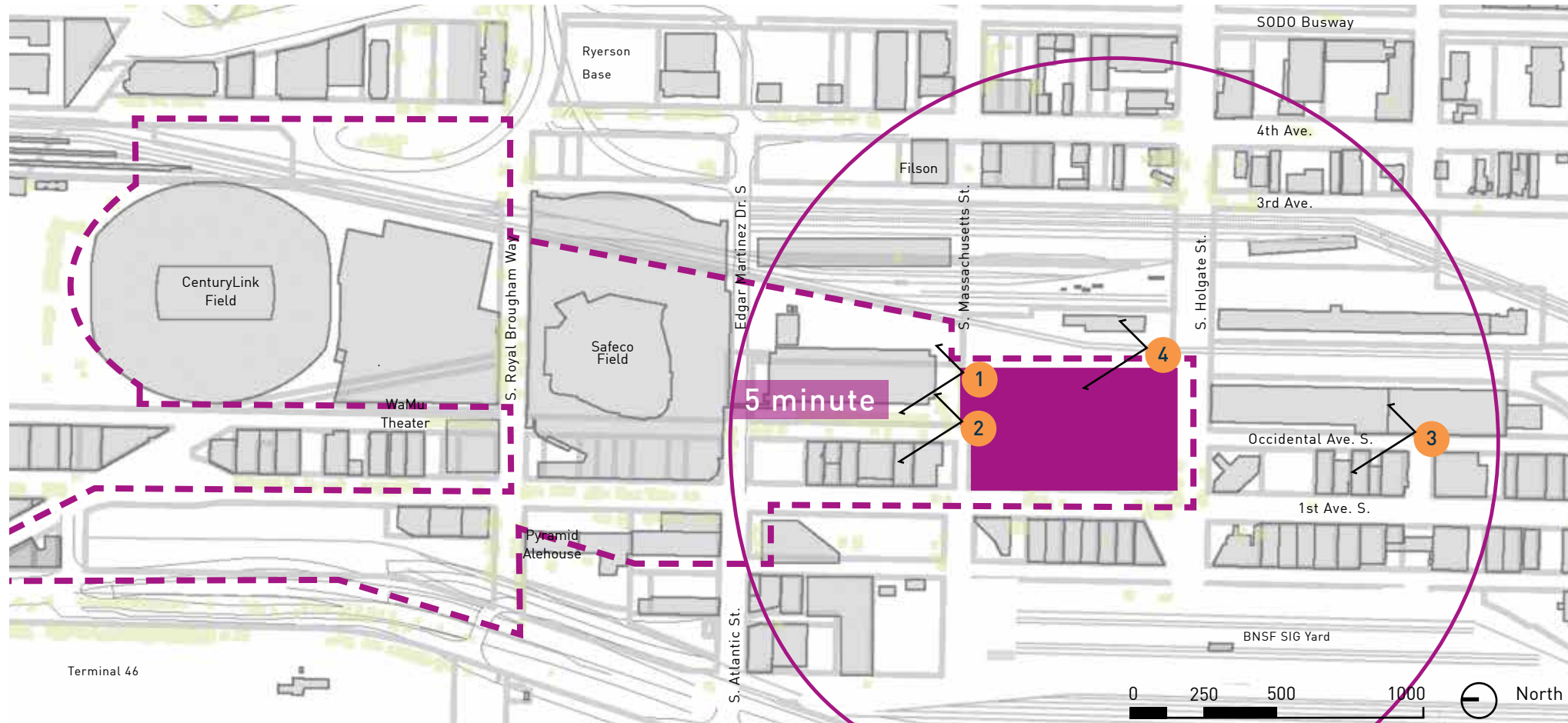
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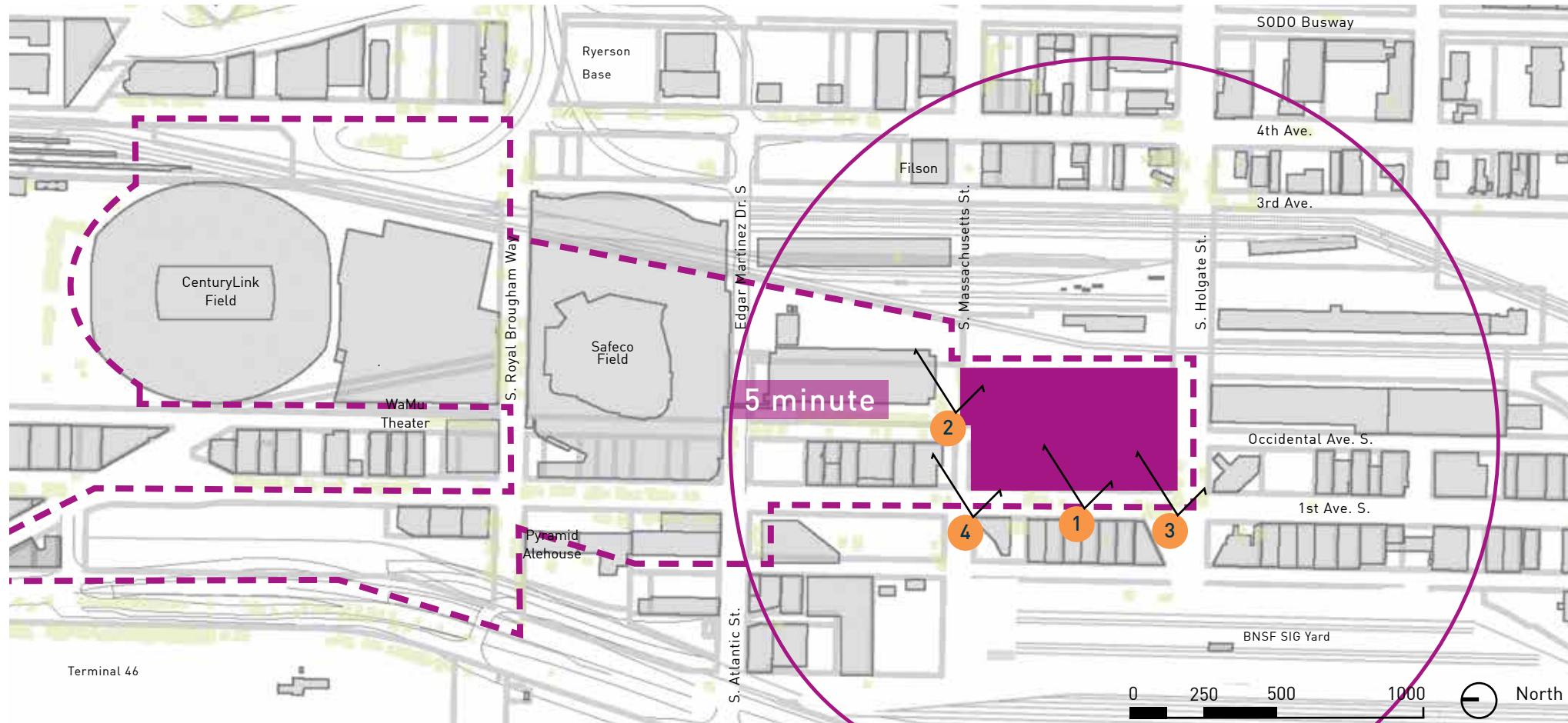


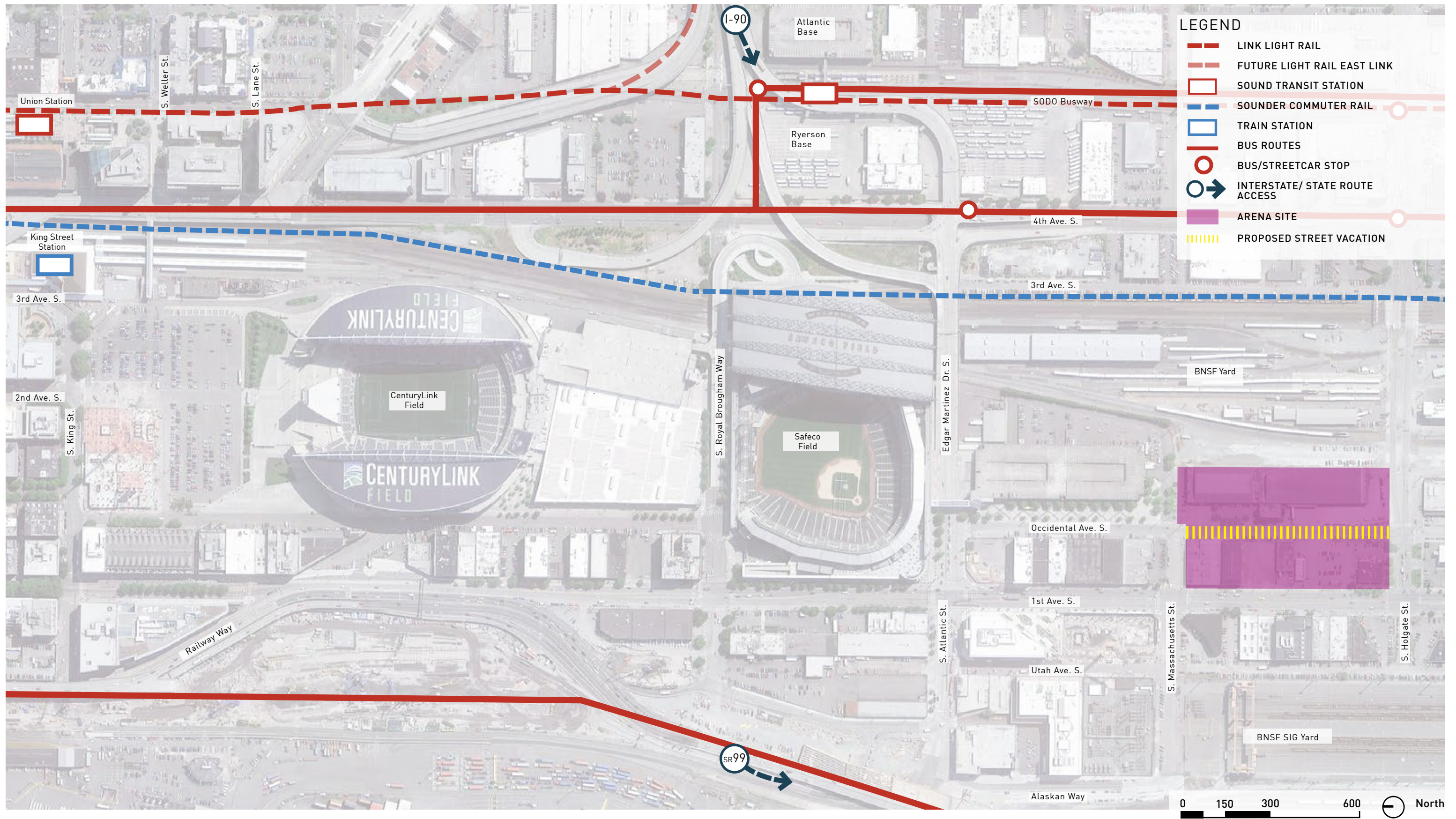
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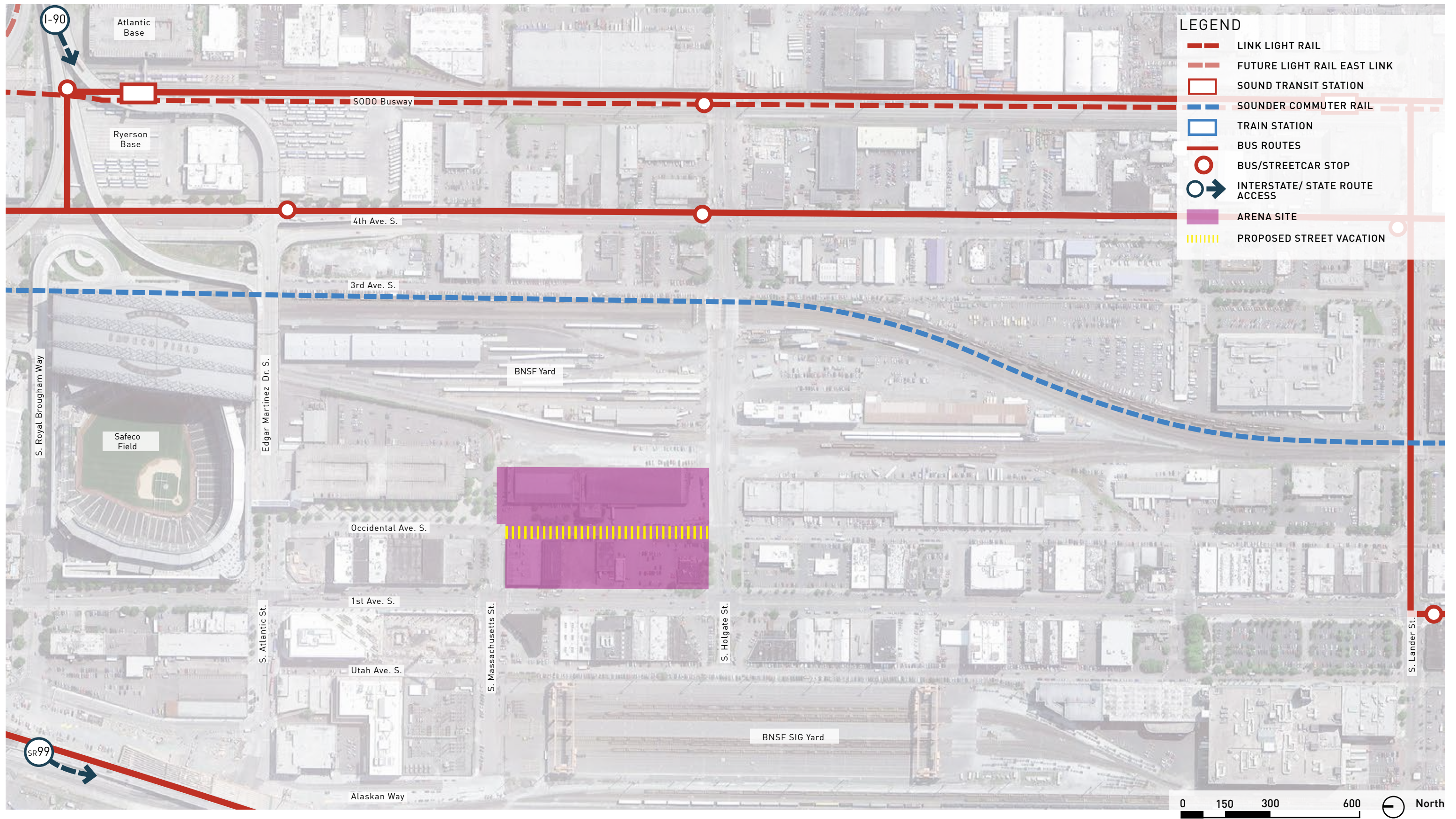


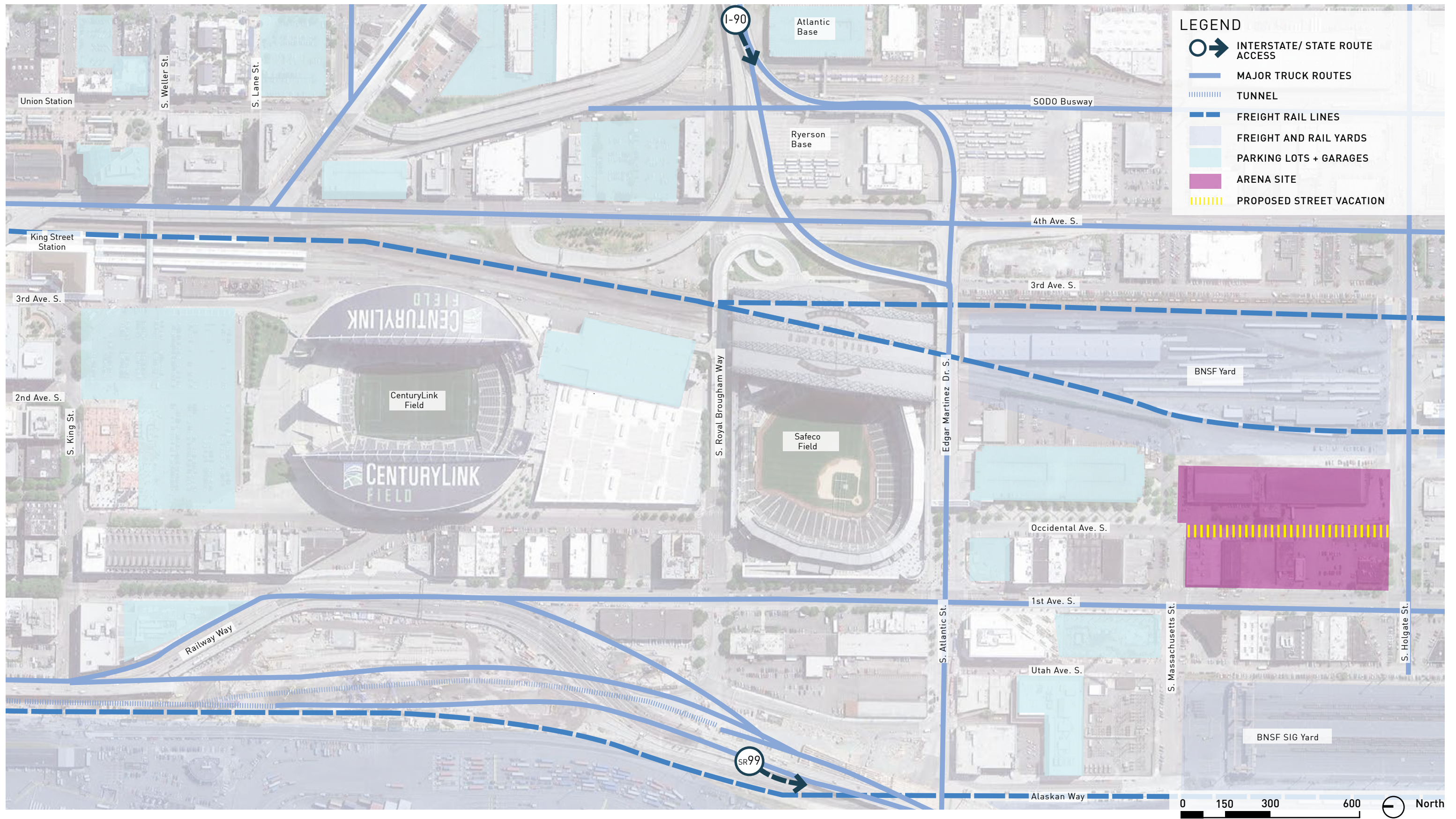


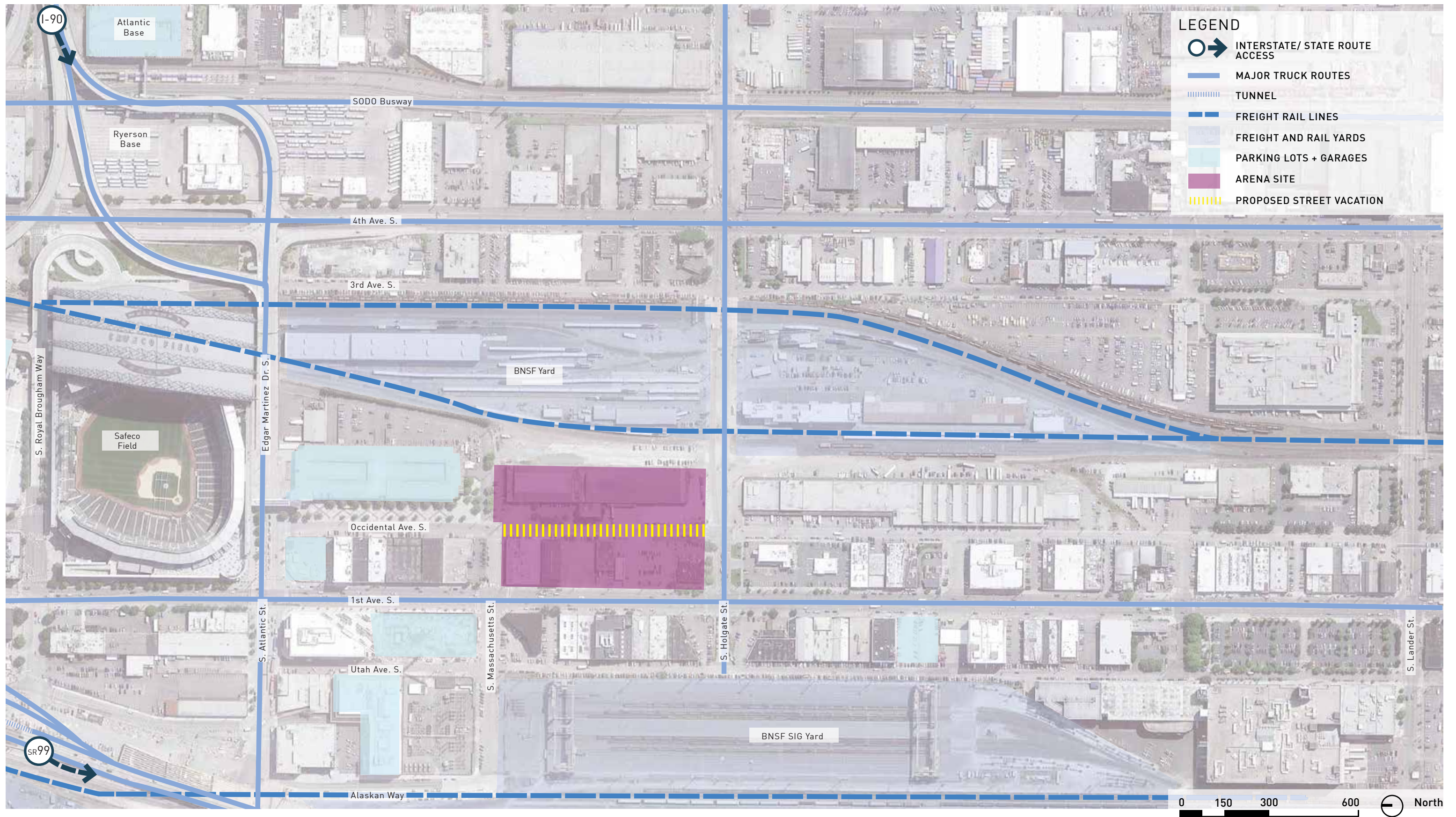


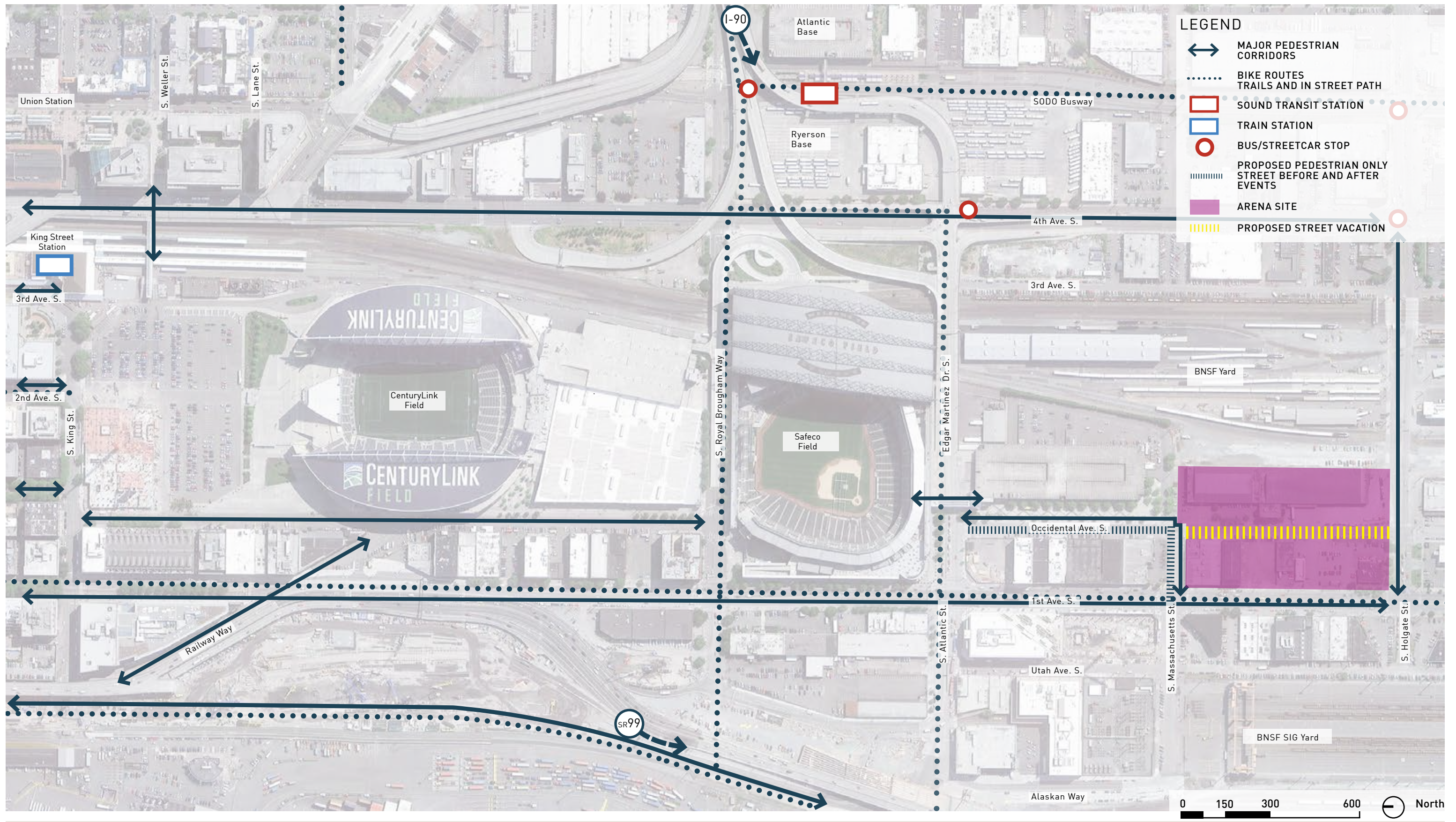


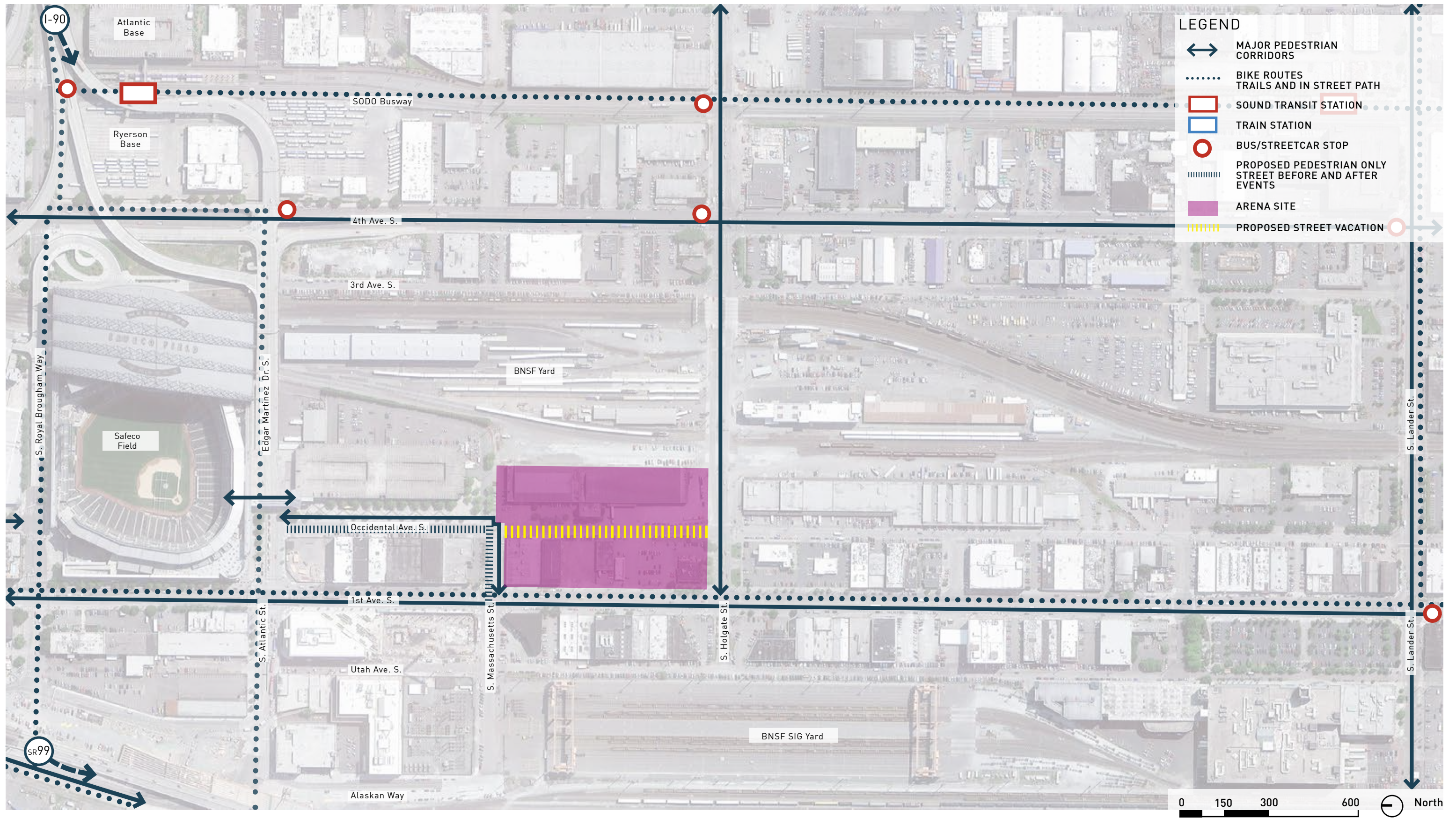


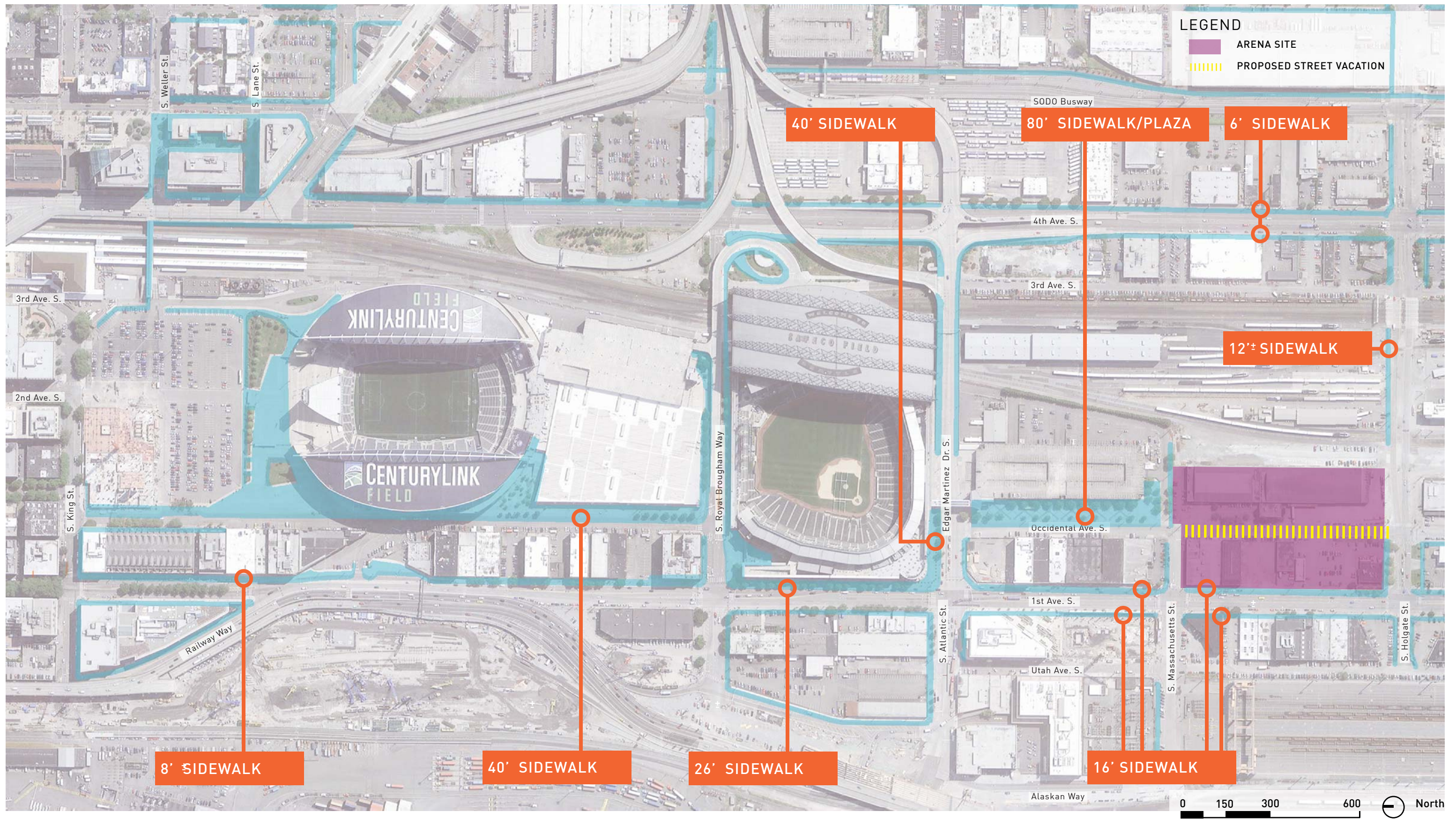


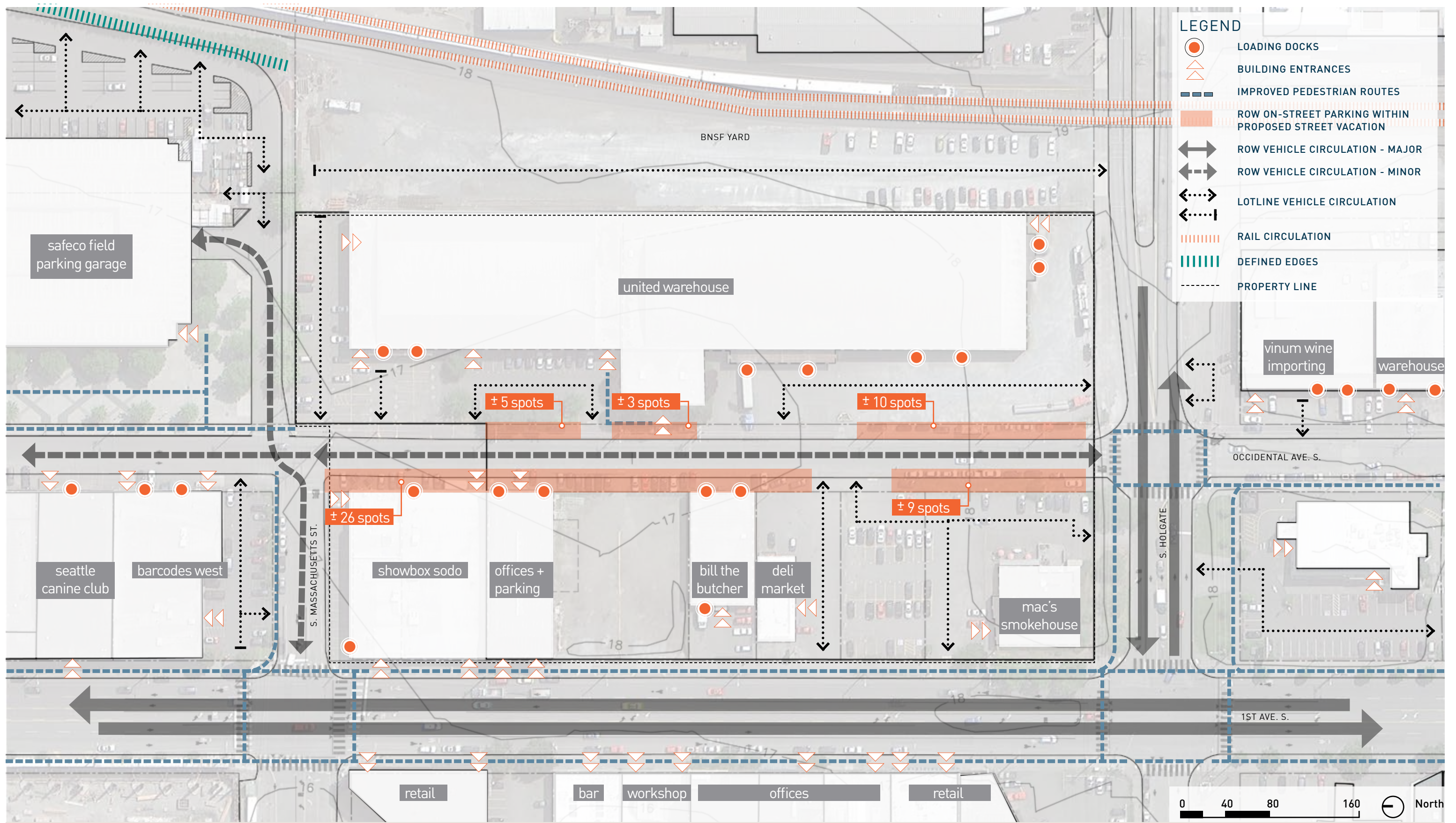


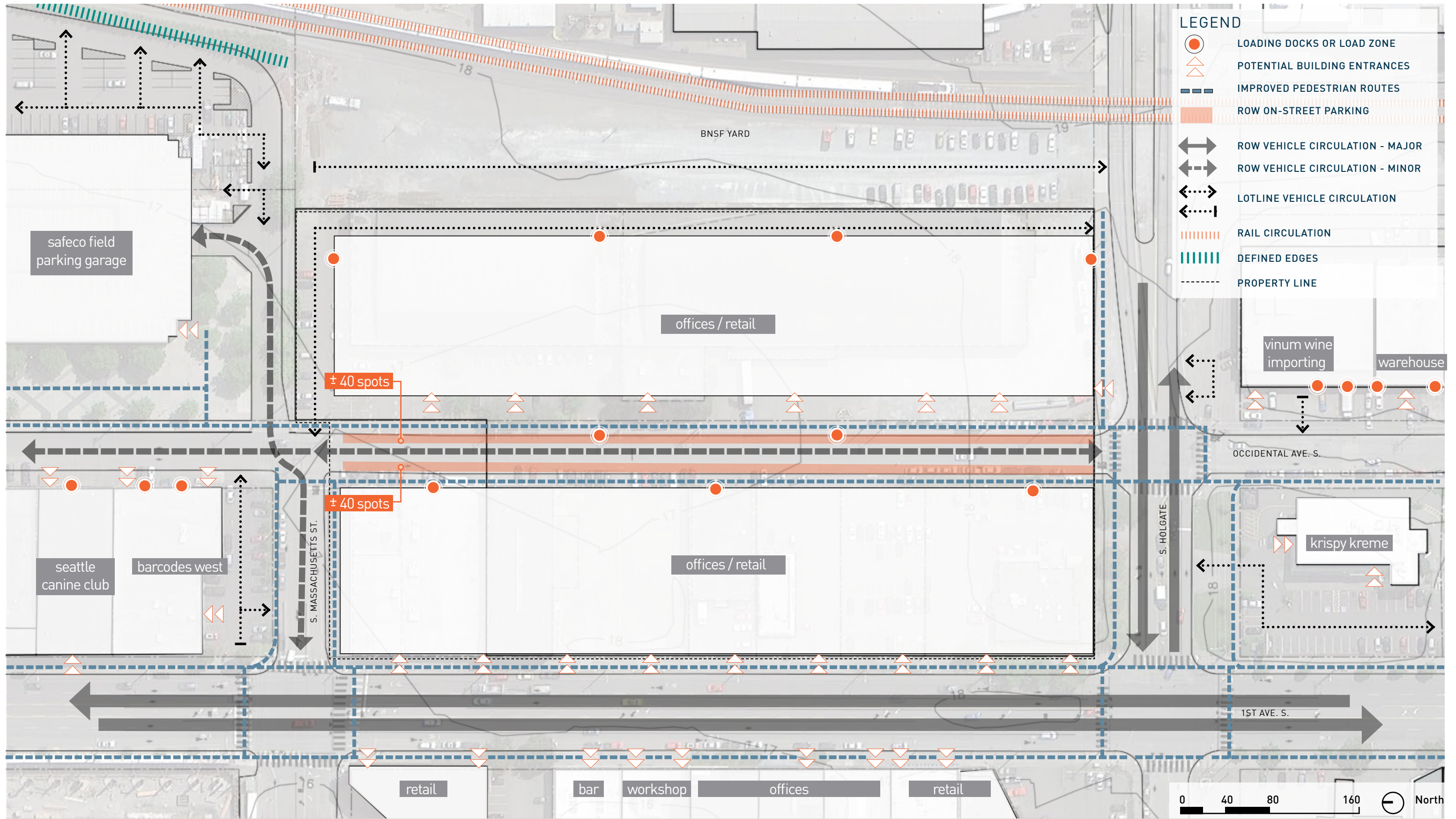


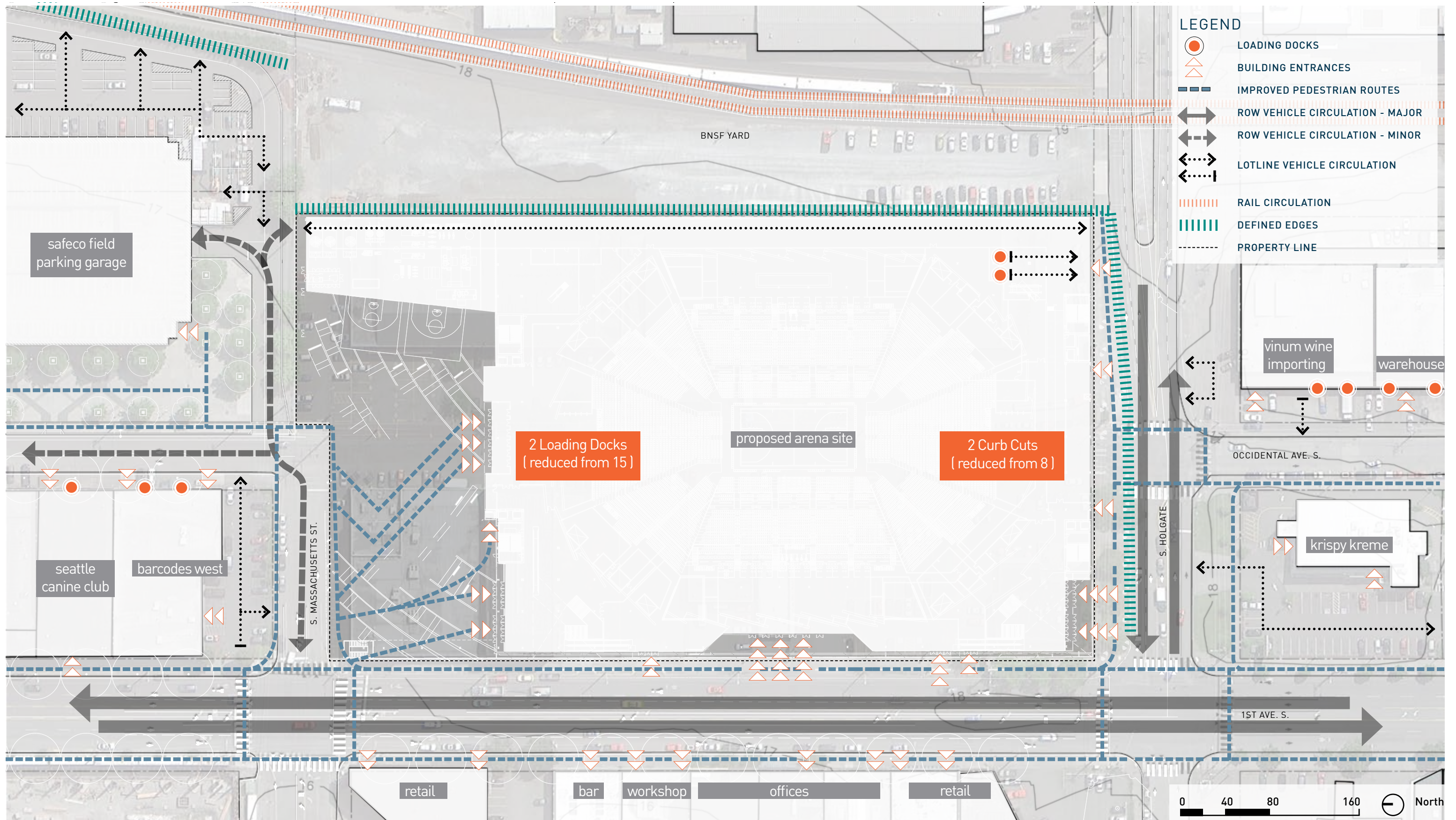












THE PROJECT SITE IS WELL SERVED BY TRANSIT AND IS A FEW BLOCKS AWAY FROM THE SOUNDER STADIUM LIGHT RAIL STATION.

THE PROJECT, WHEN EVENTS ARE UNDERWAY, WILL HAVE IMPACTS ON THE PUBLIC TRANSPORTATION SYSTEM. THESE IMPACTS WILL BE DETERMINED AND OUTLINED THROUGH THE ENVIRONMENTAL IMPACT STATEMENT.



THE PROJECT HAS RECEIVED A DETERMINATION OF SIGNIFICANCE AND IS UNDERGOING ENVIRONMENTAL REVIEW THROUGH AN ENVIRONMENTAL IMPACT STATEMENT.



SEATTLE ARENA
MARCH 12, 2013

SWIFT COMPANY LLC

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THE ARENA CONTRIBUTES TO THE ADVANCEMENT OF THE NEIGHBORHOOD IN SEVERAL WAYS, INCLUDING PROVIDING A LINK BETWEEN THE STADIUMS TO THE NORTH AND THE NEIGHBORHOOD BUSINESSES SOUTH, PROVIDING RETAIL OPPORTUNITIES ALONG 1ST AVENUE, AND CREATING THE FIRST SIZEABLE PIECE OF PLANNED PUBLIC OPEN SPACE IN THE SURROUNDING NEIGHBORHOOD. WITH APPROXIMATELY 150 EVENTS A YEAR, THE PROJECT BRINGS SEVERAL THOUSAND PATRONS TO THE NEIGHBORHOOD WHO WILL FREQUENT THE SHOPS AND RESTAURANTS.



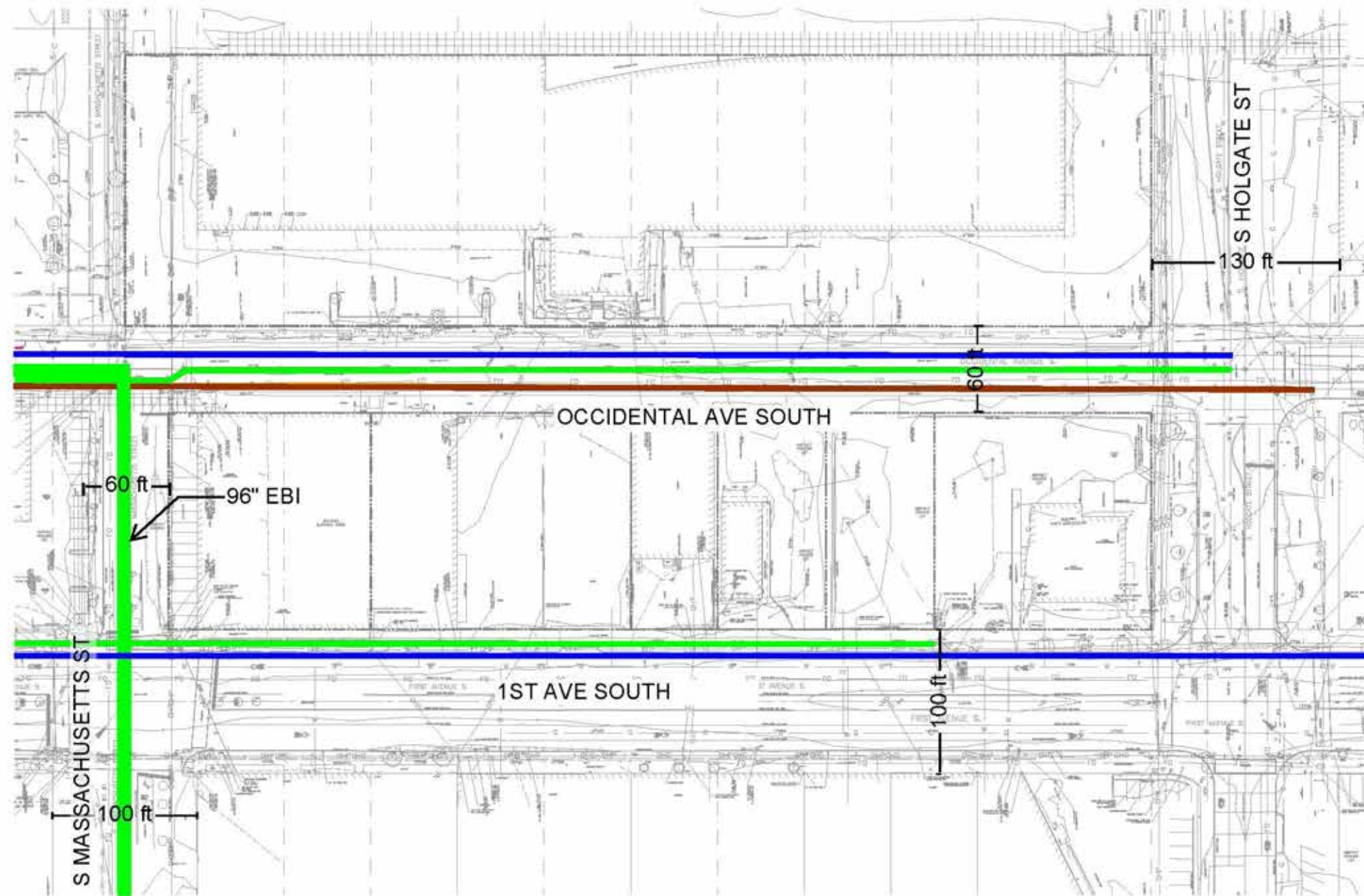
SEATTLE ARENA

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Existing Wet Utilities

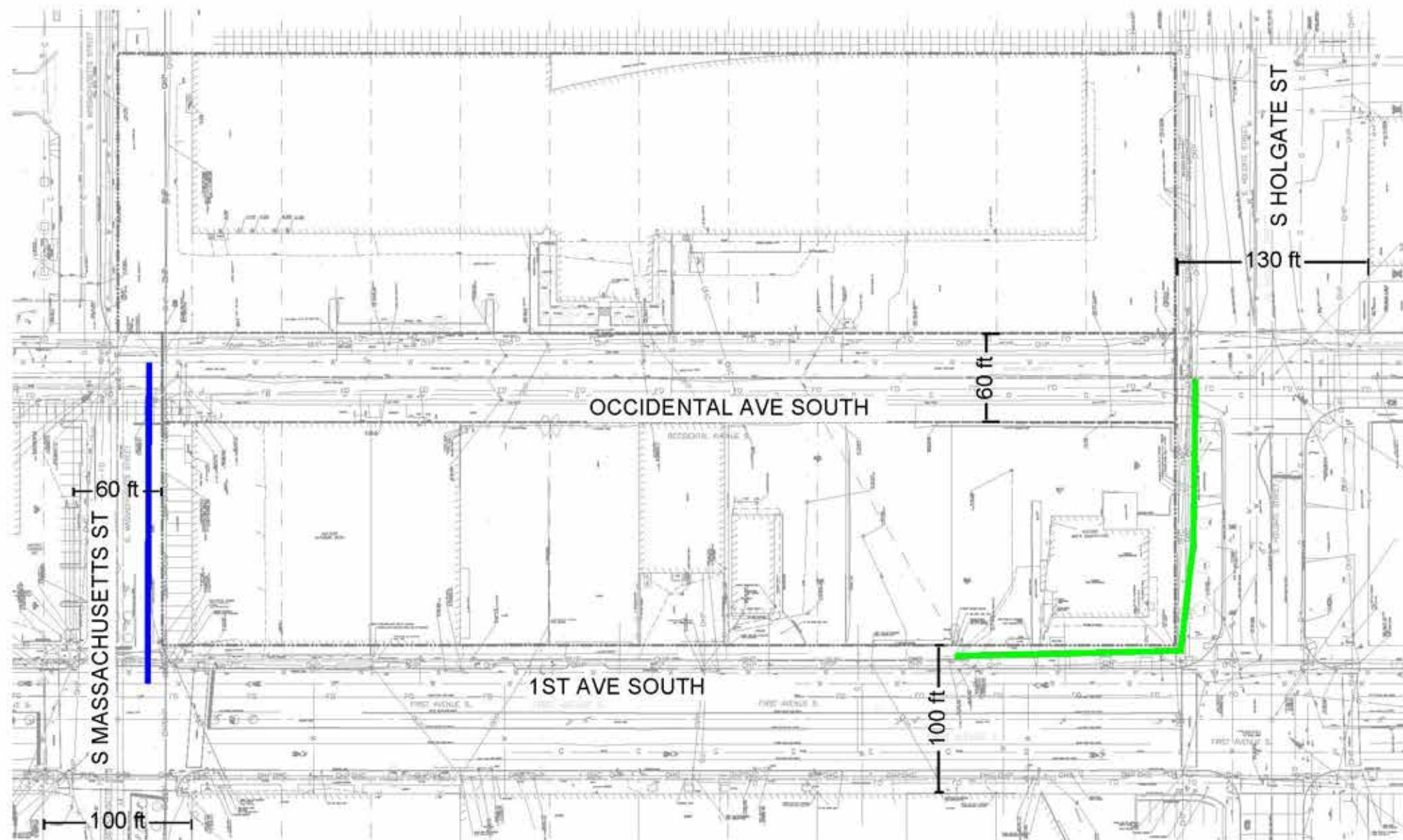
Preliminary Contacts:

Water - SPU - Melissa Hill (melissa.hill@seattle.gov)
 Sewer/Storm - SPU - Mark Jaeger (mark.jaeger@seattle.gov)
 Gas - PSE/Infrasource - Ken Elvsaas (ken.elvsaas@pse.com)

- █ STORMSEWER
- █ WATER
- █ GAS



North



Proposed Wet Utility Work

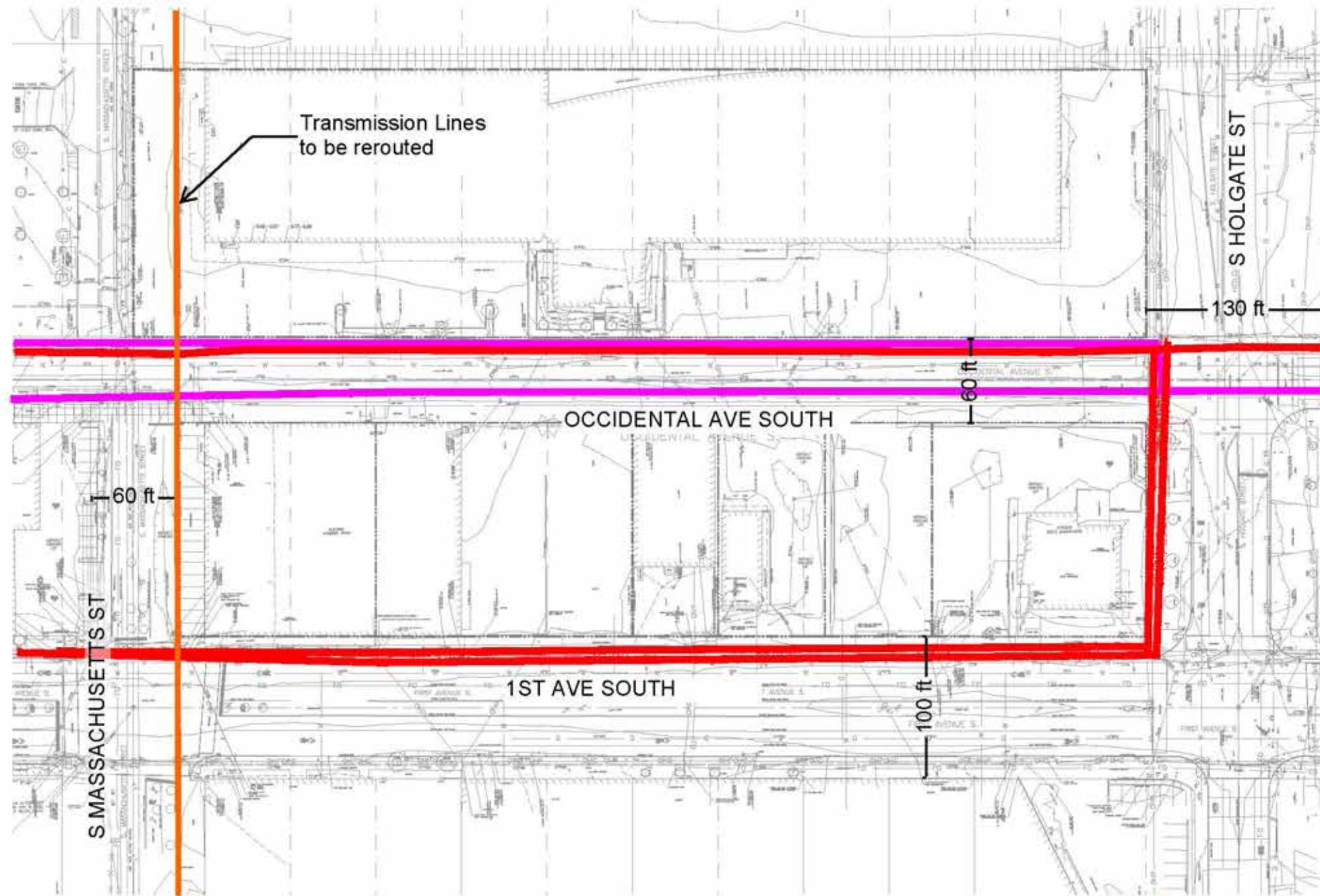
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- █ STORM/SEWER
- █ WATER
- █ GAS



North



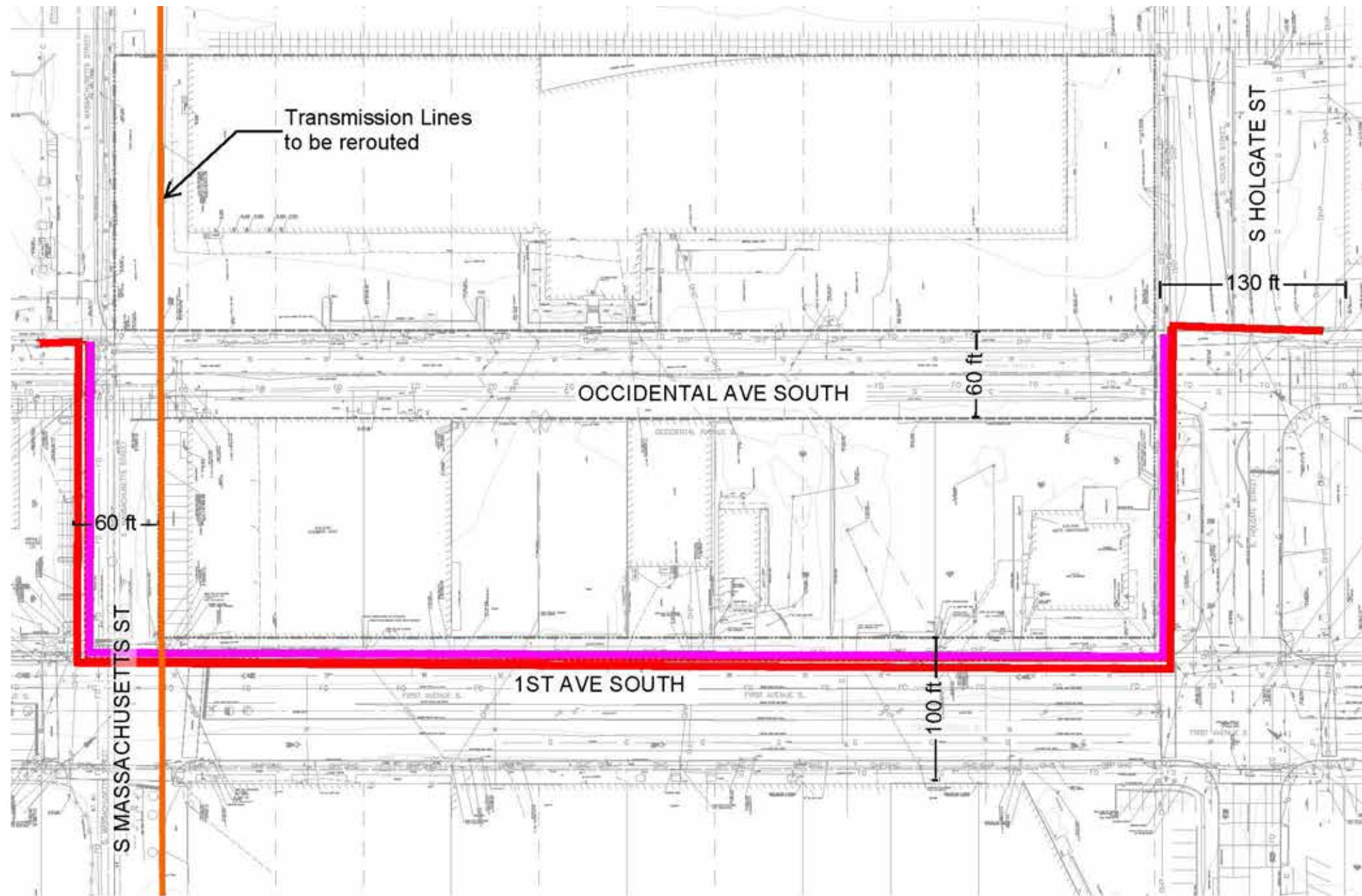
Existing Dry Utilities

Preliminary Contacts:

- Electrical - SCL - Cindy Reside (cindy.reside@seattle.gov)
- Century Link - Chris Mapes (christopher.mapes@centurylink.com)
- Integra Telecom - Bob Robertson (robert.robertson@integratelecom.com)
- Comcast - Art Nettles (art.nettles@comcast.com)

█ FIBER
█ OVERHEAD ELEC/COMM
█ TRANSMISSION LINE





Proposed Dry Utility Work

Preliminary Contacts:

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- Century Link - Chris Mapes (christopher.mapes@centurylink.com)
- Integra Telecom - Bob Robertson (robert.robertson@integratelecom.com)
- Comcast - Art Nettles (art.nettles@comcast.com)



North

WATER SYSTEM (SPU):

A 16" WATER MAIN RUNS ALONG OCCIDENTAL AVENUE SOUTH THAT WILL NEED TO BE CAPPED AND REMOVED AS PART OF THE OCCIDENTAL AVENUE STREET VACATION. THE WATER LINE ON OCCIDENTAL CONTINUES NORTH TO EDGAR MARTINEZ DRIVE AND SERVES MULTIPLE FIRE HYDRANTS ADJACENT TO THE SAFECO FIELD PARKING GARAGE. A NEW 16" CONNECTING LINE IS PROPOSED TO BE PLACED IN SOUTH MASSACHUSETTS STREET TO TIE THE 16" LINE IN OCCIDENTAL BACK INTO THE EXISTING LINE ON 1ST AVENUE SOUTH.

SANITARY SEWER AND STORM UTILITY (SPU):

THERE IS A 15-INCH DIAMETER COMBINED SEWER LINE RUNNING ALONG OCCIDENTAL AVENUE SOUTH THROUGH THE PROPOSED PROJECT SITE THAT WILL NEED TO BE REMOVED AS PART OF THE STREET VACATION PROCESS. THE 15-INCH STORM/SEWER LINE WILL NOT NEED TO BE RE-ROUTED AS IT MAINLY TAKES STORM WATER FROM THE PROPOSED SITE. THE CONTRIBUTING FLOWS TO THE SEWER LINE THAT COME FROM OFF SITE ARE FROM THE HOLGATE/OCCIDENTAL INTERSECTION. THESE FLOWS WILL BE REDIRECTED VIA A NEW PIPE CONNECTION TO THE EXISTING COMBINED SYSTEM ON 1ST AVENUE SOUTH.

NATURAL GAS (PSE):

THE PROPOSED ARENA SITE CONTAINS AN EXISTING GAS LINE RUNNING NORTH-SOUTH ON OCCIDENTAL AVENUE SOUTH THROUGH THE PROPOSED DEVELOPMENT AREA. THIS LINE WILL NEED TO BE REMOVED AS PART OF THE OCCIDENTAL AVENUE STREET VACATION PRIOR TO EXCAVATION. PER TELEPHONE CONVERSATION WITH KEN ELVSAAS OF PUGET SOUND ENERGY, THE LINE IN OCCIDENTAL CAN BE CAPPED AND ABANDONED WITHOUT REROUTING OR PROVIDING ADDITIONAL GAS PIPING. KEN MENTIONED THAT GAS SERVICE IN 1ST AVENUE HAS CAPACITY TO SERVE THE ARENA AND THAT CONNECTION WOULD BE NEAR THE NORTHWEST CORNER OF THE SITE.

ELECTRICAL, COMMUNICATIONS, OVERHEAD INFRASTRUCTURE (SCL & OTHERS):

THERE ARE EXISTING 26-KV OVERHEAD WIRES AND POLES RUNNING THROUGH THE PROJECT SITE THAT WILL NEED TO BE REROUTED AS PART OF THE OCCIDENTAL AVENUE STREET VACATION. PER DISCUSSIONS WITH SCL, THESE LINES WILL BE REROUTED UNDERGROUND ALONG 1ST AVENUE SOUTH, EAST ON S. MASSACHUSETTS STREET, AND TIE BACK INTO THE EXISTING OVERHEAD LINES ON OCCIDENTAL TO THE NORTH OF THE PROJECT SITE.

FIBER:

BASED ON THE MOST RECENT SURVEY AND CONVERSATIONS WITH CENTURY LINK, INTEGRA, AND COMCAST; THERE ARE TWO FIBER RUNS ALONG OCCIDENTAL AVENUE SOUTH THAT WILL NEED TO BE RELOCATED AS PART OF THE STREET VACATION. THESE LINES WILL BE REROUTED UNDERGROUND ALONG 1ST AVENUE SOUTH. DISCUSSIONS WITH THE COMMUNICATIONS COMPANIES IS ON-GOING AND WILL DETERMINE WHICH LINES ARE ACTIVE AND REQUIRE REROUTE.



PUBLIC TRUST POLICY 2: UTILITIES

RIGHTS-OF-WAY WHICH CONTAIN OR ARE NEEDED FOR FUTURE UTILITY LINES OR FACILITIES MAY BE VACATED ONLY WHEN THE UTILITY CAN BE ADEQUATELY PROTECTED WITH AN EASEMENT, RELOCATION, FEE OWNERSHIP OR SIMILAR AGREEMENT SATISFACTORY TO THE UTILITY OWNER.

PUBLIC RIGHTS-OF-WAY PROVIDE UTILITIES WITH CORRIDORS FOR THE EFFICIENT TRANSPORTATION AND DELIVERY OF UTILITY SERVICES TO THE PUBLIC IN THE LEAST COSTLY MANNER POSSIBLE. UTILITIES GENERALLY ASSESS VACATION PETITIONS FROM AN OPERATIONAL PERSPECTIVE IN ORDER TO ENSURE THAT A VACATION WILL NOT IMPAIR CURRENT SERVICE RELIABILITY AND CAPACITY LEVELS NOR LIMIT THE ABILITY TO EXPAND SERVICES IN THE FUTURE. THE GROWTH OF TELECOM UTILITIES ABOVE AND BELOW GROUND, INCREASED URBAN DENSITIES, AND DEMAND FOR UNDERGROUNDING OF UTILITY FACILITIES ALL PLACE PRESSURE ON THE VALUE OF PUBLIC RIGHTS-OF-WAY, PARTICULARLY ALLEYS, FOR FUTURE UTILITIES NEEDS.

PROJECT ANALYSIS:

PLEASE SEE THE ATTACHED UTILITY PLANS AND CONTACTS REGARDING UTILITIES.



SEATTLE ARENA

MARCH 12, 2013

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VACATION POLICY 4: LAND USE

A PROPOSED VACATION MAY BE APPROVED ONLY WHEN THE INCREASE IN DEVELOPMENT POTENTIAL THAT IS ATTRIBUTABLE TO THE VACATION WOULD BE CONSISTENT WITH THE LAND USE POLICIES ADOPTED BY THE CITY COUNCIL. THE CRITERIA CONSIDERED FOR MAKING INDIVIDUAL VACATION DECISIONS WILL VARY WITH THE LAND USE POLICIES AND REGULATIONS FOR THE AREA IN WHICH THE RIGHT-OF-WAY IS LOCATED. THE CITY COUNCIL MAY PLACE CONDITIONS ON A VACATION TO MITIGATE NEGATIVE LAND USE EFFECTS.

VACATIONS CAN AFFECT THE LAND USE AND DEVELOPMENT PATTERNS IN AN AREA BY ADDING TO THE DEVELOPABLE LAND BASE, ALTERING THE LOCAL PATTERN OF LAND DIVISION, AND INCREASING THE DEVELOPMENT POTENTIAL ON THE VACATED AND ABUTTING PROPERTIES. THESE CHANGES MAY ALLOW DEVELOPMENT THAT IS INCONSISTENT WITH ADOPTED LAND USE POLICIES AND HAVE A NEGATIVE EFFECT ON THE AREA OF THE PROPOSED VACATION AND OTHER RIGHTS-OF-WAY. THE PETITIONER SHALL PROVIDE THE CITY WITH INFORMATION ABOUT THE EXPECTED COMPLETED DENSITY OF THE PROJECT AND THE DEVELOPMENT POTENTIAL OF THE PROPERTY WITHOUT A VACATION. SUCH INFORMATION SHOULD BE PROVIDED AS BOTH THE PERCENTAGE INCREASE IN THE DEVELOPMENT POTENTIAL AND THE ADDITIONAL SQUARE FOOTAGE ADDED TO THE PROJECT. THE PETITIONER SHALL ALSO PROVIDE THE CITY WITH INFORMATION AS TO HOW THE PROJECT ADVANCES CITY PLANNING GOALS AND MEETS THE ZONING CRITERIA IN THE AREA WHERE THE PROJECT IS LOCATED. IT IS THE OBLIGATION OF THE PETITIONER TO PROVIDE A JUSTIFICATION FOR THE VACATION AND TO PROVIDE INFORMATION ON WHETHER THERE ARE FEASIBLE ALTERNATIVES THAT DO NOT REQUIRE A VACATION.

PROJECT ANALYSIS:

THE PROJECT ADVANCES THE CITY PLANNING GOALS FOR THE STADIUM OVERLAY TRANSITION AREA AND MEETS THE APPLICABLE ZONING CRITERIA FOR THE ZONE.



SEATTLE ARENA

MARCH 12, 2013

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NORTH OF PROJECT SITE
STADIUMS & OCCIDENTAL AVE.





NORTH OF PROJECT SITE
STADIUMS & OCCIDENTAL AVE.



VINUM - SOUTH OF SITE



3RD STREET LOOKING NORTH FROM HOLGATE

BACK DOCKS OF MACRINA BAKERY ON UTAH STREET



IMMEDIATELY ADJACENT TO PROJECT SITE



NEW DEVELOPMENT ACROSS 1ST AVENUE TO WEST

THE URBAN CAMPER



IMMEDIATELY ADJACENT & SOUTH OF PROJECTSITE



OCCIDENTAL LOOKING NORTH FROM SOUTH OF PROJECT SITE



FOOD TRUCKS FOUND THROUGHOUT NEIGHBORHOOD

FROM
STARBUCKS ON
UTAH STREET



FORMER HORSE STABLE AT 1ST & LAMAR



IMMEDIATELY
SOUTH OF PROJECT SITE

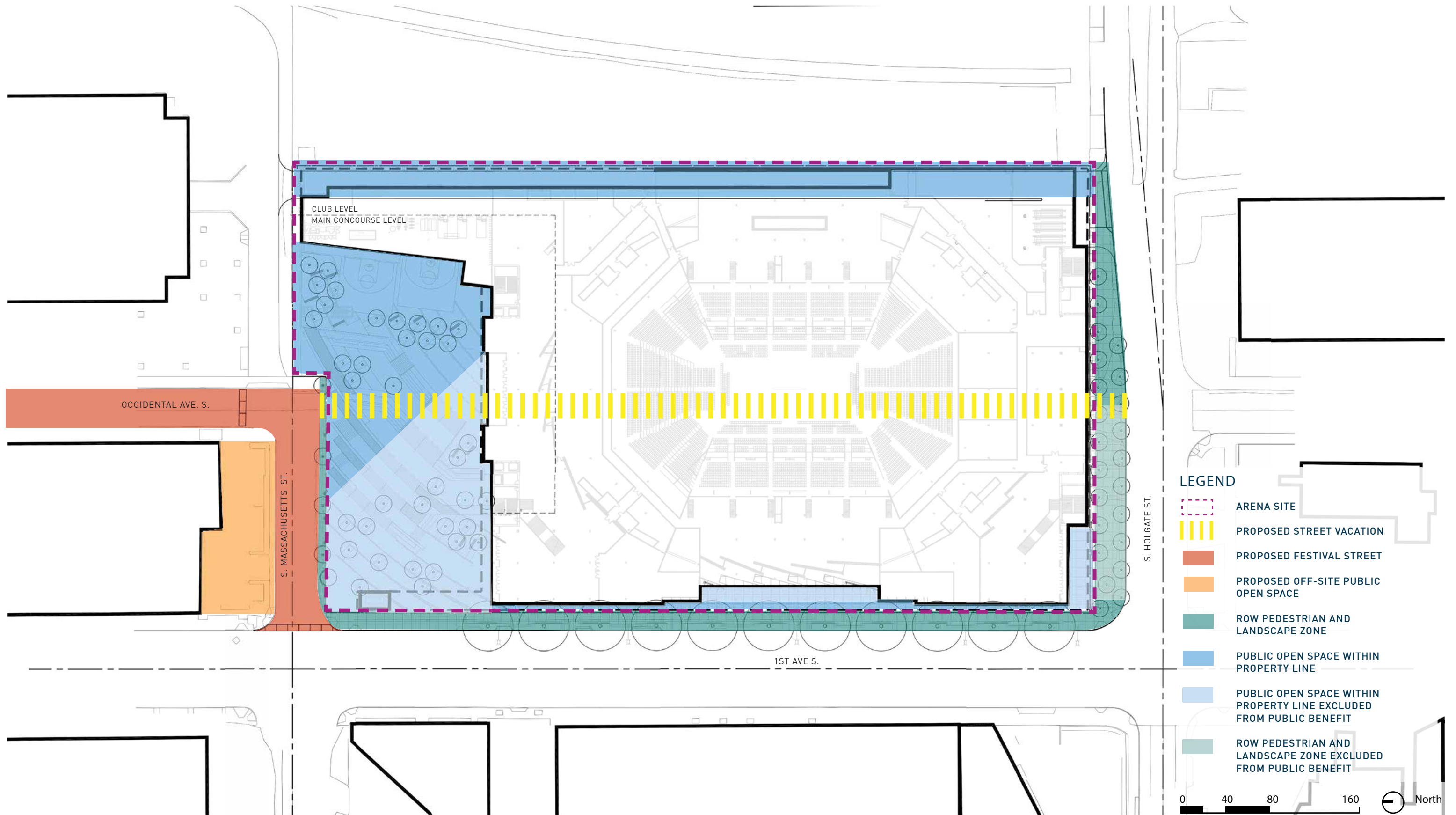


PECOS PIT BBQ



PROJECT FEATURE	TOTAL QUANTITY	REQUIRED BY CODE	PUBLIC BENEFIT	ON-SITE / OFF-SITE
OPEN SPACE				
PUBLIC ACCESS ROAD	16,984 SF		●	ON-SITE
PUBLIC PLAZA NORTH OF MASSACHUSETTS ST	9,210 SF		●	OFF-SITE
PUBLIC PLAZA SOUTH OF MASSACHUSETTS ST	26,144 SF		●	ON-SITE
PUBLIC BASKETBALL HALF COURTS	2 HALF COURTS		●	ON-SITE
ELEVATED PUBLIC OVERLOOKS			●	
MASSACHUSETTS ST S FESTIVAL STREET PROPOSAL	7,063 SF		●	OFF-SITE
OCCIDENTAL ST S FESTIVAL STREET PROPOSAL	23,647 SF		●	OFF-SITE
STREETSCAPE IMPROVEMENTS				
1ST AVENUE S SIDEWALK AND LANDSCAPE IMPROVEMENTS	2,723 SF	●		ON-SITE
S HOLGATE ST SIDEWALK AND LANDSCAPE IMPROVEMENTS	819 SF	●		ON-SITE
GENEROUS BUILDING SETBACKS AND SIDEWALK WIDTHS			●	ON-SITE
HIGH QUALITY SITE MATERIALS AND FURNISHINGS			●	ON-SITE
PEDESTRIAN SAFETY				
REDUCTION IN LOADING DOCKS	2 (PREVIOUSLY 15)	●	●	ON-SITE
REDUCTION IN CURB CUTS	2 (PREVIOUSLY 8)		●	ON-SITE
UTILITY IMPROVEMENTS				
NEW AND UPDATED WATER AND SEWER LINE	550 LF	●		OFF-SITE
NEW AND UPDATED UNDERGROUND ELECTRICAL AND COMMUNICATION LINES	3,200 LF		●	OFF-SITE
PUBLIC ART PROGRAM				
SUSTAINABILITY				
DISTRICT ENERGY SYSTEM			●	OFF-SITE
SEWER MINING			●	OFF-SITE
CONDENSATE RECAPTURE				OFF-SITE
COMBINED SEWER OVERFLOW REDUCTION	15% - 20%		●	OFF-SITE
GREENROOF	58,755 SF	●	●	ON-SITE
NEW TREES CONTRIBUTING TO URBAN FOREST CANOPY		●	●	ON-SITE

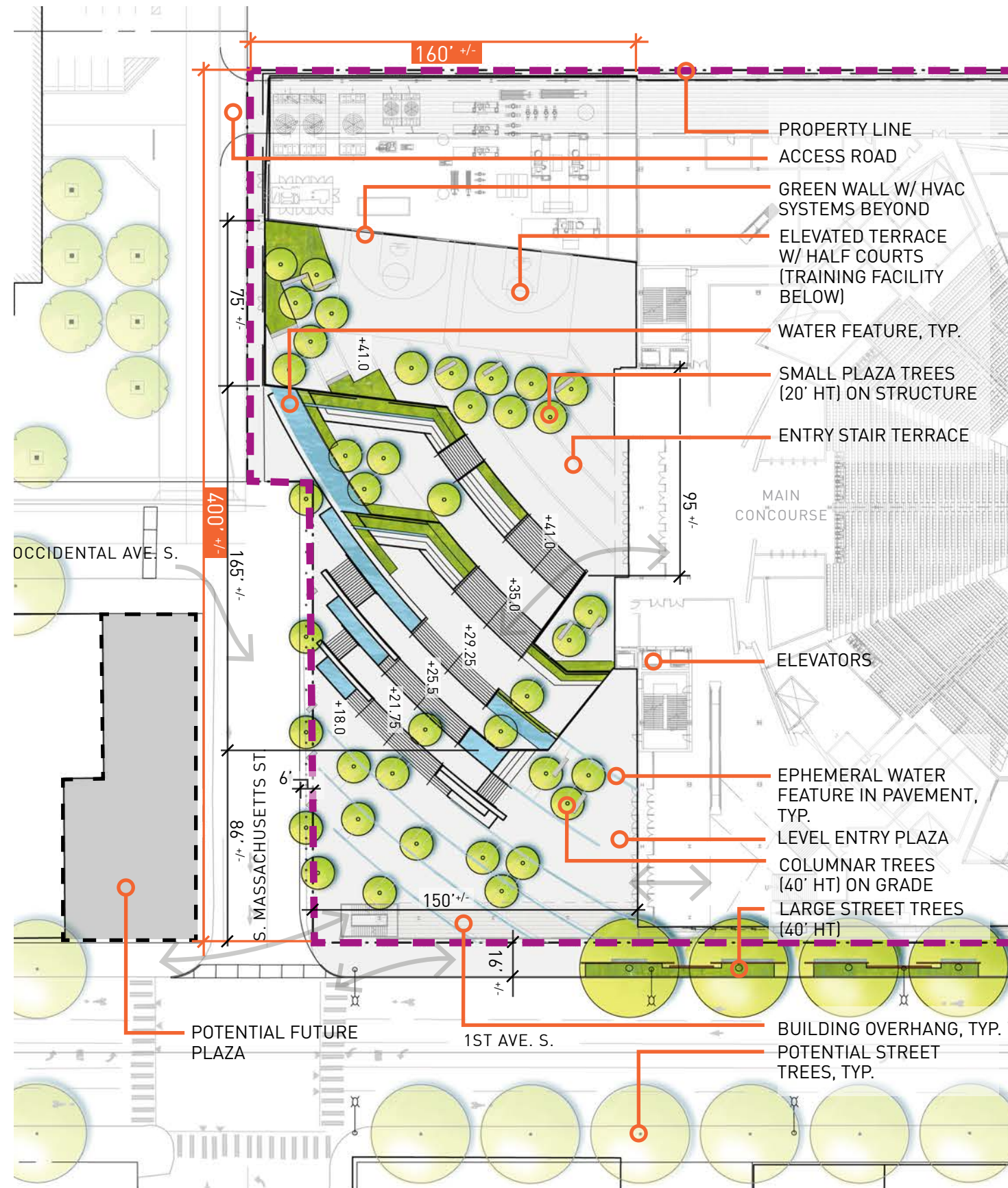
THE PROJECT WILL PROVIDE A SIGNIFICANT, LONG-TERM PUBLIC BENEFIT TO THE NEIGHBORHOOD AND TO THE ENTIRE COMMUNITY. THE BENEFITS ARE ABOVE AND BEYOND THE LAND USE CODE/RIGHT-OF-WAY MANUAL REQUIREMENTS, AND NO DEVELOPMENT CREDIT IS BEING SOUGHT FOR THE BENEFITS.



LEGEND

- ARENA SITE
- PROPOSED STREET VACATION
- PROPOSED FESTIVAL STREET
- PROPOSED OFF-SITE PUBLIC OPEN SPACE
- ROW PEDESTRIAN AND LANDSCAPE ZONE
- PUBLIC OPEN SPACE WITHIN PROPERTY LINE
- PUBLIC OPEN SPACE WITHIN PROPERTY LINE EXCLUDED FROM PUBLIC BENEFIT
- ROW PEDESTRIAN AND LANDSCAPE ZONE EXCLUDED FROM PUBLIC BENEFIT

0 40 80 160 North



LEGEND

ARENA SITE

- PROPERTY LINE
- ACCESS ROAD
- GREEN WALL W/ HVAC SYSTEMS BEYOND
- ELEVATED TERRACE W/ HALF COURTS (TRAINING FACILITY BELOW)
- WATER FEATURE, TYP.
- SMALL PLAZA TREES (20' HT) ON STRUCTURE
- ENTRY STAIR TERRACE

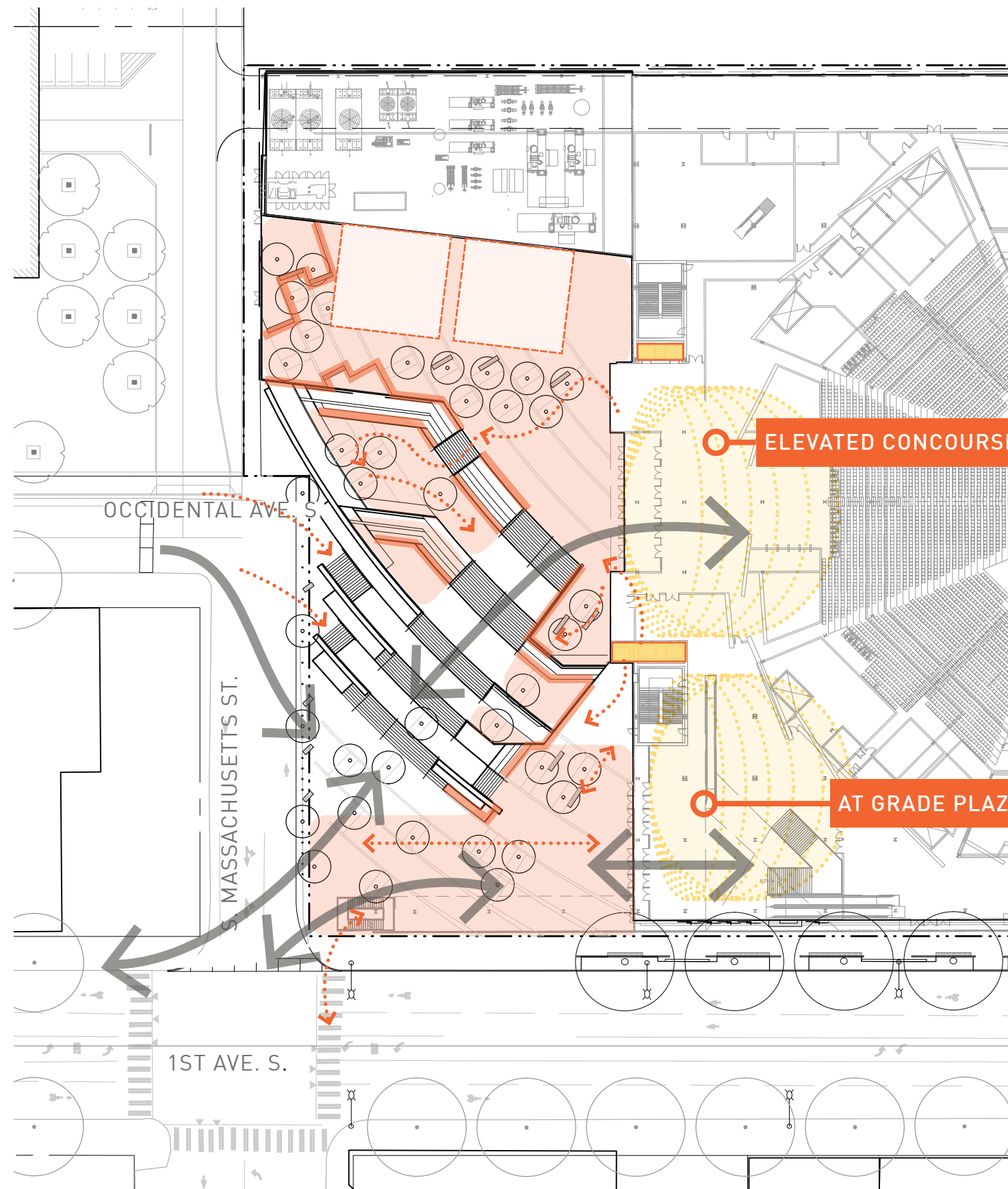
ELEVATORS




- EPHEMERAL WATER FEATURE IN PAVEMENT, TYP.
- LEVEL ENTRY PLAZA
- COLUMNAR TREES (40' HT) ON GRADE
- LARGE STREET TREES (40' HT)

POTENTIAL FUTURE PLAZA

- BUILDING OVERHANG, TYP.
- POTENTIAL STREET TREES, TYP.





- LEGEND**
-  PRIMARY PEDESTRIAN FLOWS
 -  PEDESTRIAN FLOWS
 -  ENTRANCE ZONES
 -  GATHERING ZONES
 -  EDGE GATHERING AREAS
 -  ACTIVE PLAY ZONES
 -  ELEVATORS

ELEVATED CONCOURSE ENTRY

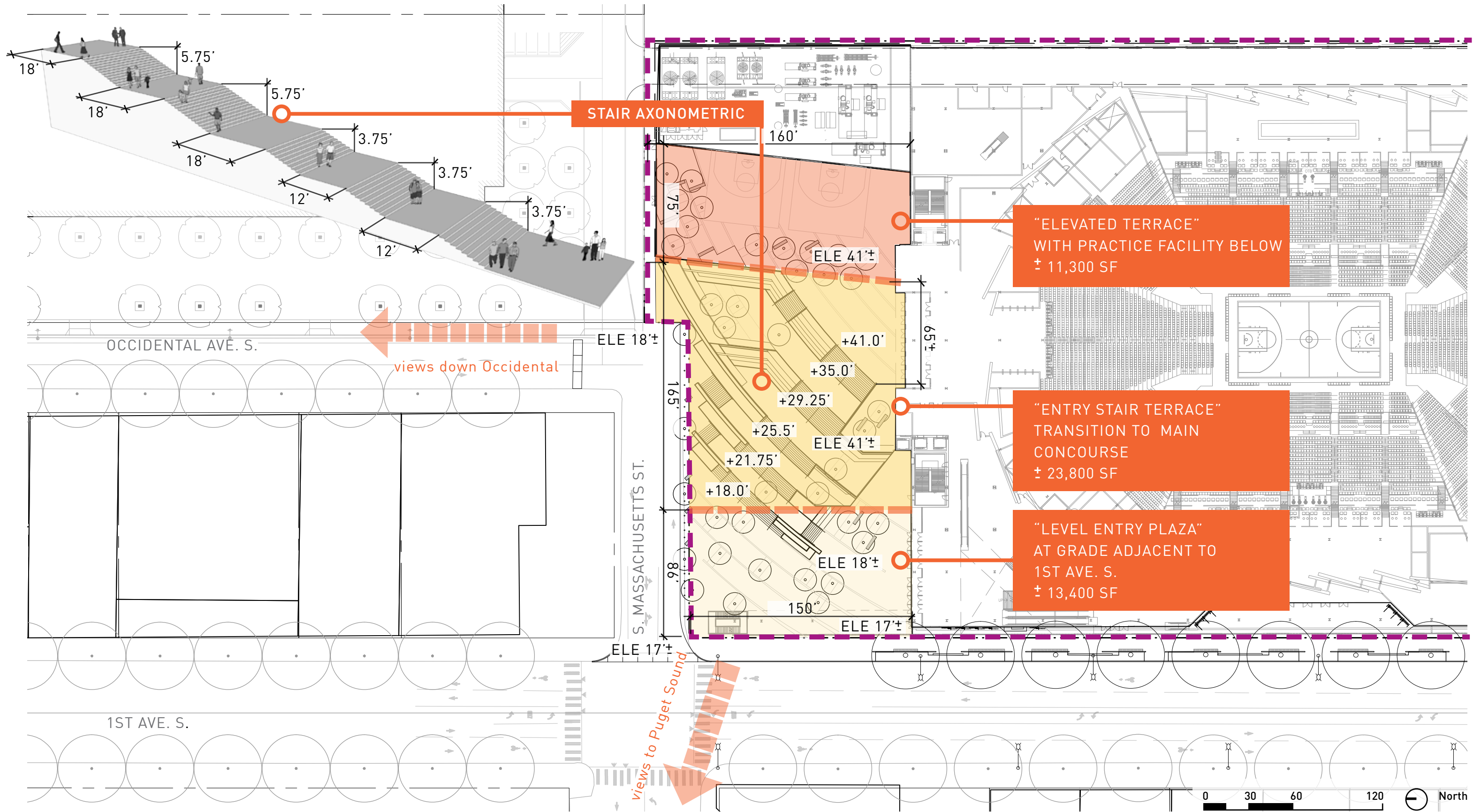
AT GRADE PLAZA ENTRY

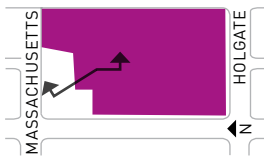
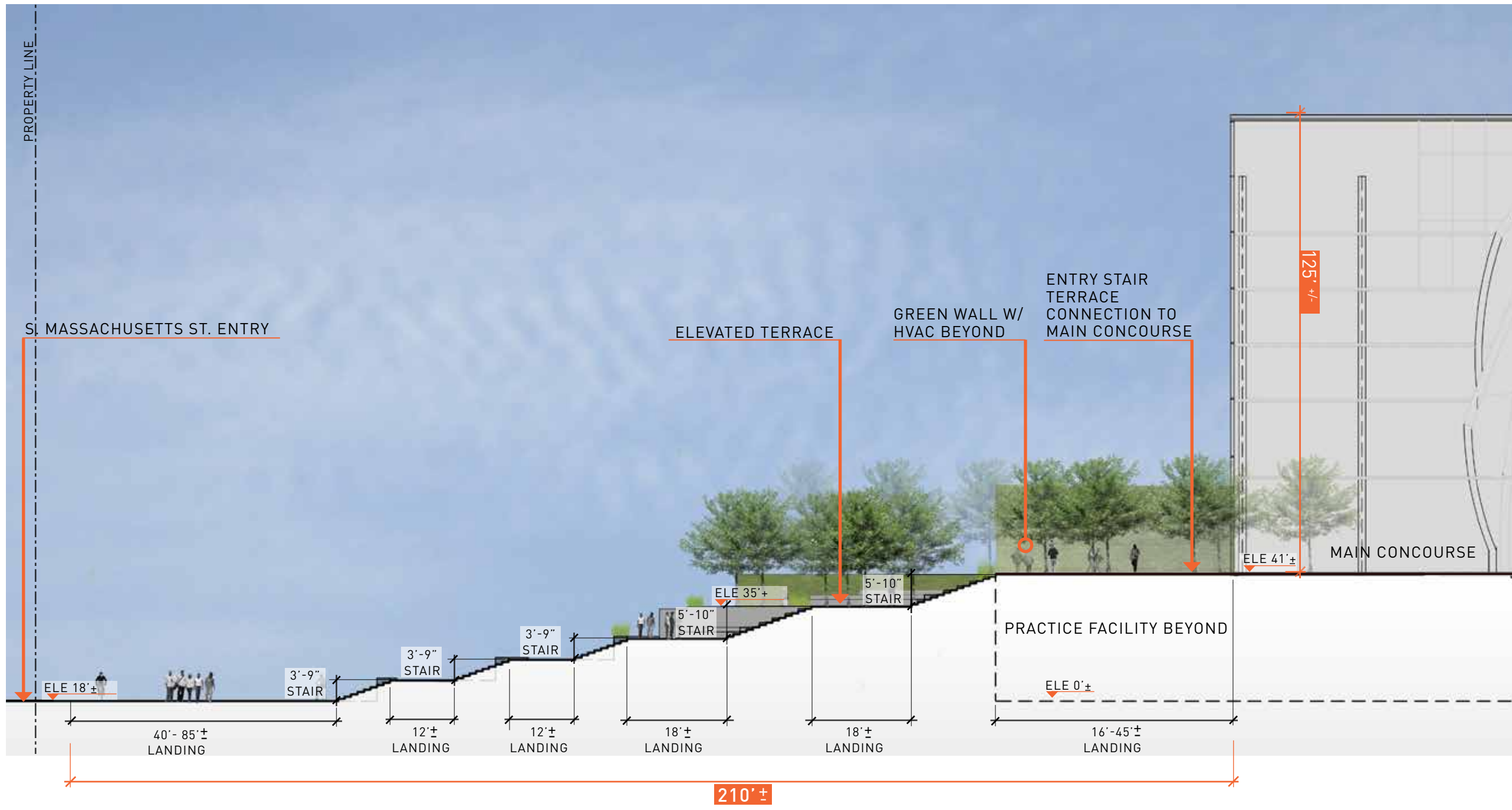
OCCIDENTAL AVE S

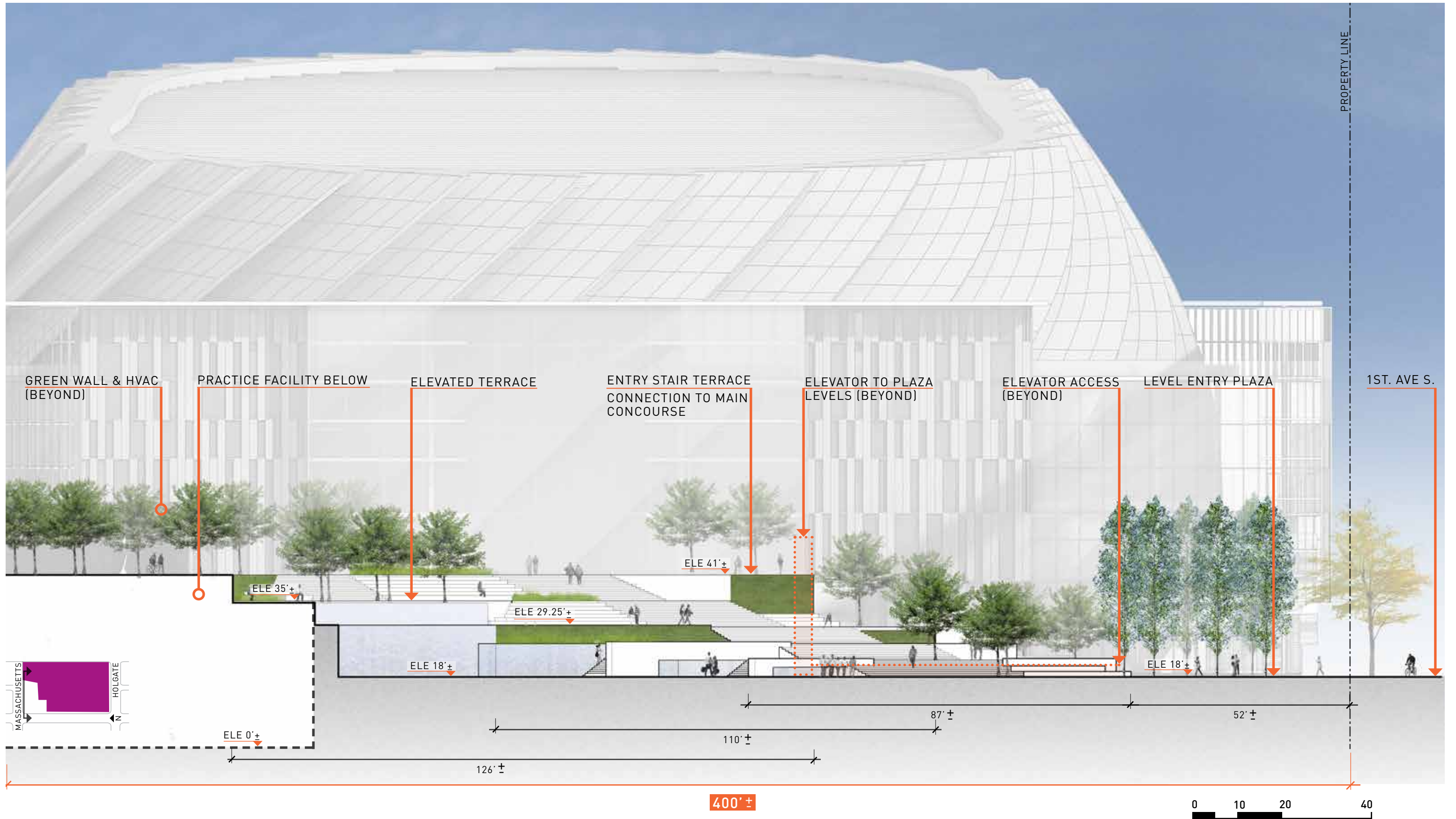
MASSACHUSETTS ST.

1ST AVE. S.



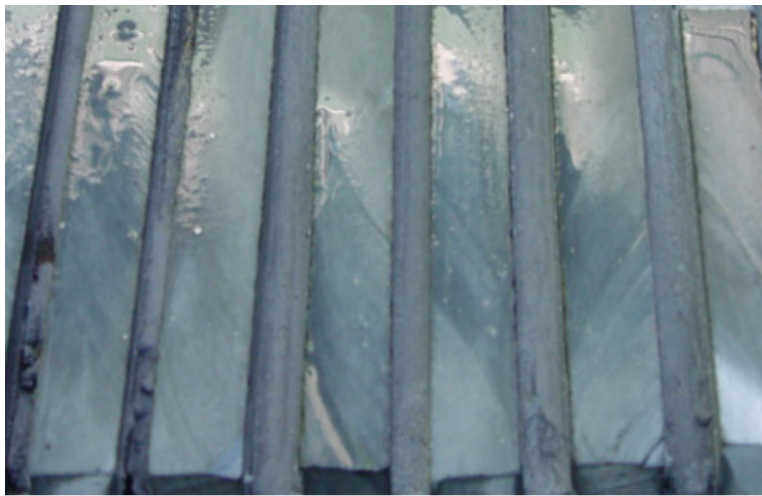








COLUMNAR TREES, PAVING WITH PLANTING



PAVING CHARACTER, AT GRADE WATER FEATURE



SEATTLE ARENA
MARCH 12, 2013

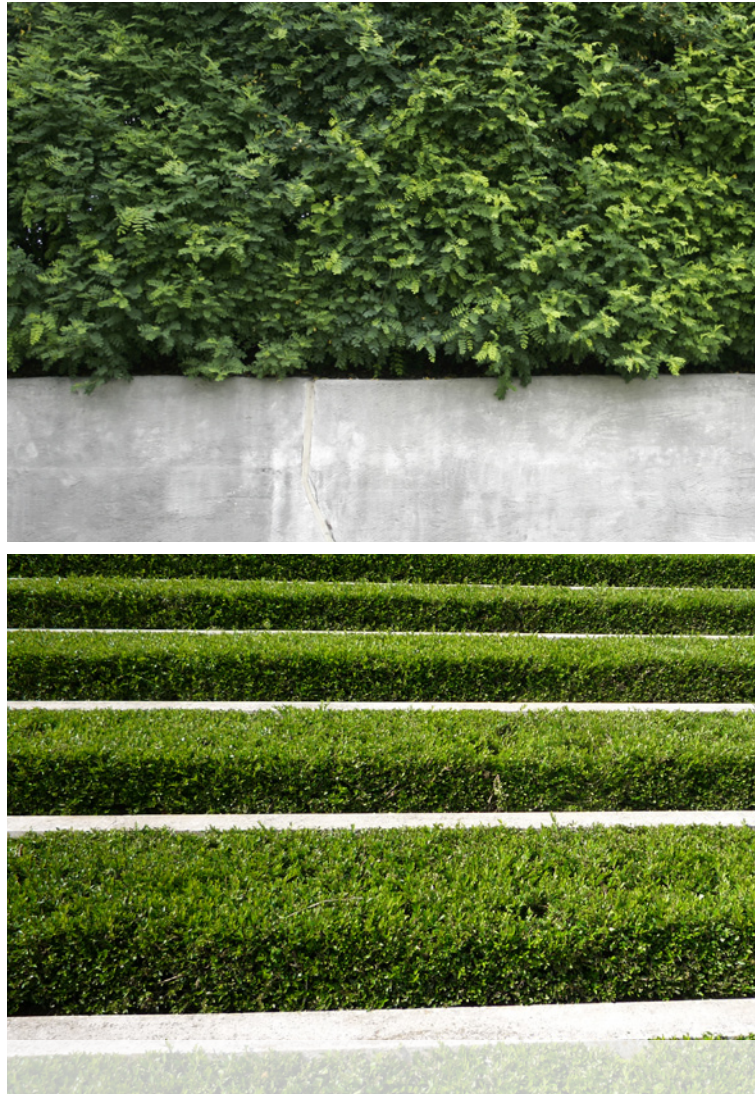
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STAIRS AND SEATING



BLEACHER SEATS WITH PLANTING



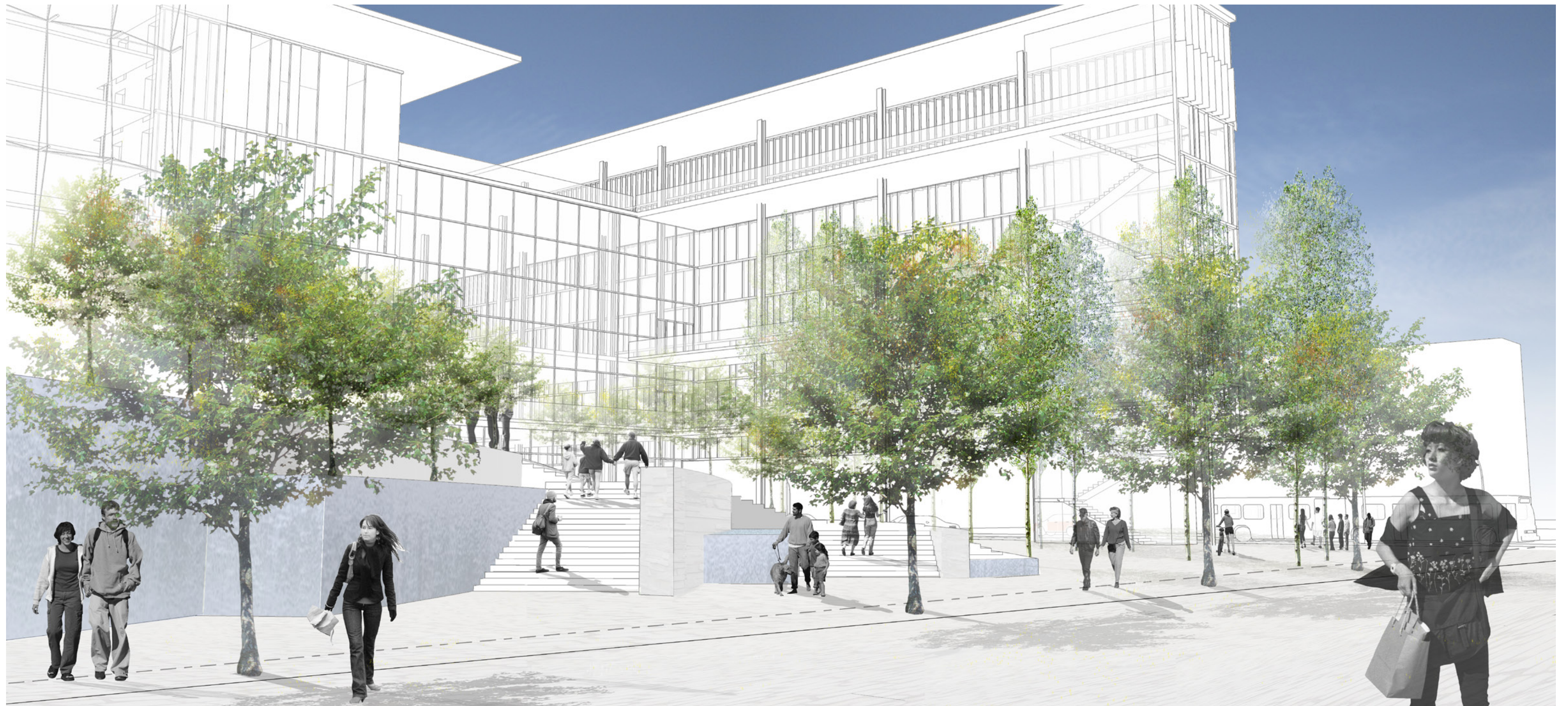


PLAZA TREES AND GREEN WALLS



PLAZA WATER FEATURES





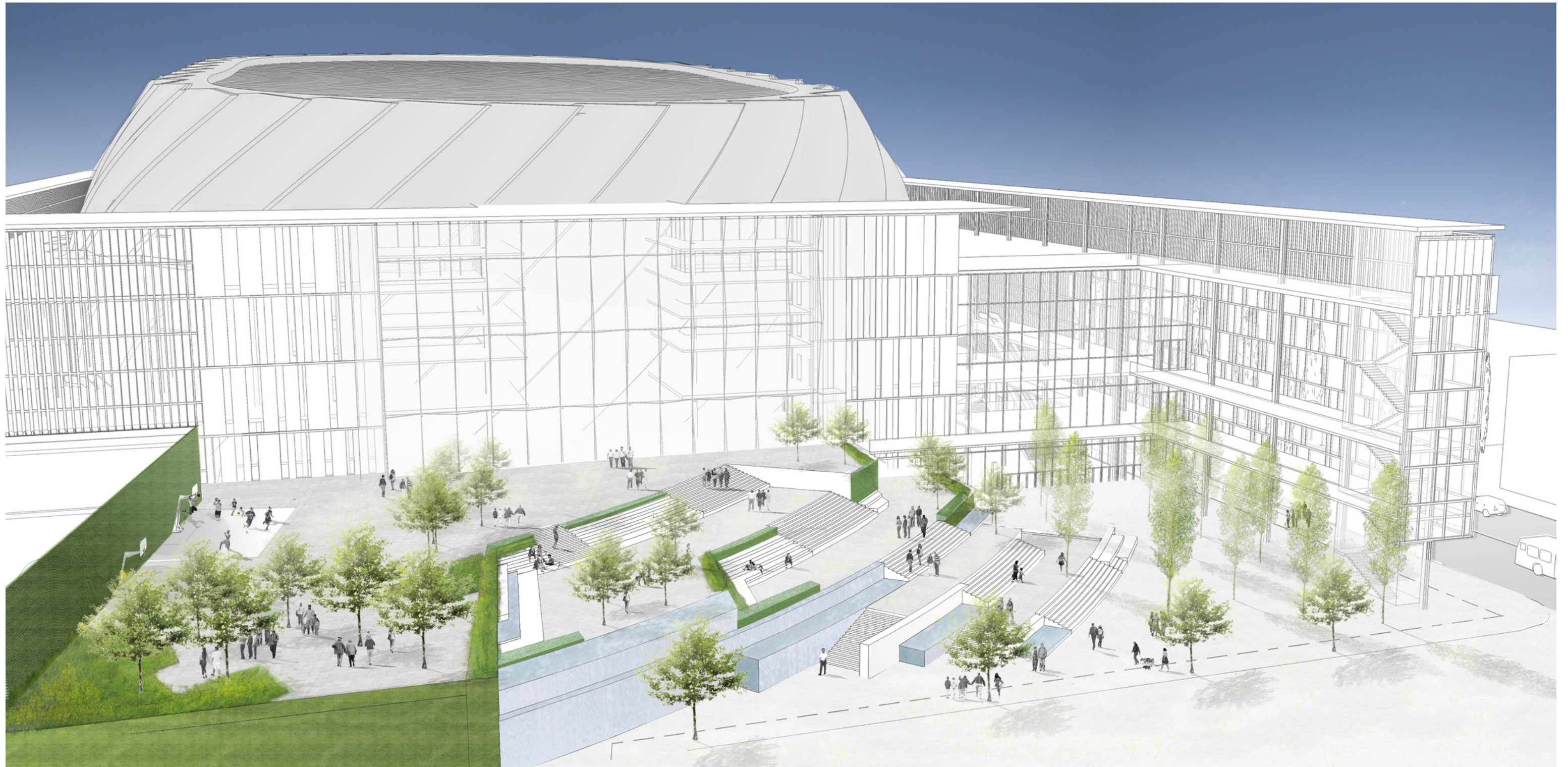
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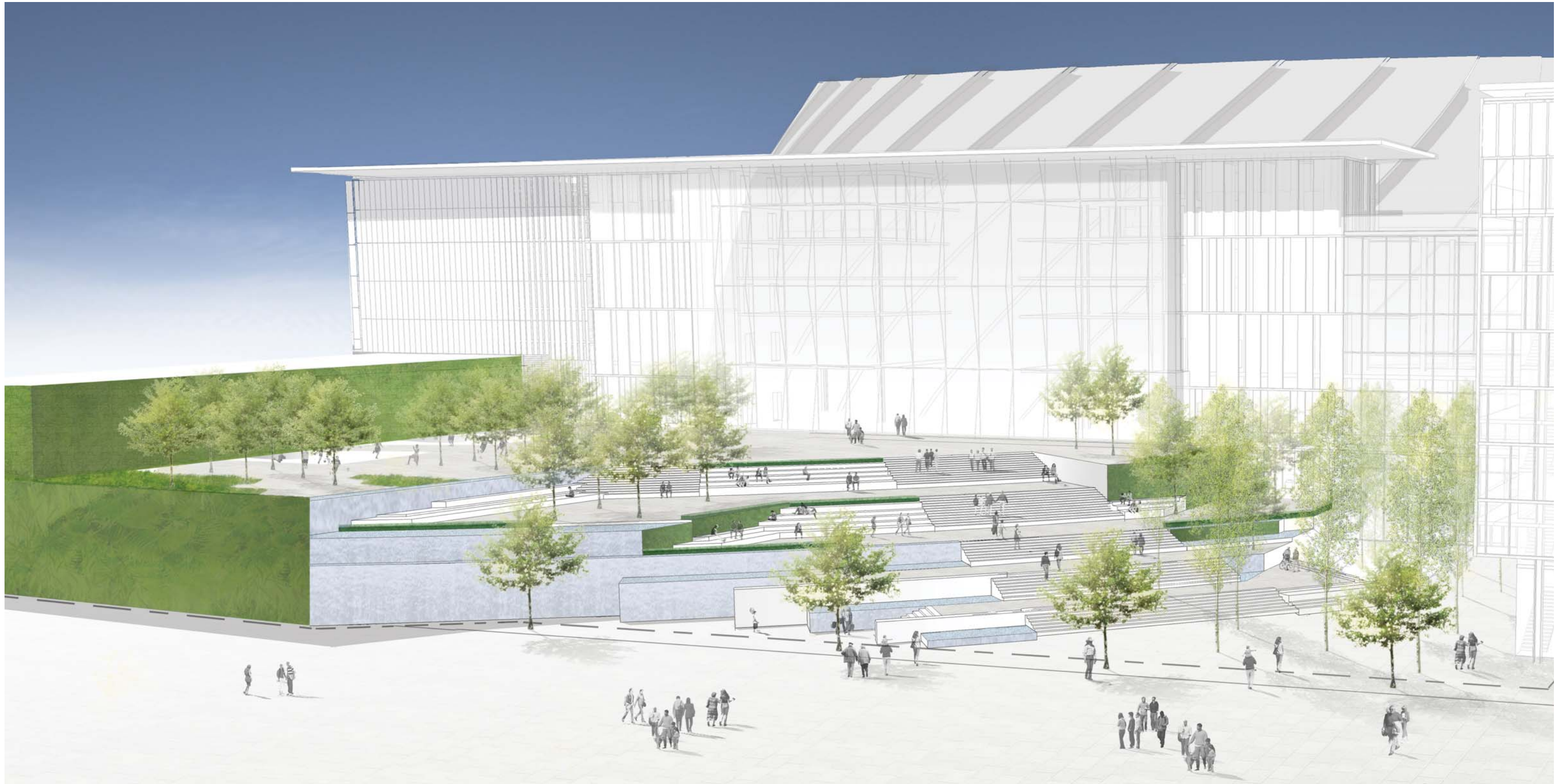
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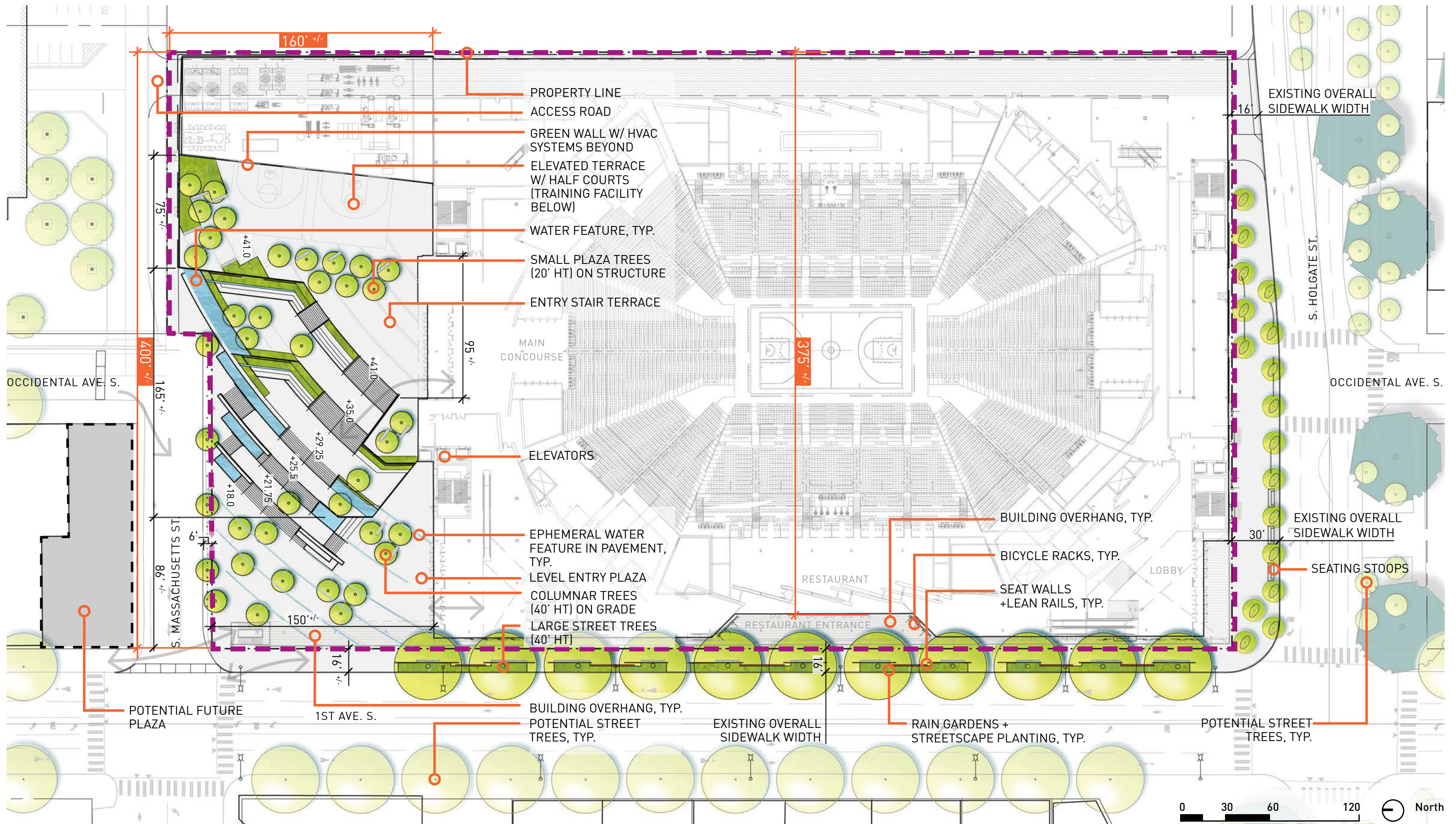
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- PROPERTY LINE
- ACCESS ROAD
- GREEN WALL W/ HVAC SYSTEMS BEYOND
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- SMALL PLAZA TREES (20' HT) ON STRUCTURE
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- ELEVATORS
- EPOCHAL WATER FEATURE IN PAVEMENT, TYP.
- LEVEL ENTRY PLAZA
- COLUMNAR TREES (40' HT) ON GRADE
- LARGE STREET TREES (40' HT)

- BUILDING OVERHANG, TYP.
- BICYCLE RACKS, TYP.
- SEAT WALLS + LEAN RAILS, TYP.

- BUILDING OVERHANG, TYP.
- POTENTIAL STREET TREES, TYP.

- RAIN GARDENS + STREETSCAPE PLANTING, TYP.

EXISTING OVERALL SIDEWALK WIDTH

EXISTING OVERALL SIDEWALK WIDTH

SEATING STOOPS

POTENTIAL STREET TREES, TYP.

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ZONING DESIGNATION OF ROW:	IC-85
STREET CLASSIFICATION OF ROW:	1ST AVENUE SOUTH: PRINCIPAL ARTERIAL OCCIDENTAL: MINOR ARTERIAL
ASSESSED VALUE OF ADJACENT PROPERTY TO ALLEY TO BE DEDICATED: (PER SQUARE FOOT)	\$160/SF
SIZE OF PROJECT: (IN SF)	233,500 SF
SIZE OF AREA TO BE VACATED: (IN SF)	40,811 SF
CONTRIBUTION OF THE VACATED AREA TO THE DEVELOPMENT POTENTIAL OF THE SITE:	40,811 SF
WITH THE STREET VACATION, THE PROPERTY AREA INCREASES TO:	274,311 SF



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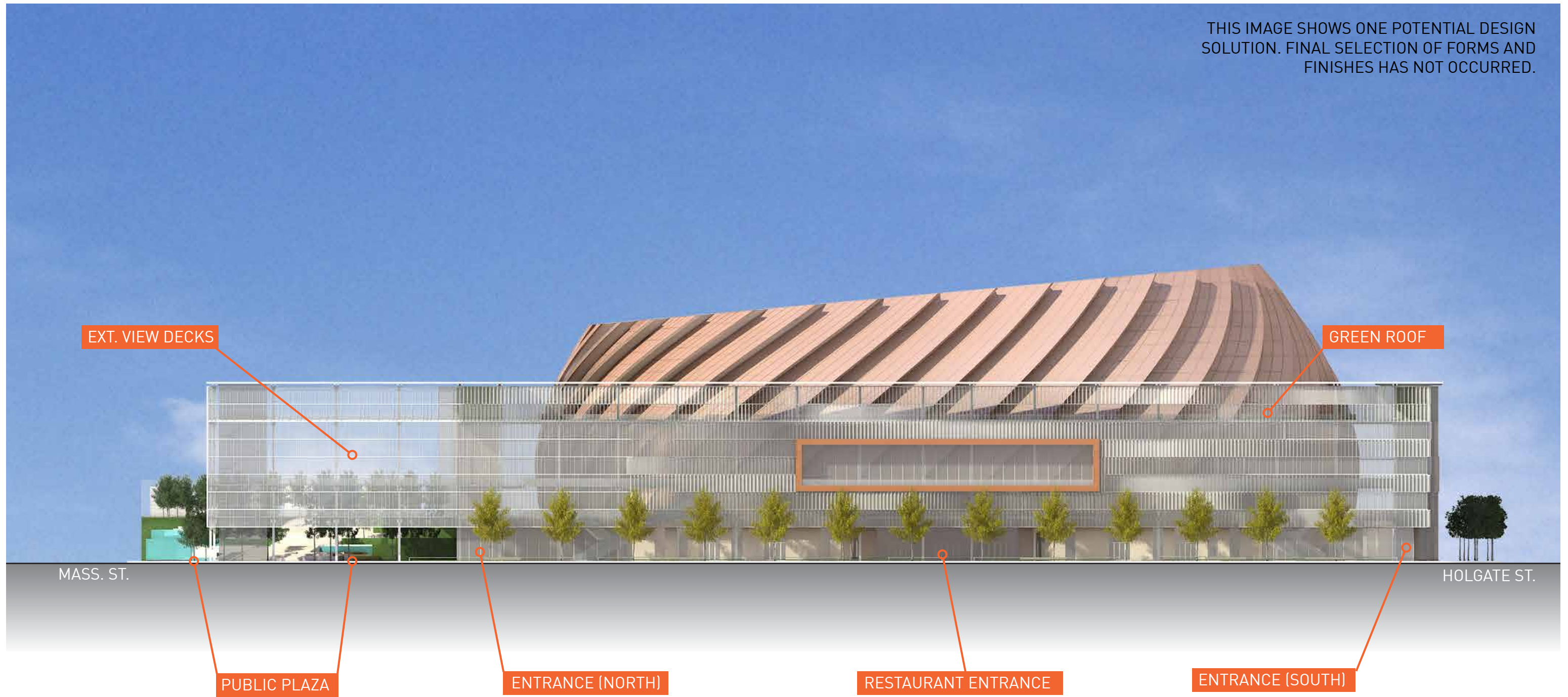
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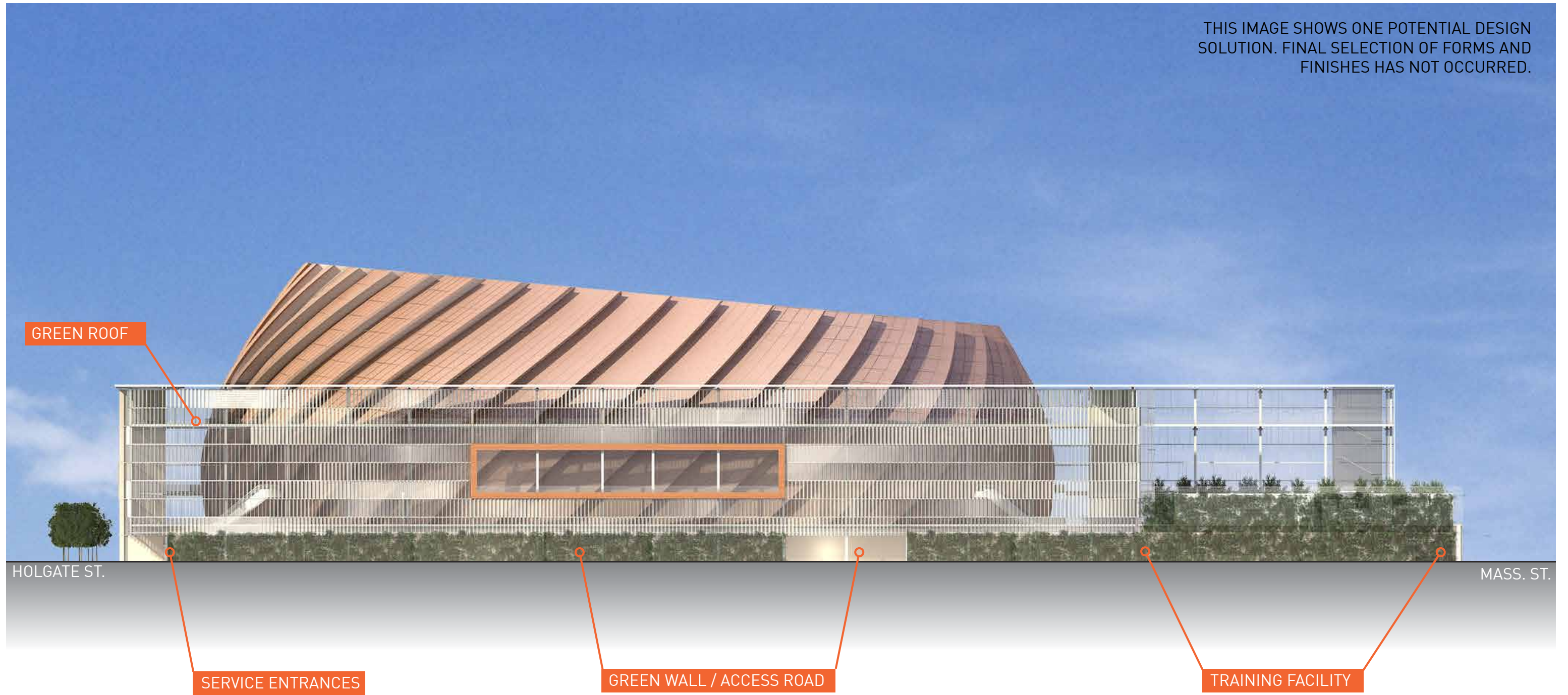
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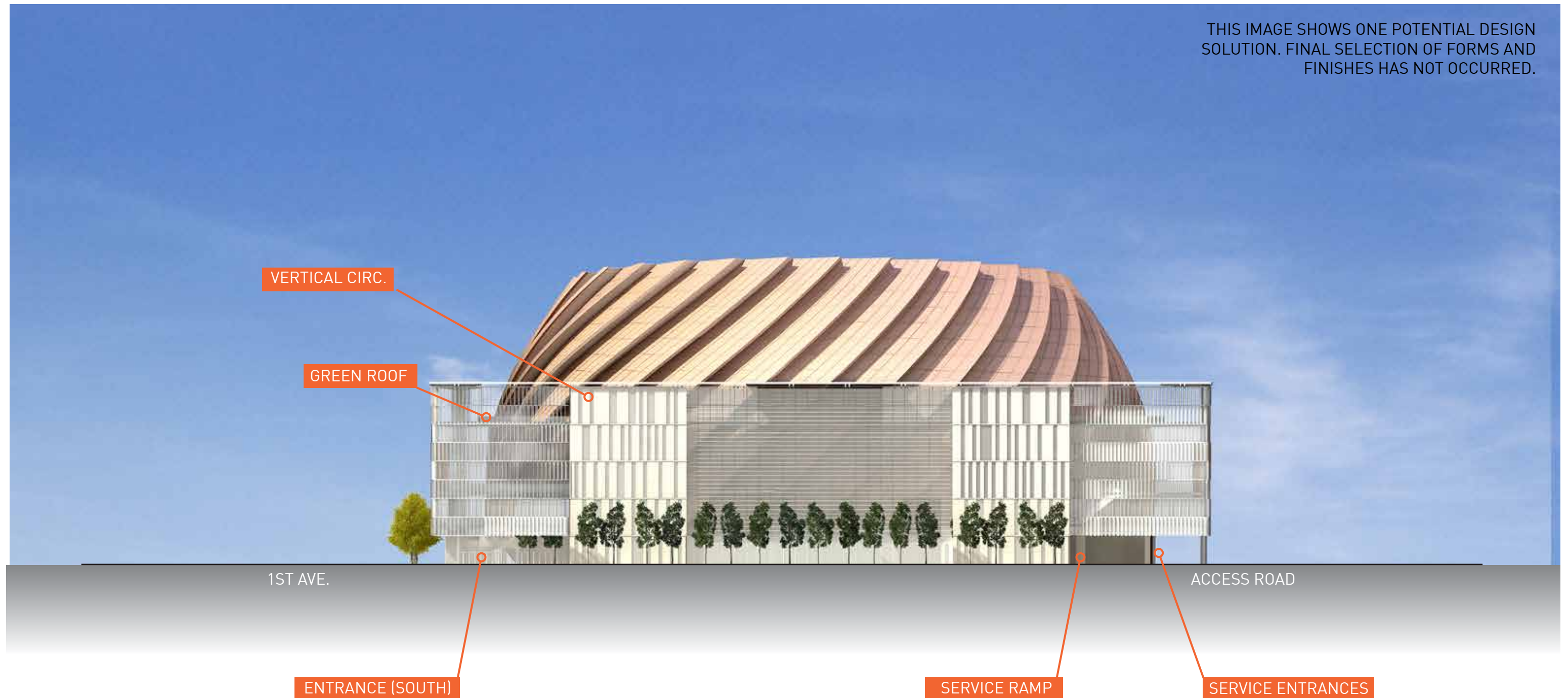
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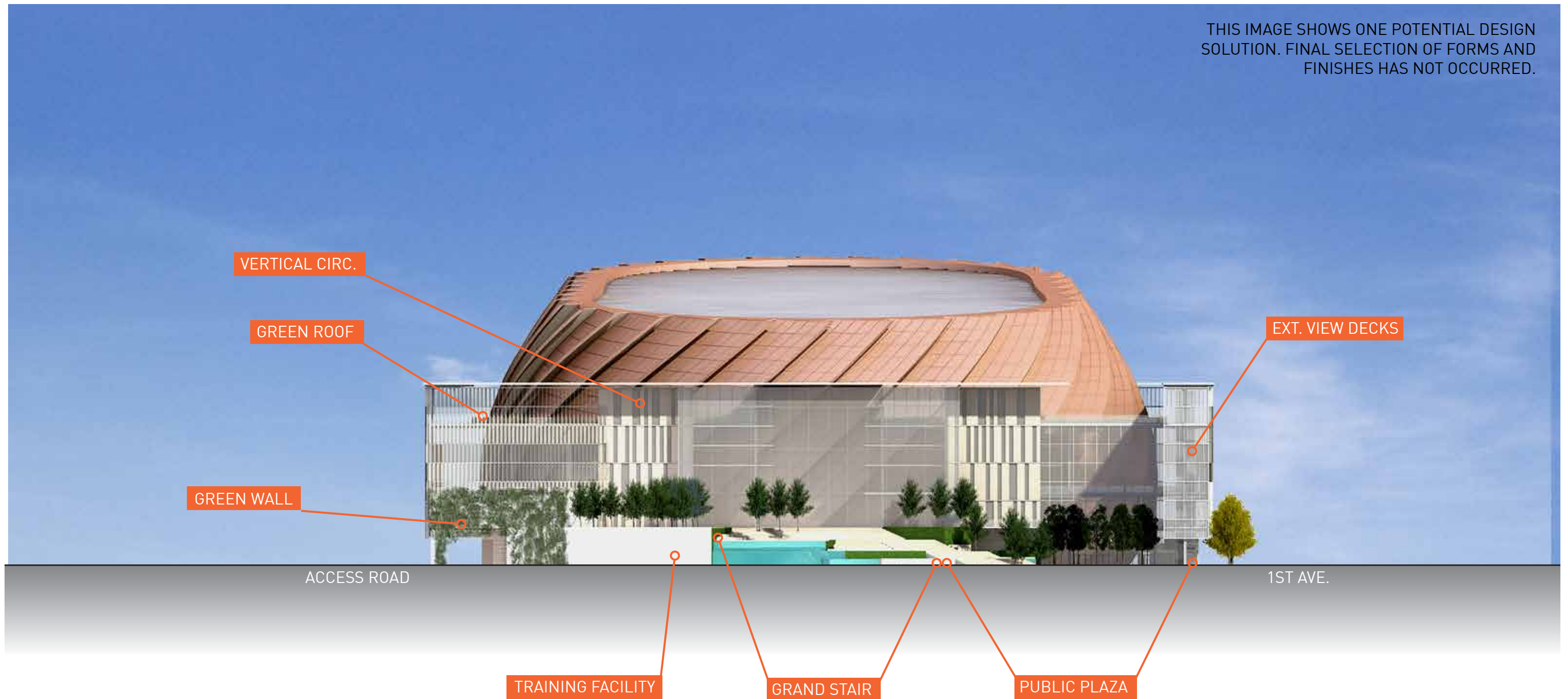
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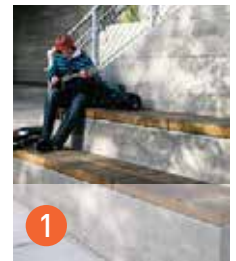
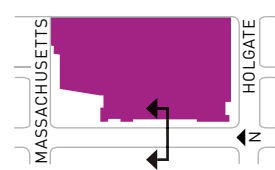
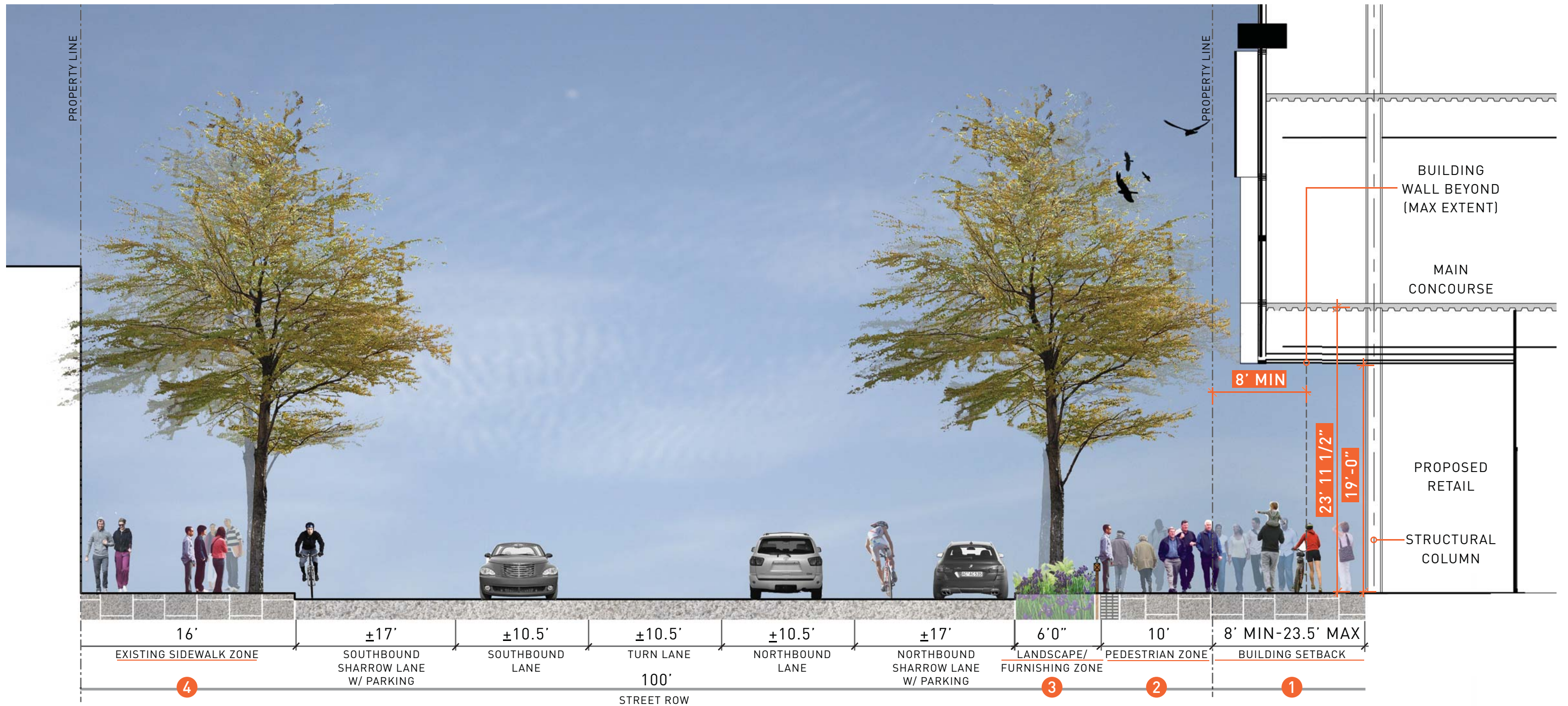
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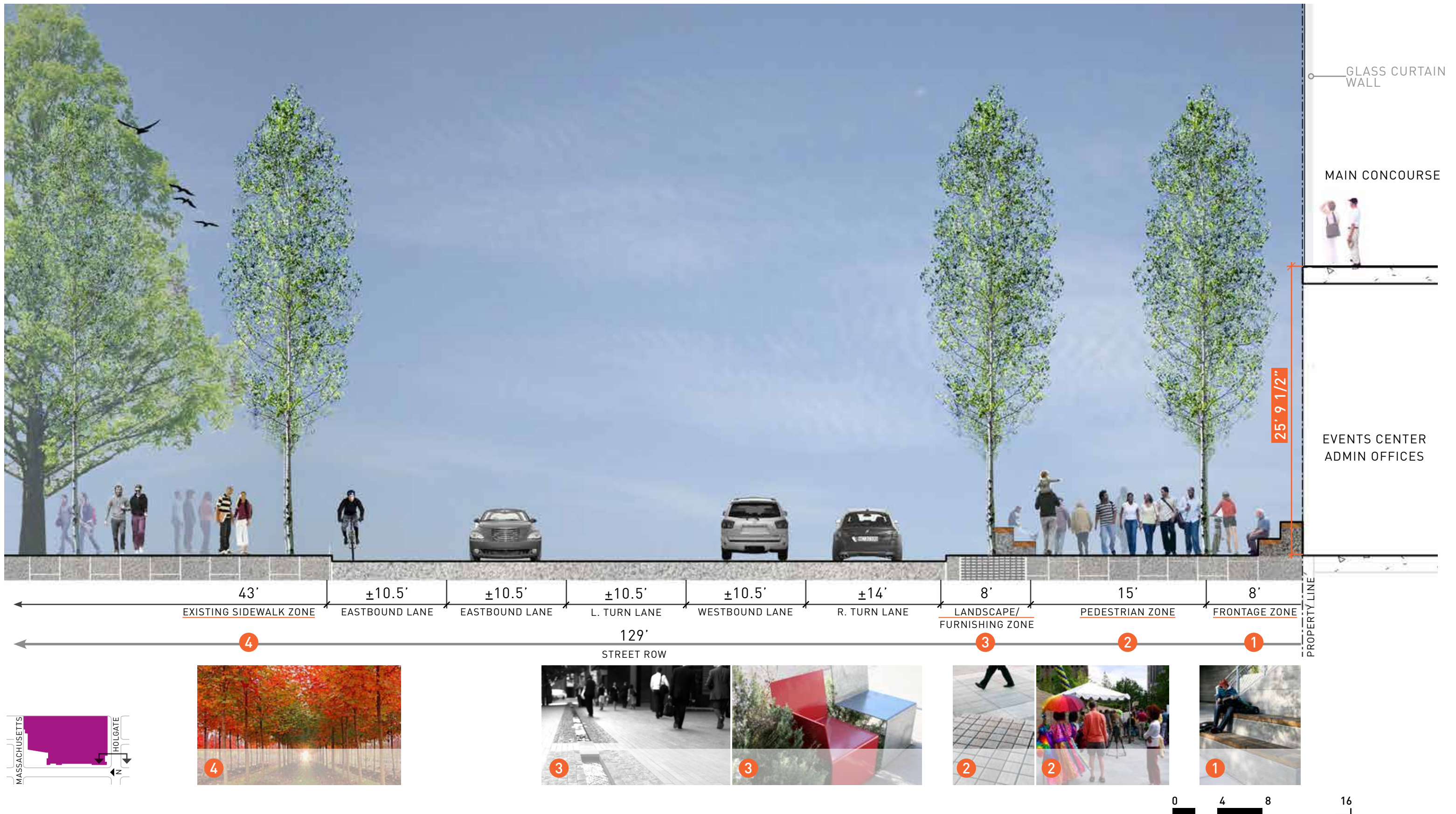
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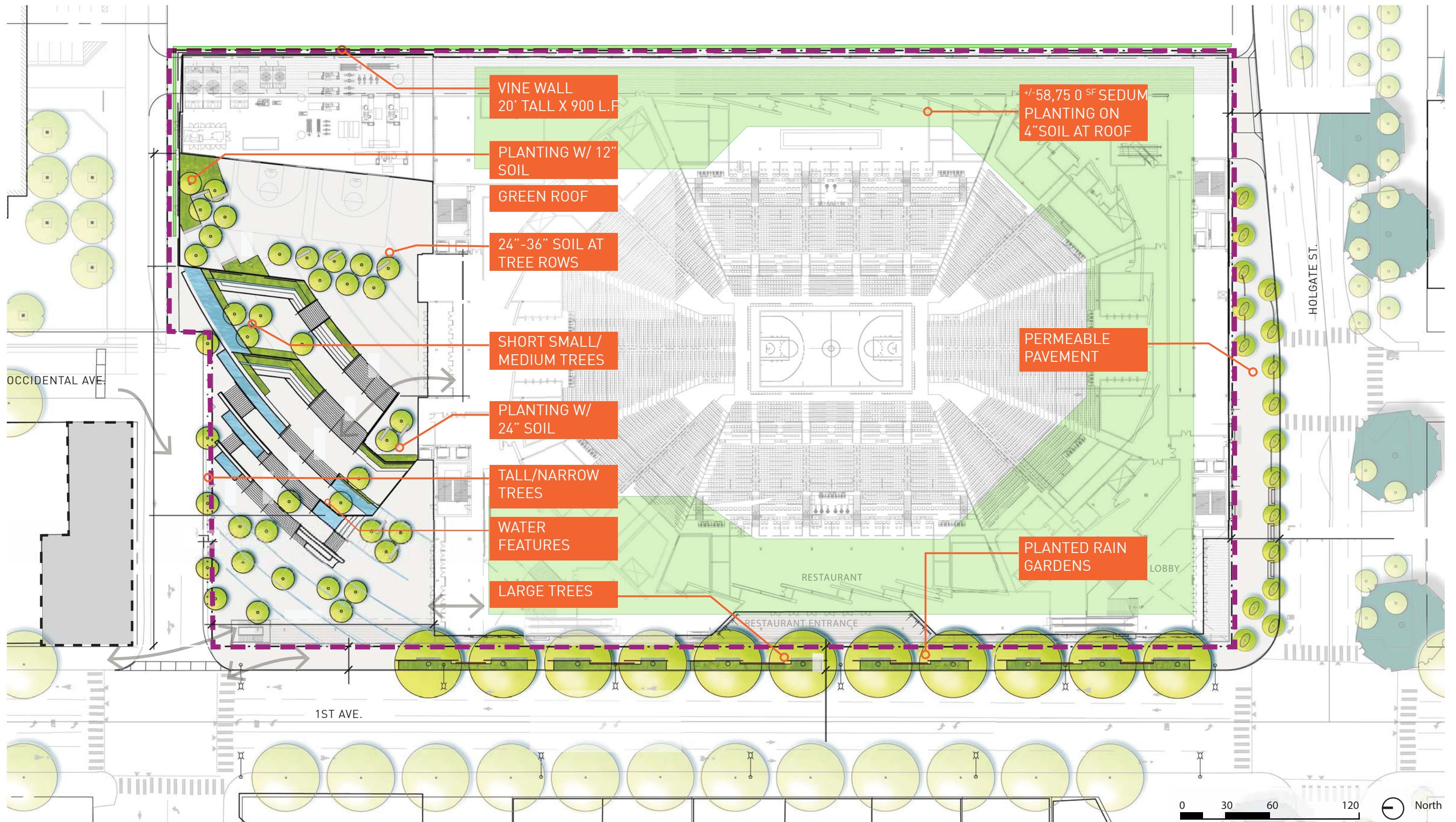
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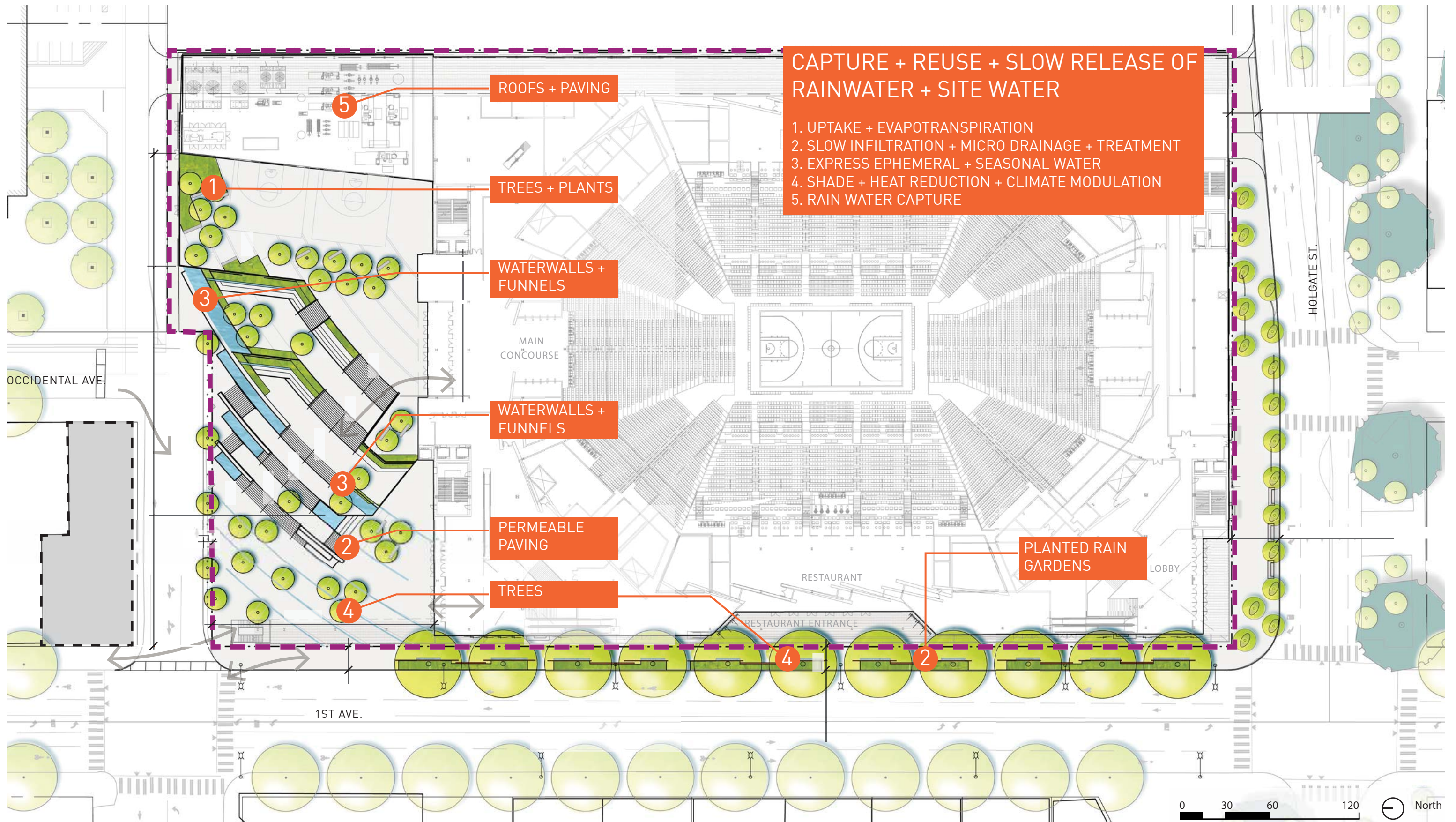
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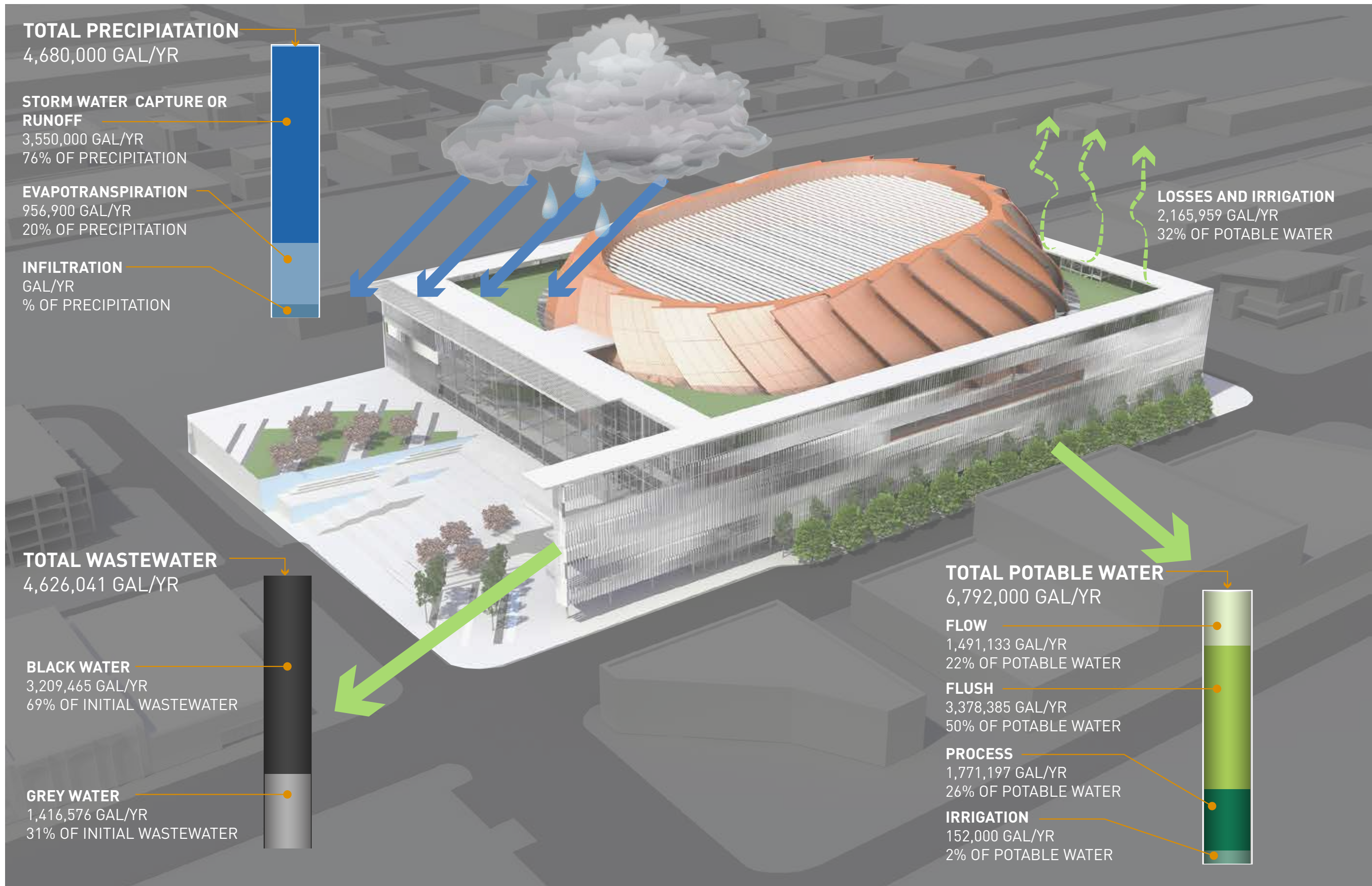
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TYPICAL ARENA HVAC ISSUES

THERMAL COMFORT

- PRE-COOLING OF THE SEATING BOWL LEADS TO COOL CONDITIONS
- HIGH LEVEL SUPPLY OF COLD AIR CAN FEEL DRAFTY
- HEAVILY GLAZED AREAS CAN FEEL WARM/COOL

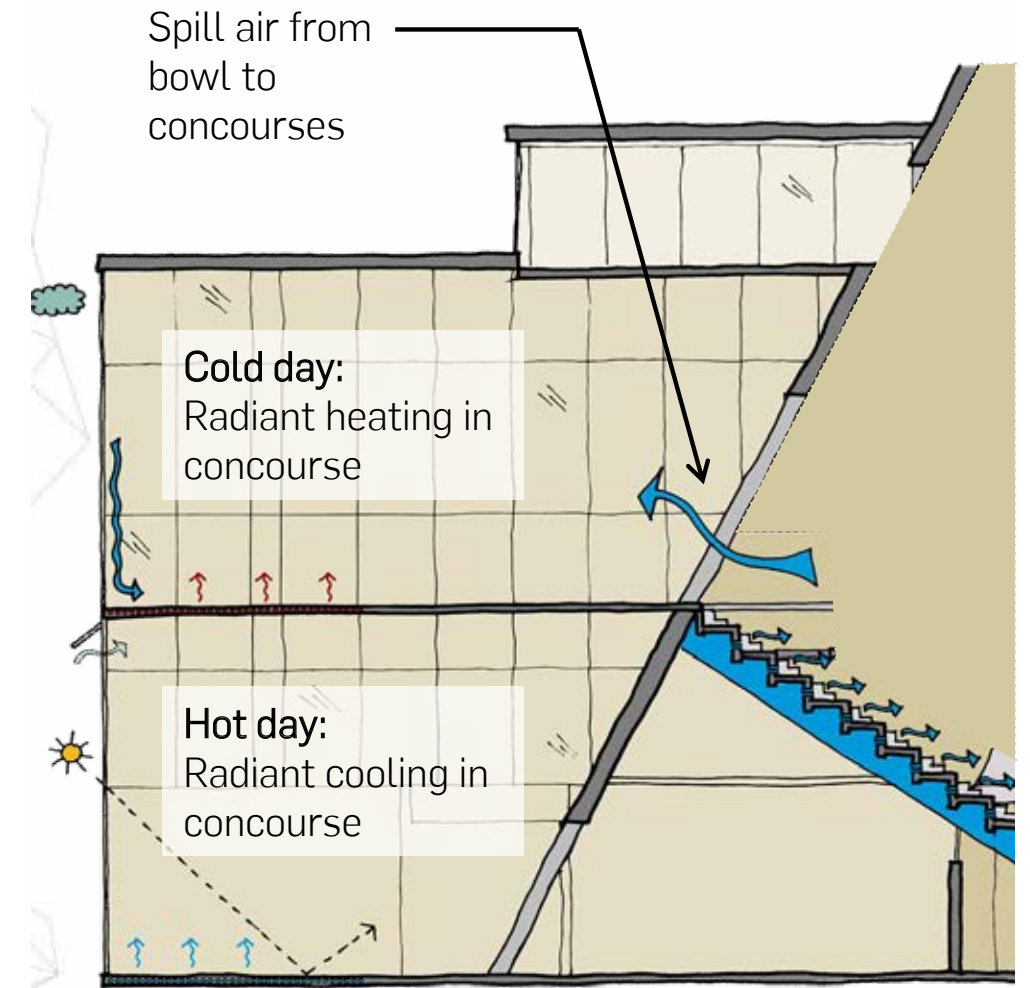
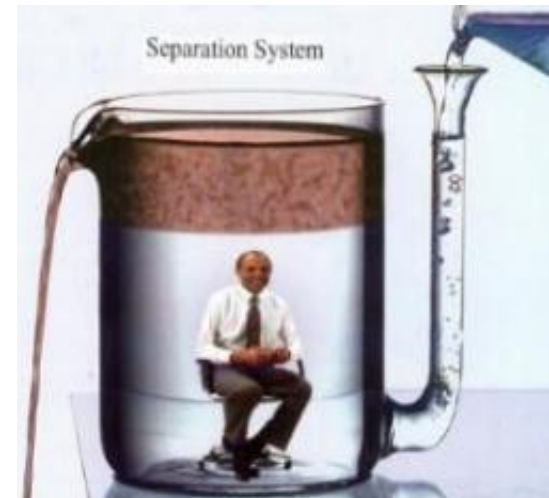
INDOOR AIR QUALITY

- HIGH OCCUPANT DENSITY
- HIGH LEVEL SUPPLY IN LARGE VOLUMES HAS LOW AIR CHANGE EFFECTIVENESS
- RECIRCULATION OF INDOOR AIR CONTAMINANT

PROPOSED DESIGN

DISPLACEMENT SYSTEM

- AIR SUPPLIED AT LOW LEVEL AND LOW VELOCITY
- CONDITIONING ONLY THE OCCUPIED SPACE
- COLD DAY-RADIANT HEATING IN CONCOURSE
- HOT DAY- RADIANT COOLING IN CONCOURSE



BUILDING ENVELOPE

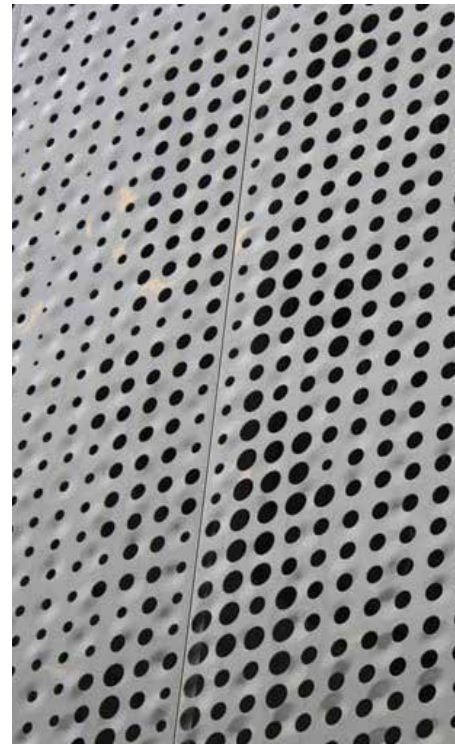
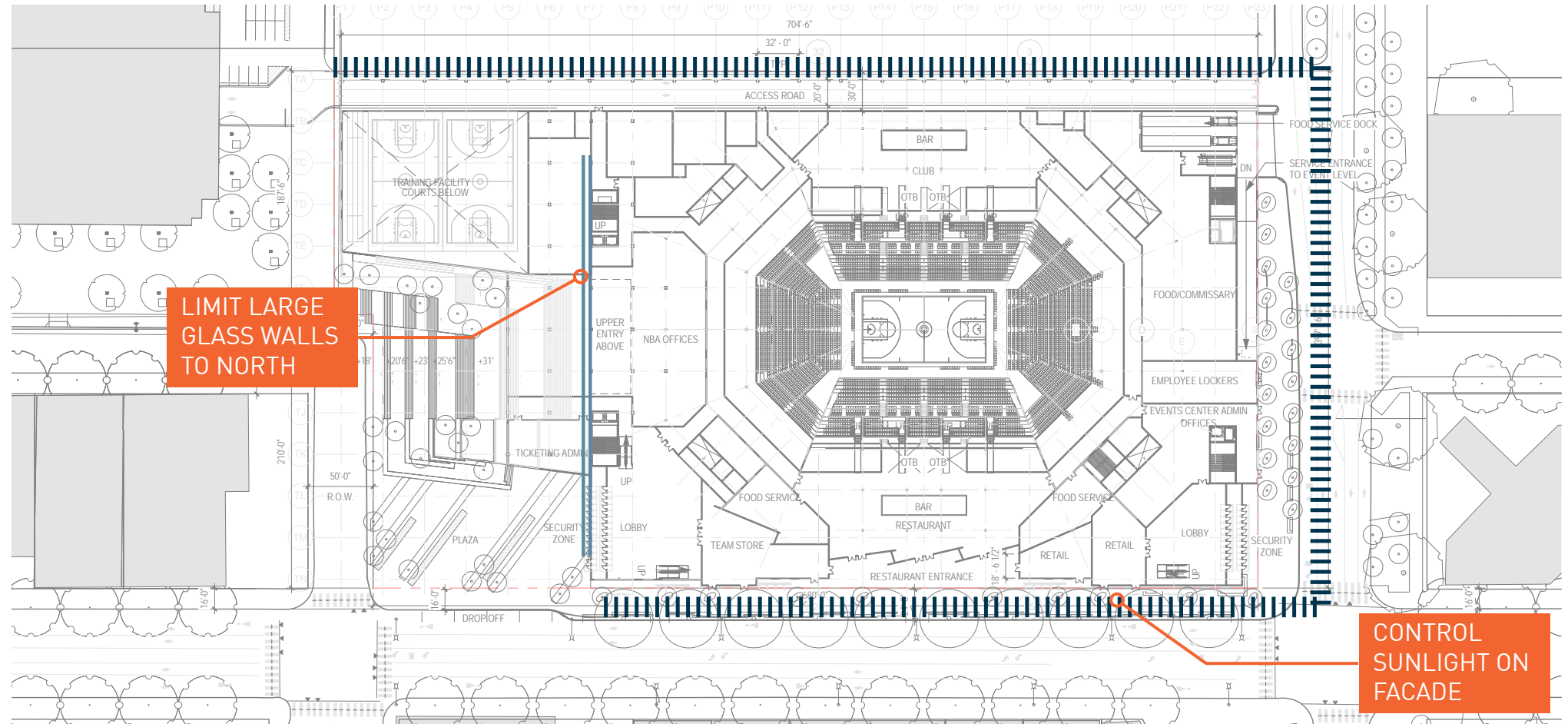
SEATTLE'S CLIMATE IS CONSISTENTLY COOL - HEATING IS A BIGGER ISSUE THAN COOLING ON AN ANNUAL BASIS.

LARGE GLAZED FACADES NEED CAREFUL CONSIDERATION IN TERMS OF SUMMER AND WINTER RAFT AND RADIANT EFFECTS.

- LIMIT LARGE GLAZED EXPANSIONS TO THE NORTH FACADE
- CONTROL SUNLIGHT ON THE E, S AND W ELEVATIONS USING HORIZONTAL AND VERTICAL LOUVERS, OVERHANGS, AND FRITTED GLASS.

NATURAL LIGHT CAN PROVIDE AMENITY AND NATURAL LIGHTING SAVINGS.

- LIGHT DAILY USES WITH NATURAL LIGHT - TRAINING FACILITY, RETAIL, RESTAURANT



HVAC PLANT OPPORTUNITIES

HEAT RECOVERY [REQUIRED BY SEC]

HEAT PUMP HEATING

ICE REFRIGERATION HEAT RECOVERY
WATER SOURCE FOOD REFRIGERATION

GROUND SOURCE HEAT PUMPS

DESICCANT DEHUMIDIFICATION

THERMAL STORAGE

DISTRICT PLANT OPPORTUNITIES

THE 2,000 TON CHILLED WATER PLANT AND 15M BTU BOILER PLANT FOR THE ARENA COULD SERVICE APPROXIMATELY 750,000 SF OF ADDITIONAL COMMERCIAL OFFICE.

THE ARENA COULD ALSO ANCHOR THE DEVELOPMENT OF A BROADER DISTRICT PLANT FOR THE AREA WITH ADDITIONAL CAPACITY EITHER IN THE BUILDING OR IN FUTURE SATELLITE THERMAL PLANTS.

NON-POTABLE WATER COULD ALSO BE EXPORTED TO ADJACENT BUILDINGS.

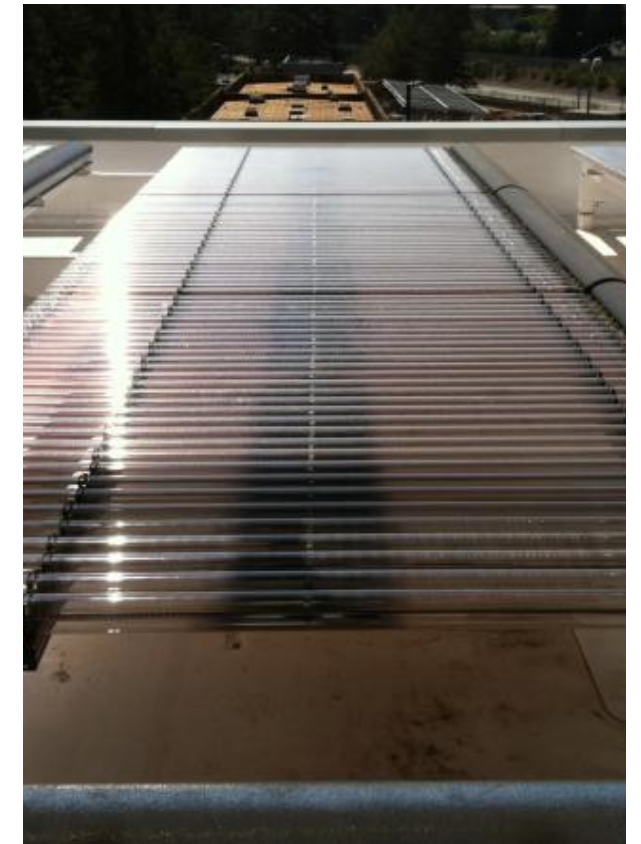
RENEWABLE ENERGY OPPORTUNITIES

SOLAR THERMAL HOT WATER

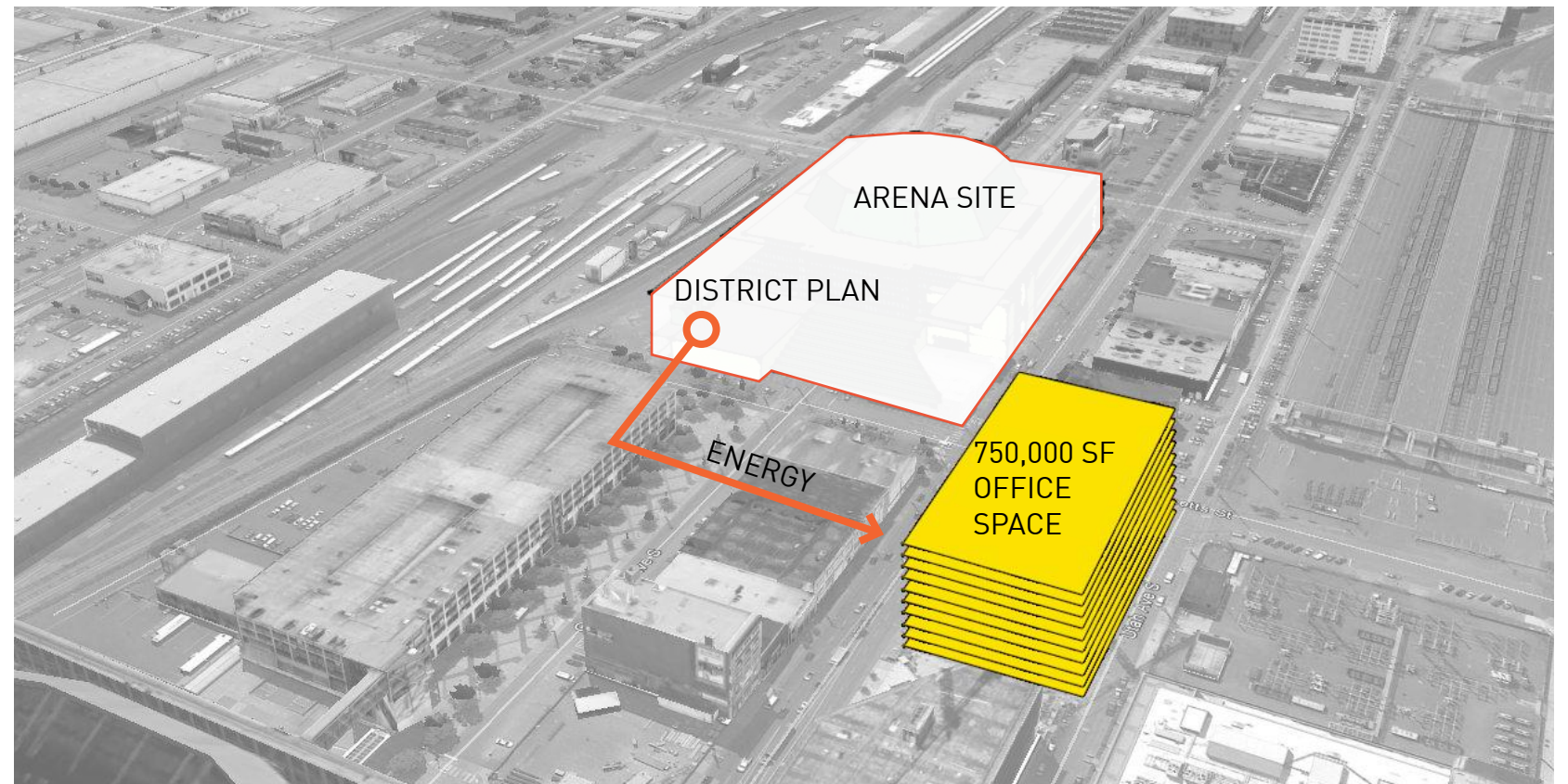
PHOTOVOLTAICS [PV]



PHASE CHANGE THERMAL STORAGE AT FEDERAL CENTER SOUTH



SOLAR THERMAL HOT WATER



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MARCH 12, 2013

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(david@cmerengue.com)

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(afoss@360architects.com)
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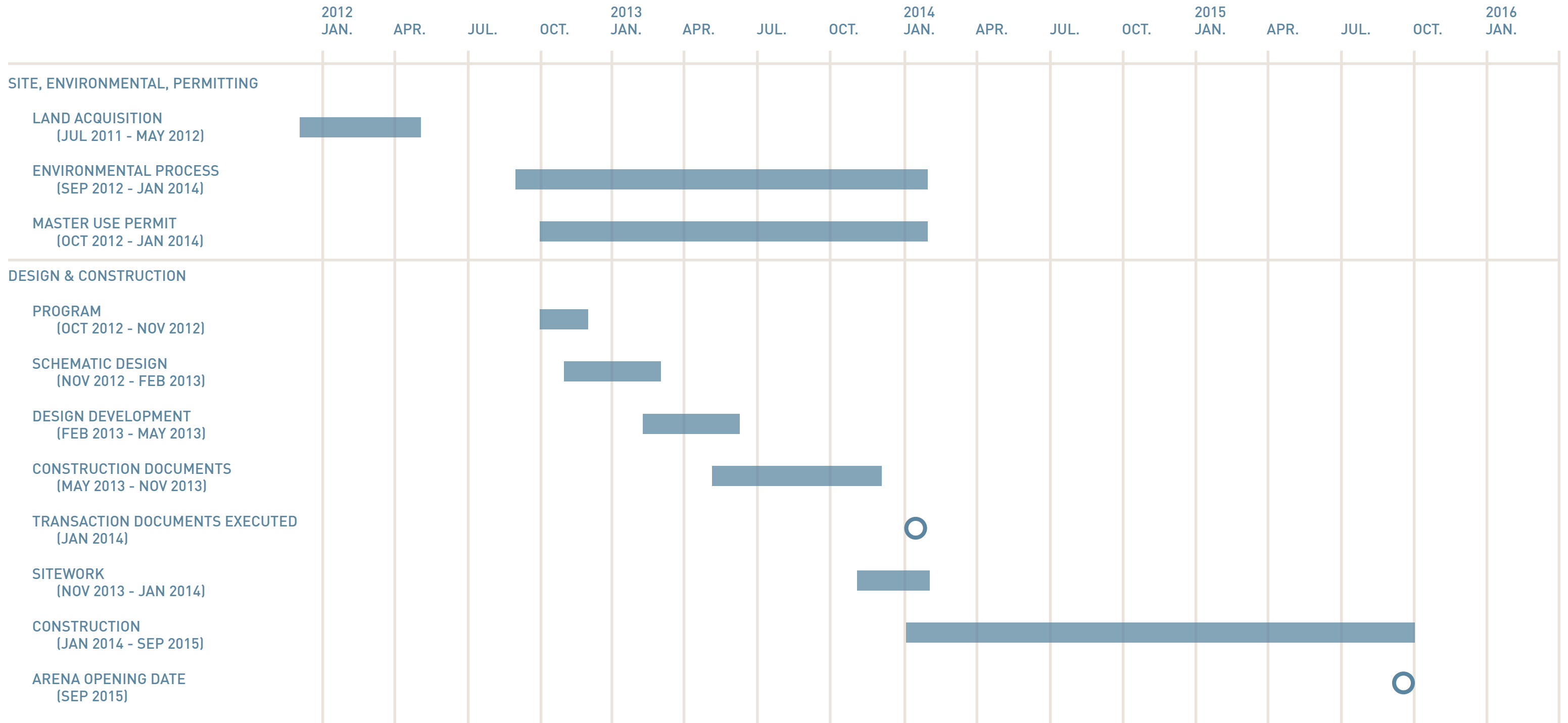
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Seattle Arena



Final Environmental Impact Statement and Appendices A-D (Appendices E, F and G Bound Separately)

Date Published: May 7, 2015

**City of Seattle
Department of Planning and Development**

The intent and purpose of this Final Environmental Impact Statement is to satisfy the procedural requirements of the State Environmental Policy Act (RCW 43.21c) and City Ordinance 114057. This document is not an authorization for an action, nor does it constitute a decision or a recommendation for an action; in its final form it will accompany the final decision on the proposal.

Introductory Memo

This document is a Final Environmental Impact Statement (FEIS), prepared under the direction of DPD. It fully incorporates the information contained in the DEIS, comments received on the DEIS during the public review period, responses to these comments, and additional information developed in response to comments.

The FEIS will be used by the City of Seattle and King County to inform various decisions and options, including: (1) whether the City and County will participate in development of ArenaCo's proposed Seattle Arena; (2) whether the City will issue land use approvals and the nature of impact mitigation that may be required; and (3) whether to approve a street vacation.

Key environmental issues and options identified in this FEIS are primarily potential impacts to traffic and transportation and, to a lesser extent, construction and operational impacts on the other elements of the environment including geology/soils, air quality, climate, water, conservation and renewable resources, scenic resources, land use, recreation, historic resources, public services and utilities. Summary information regarding the project's effects on these elements of the environment is provided beginning on page vii.

This FEIS also contains an Economic Impact Analysis (Appendix F) which is included as a result of an agreement between King County, the City of Seattle, and ArenaCo. The accuracy or adequacy of the Economic Impact Analysis or other non-environmental analysis included in this EIS may not be used to determine whether this EIS meets the requirements of SEPA. WAC 197-111-440 (8).

By agreement between the City of Seattle and King County, the City is serving as the SEPA lead agency for this proposal. The scope of this document has been determined in accordance with the scoping process required by the Seattle SEPA Ordinance (SMC 25.05.408). A public notice was issued on October 25, 2012, stating that the project would require an EIS and inviting public and agency comments on the scope of the DEIS.

On November 8, 2012, a public meeting was held in the Bertha Landes room at Seattle City Hall at 6:00 PM to provide opportunity for the public to discuss and identify probable significant environmental impacts that should be addressed in the EIS. On November 13, 2012, a meeting was held with public agencies and Tribes at Seattle Municipal Tower, Room 2240, at 10:00 AM to provide opportunity for the public agencies and Tribes to discuss and identify probable significant environmental impacts that should be addressed in the EIS. On November 14, 2012, a public meeting was held in the Fidalgo Room at Seattle Center at 6:00 PM to provide opportunity for the public to discuss and identify probable significant environmental impacts that should be addressed in the EIS.

The scoping comment period ended on November 30, 2012. Written comments were received from 20 agencies, businesses, organizations, individuals and unions as of November 30, 2012. In addition, ten people made oral comments during the three scoping meetings. The majority

of the comments were directed at traffic and transportation impacts, land use compatibility with industrial uses, evaluation of alternative sites, and impacts on public services and utilities.

Based on scoping comments, DPD determined that the project had the potential to result in adverse impacts on the following elements of the environment: geology/soils, air quality, climate, water, conservation and renewable resources, scenic resources, land use, recreation, historic resources, traffic and transportation, and public services and utilities. There would also be potential impacts from construction (air quality, noise and transportation). It is not anticipated that there would be a significant adverse impact on other elements of the environment, and these elements are eliminated from detailed study.

On August 15, 2013, the City of Seattle Department of Planning and Development (DPD) issued a Draft Environmental Impact Statement (DEIS) for the Seattle Arena. The issuance of the DEIS was followed by a 45-day agency and public review period which ended on September 30, 2013. During the review period, DPD conducted two public hearings. The first was on September 10, 2013, in the Bertha Landes Room at Seattle City Hall; and the second was on September 19, 2013, in the Fidalgo Room at Seattle Center.

During the 45-day comment period, DPD received 22 written comments from government agencies, organizations, and individuals. In addition, four people provided oral comments at the September 10, 2013, comment hearing, and 32 people provided comments at the September 19, 2013, comment hearing. Of these comments, the largest number (21 comments) were of concern for the economic impacts to the Port of Seattle and 16 comments were about general impacts to industrial jobs in Seattle from the South Downtown (SoDo) location. Other issues frequently raised with the SoDo alternatives were pedestrian safety, vehicular congestion, traffic operations, freight mobility, and train traffic. All comments are included in Appendix G.

This FEIS contains:

- A summary of the EIS including a discussion of impacts and mitigation measures relevant to the alternatives (Section 1), and a summary of changes made to information contained in the DEIS
- A description of project alternatives (Section 2)
- A description of the affected environment, environmental impacts, mitigation measures and significant unavoidable adverse impacts (Section 3)
- A complete set of comments received on the DEIS during the agency and public review period along with responses to all written comments and to oral comments made during the two public hearings (Appendix G)

Text changes or additions to Sections 1 through 6 are denoted by a vertical line in the left margin.

Appendix G contains the comment letters and applicable responses occurring in tandem. Each comment is identified with a number in the margin. Responses are coded with the number for the comment to which they refer.

Fact Sheet

Project Title

Seattle Arena

Proponent

WSA Properties III, LLC

Location

The proposal is located in the Stadium District south of the existing Safeco Field. The site address is 1700 First Avenue S., Seattle, Washington

Proposed Action

The Proposed Action is the future construction of an approximately 750,000 square foot, 20,000-seat spectator sports facility (Seattle Arena) to be located at 1700 First Avenue South, Seattle. The Project would include the demolition of eight existing structures of approximately 128,087 square feet, and grading would occur for construction. The Project includes a proposed street vacation of the portion of Occidental Avenue South between South Holgate and South Massachusetts Streets, and a realignment of S. Massachusetts Street between Occidental Avenue S and 1st Avenue S. Parking for the facility is proposed to be provided by use either of existing off-site parking or the construction of new off-site parking on a lot south of Holgate Street (referred to in this document as the “South Warehouse site”). The Proposed Action includes all regulatory, transactional and other decisions necessary to accomplish the project.

The principal on-site alternative is an 18,000-seat arena. This Final EIS also evaluates potential impacts at the KeyArena and Memorial Stadium locations in the vicinity of Seattle Center, however no proposal exists to locate an arena at either of those locations.

Lead Agency

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Master Use Permit No.: 3014195

Required Approvals

Preliminary investigation indicates that the following permits and/or approvals could be required for the proposal. Additional permits/approvals may be identified during the review process.

State of Washington

Labor & Industries

- Elevator Permits

Puget Sound Clean Air Agency

- Asbestos Survey
- Demolition Permit

King County

- Transaction Documents with City of Seattle and ArenaCo

City of Seattle

City Council

- Transaction Documents with King County and ArenaCo
- Street Vacation (vacation of portion of Occidental Avenue South)

Department of Planning and Development

- Draft and Final EIS Approval
- Master Use Permit
- Grading Permit/Shoring Permit
- Demolition Permit
- Building Permit
- Mechanical Permits
- Electrical Permits
- Structural Permit
- Certification of Occupancy
- Energy Code Approval
- Drainage Control Plan Review and Approval

Seattle Public Utilities

- Water connection
- Sewer connection

Seattle Fire Department

- Fire Code Inspections

Seattle-King County Department of Health

- Plumbing Permits

Date of Issue of the Draft EIS

August 15, 2013

Date of Issue of the Final EIS

May 7, 2015

Approximate Date of Final Actions

Final actions will include DPD's issuance of a Master Use Permit (MUP), Seattle City Council approval of the street vacation, and City and King County approval of transaction documents. These actions will follow the issuance of the Final EIS and are expected to occur in 2015 and 2016.

Document Availability and Cost

Copies of this FEIS have been distributed to agencies and organizations noted in Chapter 6, Distribution List of this document.

Copies of this document are also available for review at the City of Seattle Department of Planning and Development Public Resource Center, located in Suite 2000 of Seattle Municipal Tower in Downtown Seattle (700 Fifth Avenue) and at the following branch of the Seattle Public Library:

- Central Library (1000 – 4th Avenue)

A limited number of complimentary copies of this FEIS may be obtained from the Department of Planning and Development Public Resource Center while the supply lasts. Additional copies may be purchased for the cost of reproduction.

Authors and Principal Contributors to this FEIS

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Location of Background Data

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Elements of the Environment

The following is a list of elements of the environment set forth in Chapter 25.05.444 of the Seattle Municipal Code. During the scoping process, the Department of Planning and Development evaluated the project’s potential for adverse impacts on each of these elements. Consideration was given to both construction and operational impacts. The items marked “reviewed” are discussed in Chapter 3 of this EIS. These items were identified as a result of the scoping process carried out in compliance with Section 25.05.408 of the Seattle Municipal Code and were determined by the Department to have potential significant adverse impacts. Items marked “not reviewed” do not have impacts, or have impacts that were deemed non-significant and are not discussed in the EIS.

I. Natural Environment

(a) Earth

(i)	Geology and Soils	Reviewed
(ii)	Topography	Not reviewed
(iii)	Unique physical features	Not reviewed
(iv)	Erosion/enlargement	Reviewed

(b) Air

(i)	Air Quality	Reviewed
(ii)	Odor	Not reviewed
(iii)	Climate	Reviewed

(c) Water

(i)	Surface Water Movement, Quantity, or Quality	Not reviewed
(ii)	Runoff/absorption	Reviewed
(iii)	Floods	Not reviewed
(iv)	Groundwater	Reviewed
(v)	Public water supply	Reviewed

(d) Plants and Animals

(i)	Habitat	Not reviewed
(ii)	Unique species	Not reviewed
(iii)	Fish or wildlife	Not reviewed

(e) Energy and Natural Resources

(i)	Amount required/ rate of use/ efficiency	Not reviewed
(ii)	Source/availability	Not reviewed

- (iii) Nonrenewable resources Not reviewed
- (iv) Conservation and renewable resources Reviewed – see Air Quality**
- (v) Scenic resources Reviewed**

II. Built Environment

(a) Environmental Health

- (i) Noise Not reviewed for operation; **Construction Noise Reviewed**
- (ii) Risk of explosion Not reviewed
- (iii) Releases or potential releases to the environment affecting public health, such as toxic or hazardous materials. Not reviewed for operation; potential soil conditions reviewed as part of construction impacts

(b) Land and Shoreline Use

- (i) Relationship to existing land use plans and to estimated population Reviewed as Regulatory Framework**
- (ii) Housing Not reviewed
- (iii) Light and glare Not reviewed
- (iv) Aesthetics Reviewed as Scenic Resources**
- (v) Recreation Reviewed – See Parks in Public Services and Utilities**
- (vi) Historic and cultural preservation Reviewed**
- (vii) Agricultural crops Not reviewed

(c) Transportation

- (i) Transportation systems Reviewed**
- (ii) Vehicular traffic Reviewed**
- (iii) Waterborne, Rail Reviewed**
- (iv) Parking Reviewed**
- (v) Movement and circulation of people or goods Reviewed**
- (vi) Traffic hazards Reviewed**

(d) Public Services and Utilities

- (a) Fire Reviewed**
- (b) Police Reviewed**

- | | | |
|-----|--|-----------------------------|
| (c) | Schools | Not reviewed |
| (d) | Parks or other recreational facilities | Reviewed |
| (e) | Maintenance | Not reviewed |
| (f) | Communications | Not reviewed |
| (g) | Water and Storm Water | Reviewed – see Water |
| (h) | Sewer and Solid Waste | Reviewed – see Water |
| (i) | Other government services or utilities. | Reviewed |

III. Economic Factors

- | | | |
|-----|---|------------------------------|
| (a) | Employment, Public Investment and Taxation | Reviewed (Appendix F) |
|-----|---|------------------------------|

Acronyms

ADA	Americans with Disabilities Act
AVO	average vehicle occupancy
BNSF	Burlington Northern Santa Fe
CBD	Central Business District
C&D	construction and demolition
CIP	Capital Improvement Program
CMP	construction management plan
CO	carbon monoxide
CO ₂	carbon dioxide
CONCACF	Confederation of North, Central American and Caribbean Association Football
CMP	Construction Management Plan
CPTED	Crime Prevention Through Environmental Design
CSMP	Comprehensive Safety and Mobility Plan
CSO	combined sewer overflow
CTMP	Construction Transportation Management Plan
CTS	Comprehensive Transportation Strategy
cu yds	cubic yards
DAHP	Department of Archaeology and Historic Preservation
dB	decibels
dba	A-weighted decibels
DEIS	Draft Environmental Impact Statement
DPD	Department of Planning and Development
DPM	diesel particulate matter
DRB	Design Review Board
EBI	Eliot Bay Interceptor
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FEIS	Final EIS
FRA	Federal Railroad Administration
GHG	greenhouse gas
GMA	Growth Management Act
gpm	gallons per minute
GRH	Guaranteed Ride Home
gsf	gross square feet
HCM	highway capacity manual
HOV	high occupancy vehicle
I-5	Interstate (Highway) 5
I-90	Interstate (Highway) 90

I&M	inspection and maintenance
ITS	intelligent transportation system
KCWTD	King County Wastewater Treatment Division
kVA	kilovolt amperes
kW	kilowatt
lbs/day	pounds per day
LEED	Leadership in Energy and Environmental Design
L_{eq}	equivalent sound level
L_{max}	maximum sound level
LOS	level of service
LTCP	Long Term Control Plan
MBH	million BTU/hour
MCER	maximum considered earthquake
MIC	Manufacturing and Industrial District
MLB	Major League Baseball
MLS	Major League Soccer
MOTTF	Maintenance of Traffic Task Force
mph	miles per hour
msl	mean sea level
MTCO _{2e}	Metric tons CO ₂ equivalent
MUP	Master Use Permit
MUTCD	Manual on Uniform Traffic Control Devices
NAAQS	National Ambient Air Quality Standards
NBA	National Basketball Association
NC3	Neighborhood Commercial 3
NFL	National Football League
NHL	National Hockey League
NHPA	National Historic Preservation Act
NO _x	nitrogen oxide
OSE	Office of Sustainability and Environment
p/min/ft	pedestrians per minute per foot
PM ₁₀	particulate matter less than 10 micrometers in diameter
PM _{2.5}	particulate matter less than 2.5 micrometers in diameter
ppm	parts per million
PSCAA	Puget Sound Clean Air Agency
psi	pounds per square inch
PSRC	Puget Sound Regional Council
SDC	Seattle Design Commission
SDOT	Seattle Department of Transportation
SEPA	State Environmental Policy Act
sf	square feet

SFD	Seattle Fire Department
SIFF	Seattle International Film Festival
SIG	State Intermodal Gateway
SLU	South Lake Union
SMC	Seattle Municipal Code
SoDo	South Downtown
Sounders FC	Sounders Football Club
SOV	single occupancy vehicle
SPD	Seattle Police Department
SPU	Seattle Public Utilities
SR	State Route
SRI	solar reflectance index
ST	Sound Transit
SUAI	Significant unavoidable adverse impact
TCP	traffic control plan
tcy	total cubic yards
TDM	transportation demand management
TEAM	Techniques for Effective Alcohol Management
TEU	twenty-foot equivalent units
TMP	Transportation Management Plan
TOD	transit oriented development
U-link	University Link Light Rail
UP	Union Pacific
UW	University of Washington
v/c	volume to capacity
VMS	variable message signs
VOC	volatile organic compound
VPH	vehicles per hour
WAC	Washington Administrative Code
WAMU Theatre	Washington Mutual Theatre
WNBA	Women's National Basketball Association
WSDOT	Washington State Department of Transportation
WSF	Washington State Ferries

Table of Contents

Section 1 - Summary		1-1
1.1	Project	1-1
1.2	Site and Site Vicinity	1-1
1.3	Description of Alternatives	1-2
1.4	Summary of Changes Made to Information Contained in August 2013 Draft EIS	1-5
	1.4.1 Project Description	1-5
	1.4.2 Scenic Resources	1-5
	1.4.3 Historic and Cultural Resources	1-5
	1.4.4 Transportation – Section 3.8 and Appendix E	1-5
	1.4.5 Appendix F – Economics Report	1-6
1.5	Summary of Potential Impacts and Major Conclusions	1-7
1.6	Significant Areas of Controversy and Uncertainty	1-7
1.7	Summary of Potential Mitigation Measures	1-7
1.8	Secondary and Cumulative Impacts	1-8
1.9	Significant Unavoidable Adverse Impacts	1-8
Section 2 - Description of Alternatives		2-1
2.1	Proposed Action	2-1
2.2	Site and Site Vicinity	2-2
2.3	City of Seattle Permitting	2-4
	2.3.1 Zoning	2-4
	2.3.2 Permitting Process	2-4
2.4	Project Activities	2-5
	2.4.1 Construction	2-5
	2.4.2 Operation	2-5
2.5	Alternatives	2-6
2.6	Alternatives Considered But Not Advanced	2-7
2.7	Benefits and Disadvantages of Delaying Project Implementation	2-10
2.8	2018 Operation Impacts	2-10
Section 3 - Environmental Analysis		3.1-1
3.1	Geology and Soils	3.1-1
	3.1.1 Stadium District Alternatives - Alternatives 2 and 3	3.1-1
	3.1.2 Seattle Center Area Alternatives - Alternatives 4 and 5	3.1-15

3.2	Air Quality	3.2-1
	3.2.1 Introduction	3.2-1
	3.2.2 Stadium District Alternatives - Alternatives 2 and 3	3.2-3
	3.2.3 Seattle Center Area Alternatives - Alternatives 4 and 5	3.2-11
3.3	Water	3.3-1
	3.3.1 Stadium District Alternatives - Alternatives 2 and 3	3.3-1
	3.3.2 Alternative 4 - KeyArena 20,000-Seat Arena	3.3-10
	3.3.3 Alternative 5 - Memorial Stadium 20,000-Seat Arena	3.3-16
3.4	Scenic Resources	3.4-1
	3.4.1 Introduction	3.4-1
	3.4.2 Stadium District Alternatives – Alternatives 2 and 3.....	3.4-2
	3.4.3 Seattle Center Area Alternatives - Alternatives 4 and 5	3.4-7
3.5	Noise	3.5-1
	3.5.1 Introduction	3.5-1
	3.5.2 Stadium District Alternatives – Alternatives 2 and 3.....	3.5-2
	3.5.3 Seattle Center Area Alternatives – Alternatives 4 and 5	3.5-7
3.6	Land Use	3.6-1
	3.6.1 Stadium District Alternatives – Alternatives 2 and 3.....	3.6-1
	3.6.2 Alternative 4 – KeyArena 20,000-Seat Arena	3.6-6
	3.6.3 Alternative 5 – Memorial Stadium 20,000-Seat Arena	3.6-10
	3.6.4 Significant Unavoidable Adverse Impacts.....	3.6-12
3.7	Historic and Cultural Resources	3.7-1
	3.7.1 Introduction	3.7-1
	3.7.2 Stadium District Alternatives – Alternatives 2 and 3	3.7-2
	3.7.3 Alternative 4 – KeyArena 20,000-Seat Arena.....	3.7-5
	3.7.4 Alternative 5 – Memorial Stadium 20,000-Seat Arena.....	3.7-7
3.8	Transportation	3.8-1
	3.8.1 Introduction.....	3.8-1
	3.8.2 Stadium District Alternatives - Alternatives 2 and 3	3.8-10
	3.8.3 Seattle Center Area Alternatives – Alternatives 4 and 5.....	3.8-130
	3.8.4 Mitigation Measures	3.8-204
	3.8.5 Secondary and Cumulative Impacts	3.8-218
	3.8.6 Significant Unavoidable Adverse Impacts	3.8-220
3.9	Public Services and Utilities	3.9-1
	3.9.1 Stadium District Alternatives – Alternatives 2 and 3.....	3.9-1
	3.9.2 Alternative 4 – KeyArena 20,000-Seat Arena	3.9-15
	3.9.3 Alternative 5 – Memorial Stadium 20,000-Seat Arena	3.9-21
3.10	Regulatory Framework	3.10-1
	3.10.1 Stadium District Alternatives - Alternatives 2 and 3	3.10-1
	3.10.2 Alternative 4 – KeyArena 20,000-Seat Arena	3.10-4
	3.10.3 Alternative 5 – Memorial Stadium 20,000-Seat Arena	3.10-8
3.11	Economics	3.11-1
	3.11.1 Introduction	3.11-1
	3.11.2 Summary of Economic Effects.....	3.11-1

Section 4 - References	4-1
Section 5 - Glossary	5-1
Section 6 - Final EIS Distribution List	6-1
6.1 State Agencies	6-1
6.2 Regional Agencies	6-1
6.3 Local Agencies	6-1
6.4 Libraries	6-1
6.5 Newspapers	6-1

List of Tables

Table 1-1 Summary of Potential Impacts and Major Conclusions	1-9
Table 1-2 Summary of Potential Mitigation Measures	1-47
Table 1-3 Summary of Secondary and Cumulative Impacts	1-56
Table 1-4 Summary of Significant Unavoidable Adverse Impacts	1-60
Table 3.2-1 Estimated Greenhouse Gas (GHG) Emissions	3.2-7
Table 3.3-1 Estimated and Proposed Annual Stormwater Flows - Alternatives 2 and 3	3.3-6
Table 3.3-2 Estimated Annual Existing and Proposed Wastewater Flows - Alternatives 2 and 3	3.3-7
Table 3.3-3 Estimated Existing and Proposed Total Annual Flow to Combined Sewer - Alternatives 2 and 3	3.3-8
Table 3.3-4 Estimated Existing and Future Annual Stormwater Flows - Alternative 4 – KeyArena Site	3.3-13
Table 3.3-5 Estimated Annual Existing and Future Wastewater Flows - Alternative 4 – KeyArena Site	3.3-14
Table 3.3-6 Estimated Annual Existing and Future Stormwater Flows - Alternative 5 – Memorial Stadium Site	3.3-19
Table 3.3-7 Estimated Annual Existing and Future Wastewater Flows - Alternative 5 – Memorial Stadium Site	3.3-20
Table 3.4-1 Public Viewpoints Where Alternatives 2 and 3 May Be Visible	3.4-4
Table 3.4-2 Public Viewpoints Where Alternatives 4 and 5 May Be Visible	3.4-7
Table 3.4-3 Summary of Potential View Effects of the Space Needle	3.4-9
Table 3.5-1 City of Seattle Exterior Sound Level Limits	3.5-2
Table 3.5-2 Construction Equipment Sound Ranges	3.5-4
Table 3.6-1 Selected Area Demographics.....	3.6-3
Table 3.6-2 Summary of Proposed Changes	3.6-4
Table 3.6-3 Uptown Area Demographics	3.6-8
Table 3.6-4 Potential Key Arena Displacements	3.6-9
Table 3.6-5 Summary of Potential Changes at KeyArena	3.6-9
Table 3.7-1 Structures Over 25 Years Old on the Alternatives 2 and 3 Site.....	3.7-2

Table 3.7-2 Structures Over 25 Years Old at the KeyArena Site	3.7-5
Table 3.8-1 Arena Event Attendance Ranges	3.8-6
Table 3.8-2 Stadium District - Event Cases for Analysis	3.8-7
Table 3.8-3 Seattle Center Area Alternatives - Event Cases for Analysis	3.8-9
Table 3.8-4 Stadium District Existing Street System Summary	3.8-12
Table 3.8-5 Stadium District: Key Study Area Planned Transportation Projects	3.8-16
Table 3.8-6 2018 Alternative 2 Arena Site Vicinity Traffic Volumes	3.8-56
Table 3.8-7 2030 Alternative 2 Arena Site Vicinity Traffic Volumes	3.8-57
Table 3.8-8 Existing Weekday PM Peak Hour Travel Times Non-Event and With-Event Conditions	3.8-61
Table 3.8-9 Stadium District Existing Ramp Terminal Weekday PM Peak Hour LOS Summary	3.8-66
Table 3.8-10 Stadium District 2018 No Action Weekday PM Peak Hour Corridor Travel Times	3.8-70
Table 3.8-11 Stadium District 2030 No Action Weekday PM Peak Hour Corridor Travel Times	3.8-71
Table 3.8-12 2018 Alternative 2 Weekday PM Peak Hour Intersections at LOS E or LOS F	3.8-77
Table 3.8-13 2030 Alternative 2 Weekday PM Peak Hour Intersections at LOS E or LOS F	3.8-78
Table 3.8-14 2018 Alternative 2 Weekday PM Peak Hour Corridor Travel Times...	3.8-79
Table 3.8-15 2030 Alternative 2 Weekday PM Peak Hour Corridor Travel Times...	3.8-80
Table 3.8-16 2018 Alternative 2 Increase in Traffic on Freeway Corridors.....	3.8-81
Table 3.8-17 Stadium District Existing Weekday PM Peak Hour Intersection Operations at Key Freight Intersections	3.8-90
Table 3.8-18 Existing Weekday PM Peak Hour Travel Times Non-Event & With-Event Conditions on Key Freight Corridors	3.8-91
Table 3.8-19 S. Holgate Street and S. Lander Street Rail Crossing Summary – Existing PM Peak Hour	3.8-92
Table 3.8-20 Anticipated Future Changes to Daily Rail Activity	3.8-94
Table 3.8-21 Stadium District Weekday AM Peak Hour No Action Intersection Operations at Key Freight Intersections	3.8-95
Table 3.8-22 Stadium District 2018 No Action Weekday PM Peak Hour Freight Corridor Travel Times	3.8-96
Table 3.8-23 Stadium District 2030 No Action Weekday PM Peak Hour Freight Corridor Travel Times	3.8-97
Table 3.8-24 No Action S. Holgate Street and S. Lander Street Rail Crossing Impact Summary	3.8-98
Table 3.8-25 Stadium District Alternative 2 Weekday PM Peak Hour Intersection Operations at Key Freight Intersections	3.8-100
Table 3.8-26 Occidental Avenue S. Street Vacation Comparative Analysis	3.8-117
Table 3.8-27 Parking Garage Transportation Elements	3.8-129
Table 3.8-28 Seattle Center Area Existing Street System Summary	3.8-133
Table 3.8-29 Seattle Center: Key Study Area Planned Transportation Projects ...	3.8-136
Table 3.8-30 2018 Alternative 4 Weekday PM Peak Hour Traffic Volumes Comparison	3.8-162

Table 3.8-31 2030 Weekday PM Peak Hour Alternative 4 Traffic Volumes Comparison.....	3.8-163
Table 3.8-32 2018 Alternative 5 Weekday PM Peak Hour Traffic Volumes Comparison.....	3.8-164
Table 3.8-33 2030 Alternative 5 Weekday PM Peak Hour Traffic Volumes Comparison.....	3.8-164
Table 3.8-34 Seattle Center Existing Corridor Travel Times	3.8-167
Table 3.8-35 Seattle Center Area Existing Weekday PM Peak Hour Ramp Termini Intersection Operations – Existing Conditions, PM Peak Hour.....	3.8-168
Table 3.8-36 Seattle Center Area 2018 Weekday PM Peak Hour No Action Corridor Travel Times	3.8-171
Table 3.8-37 Seattle Center Area 2030 No Action Weekday PM Peak Hour Corridor Travel Times	3.8-172
Table 3.8-38 Seattle Center Area No Action Weekday PM Peak Hour Ramp Terminal Intersection Operations	3.8-173
Table 3.8-39 2018 Alternative 4 Weekday PM Peak Hour Intersections at LOS E or LOS F.....	3.8-176
Table 3.8-40 2030 Alternative 4 Weekday PM Peak Hour Intersections at LOS E or LOS F.....	3.8-177
Table 3.8-41 2018 Alternative 4 Weekday PM Peak Hour Corridor Travel Times.....	3.8-178
Table 3.8-42 2030 Alternative 4 Weekday PM Peak Corridor Travel Times	3.8-179
Table 3.8-43 2018 Alternative 4 Weekday PM Peak Hour Increase in Traffic on Freeway Corridors.....	3.8-180
Table 3.8-44 Alternative 4 Weekday PM Peak Hour Ramp Terminal Intersection Operations.....	3.8-180
Table 3.8-45 2018 Alternative 5 Weekday PM Peak Hour Intersections at LOS E or LOS F.....	3.8-183
Table 3.8-46 2030 Alternative 5 Weekday PM Peak Hour Intersections at LOS E or LOS F.....	3.8-184
Table 3.8-47 2018 Alternative 5 Weekday PM Peak Hour Corridor Travel Times.....	3.8-185
Table 3.8-48 2030 Alternative 5 PM Peak Hour Corridor Travel Times	3.8-185
Table 3.8-49 2018 Alternative 5 Weekday PM Peak Hour Increase in Traffic on Freeway Corridors.....	3.8-186
Table 3.8-50 2030 Alternative 4 Weekday PM Peak Hour Traffic Volumes Comparison.....	3.8-193
Table 3.8-51 2030 Alternative 4 Weekday PM Peak Hour Corridor Travel Times.....	3.8-194
Table 3.8-52 2030 Alternative 5 Weekday PM Peak Hour Traffic Volumes Comparison.....	3.8-195
Table 3.8-53 2030 Alternative 5 Weekday PM Peak Hour Travel Times.....	3.8-195
Table 3.8-54 Weeknight Transportation Management Program Goals	3.8-211
Table 3.8-55 General Traffic Control Plan Levels	3.8-217
Table 3.9-1 Citywide Seattle Fire Department Personnel and Apparatus (2010 - 2012).....	3.9-2
Table 3.9-2 Monthly Average Crime West Precinct King Sector Beat 3 2008-2014 2008-2012 (Alternatives 2 and 3).....	3.9-5

Table 3.9-3 Crime Totals per Year West Precinct David Sector Beat 12008-2014 (Alternatives 4 and 5)	3.9-16
--	--------

List of Figures

Figure 1-1 Site Location Alternative 2 and Alternative 3.....	1-3
Figure 1-2 Site Location Alternative 4 and Alternative 5.....	1-4
Figure 2-1 Stadium District Proposed Arena Site Plan.....	2-1
Figure 2-2 South Warehouse Site Parking Location.....	2-2
Figure 2-3 Site Vicinity, Proposed Action – Alternatives 2 and 3.....	2-3
Figure 2-4 Anticipated Event Calendar.....	2-6
Figure 2-5 Site Vicinity Alternative 4.....	2-8
Figure 2-6 Site Vicinity Alternative 5.....	2-9
Figure 3.1-1 Regional Topography.....	3.1-1
Figure 3.1-2 Stadium District Site Topography.....	3.1-2
Figure 3.1-3 Historic Shoreline of Elliott Bay	3.1-3
Figure 3.1-4 Beacon Hill and First Hill from Tidelands, ca. 1904.....	3.1-3
Figure 3.1-5 Elliott Bay in 1901 Before Tidelands Were Filled	3.1-4
Figure 3.1-6 Seattle Tidelands from Beacon Hill, ca. 1895-1898	3.1-4
Figure 3.1-7 Site and Exploration Plan.....	3.1-6
Figure 3.1-8 Conceptual Geologic Cross-Section	3.1-7
Figure 3.1-9 Potential Seismic Source Zones in the Pacific Northwest.....	3.1-8
Figure 3.1-10 Mapped Seattle Fault Line	3.1-9
Figure 3.1-11 Tsunami Inundation Zone	3.1-10
Figure 3.1-12 North Downtown Topography	3.1-16
Figure 3.3-1 Utilities in the Vicinity of Alternative 2 and Alternative 3.....	3.3-2
Figure 3.3-2 Utilities in the Vicinity of Alternative 4	3.3-12
Figure 3.3-3 Utilities in the Vicinity of Alternative 5.....	3.3-17
Figure 3.4-1 Scenic Viewpoints and Scenic Routes Near Alternatives 2 and 3.....	3.4-3
Figure 3.6-1 South Downtown Neighborhoods	3.6-2
Figure 3.6-2 Uptown Urban Center.....	3.6-7
Figure 3.8-1 Transportation / Parking Analysis Study Areas	3.8-2
Figure 3.8-2 Regional Transportation Project Timeline	3.8-4
Figure 3.8-3 Stadium District Study Intersections	3.8-11
Figure 3.8-4 Stadium District Street System.....	3.8-14
Figure 3.8-5 Stadium District Intersection Subject to Traffic Control Plans	3.8-15
Figure 3.8-6 Stadium District Transit Facilities and Corridors	3.8-22
Figure 3.8-7 Stadium District Key Pedestrian Routes	3.8-34
Figure 3.8-8 Stadium District Pedestrian Facilities	3.8-37
Figure 3.8-9 Stadium District Bicycle Facilities.....	3.8-44
Figure 3.8-10 Stadium District Existing Intersection LOS Comparison.....	3.8-60
Figure 3.8-11 S. Holgate Street Existing Rail Crossing Locations.....	3.8-63
Figure 3.8-12 I-5 and I-90 Existing Travel Times Non-Event and With Event	3.8-65
Figure 3.8-13 Stadium District 2018 No Action Intersection LOS Comparison.....	3.8-67
Figure 3.8-14 Stadium District 2030 No Action Intersection LOS Comparison.....	3.8-68
Figure 3.8-15 Stadium District 2018 Alternative 2 Intersection LOS Comparison ...	3.8-75

Figure 3.8-16 Stadium District 2030 Alternative 2 Intersection LOS Comparison ...	3.8-75
Figure 3.8-17 Stadium District Rail and Freight Facilities.....	3.8-87
Figure 3.8-18 Primary Study Area On-and Off-Street Parking Supply	3.8-105
Figure 3.8-19 Occidental Avenue S. Street Vacation 2030 Weekday PM Peak LOS & Volumes.....	3.8-123
Figure 3.8-20 Occidental Avenue S. Street Vacation 2030 Weekday AM Peak LOS & Volumes.....	3.8-124
Figure 3.8-21 Occidental Avenue S. Street Vacation 2030 Weekday Midday Peak LOS & Volumes.....	3.8-125
Figure 3.8-22 Stadium District Proposed Arena Site Plan.....	3.8-127
Figure 3.8-23 Seattle Center Study Intersections.....	3.8-132
Figure 3.8-24 Seattle Center Street System.....	3.8-135
Figure 3.8-25 Seattle Center Transit Facilities and Corridors.....	3.8-140
Figure 3.8-26 Seattle Center Pedestrian Facilities	3.8-151
Figure 3.8-27 Seattle Center Bicycle Facilities.....	3.8-154
Figure 3.8-28 Existing Seattle Center Intersection LOS Comparison.....	3.8-167
Figure 3.8-29 Seattle Center Area 2018 No Action LOS Comparison.....	3.8-169
Figure 3.8-30 Seattle Center Area 2030 No Action LOS Comparison.....	3.8-170
Figure 3.8-31 Seattle Center Area 2018 Alternative 4 Intersection LOS Comparison.....	3.8-175
Figure 3.8-32 Seattle Center Area 2030 Alternative 4 Intersection LOS Comparison.....	3.8-175
Figure 3.8-33 Seattle Center 2018 Alternative 5 Intersection LOS Comparison ...	3.8-182
Figure 3.8-34 Seattle Center 2030 Alternative 5 Intersection LOS Comparison ...	3.8-182
Figure 3.8-35 Seattle Center Area Freight Facilities.....	3.8-190
Figure 3.9-1 Seattle Police Department West Precinct Sectors and Beats	3.9-4
Figure 3.9-2 Monthly Average Crime West Precinct Beat King 3: 2008-2012	3.9-6
Figure 3.9-3 Monthly Average Crime West Precinct David Sector Beat 1: 2008-2012.....	3.9-16
Figure 3.9-4 Parks in the Vicinity of Alternative 4 and Alternative 5	3.9-18
Figure 3.10-1 Stadium Transition Area Overlay District and Area Zoning	3.10-2
Figure 3.10-2 Uptown Urban Center.....	3.10-5

Appendices

Appendix A – Screening of Alternative Locations

Appendix B – Draft Preliminary Geotechnical Report

Appendix C – Greenhouse Gas Emission Worksheets

Appendix D – Historical Building Surveys

Appendix E – Transportation Resource Report

Appendix F – Economics Impacts Analysis

Appendix G – Comments and Responses on the Draft EIS

Section 1 - Summary

1.1 Project

WSA Properties III, LLC (ArenaCo) has applied to the City of Seattle for the future construction of an approximately 750,000 sf, 20,000-seat spectator sports facility (Seattle Arena). ArenaCo's objective is to build and operate a 20,000-seat Seattle Arena for NBA and NHL home teams on a site located at 1700 – 1st Avenue S., Seattle, Washington.

The ArenaCo Project would include the demolition of eight existing structures of approximately 128,087 sf, and grading would occur for construction. The Project includes a proposed street vacation of the portion of Occidental Avenue S. between S. Holgate and S. Massachusetts Streets, and a realignment of S. Massachusetts Street between Occidental Avenue S and 1st Avenue S. Parking for the facility is proposed to be provided by use of either existing off-site parking or the construction of new off-site parking on a lot south of Holgate Street (referred to in this document as the "South Warehouse site"). The Proposed Action includes all regulatory, transactional and other decisions necessary to accomplish the Project.

The City and County's objective is to determine whether to participate in ArenaCo's private proposal to build and operate the Seattle Arena for NBA and NHL home teams. While the City and County could decide to pursue participation in a project to build and operate such an arena at a location different than the ArenaCo site, including the Memorial Stadium or KeyArena sites considered in this Environmental Impact Statement (EIS), no proposal for the City and County to participate in such a project currently exists other than ArenaCo's proposal to build and operate the Arena on its South Downtown (SoDo) property.

1.2 Site and Site Vicinity

The site of the Proposed Project (Alternative 2) and Alternative 3, is located within South Downtown (SoDo) in the Stadium Transition Area, south of Safeco Field and CenturyLink Field. SoDo includes the areas of Pioneer Square, the International District, the Stadium Transition Area (Overlay District) and the North Duwamish neighborhood.

Warehouses, small businesses, and parking now occupy the site. The site is surrounded by similar uses. Newer development has occurred in parcels to the west of 1st Avenue S. Newer uses include midrise office and mixed commercial uses with street-front retail and restaurants. To the north of the site is the Safeco Field parking garage. Recently, land uses in the immediate vicinity are trending away from warehouse to office, light manufacturing with storefront retail, and other small businesses associated with Safeco Field, and CenturyLink Field and Exhibition Center.

BNSF Railroad and Amtrak facilities are located to the east of the existing stadiums and the site of the Proposed Project (Alternative 2) and Alternative 3. Facilities include passenger and freight rail lines as well as several structures that support those activities. BNSF's loading yard is located one block to the west. Port of Seattle container shipping facilities are located west of the loading yard.

See Figure 1-1 Site Location, Alternatives 2 and 3.

1.3 Description of Alternatives

The FEIS includes an evaluation of the following alternatives:

- **Alternative 1 – No Action Alternative**
- **Proposed Project (Alternative 2) – Stadium District 20,000-Seat Arena:** 20,000-seat spectator sports arena to be located at 1700 – 1st Avenue S., Seattle, Washington
- **Alternative 3 – Stadium District 18,000-Seat Arena:** 18,000-seat spectator sports arena to be located at 1700 – 1st Avenue S., Seattle, Washington
- **Alternative 4 – KeyArena 20,000-Seat Arena:** demolish the KeyArena at Seattle Center and replace it with a 20,000-seat spectator sports arena
- **Alternative 5 – Memorial Stadium 20,000-Seat Arena:** demolish the Seattle School District's Memorial Stadium and replace it with a 20,000-seat spectator sports arena

See Figure 1-2 for the site locations of Alternatives 4 and 5.

Remodeling the existing KeyArena was considered and eliminated from further consideration as the existing floorplate could not be enlarged enough to allow the placement of a regulation size ice rink of 200 feet by 85 feet with an adequate number of seats for NHL league games.



Source: Google Earth Pro

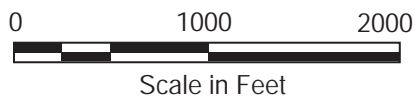


Figure 1-1
Site Location
Alternative 2 and Alternative 3



Source: Google Earth Pro

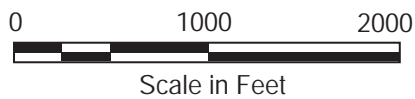


Figure 1-2
Site Location
Alternative 4 and Alternative 5

1.4 Summary of Changes Made to Information Contained in August 2013 Draft EIS

1.4.1 Project Description

The description of the Proposed Alternative (Alternative 2) has been updated to include the proposed location of parking (by use of either existing off-site parking or by the construction of new off-site parking on the South Warehouse site), and that S Massachusetts Street will be realigned between Occidental Avenue S and 1st Avenue S with the vacation of a section of Occidental Avenue S.

1.4.2 Scenic Resources

Information has been added to the description of the No Action Alternative at Alternative 2 and 3 to describe the adjacent marine landscape that exists in the background of westerly views. See Section 3.4.2.2.

1.4.3 Historic and Cultural Resources

The age of existing buildings have been updated to reflect the 2-year period since publication of the Draft EIS. Text has been added to Section 3.7.4 Alternative 5 – Memorial Stadium 20,000-Seat Arena to state that the Memorial Stadium and Memorial Wall have not been designated as Seattle landmarks.

1.4.4 Transportation – Section 3.8 and Appendix E

Section 3.8 and Appendix E has been updated to include the following:

- The triple event scenario (events at the new SoDo Arena, concurrent with events at Safeco and CenturyLink Fields) has been updated to increase attendance at Safeco from the 40,500 used for the DEIS to 47,500 attendees. The 47,500 attendance level represents a maximum attendance scenario for baseball games at Safeco Field. Together with a 20,000-person event at the Arena and a 5,000-person event at CenturyLink, the total attendance used for the triple event scenario has been increased to 72,500.
- Parking demand for a 20,000-seat Arena has been increased from 6,667 to 6,833.
- Impacts on public transportation from a one-hour post-event departure has been added (in addition to the information on a two-hour post-event departure).
- Information has been added on sidewalk widths for likely pedestrian pathways to and from the SoDo Arena site.
- Additional information has been included on potential post-event pedestrian queuing at Holgate Street and the storage needed while pedestrians wait for train traffic to clear the intersection.
- To mitigate for potential pedestrian impacts, closure of S. Holgate Street to pedestrians coupled with either a pedestrian bridge from the Arena to approximately 3rd Avenue S.

or shuttles running to and from King Street Station and pedestrian improvements south along 1st Avenue S. and east along S. Lander Street from 1st to 4th Avenue S. has been added as a measure to improve pedestrian access.

- Section 2.3.6.1 of Appendix E includes an evaluation of options for Holgate Street closures.
- Future PM traffic volumes for traffic diverted from S. Holgate Street and S. Lander Street rail crossings to S. Atlantic Street to reflect increased rail crossing closures from increased mainline and non-revenue train activity. Traffic volumes were proportionally diverted consistent with proportional increases to rail crossing closure times.
- Traffic volumes along Occidental Avenue S. were reviewed to identify approximate numbers of vehicles that use Occidental Avenue as alternative travel route to 1st Avenue S.
- Level of Service (LOS) estimates for the 2018 No Action scenario have been updated.
- Corridor travel times for 2018 and 2030 No Action and Action Alternatives have been updated.
- Anticipated rail activity levels have been increased and new data has been collected on rail activity (frequency and length of time of gate closures).
- The applicant has proposed to provide parking at either existing off-site parking lots or by constructing new parking at the South Warehouse Site south of Holgate Street. The analysis of traffic operations has been revised to reflect the location of proposed parking.
- The parking analysis includes an analysis of the impacts of a Safeco and CenturyLink Field parking restriction in the event shared parking agreements are not secured with these facilities.
- Additional information has been provided on the impacts of vacating Occidental Avenue S. including impacts on traffic operations, traffic volumes, local access, freight movements, parking supply, and traffic diversion.

1.4.5 Appendix F – Economics Report

In 2015, the transportation analysis in the FEIS was updated to integrate additional variables and to modify initial assumptions. The revisions included changes to transit mode split percentages, parallel route reallocations due to possible reduced capacity from forecasted increases in train activity and related street blockages, and updated parking assumptions. These modifications changed the calculated operation at intersections throughout the study area and, as a result, Pro Forma Advisors' Port transportation activity cost impacts changed. The updated transportation analysis results have increased both the previous estimated annual additional costs resulting from port truck delays and the estimated annual costs associated with

non-port truck delays. This updated analysis has been added as a separate document placed in front of the 2013 Economic Impact Analysis included as Appendix F to this FEIS.

1.5 Summary of Potential Impacts and Major Conclusions

A summary comparing potential environmental impacts of each alternative discussed in Section 3 is shown in Table 1-1. See Section 3 for more details.

1.6 Significant Areas of Controversy and Uncertainty

The Proposed Project (Alternative 2) is the subject of general public controversy, related primarily to two issues: whether the City should issue development permits for the project in light of potential, adverse environmental or economic impacts that may occur, and whether the City and King County should participate financially in development of the project, as proposed by the applicant.

Two primary subjects of uncertainty have been identified, both related to the nature and magnitude of potential traffic and transportation impacts. Because the availability of funding for transit service varies over time, it is somewhat uncertain as to what extent transit service will be available to serve the SoDo area over time. The second subject is the uncertainty over future tolling of the SR 99 replacement tunnel and the effect the tolling would have on causing traffic to divert onto local streets or I-5.

In March 2014, the Alaskan Way Viaduct Replacement Program Advisory Committee on Tolling and Traffic Management issued their advisory recommendations for tolling the SR 99 tunnel.¹ The Committee's recommendation is for a toll rate structure similar to \$1 for 24 hours per day with a \$1.25 toll during the 6 to 9 AM and 3 to 6 PM peak periods. The Committee acknowledged that more work on the exact toll rate structure is still needed and that with a \$1.00 toll, diversion to city streets and I-5 is about 38 percent. The Committee recommended that further investigation be done of ways to minimize diversion during midday. This could result in lowering the midday toll rates and extending the PM peak hour for toll collections. Traffic forecasts summarized in the March 2014 tolling study were reviewed relative to the traffic forecasts presented in the DEIS for the SoDo area. A comparison of these volumes showed that the traffic forecasts in the August 2013 Arena DEIS were generally higher in the SoDo area as compared to the forecasts presented from the tolling study. Traffic forecasts presented in this FEIS are consistent with the August 2013 DEIS and thus provide a conservative estimate of future vehicular traffic in the area.

1.7 Summary of Potential Mitigation Measures

A summary of potential mitigation measures discussed in Section 3 is shown in Table 1-2. See the mitigation sections included for each element of the environment in Section 3 for more details.

¹ Alaskan Way Viaduct Replacement Program Advisory Committee on Tolling and Traffic Management, Advisory recommendations for tolling the SR 99 tunnel, March 2014.

1.8 Secondary and Cumulative Impacts

Secondary impacts are caused by the Proposed Project or Action Alternatives and are reasonably foreseeable, but are later in time or farther removed in distance than direct impacts. Examples are changes in land use and economic vitality (including induced new development, growth and population), water quality, and natural resources. Cumulative impacts are impacts that result from the incremental consequences of a project when added to other past or reasonable foreseeable future actions. The cumulative effects may be undetectable when viewed individually, but added to other effects, eventually lead to a measurable environmental change. Examples are changes to land use, the loss of wetland areas, and the elimination of wildlife habitats caused by a combination of new developments in areas that were formerly open space.

Table 1-3 summarizes the secondary and cumulative impacts anticipated to be caused by each of the alternatives.

1.9 Significant Unavoidable Adverse Impacts

Significant unavoidable adverse impacts are those adverse impacts that would remain even after applying mitigation measures, or for which no mitigation measures would be effective.

Table 1-4 summarizes the significant unavoidable adverse impacts anticipated to be caused by each of the alternatives.

**Table 1-1
Summary of Potential Impacts and Major Conclusions**

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
Geology	Construction	No impacts	The site is susceptible to liquefaction and likely erosion; deep foundation support required. Foundation-related excavations could result in sediment mixing with stormwater, creating turbid water. Ground vibrations would likely occur during excavation or demolition.	Same as Alternative 2	Less impacts than Alternative 2	Less impacts than Alternative 2
	Operation	No impacts	No impacts	No impacts	No impacts	No impacts
Air Quality	Construction	No impacts	Potential temporary impacts from fugitive dust and emission throughout the construction activities	Same as Alternative 2	Same as Alternative 2	Same as Alternative 2
	Operation	No impacts	Increase in emissions from vehicles during events	Similar to Alternative 2 with less vehicle emissions	Same as Alternative 2	Same as Alternative 2
Water	Construction	No impacts	Groundwater would be encountered and could affect construction methodology	Same as Alternative 2	No impacts	No impacts
	Operation	No impacts	Existing water use and wastewater production would increase. To accommodate the loss of the 16-inch Occidental feeder in the proposed vacation area, the remaining 16-inch feeder in 1st Avenue S. would need to be upsized and reconstructed to be seismically resistant. The existing 16-inch Occidental feeder, severed by the street vacation at S. Massachusetts	Same as Alternative 2 with a small percentage of less water use and discharge due to 2,000 fewer seats	Water use and discharge are anticipated to be higher than existing KeyArena due to increased seating A net reduction in stormwater runoff volume compared to existing conditions is anticipated to occur.	Water use and discharge are anticipated to be higher than existing Memorial Stadium due to increased seating A net reduction in stormwater runoff volume compared to existing conditions is anticipated to occur.

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
			<p>Street, would need to be extended west to connect with the upgraded 24-inch seismically resistant feeder in 1st Avenue S. Valving would need to be provided such that the single, seismically upgraded 24-inch feeder north of S. Holgate Street could receive two alternate supplies from the reservoir; from either the east (via S. Holgate Street) or from the south (via 1st Avenue S.).</p> <p>There would be a net reduction in stormwater runoff volume compared to existing conditions.</p>			

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
Scenic Resources	Construction	No impacts	Short-term aesthetic impacts	Same as Alternative 2	Same as Alternative 2	Same as Alternative 2
	Operation	No impacts. Westerly views toward the SoDo Arena site include the adjacent marine industrial landscape in the background. The industrial landscape includes the views of the Port’s 27 container cranes (as of February 2015), most of which are 100 feet in height and painted either orange or white, colors that contrast with the background. In addition, the Port’s container facilities include a daily changing landscape of stacks of containers being loaded or unloaded, and container trucks or trains delivering or picking up the containers.	Of nine potential public viewpoints, the project would be visible from five. No Puget Sound or territorial views from public viewpoints would be affected. The Arena would be visible at points along both interstates and 12th Avenue S., but at a smaller height and scale as than the existing Stadiums. Alternative 2 would be smaller than the two existing Stadiums, but larger than many of the older industrial buildings located to the south. Depending on the distance from the site, the presence of the new Arena would change the existing foreground, middle ground or background views from private properties. Existing views from downtown toward the south and from residences east of the site of Alternatives 2 and 3 looking toward the Puget Sound would also change.	Same as Alternative 2	Of ten potential public viewpoints, an arena at the site of the KeyArena would be visible from seven including distant views from Seacrest-Harbor Vista Park and views from within Seattle Center. Views of the Space Needle would only be affected by an arena at the site of Alternative 4 if viewed from within the Seattle Center grounds. Alternative 4 would add to the skyline views from adjacent scenic routes. Depending on the location on the surrounding street and the viewing direction, vehicular drivers, bicyclists, and pedestrians would have intermittent views of the arena amidst structures visible at Seattle Center.	Of ten potential public viewpoints, an arena at the site of Memorial Stadium would be visible from six, including distant views from Seacrest-Harbor Vista Park and views from within Seattle Center. Views of the Space Needle from Bhy Kracke Park would be affected in addition to potential effects to views of the Space Needle from locations within Seattle Center. Changes in views from scenic routes and private property would be similar to those described for Alternative 4.
Noise	Construction	No impacts	Short-term, temporary noise impacts due to pile driving and general construction equipment	Same as Alternative 2	Potentially less pile driving but closer to sensitive receptors than Alternative 2	Potentially less pile driving but closer to sensitive receptors than Alternative 2

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
Land Use	Construction	No impacts	No impacts	No impacts	2-year displacement to KeyArena tenants	Displacement of existing users of Memorial Stadium
	Operation	No impacts	<p>Alternatives 2 or 3 would change the land use of the project site from warehouses, vacant lots used for parking, and mixed commercial uses to a spectator sports facility and pedestrian-oriented retail and other small businesses similar to those associated with Safeco Field, CenturyLink Field, and CenturyLink Event Center. The applicant has also proposed to provide parking through either use of existing off-site parking or construction of new parking south of Holgate Street. If new parking is constructed on the South Warehouse Site, it would displace existing warehouse uses and change the use from warehouse to parking.</p> <p>Alternative 2 would include a street vacation of Occidental Avenue S. between S. Holgate and S. Massachusetts Streets. Land use impacts of the street closure are minimal since the uses related to that street would be demolished in construction of the Proposed Project.</p> <p>Same as Alternative 2</p>		<p>Operation of a new arena on the site of existing KeyArena may permanently displace some existing users. The existing Skatepark would need to be relocated.</p> <p>The use of the site as an arena would be compatible with surrounding land uses.</p>	<p>Operation of a new arena on the site of the existing Memorial Stadium would permanently displace existing users.</p> <p>The use of the site as an arena would be compatible with surrounding land uses.</p>
Historic and Cultural Preservation	Construction	No impacts	<p>A historical building assessment has been performed for the three buildings that are over 50 years old, and none have been found to appear to meet any of the six landmark criteria.</p> <p>Archaeological materials may be found; mitigation would protect materials encountered.</p>	Same as Alternative 2	In March 2013, a historic landmark study was conducted for the KeyArena site and greater Seattle Center area. In the area of potential redevelopment for a new arena, three buildings (KeyArena, NASA building and the Seattle Center Pavilion) appear to meet at least one of the six criteria for landmark designation. The KeyArena may qualify for landmark status; which may be a historic impact if demolished. If any are declared a historic landmark, controls would be imposed	The Memorial Stadium and Memorial Wall may qualify for landmark status; which may be a historic impact if demolished. If either are declared a historic landmark, controls would be imposed by the Landmarks Board. No archaeological impacts anticipated.

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
					by the Landmarks Board. No archaeological impacts anticipated.	
	Operation	No impacts	No impacts	No impacts	No impacts	No impacts
Transportation Construction	Construction – Street System	No impacts	Construction impacts related to the street system would mostly occur on 1st and Occidental Avenues S and S Massachusetts and Holgate Streets adjacent to the site. If applicable, street closures and other disruptions to the street system would be minimized and scheduled during the off-peak periods to minimize impacts to the system.	Same as Alternative 2	Construction impacts related to the street system would mostly occur on Mercer Street, Denny Way, and 1st Avenue N adjacent to the site. Street closures and other disruptions to the street system would be minimized and scheduled during the off-peak periods to minimize impacts to the system.	Same as Alternative 4
	Construction – Public Transportation	No impacts	Construction of Alternative 2 could result in some increase in ridership as a result of construction workers traveling to and from the site. It is anticipated that public transportation impacts related to construction would be less than a 20,000-person event at the Seattle Arena, however would occur on a daily basis during the 2-year construction period and occur during AM and PM peak hours. In addition, construction related activities could impact nearby transit routes and stops as well as	Same as Alternative 2.	Construction of Alternative 4 could result in some increase in ridership as a result of construction workers traveling to and from the site. It is anticipated that public transportation impacts related to construction would be less than a 20,000-person event at a new arena, however would occur on a daily basis during the 2-year construction period and would occur during AM and PM peak hours.	Same as Alternative 4

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
			pedestrian accessibility to these stops. A construction management plan could be prepared and impacts to transit stops could be coordinated with the transit agency in advance and appropriate relocation and signage provided.			
	Construction - Pedestrians	No impacts	Alternative 2 construction would result in intermittent sidewalk closures along the frontage of the site (i.e., 1st Avenue S and S Massachusetts and S Holgate Streets). A construction management plan would be developed and alternate pedestrian circulation would be provided adjacent to the construction site through the use of temporary walkways, detours and signs.	Same as Alternative 2	Alternative 4 construction would result in intermittent sidewalk and pedestrian facility closures along the frontage of the site. A construction management plan would be developed and alternate pedestrian circulation would be provided adjacent to the construction site through the use of temporary walkways, detours and signs.	Alternative 5 construction would result in intermittent sidewalk and pedestrian facility closures along the frontage of the site. A construction management plan would be developed and alternate pedestrian circulation would be provided adjacent to the construction site through the use of temporary walkways, detours and signs.
 	Construction - Bicycles	No impacts	Construction of Alternative 2 may result in intermittent bicycle facility closures and re-routing along 1st Avenue S. A construction management plan would be developed to mitigate impacts, and would include alternate bicycle circulation adjacent to the construction site through the use of temporary facilities, detours, and signs.	Same as Alternative 2	Construction of Alternative 4 may result in intermittent bicycle facility closures and re-routing along Mercer Street and 1st Avenue N as well as within the Seattle Center. A construction management plan could be developed to mitigate impacts. Protocol could be included in the plan related to alternate bicycle circulation adjacent to the construction site through the use of temporary facilities,	Similar to Alternative 4, construction of Alternative 5 may result in intermittent bicycle facility closures and re-routing along 5th Avenue N as well as within Seattle Center. A construction management plan could be developed to mitigate impacts. Protocol could be included in the plan related to alternate bicycle circulation adjacent to the construction site through the use of temporary facilities,

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
					detours, and signs.	detours, and signs.
	Construction – Traffic Volumes	No impacts	Alternative 2 would result in an increase in traffic volumes due to workers traveling to and from the site, delivery of material, and truck hauling. While the volume of construction traffic would be less than that expected for a 20,000 person event at the Seattle Arena, the construction traffic would occur on a daily basis for the 2 year duration of construction activities and occur during AM and PM peak hours.	Alternative 3 would result in an increase in traffic volumes due to workers traveling to and from the site, delivery of material, and truck hauling. While the volume of construction traffic would be less than that expected for a 18,000 person event at the Seattle Arena, the construction traffic would occur on a daily basis for the 2 year duration of construction activities and occur during AM and PM peak hours.	Alternative 4 would result in an increase in traffic volumes due to workers traveling to and from the site, delivery of material, and truck hauling. While the volume of construction traffic would be less than that expected for a 20,000-person event at a new arena, the construction traffic would occur on a daily basis for the 2 year duration of construction activities and occur during AM and PM peak hours.	Same as Alternative 4
	Construction – Traffic Operations	No impacts	As described for traffic volumes, construction impacts related to traffic operations would occur as a result of increased traffic levels. To minimize impacts to operations, a construction management plan would be developed and could include scheduling the most intensive construction activities such that they are spread out over time and prohibiting material deliveries from leaving or entering the area during AM and PM peak hours when feasible.	Same as Alternative 2	As described for traffic volumes, construction impacts related to traffic operations would occur as a result of increased traffic levels. To minimize impacts to operations, a construction management plan would be developed and could include scheduling the most intensive construction activities such that they are spread out over time and prohibiting material deliveries from leaving or entering the area during AM and PM peak hours when feasible.	Same as Alternative 4
	Construction – Freight and Goods	No impacts	Major truck routes surrounding the site could be intermittently impacted by construction. A Construction	Same as Alternative 2	Major truck routes surrounding the site could be intermittently impacted by construction. A construction	Same as Alternative 4

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
			Traffic Control Plan would be developed to minimize any street closures or other impacts as a result of the Seattle Arena construction. This management plan would include use of manual flaggers and signs to help vehicle circulation. In addition, key stakeholders would be notified of any major roadway closures.		management plan would be developed to minimize any street closures or other impacts as a result of construction of an arena. This management plan would include use of manual flaggers and signs to help vehicle circulation. In addition, key stakeholders would be notified of any major roadway closures.	
	Construction - Parking	No impacts	Parking impacts related to construction would be minimized by providing off-street parking, securing parking in near-by garages, as well as encouraging use of alternative modes. It is anticipated that parking impacts relate to construction would be less than the 20,000-seat Seattle Arena but would occur on a daily basis during the 2-year construction period. In addition, construction activities could result in the need to close on-street parking adjacent to the site. These closures would be coordinated with SDOT and appropriate notice and signs would be provided.	Same as Alternative 2	Parking impacts related to construction would be minimized by providing off-street parking, securing parking in near-by garages, as well as encouraging use of alternative modes. It is anticipated that parking impacts relate to construction would be less than a 20,000-seat arena but would occur on a daily basis during the 2-year construction period. In addition, construction activities could result in the need to close on-street parking adjacent to the site. These closures would be coordinated with SDOT and appropriate notice and signs would be provided.	Same as Alternative 4
	Construction - Safety	No impacts	Alternative 2 construction would increase vehicular traffic within the study area, which could result in	Same as Alternative 2	Alternative 4 construction would increase vehicular traffic within the study area, which could result in	Same as Alternative 4

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
			increased conflicts between vehicular, pedestrian, and bicycle traffic. It is anticipated that safety impacts related to construction would be less than the 20,000-seat Seattle Arena.		increased conflicts between vehicular, pedestrian, and bicycle traffic. It is anticipated that safety impacts related to construction would be less than for a 20,000-seat arena	
Transportation Operations	Operation – Street System	Many of the major street system projects impacting vehicular movements would be completed by 2018. Projects slated to be completed beyond 2018 are primarily related to the non-motorized and transit system and would likely encourage a decrease in dependence on the auto mode, during both typical commuter periods, as well as for events in the Stadium District.	The impacts to the operation of the street system are the same for Alternatives 2 and 3. Traffic currently using Occidental Avenue S. (proposed to be vacated) as an alternate north-south route would shift to the parallel 1st Avenue S. corridor and/or S. Massachusetts Street Other street system changes would occur along the project frontage with the reconstruction of curb faces and the removal of all existing driveways on 1st Avenue S. and S. Holgate Street along the project frontage. A private connection between S. Holgate Street and the Safeco Field parking garage would be located on the east edge of the new Arena. This connection is only proposed to function during events that would use the garage and there is potential for continued local access to the Safeco Field parking garage through an easement.		Planned offsite improvements in the study area for 2018 and 2030 conditions are consistent with the No Action Alternative. No additional changes offsite or within the Seattle Center street system have been identified as a result of Alternative 4.	Same as Alternative 4
	Operation – Public Transportation	<p>Stadium District Projects:</p> <ul style="list-style-type: none"> 2018 - Waterfront Seattle project, providing a pair of bus stops for the SR 99/Alaskan Way route closer to the Stadium District at Alaskan Way and King Street. The bus stop locations have not been determined. U-Link extension and new station south of SeaTac Airport on the Central Link 	Approximately 12 percent (2,320) of event attendees were estimated to use transit to travel to and from events in 2018 and 14 percent (2,720) in 2030 Bus Transit: Approximately 3 percent of event attendees would use bus service to the Proposed Project (Alternative 2), adding approximately 640 bus passengers traveling to and	This alternative would result in a small reduction in the number of event attendees using transit to travel to the Stadium District. The impact would be similar to Alternative 2.	The Alternative 4 transportation analysis assumed a 20,000-seat arena on the site of the existing KeyArena with a 5,000-seat event at Memorial Stadium. Alternative 5 assumed a 20,000-seat arena on the site of the existing Memorial Stadium with a 12,000-seat event at the existing Key Arena. Because the total number of attendees would be less, Alternative 4 would	Use of transit by event attendees for Alternative 5 was assumed to be consistent with the Stadium District Alternatives. Bus Transit: Approximately 2 percent of event attendees would use bus service to a new arena, adding approximately 390 bus passengers traveling to and from the Seattle Center area in 2018 and 340 passengers

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>alignment, which would add light rail capacity.</p> <ul style="list-style-type: none"> 2015 - First Hill Streetcar would provide a station near 1st Avenue and Jackson Street north of the Stadium District. <p>Proposition 1 passed in Fall 2014 and provides funding to maintain current transit service on existing routes in the City of Seattle. The analysis was not revised to reflect Proposition 1 as the added transit capacity is not anticipated to change the analysis results.</p> <p>Bus Ridership: The number of bus riders is anticipated to increase by approximately two percent annually from 2013 to 2018. Bus transit passenger loads would increase by approximately 4,310 inbound and 2,910 outbound passengers for 2030 No Action Case S3 compared to existing conditions. The total passenger load for No Action Cases S1, S2 and S3 could be accommodated with the assumed bus service levels. These scenarios, including the 2030 No Action non-event, could be</p>	<p>from the Stadium District. Alternative 2 Cases S1, S2, and S3 could be accommodated with the assumed bus service levels.</p> <p>By 2030, it is assumed that a portion of bus riders would shift to light rail that serves similar destinations. It is estimated that approximately 2 percent of event attendees would use bus transit, resulting in approximately 400 passengers. Alternative 2 Cases S1, S2, and S3 could be accommodated with the assumed bus service levels, but bus riders may shift to light rail service connecting to similar destinations given the faster speeds and higher reliability.</p> <p>Light Rail: Approximately 4 percent of event attendees would use existing and planned light rail service to the Proposed Project (Alternative 2), adding approximately 800 light rail passengers traveling to and from the Stadium District on Central and North Link. The 2018 Alternative 2 Case S1, S2, and S3 could be accommodated with assumed light rail service levels. By 2030,</p>		<p>result in a small reduction in the number of event attendees using transit to travel to the Seattle Center area compared to Alternative 5.</p>	<p>in 2030. For 2018, it was estimated that the additional ridership could be accommodated with assumed bus service levels.</p> <p>By 2030, passenger demand would be accommodated for all zones except routes operating inbound from southeast Seattle and Renton.</p> <p>Light Rail: Light rail was not considered a viable transportation mode to Seattle Center. It is noted that the southern terminus of the Monorail connects to the transit tunnel and could be used as a connection to light rail.</p> <p>Streetcar: In 2018, approximately 1 percent of event attendees would use streetcar to a new arena. This would add approximately 230 streetcar passengers traveling to and from Seattle Center on the South Lake Union streetcar for Alternative 5 Case M2. By 2030, approximately 2 percent of event attendees would use streetcar to a new arena. This would add approximately 440 streetcar passengers traveling to and</p>

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>accommodated with assumed bus service levels.</p> <p>Light Rail: ST estimates light rail ridership will increase approximately 350 percent, or 19.5 percent annually from the year 2013 to 2018. By 2030, light rail transit passenger loads would increase by approximately 26,380 inbound and 9,670 outbound passengers for 2030 No Action Case S3 compared to existing conditions. The total passenger load for No Action Cases S1, S2 and S3 could be accommodated with assumed light rail service levels.</p> <p>Streetcar: Streetcar passenger loads would increase by approximately 750 inbound and 635 outbound passengers by 2030 in No Action Case S3 compared to existing conditions. The total passenger load for No Action Cases S1, S2 and S3 could be accommodated with assumed streetcar service levels.</p> <p>Ferries: The number of walk-on passengers is anticipated to increase by approximately</p>	<p>approximately 8 percent of event attendees would use light rail service to the Proposed Project (Alternative 2), adding approximately 1,460 passengers on Central, North and East Link. Non-event riders boarding trains in downtown to connect to Sounder commuter rail at King Street station could experience near capacity trains and choose to walk or ride a connecting bus as an alternative to light rail during events.</p> <p>Streetcar: Approximately one percent of event attendees would use streetcar transit to the Proposed Project (Alternative 2), adding approximately 160 streetcar passengers traveling to and from the Stadium District. These riders could be accommodated with assumed streetcar service levels. By 2030, it is estimated that the level of streetcar users would remain the same, with approximately one percent of event attendees using streetcar transit to the Proposed Project (Alternative 2). This would add approximately 140</p>			<p>from Seattle Center on the South Lake Union Streetcar for Alternative 5 Case M2.</p> <p>Both 2018 and 2030 estimated passenger levels could be accommodated with assumed streetcar service levels for Alternative 5 Cases M1 and M2.</p> <p>Monorail: In 2018, approximately 5 percent of event attendees would use monorail transit to a new arena. This would add approximately 980 monorail passengers traveling to and from Seattle Center, and could be accommodated with assumed monorail service levels for Alternative 5 Cases M1 and M2.</p> <p>By 2030, approximately 6 percent of event attendees would use monorail transit to a new arena. This would add approximately 1,220 monorail passengers traveling to and from Seattle Center. Alternative 5 Cases M1 and M2 could be accommodated with assumed monorail service levels.</p> <p>Washington State Ferry Service: Approximately 720 event attendees would use</p>

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>three percent annually from 2013 to 2018. By 2030, WSF passenger loads would increase by approximately 1,775 inbound and 1,905 outbound passengers. The projected total passenger loads could be accommodated with assumed WSF service levels for the No Action Cases S1, S2 and S3.</p> <p>Seattle Center Projects: The Alaskan Way Viaduct Replacement project is scheduled to be complete and would reconnect John Street, Thomas Street, and Harrison Street, which were previously bisected by SR 99. This improvement was not assumed to change ridership, but would provide alternative pedestrian connections from the South Lake Union Streetcar and bus transit routes to the Seattle Center.</p> <p>Bus Ridership: The number of bus riders is anticipated to increase by approximately two percent annually from 2013 to 2018. Bus transit passenger loads would increase by approximately 450 inbound and 430 outbound passengers for</p>	<p>streetcar passengers traveling to and from the Stadium District as compared to the No Action, and could be accommodated with assumed service levels.</p> <p>Washington State Ferry Service: Approximately 4 percent of event attendees would use ferry service to the Proposed Project (Alternative 2) (approximately 90 percent of these event attendees would be walk-ons). This would add approximately 720 ferry passengers traveling to and from the Stadium District. These riders could be accommodated with assumed WSF service levels. By 2030, it is estimated that the level of ferry service users would remain the same, with approximately 4 percent of event attendees using ferry service to the Proposed Project (Alternative 2) (approximately 90 percent of these event attendees would be walk-ons). This would add approximately 720 ferry passengers traveling to and from the Stadium District, which could be accommodated with assumed WSF service levels.</p>			<p>WSF service for part of their trip to events at Seattle Center. Event attendees would connect between Colman Dock and Seattle Center using bus, monorail, streetcar, and / or other services such as a taxi, walking, or bicycling. From 5:00 to 7:00 PM bus routes through downtown would experience an increase in passenger demand as some ferry riders use bus service to travel to an event at Seattle Center.</p>

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>2030 No Action Case K2/M2 compared to existing conditions. The total passenger load for No Action Cases M1/K1 and K2/M2 could be accommodated with assumed bus service levels.</p> <p>Streetcar: Streetcar passenger loads would increase by approximately 450 inbound and 430 outbound passengers by 2030 in No Action Case K2/M2 compared to existing conditions. The total passenger load for No Action Cases K1/M1 and K2/M2 could be accommodated with assumed streetcar service levels.</p> <p>Monorail: Monorail passenger loads would increase by approximately 1,180 inbound and 1,160 outbound passengers by 2030 in No Action Case K2/M2 compared to existing conditions. The total passenger load for No Action Cases K1/M1 and K2/M2 could be accommodated with assumed monorail service levels.</p> <p>Ferries: The number of walk-on passengers is anticipated to increase by approximately</p>	<p>Sounder Commuter Rail and King County Passenger Ferry Transit: Sounder commuter rail and King County passenger ferry service were not assumed to be used by event attendees because there is no post-event outbound service in the evening.</p>			

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>three percent annually from 2013 to 2018. Approximately 370 inbound passengers and 500 outbound passengers would use WSF service for part of their trip to events at Seattle Center for No Action Case K2/M2. The projected total passenger loads could be accommodated with assumed WSF service levels for the No Action Cases K1/M1 and K2/M2.</p>				
	<p>Operation – Pedestrians</p>	<p>Stadium District Connectivity between Stadium Station, SoDo Station, and International District routes to and from the 1st Avenue S./S. Holgate Street area would be consistent with existing conditions. Planned improvements impacting pedestrian routes in the area include multiuse paths as part of the Alaskan Way Viaduct, the First Hill Streetcar, and the railing crossing improvements along S. Holgate Street.</p> <p>Overall, pedestrian connectivity along the five key travel routes would remain good with improvements along 1st Avenue S., Railroad Way, and Alaskan Way creating a more</p>	<p>Sidewalks along the site frontage would be widened as part of Alternative 2 development.</p> <p>1st and 4th Avenues S.: The calculation of pedestrian flow rates suggests that during the peak 15 minutes associated with a capacity event egress sidewalk, capacities may be exceeded. This could be mitigated via sidewalk widening, rerouting more pedestrians to Occidental Avenue immediately north of the site, or providing more onsite attractions and amenities to reduce peaking characteristics of post-event egress.</p> <ul style="list-style-type: none"> Given the location of the doors to the Arena (northwest and southwest 	<p>With 10 percent less seats, this would result in a 10 percent reduction in the overall pedestrian demand as compared to the Alternative 2. Given the lesser demand, overall transportation impacts for Alternative 3 would be similar to those described for Alternative 2.</p>	<p>Consistent with the Stadium District, pedestrian levels associated with an event at an arena would be highest during the post-event egress. Currently, average attendance for the KeyArena is approximately 12,000 people. Alternative 4 would result in a net increase of 8,000 pedestrians for a total of 20,000 pedestrians associated with an arena event. The existing and planned pedestrian network is well-connected and facilities will accommodate increased pedestrian demand levels. This type of pedestrian demand or higher is already accommodated at the Seattle Center with the several festivals held there each year.</p> <p>Increases in pedestrian as</p>	<p>Pedestrian impacts associated with Alternative 5 are anticipated to be consistent with those described for Alternative 4.</p>

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>pedestrian-friendly environment.</p> <p>With No Action, there would continue to be a poor connection across S. Atlantic Street when coming to and from the northeast, missing and narrow sidewalks along 3rd and 4th Avenues S., and south of S. Atlantic Street. Planned industrial projects north and south of Seattle would result in additional at-grade train crossings on S. Holgate Street with no improvements to pedestrian facilities or provision of pedestrian crossing controls.</p> <p>There is an existing pedestrian access issue along S. Holgate Street related to the lack of storage and pedestrian control at the train crossings.</p> <p>An analysis of No Action Cases S1, S2, and S3 shows This analysis indicates that the sidewalks along 1st and 4th Avenues S. are adequate to accommodate pedestrian demand.</p> <p>Pedestrian queuing analysis at the S. Holgate Street train crossing shows that with higher event demands related to No Action Case S3,</p>	<p>corners of the building) and the 24-foot wide sidewalk or 16-foot wide pedestrian zone proposed along the frontage, flows along 1st Avenue S. between S. Massachusetts and S. Holgate Streets would be slightly restricted.</p> <ul style="list-style-type: none"> • Flow rates on 1st Avenue S. between S. Atlantic and S. Massachusetts Streets would exceed acceptable levels on the east side for all Alternative 2 scenarios and on the west side under Cases S2 and S3 multi-event scenarios, but this segment would be acceptable under Case S1 or an Arena-only event. • Pedestrian flows along 4th Avenue S. between S. Atlantic and S. Walker Streets would generally experience free flow except on the west side of 4th Avenue S between S. Atlantic and S. Holgate Streets where the addition of the Arena would result in some crowding due to a constrained sidewalk section. There is capacity on the east side, so pedestrians wanting to avoid crowds could use these facilities. 		<p>well as vehicle demands on events would increase the potential for conflicts between these two modes. Pedestrian impacts in 2018 and 2030 are anticipated to be similar.</p>	

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>queues would be greater than could be accommodated between the railroad tracks and 1st Avenue S.</p> <p>Seattle Center The pedestrian environment in the Seattle Center study area is significantly different than that described in the Stadium District. There is a well-connected gridded sidewalk network with multiple paths for pedestrians to take to and from the Seattle Center area. With the multitude of pedestrian paths in the study area capacity.</p> <p>The SR 99 North Portal and Mercer Corridor projects will result in enhanced pedestrian connectivity and infrastructure including sidewalk connections across SR 99.</p> <p>Under No Action, changes in non-motorized demands are likely to occur as a result of ongoing redevelopment associated with neighborhoods surrounding the Seattle Center; however no significant change in Seattle Center pedestrian activity is anticipated.</p>	<p>S. Holgate Street: Alternative 2 would result in substantially more pedestrians along S. Holgate Street than characterized for the No Action conditions during both event ingress and egress. Conflicts between pedestrians and trains would increase with Alternative 2. The introduction of an Arena at this location would substantially increase and concentrate demands over currently observed levels. With increases in event-related pedestrian volumes associated with Alternative 2 and planned increases in train activity, pedestrian access issues would result in the future along S. Holgate Street. Accommodating the large storage needs for pedestrians, particularly during post-event egress, would be difficult.</p> <ul style="list-style-type: none"> • Pedestrian queues and storage needs would be substantially more than characterized for the No Action conditions. • Pedestrian queues attributable to waiting for passing trains would range from approximately 900 to 8,000 pedestrians, 			

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
			<p>depending on the duration of the blockage.</p> <ul style="list-style-type: none"> • Sidewalk storage to accommodate queues based on current blockage levels of around 10 minutes would be over 500 square-feet. • Blockages up to 45 minutes (representing increased activity) would result in the need for approximately 2,120 square-feet of storage to accommodate just an Arena event. 			
	<p>Operation – Bicycle</p>	<p>Stadium District Bicycle improvements planned and funded in the SoDo study area include two multi-use paths being constructed as part of the Alaskan Way Viaduct Replacement Project to be completed by 2018.</p> <p>Bicycle use is anticipated to continue to grow in Seattle as transportation congestion and cost of parking increases but are not identified as a significant portion of the traffic stream during the pre- and post-event hours in the Stadium District study area. There are no additional funded improvements for 2030 at this time; however, the City has adopted the</p>	<p>Alternative 2 is not anticipated to impact bicycle facilities within the study area.</p> <p>Bicycle volumes within the study area are generally low in the vicinity of the Stadium District site, and minimal increase is anticipated with the development.</p> <p>Development of the Seattle Arena would result in increased vehicular demands on event days within the study area, which would increase the potential conflicts between bicyclists and vehicles. Bicycle impacts in 2018 and 2030 are anticipated to be similar.</p>	<p>With 10 percent less seats, this would result in a 10 percent reduction in the overall vehicular demand as compared to Alternative 2. Given the lesser demand, bicycle impacts with development of Alternative 3 may be slightly less than with Alternative 2.</p>	<p>Alternative 4 is not anticipated to impact bicycle facilities within the study area. Bicycle volumes within the study area vary from one corridor to the next; however, Alternative 4 is anticipated to result in minimal increase in bicycle activity. Development of a new arena would result in increased vehicular demands on event days within the study area, which would increase the potential conflicts between bicyclists and vehicles. Bicycle impacts in 2018 and 2030 are anticipated to be similar.</p>	<p>Same as Alternative 4</p>

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>Bicycle Master Plan outlining the 6-year bicycle priorities for the City. In general, as traffic volumes increase in the study area due to future 2018 and 2030 growth, there is a potential for increased conflict between vehicles and bicyclists.</p> <p>Seattle Center Ongoing projects associated with the Alaskan Way Viaduct North Portal, as well as the Mercer East and West projects will result in enhanced bicycle connectivity and infrastructure. The Mercer Corridor improvements are scheduled to be completed by 2015. Bicycle improvements are also included on Roy and Valley Streets. The completion of these improvements will create a viable bicycle linkage between the Seattle Center and the South Lake Union Neighborhood as well as the South Lake Union Park and related trail connections. In addition, the completion of the North Portal will result in sidewalk connections across SR 99 at Republican, Harrison and Thomas Streets, effectively linking Seattle</p>				

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>Center and the neighborhood surrounding the Bill and Melinda Gates Foundation with the South Lake Union area.</p> <p>In general, as traffic volumes increase in the study area due to future 2018 and 2030 growth, there is a potential for increased conflict between vehicles and bicyclists.</p>				
	<p>Operation – Traffic Volumes Stadium District</p>	<p>Stadium District <u>Case S1 – No Event</u> 1st Avenue S. north of S. Massachusetts Street: 3,340 vehicles in 2018; 4,110 vehicles by 2030</p> <p>Edgar Martinez Drive S. west of Westbound I 90 Off Ramps: 2,815 vehicles in 2018; 3,995 vehicles by 2030</p> <p>S. Holgate Street east of Occidental Avenue S.: 830 vehicles in 2018; 320 vehicles by 2030</p> <p>4th Avenue S. north of S. Holgate Street: 3,455 vehicles in 2018; 4,650 vehicles by 2030</p>	<p>Stadium District <u>Case S1 – Arena Event Only</u> 1st Avenue S. north of S. Massachusetts Street: 3,760 vehicles in 2018; 4,525 vehicles by 2030</p> <p>Edgar Martinez Drive S. west of Westbound I 90 Off Ramps: 3,375 vehicles in 2018; 4,550 vehicles by 2030</p> <p>S. Holgate Street east of Occidental Avenue S: 805 vehicles in 2018; 295 vehicles by 2030</p> <p>4th Avenue S. north of S. Holgate Street: 3,675 vehicles in 2018; 4,865 vehicles by 2030</p>	<p>Stadium District <u>Case S1 – Arena Event Only</u> 1st Avenue S. north of S. Massachusetts Street: 3,720 vehicles in 2018; 4,485 vehicles by 2030</p> <p>Edgar Martinez Drive S. west of Westbound I 90 Off Ramps: 3,320 vehicles in 2018; 4,495 vehicles by 2030</p> <p>S. Holgate Street east of Occidental Avenue S: 805 vehicles in 2018; 295 vehicles by 2030</p> <p>4th Avenue S. north of S. Holgate Street: 3,655 vehicles in 2018; 4,845 vehicles by 2030</p>		
	<p>Operation – Traffic Volumes Seattle Center</p>	<p>Seattle Center Area Mercer Street east of Terry Avenue N: 5,765 (Case K1) -</p>			<p>Seattle Center Area (Case K1 – Arena Event Only) Mercer Street east of Terry</p>	<p>Seattle Center Area (Case M1 – Arena Event Only) Mercer Street east of Terry</p>

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
	<p>Area</p>	<p>5,975 (Case K1/M1) vehicles in 2018; 5,785-5,990 vehicles by 2030</p> <p>Denny Way west of Stewart Street: 2,575-2,600 vehicles in both 2018 and 2030</p> <p>Western Avenue northwest of Denny Way: 3,270 vehicles in 2018; 3,530 vehicles by 2030</p> <p>Mercer Street east of 3rd Avenue N: 2,910-2,995 vehicles in 2018; 2,885-2,970 vehicles by 2030</p> <p>Queen Anne Avenue N south of Mercer Street: 1,300-1,345 vehicles in 2018; 1,395-1,435 vehicles by 2030</p> <p>1st Avenue N south of Mercer Street: 1,075-1,080 vehicles in 2018; 1,055 -1,060 vehicles by 2030</p> <p>5th Avenue N south of Mercer Street: 1,890-2,025 vehicles in 2018; 2,175-2,305 vehicles by 2030</p>			<p>Avenue N: 6,645 vehicles in 2018; 6,630 vehicles by 2030</p> <p>Denny Way west of Stewart Street: 2,590 vehicles in both 2018 and 2030</p> <p>Western Avenue northwest of Denny Way: 3,285 vehicles in 2018; 3,550 vehicles by 2030</p> <p>Mercer Street east of 3rd Avenue N: 3,405 vehicles in 2018; 3,360 vehicles by 2030</p> <p>Queen Anne Avenue N south of Mercer Street: 1,555 vehicles in 2018; 1,645 vehicles by 2030</p> <p>1st Avenue N south of Mercer Street: 1,085 vehicles in 2018; 1,065 vehicles by 2030.</p> <p>5th Avenue N south of Mercer Street: 2,280 vehicles in 2018; 2,550 vehicles by 2030</p>	<p>Avenue N: 6,585 vehicles in 2018; 6,495 vehicles by 2030</p> <p>Denny Way west of Stewart Street: 2,590 vehicles in 2018; 2,585 in 2030</p> <p>Western Avenue northwest of Denny Way: 3,280 vehicles in 2018; 3,545 vehicles by 2030</p> <p>Mercer Street east of 3rd Avenue N: 3,275 vehicles in 2018; 3,185 vehicles by 2030</p> <p>Queen Anne Avenue N south of Mercer Street: 1,460 vehicles in 2018; 1,525 vehicles by 2030</p> <p>1st Avenue N south of Mercer Street: 1,010 vehicles in 2018; 990 vehicles by 2030</p> <p>5th Avenue N south of Mercer Street: 2,335 vehicles in 2018; 2,575 vehicles by 2030</p>
	<p>Operation – Traffic Operations Stadium District</p>	<p>Stadium District Increased traffic volumes and changes in travel patterns result in a greater number of intersections operating at Level of Service (LOS) E/F under both 2018 and 2030</p>	<p>Stadium District The addition of Arena event trips results in a greater number of worsened LOS E/F values under 2018 and 2030. With a single event day a total of 16 study intersections</p>	<p>Stadium District Alternative 3 includes the development of an 18,000-person capacity arena on the same site evaluated for Alternative 2. The difference between an event with</p>		

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>conditions.</p> <p>The occurrence of Mariners and CenturyLink Field Events Center events also result in worsened operations throughout the study area. Eleven additional intersections operate at LOS E/F under 2018 conditions with one or both events and approximately 5 more intersections under 2030 conditions.</p> <p>Of the intersections shown to operate at LOS E or LOS F under 2018 No Action conditions, four are located within the vicinity of the Proposed Project (Alternative 2) or Alternative 3 site.</p> <p>Under 2030 No Action conditions (non-event, single event, or dual event), up to six intersection would operate at LOS E or LOS F within the vicinity of the Proposed Project (Alternative 2) or Alternative 3 site.</p>	<p>would operate at LOS E/F under 2018 conditions with an Arena event while a Mariners only event is forecast to have 15 intersections at LOS E/F. Under 2030 conditions with an Arena-only event a total of 21 intersections are forecast to operate at LOS E/F.</p> <p>With Case S2 (Arena and Mariners), in 2018, six additional intersections would operate at LOS E/F for a total of 22 intersection. By 2030, four additional intersections would operate at LOS E/F for a total of 26 intersections.</p> <p>With Case S3, four additional intersections would degrade from LOS E to LOS F in 2018 conditions compared to the No Action and four additional intersections under 2030 conditions.</p>	<p>20,000 and 18,000 attendees equates to approximately 200 vph during the weekday PM peak hour.</p> <p>Given the distribution of traffic to the area, this difference in overall activity would not likely be discernible by the average motorist and would be within the daily fluctuations in the background traffic.</p> <p>Traffic operations measures reported for Alternative 2 are expected to be slightly worse than would occur under Alternative 3 but identified impacts are anticipated to be similar.</p>		
	<p>Operation – Traffic Operations Seattle Center Area</p>	<p>Seattle Center Area</p> <ul style="list-style-type: none"> Increased traffic volumes and changes in travel patterns result in a greater number of intersections 			<p>Seattle Center Area</p> <ul style="list-style-type: none"> Throughout the wider study area, the addition of arena event trips would result in one additional 	<p>Seattle Center Area</p> <ul style="list-style-type: none"> Throughout the wider study area, the addition of arena event trips would result in two additional

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>operating at LOS E/F under both 2018 and 2030 conditions.</p> <ul style="list-style-type: none"> The greater attendance level of an event under Case K1 and K2/M2 results in one additional intersection operating at LOS E under 2018 conditions as compared to Case M1 and two additional operating at LOS F for 2030 conditions. <p>Of the intersections shown to operate at LOS E or LOS F under 2018 No Action conditions, three are located within the vicinity of the Seattle Center area.</p> <p>Under 2030 No Action conditions, up to four intersections would operate at LOS E or LOS F within the vicinity of the Seattle Center area.</p>			<p>intersection operating at a calculated LOS E/F under 2018 Case K1 and two additional intersections under Case K2.</p> <ul style="list-style-type: none"> Under 2030 conditions two additional intersections would operate at LOS E/F under Alternative 4 Case K1 and three additional intersections would operate at LOS E/F under the multiple event case (Alternative 4 Case K2). 	<p>intersections operating at a calculated LOS E/F under 2018 Case M1 and three additional intersections under Case M2.</p> <ul style="list-style-type: none"> Under 2030 conditions three additional intersections would operate at LOS F for Alternative 5 Case M1 and four additional intersections would operate at LOS E/F under Alternative 5 Case M2.
	<p>Operation – Freight and Goods Stadium District</p>	<p>Stadium District Travel times for freight corridors under 2018 conditions increase from existing conditions, increasing from approximately one</p>	<p>Stadium District Freight corridor travel times increase with the addition of Arena event traffic. Changes in 2018 range from no notable change to 5 minutes</p>	<p>Stadium District In general, impacts to freight and goods anticipated under Alternative 3 would be slightly less than reported for Alternative 2. Overall traffic</p>		

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>minute to six minutes, depending on route and travel direction. Travel times further increase with the addition of event traffic, in some cases nearly tripling.</p> <p>Freight corridor travel times along southbound 4th Avenue S. under 2018 conditions are forecasted to exceed 10 minutes with Case S1 traffic, exceed 10 minutes northbound on 4th Avenue S. and northbound on 1st Avenue S., exceed 15 minutes for southbound 4th Avenue S., exceed 15 minutes for northbound 1st Avenue S. and southbound 4th Avenue S. for Case S3. Eastbound freight corridor travel times along S. Atlantic Street increase approximately 1 minute while westbound increase by 1 minute for Case S1, 6 minutes for Case S2 and 9 minutes for Case S3.</p> <p>Eastbound freight corridor travel times along S. Atlantic Street are expected to increase but less so than other routes. This direction of travel is opposite the inbound event flows, minimizing the increase in travel times. S. Atlantic Street is also subject to TCPs at Occidental Avenue</p>	<p>under Case S1, to 1.25 minutes to 8 minutes under Case S3. Under 2030 the range of increases is similar to 2018 conditions.</p> <p>In general, the direction of travel for each freight corridor travel time route that serves vehicles arriving for the Arena event (i.e. northbound 1st Avenue S.) experiences the greatest travel time increase while the opposing direction experiences a lesser increase (i.e. southbound vs. northbound 1st Avenue S.).</p> <p>Travel times for freight corridor routes with only an Arena event are generally less than the No Action Case S2 (Mariners only) conditions. Travel times for specific routes and directions are calculated to see large increases with multiple concurrent events (i.e. northbound 1st Avenue S., eastbound S. Atlantic Street).</p>	<p>volumes for Alternative 3 are approximately one percent less during the weekday PM peak hour under both 2018 and 2030 conditions.</p>		

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>S. and the Mariners Safeco Field parking garage. Event traffic control could increase S. Atlantic Street travel times beyond what is reported.</p> <p>Under 2030 conditions freight corridor travel times are generally similar to but worse than 2018 conditions. Increases range from approximately 2 minutes to 11 minutes when compared to existing conditions.</p> <p>Travel time changes result from small changes in forecast volumes at some study intersections and additional diversion from congested freeways as forecast in the Alaskan Way Viaduct Replacement study and increase rail crossing closures at S. Holgate Street and S. Lander Street.</p> <p>Similar to 2018 conditions, eastbound freight corridor travel times along S. Atlantic Street are expected to increase at a lower percentage than other routes since the direction of travel is opposite the inbound event flows.</p>				

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
	Operation – Freight and Goods Seattle Center Area	Seattle Center Area The travel time analysis conducted for the W. Mercer Street corridor showed 2030 travel times of 18.5 minutes in the westbound direction and 8.5 in the eastbound direction. This represents no noticeable change in the eastbound direction and increase of approximately 9.5 minutes in the westbound direction as compared to the “existing” conditions. This change is likely due to several factors including development within the South Lake Union neighborhood, planned changes to the roadway including the two-way Mercer Street improvement projects and Alaskan Way North Portal improvements, changes in travel patterns, and varying growth in traffic volumes along the length of the corridor.			Seattle Center Area The travel time estimated for the W. Mercer Street corridor showed 2030 travel times of 24.1 minutes in the eastbound direction and 25.2 in the westbound direction with Alternative 4.	Seattle Center Area Same as Alternative 4
	Operation – Parking Stadium District	Stadium District Weekday Occupancy: Occupancies in the primary study area are higher than existing conditions as a result of anticipated development	Stadium District It is anticipated with any of the event cases parking closer to the Arena and / or other event venues would be more highly utilized. As the areas near the venues	Stadium District With 10 percent less seats, this would result in a 10 percent reduction in the overall parking demand as compared to Alternative 2. Given the lesser demand,		

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>primarily in the Pioneer Square and SoDo areas.</p> <ul style="list-style-type: none"> • Parking utilization in the International District and Pioneer Square neighborhoods would continue to increase with the single and dual event conditions. • Overall primary study area occupancies are calculated to be 60 to 85 percent for the event cases and the utilization of parking would continue to be concentrated around the event venues themselves. • Parking occupancies for the CBD would be generally very low except for the Waterfront (65 to 80 percent), which is the most proximate area to the Stadium District. <p>Weekend Occupancy</p> <p>Occupancies in the primary study area are similar to existing conditions with only slight increases as a result of the anticipated future development.</p> <ul style="list-style-type: none"> • Compared to weekday the weekend No Action Case S2 and S3 occupancies are lower within both the 	<p>become full, it would likely become more difficult to find parking. The primary study area would be full for multi-event cases. (Case S2 and S3 There would be parking available within the CBD even with multiple events; however, in some cases this may be considered less desirable given the greater walking distance from the venue.</p> <p>Weekday Occupancy</p> <p>Arena parking demand could be fully accommodated within the primary study area under Case S1 (i.e., no other events at nearby venues).</p> <ul style="list-style-type: none"> • Event parking would spill into the expanded study area under multi-event conditions (Case S2 and S3). • For the Arena plus Mariners and / or Exhibition Hall scenarios, parking occupancies within the primary study area would be approximately 90 percent as compared to the No Action event cases, which would have occupancies of approximately 65 to 85 percent. 	<p>overall transportation impacts for the Alternative 3 would be slightly less than those described for the Alternative 2.</p>		

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
			parking demand associated with the Arena could displace some observed SoDo overnight truck parking in publicly available spaces to other areas (likely south of the Stadium District), which may be consider less convenient locations.			
	Operation – Parking Seattle Center Area	<p>Seattle Center Area</p> <p>Weekday Occupancy</p> <ul style="list-style-type: none"> The No Action occupancy is higher than existing conditions due to the assumed increases in parking demand caused by anticipated development as well as demand associated with events at KeyArena and Memorial Stadium. A comparison of case K1 and M1 shows that utilization is about 13 to 14 percent less in the neighborhoods nearest the sites with No Action Case M1 given the smaller event (i.e., 5,000 attendees) at Memorial Stadium as compared to KeyArena (i.e., 12,000 attendees). For single and dual events, Case K1, M1, and M2/K2, all of the anticipated 			<p>Seattle Center Area</p> <p>Weekday Occupancy</p> <ul style="list-style-type: none"> Alternative 4 Case K1, with the arena only, would result in an almost 30 percent increase in parking occupancy within the primary study area. For a multi-event scenario, Alternative 4 Case K2, the primary study area would reach 55 percent occupancy. Although the overall primary study area would be 55 percent, the Uptown neighborhoods closest to the venue would begin to fill up with occupancies of approximately 80 percent. SLU and Denny Triangle within the primary study area would have ample parking to accommodate arena parking. 	<p>Seattle Center Area</p> <p>Weekday Occupancy</p> <ul style="list-style-type: none"> For a multi-event scenario, Alternative 5 Case M2, the primary study area would reach 60 percent occupancy, an increase of almost 15 percent in parking occupancy compared to No Action. Although the overall primary study area would be 60 percent for Alternative 5 Case M2, the Uptown neighborhoods closest to the venue would be more highly utilized and would become full with an 89 percent occupancy. Finding parking would become more difficulty in these areas. SLU and Denny Triangle within the primary study area would have ample parking to accommodate arena

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<p>parking demand could be fully accommodated within the primary study area.</p> <ul style="list-style-type: none"> Overall primary study area occupancies are calculated to be approximately 39 to 47 percent for the No Action event cases, which would allow for some additional parking. <p>It is likely that attendees of events at KeyArena or Memorial Stadium would desire to park close to the venues. Based on the review of existing conditions, on-street parking would likely be difficult to find close to the venues; however, off-street parking is more readily accessible and the Seattle Center has several large garages in close proximity of both venues.</p> <p>Weekend Occupancy</p> <ul style="list-style-type: none"> Weekend utilization is generally higher in the primary study area as compared to weekday. Given the higher baseline, the No Action event cases have occupancies up to approximately 85 percent in the Uptown neighborhood. 			<p>Weekend Occupancy</p> <ul style="list-style-type: none"> The primary study area parking occupancy would reach a 55 percent occupancy with Alternative 4 Case K1 and 60 percent with Alternative 4 Case K2, an increase of almost 10 percent in parking occupancy compared to No Action on the weekend. Although the overall primary study area would be 55 to 60 percent, the Uptown neighborhoods closest to the venue would be more highly utilized and for Alternative 4 Case K2 they would become full with occupancies of 85 to 90 percent. Finding parking would become more difficult in these areas. SLU and Denny Triangle within the primary study area would have ample parking to accommodate arena parking. 	<p>parking.</p> <p>Weekend Occupancy</p> <ul style="list-style-type: none"> With the arena-only on weekends, the primary study area would reach 56 percent occupancy for Alternative 5 Case M1 and 65 percent for Alternative 5 Case M2, an increase of almost 15 percent in parking occupancy compared to No Action. During the multi-event scenario on the weekend, the closest parking within the primary study area would reach 90 percent; however, SLU and Denny Triangle have ample parking to accommodate arena parking demand and it is anticipated parking supply would increase in the future with development.

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		<ul style="list-style-type: none"> • For single and dual events, Case K1, M1, and K2/M2, all of the anticipated parking demand could be fully accommodated within the primary study area. • The expanded study area occupancy would be approximately 43 to 51 percent for No Action event cases indicating approximately 49 to 57 percent of the spaces would be available for arena use. • The results indicate that there would be limited reliance on the expanded study area to accommodate parking even in multi-event cases. • Attendees of events at KeyArena or Memorial Stadium would likely desire to parking close to the venues. Based on the review of existing conditions, on-street parking would likely be difficult to find close to the venues; however, off-street parking is more readily accessible and the Seattle Center area has several large garages in close proximity of both venues. 				

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
	Operation – Safety	<p>As traffic volumes increase, the potential for traffic safety issues increases proportionately. The overall vehicular and non-motorized traffic in the area under 2018 and 2030 conditions are anticipated to be higher than occurs under existing conditions. There are changes in transportation infrastructure underway, and the effect of these changes on transportation safety is unknown. The projects are all designed to current standards of practice.</p> <p>In the immediate vicinity of the site, there are several at-grade rail crossings along S. Holgate Street that are uncontrolled for non-motorized traffic.</p>	<p>As traffic volumes increase, the potential for traffic safety issues increases proportionately. Alternative 2 would increase both vehicular and non-motorized traffic within the study area. Increased pedestrian activity at the several on-grade rail crossing locations as a result of travelling to and from the Seattle Arena could result in safety issues.</p> <p>The S. Holgate Street corridor has multiple at-grade rail crossings closely spaced in the immediate vicinity of the site and pedestrian gates may not be feasible or appropriate. The applicant will be required to improve pedestrian access between the Arena site and areas to the east by either providing a grade separated pedestrian bridge that would be oriented east-west over the train tracks connecting the Arena to the S. Holgate Street/4th Avenue S intersection, or by providing a shuttle service. See Table 1-2 Summary of Mitigation Measures.</p>	<p>Alternative 3 would have similar safety impacts as identified with Alternative 2; however, these impacts would be to a less extent since the traffic levels would be lower with the smaller venue.</p>	<p>Alternative 4 would increase both vehicular and non-motorized traffic within the study area, which could potentially increase conflicts between vehicular and non-motorized traffic resulting in the potential for increase safety issues.</p>	<p>Safety impacts associated with Alternative 5 would be similar to those described for Alternative 4.</p>
	Operation – Occidental Street Vacation	No impact	Traffic Volumes: Hourly traffic volumes collected along 1st Avenue S. over a 7-	Same as Alternative 2	Not Applicable	Not Applicable

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
			<p>day period in December 2013 demonstrated that additional capacity appears available on 1st Avenue S., suggesting that the observed diversion may not be due to congestion on 1st Avenue S. The vacation of Occidental Avenue S. would result in this pattern being altered, with these vehicles turning west onto S. Massachusetts Street to access 1st Avenue S. instead of S. Holgate Street</p> <p>Pedestrians/Bicycles: Pedestrians and bicycles would be rerouted to 1st Avenue S. along the site frontage. Low non-event volumes would not result in a significant impact.</p> <p>Traffic Operations: The vacation of Occidental Avenue S. would divert traffic to 1st Avenue and S. Massachusetts Street, however the 1st Avenue S. / S. Holgate intersection would continue to operate at LOS D.</p> <p>By 2030, the Arena and street vacation would degrade intersection operations along 1st Avenue S. as compared to a 810,000 sf commercial development that could be allowed under the current</p>			

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
			<p>zoning:</p> <ul style="list-style-type: none"> • 1st Avenue S. / S. Atlantic Street: LOS E to LOS F • 1st Avenue S. / S. Holgate Street: LOS D to LOS E <p>Traffic volumes and operations east of the site, at 4th Avenue S. / S. Holgate Street would not materially change between the two build scenarios.</p> <p>As described in the traffic operations section, the more concentrated impacts associated with event traffic would occur less frequently than the everyday added congestion associated with site buildout under the current zoning.</p> <p>Local Access/Circulation: Under the non-event conditions, peak hour traffic volumes would be nominal and minimal impacts to circulation are identified.</p> <p>With the street vacation, the continuity of Occidental Avenue S. from S. Horton Street to S. Atlantic Street would be interrupted, disrupting a potential parallel route to 1st Avenue S. during periods of congestion.</p>			

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
			1st Avenue for Occidental Avenue vacation could increase vehicle/pedestrian/bicycle conflicts.			
Public Services and Utilities	Construction	No impacts	Potential short-term, temporary impact to fire and police response time	Same as Alternative 2	Same as Alternative 2	Same as Alternative 2
	Operation – Fire	No impacts	No impacts	No impacts	No impacts	No impacts
	Operation – Police	No impacts	As with other sporting events, the SPD could need parking enforcement officers working overtime to staff the Proposed Arena before, during, and after major events since parking will be provided offsite in existing private lots and on the streets surrounding the Arena. A slight increase in offenses would be expected due to increased number of visitors to the area. Offenses that could increase include robbery, aggravated assault, theft, auto theft, misdemeanor theft, assaults, urinating in public, disturbance, and public drinking. Operation of the Proposed Action would not have any effect on existing mutual aid agreements.	Same as Alternative 2	Same as Alternative 2	Same as Alternative 2
	Operation – Parks and Recreation	No impacts	No impacts	No impacts	Displacement of Seattle Center Skatepark	Displacement of Seattle School District athletic and band use, and adult soccer

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
	Operation –Solid Waste	No impacts	Volumes are within the capacity of the existing solid waste collection and processing facilities and no adverse impacts from the collection of additional solid waste are anticipated.	Same as Alternative 2	Same as Alternative 2	and football leagues Same as Alternative 2
	Operation – Natural Gas, Electricity, Telecom.	<p>No impacts to natural gas or telecommunications.</p> <p>As part of Seattle City Light’s Denny Substation project, a new 230-kV transmission line would be constructed between the existing Massachusetts Substation in the SoDo area to the new Denny Substation in South Lake Union. The new 230-kV line would extend from the Denny Substation, through downtown Seattle to S Massachusetts Street, and then west along S. Massachusetts Street at the north end of the Seattle Arena site into the existing Massachusetts Substation located at Utah Avenue S. and S. Massachusetts Street. The estimated timing for construction of the transmission line to the Massachusetts Substation is 2018 – 2020.</p> <p>In addition to the existing</p>	<p>Electrical 26-kV lines would require relocation.</p> <p>The Arena team is working with Seattle City Light on options for both underground and overhead relocations of existing 115-kV transmission lines that are currently aligned over the north portion of the Arena site. The relocation alternatives include both existing and proposed transmission lines that would be installed as part of the No Action Alternative.</p> <p>An increase in use of utilities could be met by existing utility providers</p>	Same as Alternative 2	An increase in use of utilities could be met by existing utility providers	Same as Alternative 4

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
		transmission lines, Seattle City Light is planning a second 115-kV circuit along S. Massachusetts as part of their Denny Substation project (2018-2020).				
Economics	Construction	No impacts	Same as Alternative 3 (Economic Analysis prepared for an 18,000-seat arena assuming a conservative estimate of average event attendance).	Construction of an 18,000-seat arena on any of the sites would generate one-time economic and fiscal benefits to the region. The economic activity from direct spending and re-spending is estimated at \$480 million within Seattle, with an additional \$53 million in King County outside of Seattle (total of \$533 million within King County including Seattle). Arena construction would support approximately 3,200 jobs and \$266 million in earnings within Seattle, with an additional 370 jobs and \$23 million in King County outside of Seattle (total of 3,570 jobs and \$289 million in King County including Seattle).	Same as Alternative 3	Same as Alternative 3
	Operation	No impacts	Same as Alternative 3	The gross regional economic activity associated with operating an 18,000-seat arena in the Stadium District area of Seattle would annually generate approximately \$260 million in economic activity in Seattle with an additional \$53 million	Same as Alternative 3	Same as Alternative 3

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 4 – KeyArena 20,000 Seat Arena	Alternative 5 – Memorial Stadium 20,000 Seat Arena
				<p>in King County (\$313 million total in King County including Seattle). The total regional annual economic impact generated is approximately 2,045 jobs and \$103 million in earnings in Seattle. The totals for King County including Seattle would be 2,473 jobs and \$130 million in earnings.</p> <p>The fiscal benefits from taxes generated from the operations of the arena are projected at \$7.9 million annually to the City of Seattle with an additional \$0.6 million to King County.</p> <p>For Alternatives 2 and 3, increased traffic from Arena events would result in traffic delays to Port of Seattle and non-Port trucks. The estimated annual cost from these delays is \$115,584 for the total of Port trucks, and \$66,141 for the total of non-Port trucks.</p>		

**Table 1-2
Summary of Potential Mitigation Measures**

Environmental Element	Construction and Operation Phases	Mitigation Measures
Geology	Construction	<p>The following mitigation measures could potentially reduce or eliminate geologic impacts at the sites of all Action Alternatives:</p> <ul style="list-style-type: none"> • Designing the new structures according to relevant and appropriate seismic design methods to mitigate liquefaction and ground settlement. Site soils would also be improved as necessary to reduce the risk of liquefaction and related seismic damage. • Designing the new structure to meet or exceed earthquake loading requirements in the latest issues of the relevant and appropriate building codes. • Implementing best management practices to mitigate adverse effects of sedimentation and erosion, and offsite migration of silt-rich soil and turbid water. • Implementing vibration monitoring if necessary to prevent offsite adverse effects. • Sampling and analyzing onsite soil and groundwater in order to determine the presence or absence of contamination. If contaminated soil and / or groundwater is encountered during the investigation and / or construction, and depending on the contaminant concentrations, the materials could potentially require special handling, treatment, transport, and /or disposal at offsite locations. <p>The following measure could potentially reduce or eliminate geological impacts at the site of Alternatives 2 and 3:</p> <ul style="list-style-type: none"> • Constructing the proposed structure on deep foundations that extend through the compressible soils to denser bearing material in order to mitigate foundation settlement. <p>The following measure could potentially reduce or eliminate geological impacts at the sites of Alternative 4 or 5:</p> <ul style="list-style-type: none"> • Conducting a detailed geotechnical investigation to understand the subsurface conditions in support of project design. As part of the study, identify measures to mitigate long-term foundation settlement and seismic hazards during the project design and construction.
	Operation	No mitigation measures are required.
Air Quality	Construction	<p>Construction activities would comply with the PSCAA regulations that require reasonable precautions to minimize fugitive dust (PSCAA, 2013b). Construction equipment also would include emission-control devices to reduce CO, GHGs, and particulate emissions from gasoline and diesel engines.</p> <ul style="list-style-type: none"> • Spraying water, when necessary, during demolition, grading, and construction activities to reduce emissions of particulate matter. • Covering dirt, gravel, and debris piles to reduce dust and wind-blown debris. • Covering open-bodied trucks to reduce particulate matter blowing off trucks or dropping on roads while transporting materials. Alternatively, wetting materials in trucks or providing adequate freeboard (space from the top of the material to the top of the truck) could be used to reduce dust and deposition of particulate matter. • Providing wheel washers at construction sites to remove particulate matter from vehicle wheel wells and undercarriages before they exit to decrease deposition of particulate matter on area roadways. • Sweeping public streets, when necessary, to remove particulate matter deposited on paved roads and subsequent wind-blown dust.

Table 1-2 (Continued)
Summary of Potential Mitigation Measures

Environmental Element	Construction and Operation Phases	Mitigation Measures
		<ul style="list-style-type: none"> • Turning off construction trucks and engine-powered equipment during long periods of non-use, instead of being left idling, to reduce exhaust emissions and odors. • Requiring emission-control devices on construction equipment and using relatively new, well-maintained equipment to reduce exhaust emissions of CO, GHGs, and particulate matter from engine exhaust. • The project would include a CTMP to reduce temporary traffic delays on area streets.
	Operation	No mitigation measures are required.
Water	Construction	<p>The following measures could be used to mitigate impacts to water and water quality at the site of Alternatives 2 and 3:</p> <ul style="list-style-type: none"> • If groundwater as a result of the installation of retaining walls becomes an issue, identify and implement engineering solutions, such as the installation of a perimeter drainage system. • In order to prevent schedule delays during construction as a result of the potential presence of contaminated groundwater, complete a groundwater quality investigation well in advance of the scheduled construction in order to determine the presence or absence of the contamination. If contamination is found to be present, identify and implement engineering solutions to remedy the situation before the construction commences. • Based on existing soil properties and the total depth of cover over the pipe, it may be necessary to monitor the ground over the top of the pipe for settlement, and any extremely heavy construction loads may need to be restricted from traveling over the interceptor sewer. • Ground vibrations would likely occur during construction and demolition. Conduct studies as necessary to determine how to prevent or mitigate the potential to cause damage to underground utilities. Implement vibration monitoring during construction to prevent any damage to the Elliot Bay Interceptor. • It is important to keep the route of the interceptor available for maintenance and repairs. Avoid construction activities within S. Massachusetts Street that would prevent maintenance personnel from gaining access either in an emergency or for routine maintenance operations. <p>No mitigation measures have been identified to be required for impacts of the construction of an arena at the site of either Alternative 4 or 5.</p>
	Operation	No mitigation measures are required.
Scenic Resources	Construction	No mitigation measures are required.
	Operation	No mitigation measures are required.
Noise	Construction	<p>Construction mitigation measures could include:</p> <ul style="list-style-type: none"> • Limiting noisier construction activities to between 7:00 AM and 10:00 PM would eliminate construction noise and vibration during sensitive nighttime hours. • Equipping engines of construction equipment with adequate mufflers, intake silencers, or engine enclosures would reduce engine noise. • Requiring contractors to use the quietest equipment available, maintain all equipment, and train their equipment operators would reduce noise levels and increase efficiency of operation. • Turning off construction equipment during prolonged periods of nonuse would eliminate noise from construction equipment during those time periods.

Table 1-2 (Continued)
Summary of Potential Mitigation Measures

Environmental Element	Construction and Operation Phases	Mitigation Measures
		<ul style="list-style-type: none"> • Locating stationary equipment and construction staging areas away from sensitive uses would reduce noise impacts because of greater distances to noise-sensitive receptors. The actual construction staging would be determined during the final design phases of the project. • Installing temporary noise barriers, shields, or curtains around stationary construction equipment would decrease noise levels at nearby sensitive receptors. • Routing construction trucks to avoid sensitive receptors. • Implementing vibration monitoring if necessary to prevent offsite adverse effects. • Notifying nearby land uses in advance when noise-generating construction activities are scheduled. A telephone hotline number could be published and maintained by the construction company to directly receive calls from the public on noise and vibration impacts and other construction issues.
Land Use	Construction	<p>No mitigation measures are required for Alternatives 2, 3 and 5.</p> <p>For Alternative 4, if an arena were to replace the existing KeyArena, existing tenants would be displaced for up to 2 years during the construction period, and may be permanently displaced. Potential mitigation measures include:</p> <ul style="list-style-type: none"> • Notice to existing tenants of the construction period as far in advance as possible. • Assistance in identifying alternative locations in which to hold games, concerts and other events. • Assistance in publicizing the relocation to the potential attendees. • Assistance in working with the ArenaCo event schedulers to determine whether the displaced tenants could come back to the new arena once construction is completed.
	Operation	<p>No mitigation measures are required.</p>
Historic and Cultural Resources	Construction	<p>Alternatives 2 and 3</p> <p><u>Historic Resources:</u> None of the buildings proposed for demolition appear to meet any of the six criteria for historic landmark status. If the landmark status nomination is denied, mitigation would not be required as impacts to historic resources would not occur. If the landmark status nomination is upheld by the Landmarks Preservation Board, the proponent would work with staff to develop a Controls and Incentives Agreement. In addition, any changes to historic features would follow the Certificate of Approval Process.</p> <p><u>Cultural Resources:</u> An Unanticipated Discovery Plan would be prepared for the project that provides for notification and consultation among the State Historic Preservation Office Department of Archeology and Historic Preservation (DAHP), Tribes, and the City related to discoveries of unknown archaeological materials or human remains.</p> <p>Alternative 4</p> <p><u>Historic Resources:</u> If a new arena were to be built at KeyArena, the existing building would have to be submitted through a landmarks status nomination. If the nomination were denied, a possible outcome would be the removal of KeyArena. If the landmark status nomination is upheld by the Landmarks Preservation Board, the proponent would be required to work with staff to develop a Controls and Incentives Agreement. The agreement may include measures such as preservation of the iconic roofline and façades. In addition, any changes to historic features would follow the Certificate of Approval Process or may be denied.</p>

Table 1-2 (Continued)
Summary of Potential Mitigation Measures

Environmental Element	Construction and Operation Phases	Mitigation Measures
		<p><u>Cultural Resources</u>: If a new arena were to be built at KeyArena, an Unanticipated Discovery Plan would be prepared that provides for notification and consultation among the DAHP, Tribes, and the City related to discoveries of unknown archaeological materials or human remains.</p> <p>Alternative 5</p> <p><u>Historic Resources</u>: If an arena were to be built at Memorial Stadium, the existing building and Memorial Wall would have to go through the landmarks status nomination process. If the nomination were denied, a possible outcome would be the removal of Memorial Stadium and relocation of the Memorial Wall. If the landmark status nomination is upheld by the Landmarks Preservation Board, the proponent would work with staff to develop a Controls and Incentives Agreement. The agreement may include measures such as preservation of the roofline or façades. In addition, any changes to historic features would follow the Certificate of Approval Process.</p> <p><u>Cultural Resources</u>: If an arena were to be built at Memorial Stadium, an Unanticipated Discovery Plan would be prepared that provides for notification and consultation among the DAHP, Tribes, and the City related to discoveries of unknown archaeological materials or human remains.</p>
	Operation	No mitigation measures are required.
Transportation	Construction	<p>All Build Alternatives – Construction Management Plan</p> <p>A construction management plan would be required as a condition of permit approval. The plan would include the following:</p> <ul style="list-style-type: none"> • Central Construction Coordination Office. During construction, the construction manager shall maintain coordination with the existing venues and the Port of Seattle to advise them of major phases of construction that may create constraints or disruption along roads and sidewalks in the immediate vicinity of the Arena. • Construction Hours and Sensitive Receivers. Identify demolition and construction activities within permissible construction hours. • Construction Noise Management. Include the requirement that all demolition and construction activities shall conform to the Noise Ordinance, except as approved through the variance process. Identify and list techniques and measures to minimize or prevent demolition and construction noise including: timing restrictions, noise reduction construction technologies, process modifications. • Measures to Minimize Noise Impacts. List measures to be implemented to reduce or to prevent noise impacts during demolition and construction activities during standard and non-standard working hours. • Construction Milestones. Include a description of the various phases of demolition and construction, including a description of noise and traffic generators, and anticipated construction hours for each phase. • Construction Parking Management. Identify areas for construction worker parking. As part of the agreement with the Arena, the general contractor would develop a construction worker parking program, so available public off-street and on-street parking is not adversely impacted by the influx of this large temporary population of workers. This would involve remote parking with a shuttle service, use of parking and loading areas in vacant buildings, or other means of providing construction worker parking without impacting existing on- and off-street public parking. • Construction Traffic/Street and Sidewalk Closures. As part of the Arena construction, the construction manager would be required to identify anticipated street closures, the timing for street closures, and the detour routes and

Table 1-2 (Continued)
Summary of Potential Mitigation Measures

Environmental Element	Construction and Operation Phases	Mitigation Measures
		<p>signing plan to guide drivers, bicyclists and pedestrians around these restrictions. The CMP shall identify potential sidewalk, transit stop and bicycle lane closures or rerouting, and shall consider the need for construction truck traffic to avoid peak traffic periods (e.g., 6-9 AM, 3-6 PM). This proposal would be reviewed and coordinated with SDOT, the Port of Seattle, and others nearby venues through the Maintenance of Traffic Task Force (MOTTF).</p> <ul style="list-style-type: none"> • Off-site Construction Coordination. The Transportation Coordinator would regularly attend and / or be informed by the Maintenance of Traffic Task Force (MOTTF) relating to utility and road projects that would potentially impact Arena and other event access in the immediate area as well as more regional transportation projects like the SR 520 and Mercer Corridor projects that shift traffic patterns and may impact access to the Arena. • Priority Truck Routing and Loading. Develop demolition, earthwork excavating, concrete and other truck routing plans and submit those plans for approval through SDOT for site-specific development. The arena general contractor would specify priority truck routes and loading areas as part of a coordinated Construction Traffic Control Plan. This plan could not only be reviewed by SDOT but also could be coordinated with other venue transportation managers and the Port of Seattle to ensure that there are minimal conflicts with existing and scheduled operations. <p>The following elements shall be included in the CMP if applicable.</p> <ul style="list-style-type: none"> • Schedule the most intensive construction activities such that they are spread out over time and prohibit material deliveries from leaving or entering the area during AM and PM peak hours when feasible. • Schedule street closures and other disruptions to the street system during off-peak periods, unless approved for other hours by SDOT to minimize impacts to the system. • Provide safe pedestrian and bicycle circulation adjacent to the construction site through the use of temporary facilities, detours, and signs. • If construction activities cause the need to close on-street parking adjacent to the site, coordinate such closures with SDOT and obtain appropriate street use permits.
	<p>Operation</p> <p>Physical Capacity and Safety Improvements</p>	<p>Alternatives 2 and 3 – Required Mitigation or Mitigation Included in Project Proposal</p> <ul style="list-style-type: none"> • S. Massachusetts Street Realignment. As part of the Proposed Action, S. Massachusetts Street between Occidental and 1st Avenues S. would be realigned to the north to improve the direct alignment of the street with the section immediately east of Occidental Avenue S. This would enhance accessibility to the Safeco Field garage and service road. In addition, it would allow the pedestrian plaza at the north side of the Arena to be generous in size and limit the potential for pedestrian spillover onto S. Massachusetts Street, avoiding the potential for conflict with S. Massachusetts Street traffic. This realignment would also improve the alignment of this segment of S. Massachusetts Street with the segment west of 1st Avenue s. • North-South On-Site Connection. As part of the Proposed Action, a north-south connection parallel to the proposed vacated Occidental Avenue S. would link S. Holgate Street with the extension of S. Massachusetts Street, along the east side of the property. This link could serve as direct ingress and egress to the Safeco Field garage, as well as replace the connection to the south for emergency and service vehicles to the Safeco Field garage, surface parking, and service and emergency road. • Signal System Upgrades. ArenaCo would be required to make a pro-rata contribution to projects such as the ITS

Table 1-2 (Continued)
Summary of Potential Mitigation Measures

Environmental Element	Construction and Operation Phases	Mitigation Measures
		<p>Next Generation project list. The results of the transportation analysis suggest that there is an underlying need for area-wide improvements focusing on achieving a higher efficiency from the existing signal system as well as providing additional east/west connectivity in light of the increase in future rail activity.</p> <ul style="list-style-type: none"> • Traffic Control Equipment Upgrades. ArenaCo would work with SDOT to upgrade the traffic control equipment at signalized intersections in the Stadium District to increase its reliability through improving communications with the SDOT traffic control center and by utilizing current Adaptive Traffic Control technology. These improvements are more than simply optimizing traffic signals but give signals the flexibility to respond to unanticipated surges, interruptions, and / or shift in traffic flows due to collisions, road construction projects and / or variation in tenant access patterns. • Lander Street Pro-rata Contributions. ArenaCo would be required to make a pro-rata contribution to the future grade separation of Lander Street. This has been identified based on existing and future deficiencies noted in the analysis. Further pressure would be put on the east/west capacity of the system and increases potential for vehicle/rail safety conflicts due to increases in the north/south rail activity and resulting decrease in capacity of the at-grade street crossings. • Pedestrian Improvements. Implementation of the following pedestrian improvements would contribute to increased safety and / or improved connectivity between the Arena and pedestrian connections to transit and / or offsite parking areas. <ul style="list-style-type: none"> ○ The north-south crossing of S. Atlantic Street at Occidental Avenue S. would be improved by: <ul style="list-style-type: none"> ▪ Providing manual traffic control at the north-south crossing before, during, and after Arena events, and / or, ▪ Developing a more-permanent improvement such as adding a staircase to the south side of S. Atlantic Street connecting to 3rd Avenue S. ○ To improve the connectivity and safety of the east-west pedestrian connection between the Arena site and 4th Avenue S., ArenaCo would be required to develop or implement one of the following: <ul style="list-style-type: none"> ▪ Construction of a pedestrian bridge from the Arena along S. Holgate Street to the east spanning such that it clears the easternmost railroad tracks. This would reduce the need for surface management pedestrian traffic control measures before or after events. The pedestrian bridge should directly connect to the Arena with a pathway wide enough to assure free flow of pedestrians during ingress and egress conditions. ▪ Alternatively, the applicant may provide operating shuttles or jitneys that follow a fixed route on a fixed headway that link the Washington State Ferry terminal, Link Light Rail and Transit Stations to / from the Arena. The intent of these jitneys and / or shuttles would be to provide an incentive for walk-on ferry passengers, transit users and persons parking in more remote offsite parking spaces. A specific shuttle plan would be developed as part of the TMP. The shuttle option would be coupled with pedestrian lighting and sidewalk improvements along 1st Ave S. from S. Holgate Street to S. Lander Street, and along S. Lander Street between 1st Avenue S. and 4th Avenue S. • At-Grade Way-Finding System. In coordination with other Stadium District stakeholders, ArenaCo could be required to contribute to development of a way-finding system to guide pedestrians and cyclists to the various

Table 1-2 (Continued)
Summary of Potential Mitigation Measures

Environmental Element	Construction and Operation Phases	Mitigation Measures
		<p>venues in the Stadium District. To the extent possible this system will link with and through the Pioneer Square, International District, and SoDo.</p> <p>Alternatives 4 and 5 – Required Mitigation</p> <ul style="list-style-type: none"> • Traffic Control Equipment Upgrades. Similar to traffic control equipment upgrades required for Alternatives 2 and 3, signal optimization enhancement would be desirable in the Seattle Center area in the event Alternative 4 or 5 are constructed. These improvements are more than simply optimizing traffic signals but give signals the flexibility to respond to unanticipated surges, interruptions, and / or shift in traffic flows due to collisions, road construction projects and / or variation in tenant access patterns. <p>Potential Mitigation Measures – these measures have been identified for consideration by DPD and SDOT as part of permit review and conditioning:</p> <ul style="list-style-type: none"> • Directional (Dynamic/Static) Event Signage. Directional signage between the freeway and other limited access facilities could be revised to incorporate the Arena. For Alternatives 2 and 3, this would complement the existing signage that currently exists for CenturyLink Field and Safeco Field and for Alternatives 4 and 5, it would further integrate with the Seattle Center signage. • Parking Guidance Signage. The Arena could participate with the City of Seattle in implementing a parking guidance system that provides direction and information regarding parking availability to those drivers who do not pre-purchase parking. This system could notify drivers as to the location and number of spaces available in public and event garages in the Stadium District or Seattle Center area, reducing excess and erroneous circulation. This system will be similar to the downtown parking guidance system. • SDOT Traffic Control Center Improvements. The Arena could contribute to improvements to the SDOT Traffic Control Center. The Traffic Control Center will have the ability to provide video feeds of information from WSDOT and SDOT traffic cameras and allow for posting of current conditions relating to congestion, parking, and traffic incidents that could help drivers’ decision-making as they travel to an event at the Arena, Safeco Field, and/or CenturyLink Field, for Alternatives 2 and 3, and the Seattle Center area attractions for Alternatives 4 and 5. <p>Potential Mitigation Measures Applicable Only to Alternatives 2 and 3</p> <ul style="list-style-type: none"> • Pedestrian Scale Street Lighting. Consider upgrading street lighting to enhance safety for pedestrians in several areas where there are preexisting low light levels. See Section 3.8 or Appendix E for potential locations. • Bicycle Route Improvements. The Arena could participate in marketing and upgrading the bike route system and prioritize bike lanes in the immediate vicinity of the site.
	<p>Programmatic Measures / Transportation Management Plan</p>	<p>TMP – a TMP would be required as a condition of permit approval. A summary of what the TMP could be required to include is listed below. The final elements of the TMP will be determined by DPD as part of permit approval. See Section 3.8 or Appendix E (Section 4.0) for a complete listing of the TMP elements:</p> <ul style="list-style-type: none"> • Event Management and Marketing: Event Transportation Coordinator; Event Access Guide; Event Scheduling Protocol and Management; and Port of Seattle Protocols. • Public Information and Marketing: Public Information Coordinator; Survey and Market Research; Static Electronic Media; Dynamic Electronic Media; Arena Call Center; Broadcast Advisory; Event Access Application; and Cross-Marketing with Area Businesses. • Traffic and Parking Demand Reduction: Transit, Premium Transit Service; Shuttles; Subsidized Transit Fares;

Table 1-2 (Continued)
Summary of Potential Mitigation Measures

Environmental Element	Construction and Operation Phases	Mitigation Measures
		<p>Charter Bus/Meal/Ticket Packages; Adding Cars to Link Light Rail Trains; Adding Link Light Rail Trains on a Pocket Track.</p> <ul style="list-style-type: none"> • Traffic and Parking Demand Reduction: Rail, Waterborne and Bicycle: Rail/Lodging/Ticket Packages; Facilitate Washington State Ferry Use; Facilitate Passenger Ferry Service; and Bicycle Racks. • Traffic and Parking Demand Reduction: Average Vehicle Occupancy (AVO): Priority Disabled, Taxi, and Limousine Loading; Higher Vehicle Occupancy Incentives. • Management of Vehicle and Parking Demand: Off-Street Parking: Participation in e-Park Program; Establish Parking Agreements; Parking for Event Staff; Off-Street Parking Reservations; and Pre-Sell Reserved Arena Parking. • Traffic Management Plan: Traffic Control Plan; Post-Opening Traffic Study; and Vehicle Wayfinding. • Implementation and Monitoring: Parking and Access Review Committee (PARC); Traffic Operations Group; and Periodic Program Review and Survey.
Public Services and Utilities	Construction	<p>All Build Alternatives <u>Fire:</u> The project would require coordination with the SFD to develop a plan for emergency vehicle access to and from the Project Area during construction. Intelligent traffic signal controls at signalized intersections would be used as a partial mitigation measure for the effects on response times for fire and emergency medical services, particularly during construction. If intelligent traffic signals cannot adequately mitigate the effects on emergency response, additional staff, apparatus, and facilities may be necessary. <u>Police:</u> The project developer would be responsible for maintaining security at construction and staging areas during construction.</p> <p>Alternatives 2 and 3 <u>Electrical:</u> Mitigation for the relocation of the overhead 26-kV overhead lines would include undergrounding of these facilities adjacent to the Project Site and relocating of the overhead lines located within the project site on Occidental Avenue S.</p> <p>Alternative 4 <u>Parks:</u> Mitigation may need to be provided for the removal and relocation of the Seattle Center Skatepark if Alternative 4 were implemented. The city would likely convene the Skate Park Advisory Committee to provide guidance to any potential relocation of the skate similar to the process followed in 2007 to determine the parks last relocation.</p> <p>Alternative 5 <u>Parks:</u> Advance notice of the closure of Memorial Stadium and construction schedules should be provided to adult soccer and football leagues currently using Memorial Stadium to assist in future scheduling of games.</p>

**Table 1-2 (Continued)
Summary of Potential Mitigation Measures**

Environmental Element	Construction and Operation Phases	Mitigation Measures
	Operation	<p>All Build Alternatives</p> <p><u>Fire</u>: The project would require the establishment of an emergency evacuation plan. Emergency evacuation plans provide procedures in the event of an emergency: e.g., guests should follow evacuation plan instructions given via the public address announcer, seating hosts, uniformed security, police and medical personnel. If an emergency requires evacuation, exit directions will be given over the public address system and scoreboards. During emergencies, elevators and escalators are not to be used. All guests will be directed to exit using the stairs or ramps.</p> <p><u>Police</u>: During events, high-volume traffic and pedestrian areas would require additional police support services to direct and control traffic and pedestrian movements.</p>

HOV – high occupancy vehicle
PSCAA – Puget Sound Clean Air Agency

SDOT – Seattle Department of Transportation
SFD – Seattle Fire Department

WSDOT – Washington State Department of Transportation

**Table 1-3
Summary of Secondary and Cumulative Impacts**

Element of the Environment	Secondary or Cumulative Impact
Geology	<p>Alternatives 2 and 3 would occur on a site that was the result of the cumulative disposal of fill during the early 1900s, which is currently susceptible to liquefaction during an earthquake. The construction of the foundation system for the Proposed Project or Alternative 3 would generally stabilize the site and limit future earthquake-related damage.</p> <p>Secondary effects related to the geology and soils would occur either farther from the project site footprint and / or later in time.</p> <p>Potential secondary effects for the Proposed Project or Alternative 3 include:</p> <p>The onsite silt-rich soil would be exposed to the weather during the proposed excavations and foundation construction. The exposed soils could be transported offsite. In addition, spillage from dump trucks and soil on truck tires could also result in similar consequences beyond the project site.</p> <p>Potential secondary effects common to all Action Alternatives include:</p> <p>Aggregate in the form of sand and gravel would be needed to mix with cement to create concrete and for use in onsite fills. The sand and gravel are sourced from gravel pits located within the Puget Sound area. The use of aggregate on the project would reduce the supplies of material that might be used elsewhere for other projects. However, the quantity required for the construction of an arena would be considered minimal</p> <p>Trucks would be transporting heavy equipment and / or construction materials to the project site and to remove excess soils and construction debris. The trucks could cause deterioration of nearby streets and roadways if the loads exceeded the strength of the roadway base material, leading to cracking or rutting of pavements.</p> <p>No secondary effects are anticipated during the operation of an arena at the Stadium District site, or at either of the Seattle Center area site, with respect to the geology and soils.</p>
Air	<p>Cumulative impacts on air quality would be related to short-term increases in construction activity.</p> <p>Long-term cumulative increases in traffic volumes and congestion would result from the combined arena event volumes under the Proposed Project, or Alternatives 3, 4 or 5, and from future growth in traffic resulting from other future projects in the area. At the Stadium District area under Alternatives 2 and 3, air pollutant emissions could increase from expansion of Port facilities, increased rail traffic, vehicular traffic diverted by tolling the new SR-99 Tunnel, and new residential development in the North Lot of CenturyLink Field. Near Seattle Center, air pollution emissions could increase from vehicular traffic diverted by tolling the new SR-99 Tunnel, and new residential and commercial development in the lower Queen Anne and South Lake Union areas.</p> <p>Secondary impacts on air quality could result from economic growth and changes in land uses induced by the development of a new arena. Any growth induced by a new arena would incrementally increase traffic volumes and associated traffic air pollutants. Although the location and specific amount of growth is unknown, incremental increases in traffic emissions likely would be small.</p>
Water	<p>For Alternatives 2 and 3, there would be cumulative impacts to water supply and discharge created by the development of a new Arena in conjunction with other development in the Stadium District area. Similar to Alternatives 2 and 3, for Alternatives 4 and 5 there would be cumulative impacts to water supply and discharge created by the development of a new arena in conjunction with other development in the Seattle Center area. New and larger buildings may cumulatively increase the need for additional water supply; however code-compliant plumbing fixtures are targeted toward reducing supply needs on a per-person basis. New code requirements for onsite detention of stormwater, utilization of "Green Stormwater Infrastructure" practices and "Green Area Factor," low-flow plumbing fixtures and water reuse design practices may reduce overall stormwater and sanitary sewer flows.</p>

Table 1-3 (Continued)
Summary of Secondary and Cumulative Impacts

Element of the Environment	Secondary or Cumulative Impact
Scenic Resources	<p>No secondary impacts would be expected.</p> <p>Cumulative impacts may result from future increased heights and densities of new development near these alternatives that could add to the obstruction of views of Puget Sound (Alternatives 2 or 3) or obstruct views of the Space Needle (Alternatives 4 or 5) from identified public parks. Adding a new building of the proposed size of the Arena would add to the skyline, extending the higher profile of buildings farther to the south than currently exists with the Safeco Field and CenturyLink Field (Alternatives 2 or 3) or in the Seattle Center area (Alternatives 4 or 5).</p>
Noise	<p>Secondary impacts on noise could result from economic growth and changes in land uses induced by the Proposed Project (Alternative 2) or Alternatives 3, 4 or 5.</p> <p>Cumulative impacts on noise would be related to short-term increases in construction activity near the sites.</p>
Land Use	<p>For Alternatives 2 and 3, there would be a cumulative impact of developing another large spectator sports facility adjacent to the two existing facilities, Safeco Field and CenturyLink Field and Event Center, in the area north of the industrial center. Land uses outside of the Stadium Transition Overlay District would likely change to serve the expanding needs and more commercial character of the Stadium District in contrast to the industrial-commercial and general industrial character of the Port of Seattle and the Greater Duwamish MIC.</p> <p>ArenaCo owns additional properties within and outside the Stadium Transition Area Overlay District. No development has been proposed for those properties, however development of the Proposed Project or Alternative 3 could induce the redevelopment of those properties for commercial uses designed to support the Arena or stadiums. New development would be subject to a site-specific evaluation under SEPA and Land Use Code development and use regulations.</p> <p>The Proposed Project could make the South Downtown area more attractive to non-industrial developers, which could indirectly result in changes to the use of some properties. Such changes could also encourage Port and Manufacturing Industrial Center-related development by providing support services (e.g., offices, office-related retail and eateries) to businesses and workers in the area (Port Terminals 46 and 30 are within a 15-minute (3/4 mile) walking radius of the proposed Seattle Arena site). Property values in the South Downtown area could rise and rents could increase for some businesses.</p> <p>Alternative 4 would not result in a secondary or cumulative land use impact since a new arena would be replacing a similar use (KeyArena) and not compounding uses.</p> <p>Alternative 5 could result in a secondary land use impact as the Seattle School District may need to construct a new stadium to accommodate school athletic activities, and that new stadium could potentially displace another existing use.</p> <p>During construction, there may be secondary impacts to nearby properties and businesses from loss of on-street parking, construction noise, and construction traffic.</p>
Historic and Cultural Resources	<p>Loss of historical landmarks would add to cumulative loss of historic structures; however any loss would be minimized through the Certificate of Approval Process and coordination with the Landmarks Preservation Board.</p>
Transportation	<p>Secondary Impacts for Alternatives 2 and 3</p> <p>There could be secondary and cumulative impacts to non-event transit users due to additional passengers using transit or park-and-ride lots to attend events at the Proposed Project (Alternative 2) or Alternative 3. Non-event transit users may find transit more crowded, fewer parking spaces at remote lots, and longer commute times during game days. The effective implementation of transportation demand reduction strategies through a Transportation Management Program would result in increases in demands on other transportation modes and systems, including pedestrians, transit, and bicycles.</p> <p>Short term parking restrictions may be implemented to support event related activities as a result of traffic control plans, or other efforts to balance traffic, transit, freight and goods movement, and parking demands.</p> <p>Cumulative Impacts for Alternatives 2 and 3</p> <p>There would be direct impacts to the movement of freight and goods caused by an increase in traffic volumes and congestion for the No Action Alternative by 2018 and 2030. These impacts would be increased on game days. Secondary and cumulative impacts to other motorists could occur by drivers choosing to</p>

**Table 1-3 (Continued)
Summary of Secondary and Cumulative Impacts**

Element of the Environment	Secondary or Cumulative Impact
	<p>reroute to avoid congestion at specific intersections. For freight, changes in Port of Seattle operations could change the amount of heavy trucks on some routes through the Stadium District, especially if service hours are extended later in the day and into the evening. This could add delay and congestion on arterial streets and intersections in the project vicinity, and add delay to some surface transit routes in SoDo.</p> <p>As light rail service in the region is expanded, transit service providers are anticipated to redeploy service to avoid duplication of transit service. It is unclear how transit service provided would redeploy service, but it is likely to impact event attendees traveling to stadium events.</p> <p>Major capital projects, such as Waterfront Seattle and the Southend Transit Pathways study, will change how transit connects through and to downtown Seattle. These projects will bring some bus transit stop locations closer to the Proposed Project (Alternative 2) or Alternative 3, resulting in a cumulative benefit to encourage event attendees to use transit for traveling to events.</p> <p>In general, the impacts identified for the Proposed Project (Alternative 2) or Alternative 3 without other concurrent events are similar in magnitude and slightly less than for a Mariners event. However, the addition of the Proposed Project (Alternative 2) or Alternative 3 would increase the number of days in the SoDo neighborhood where an event occurs and could add cumulatively to reduction of parking availability in the SoDo neighborhood.</p> <p>Short-term parking restrictions may be implemented to support event related activities as a result of traffic control plans, or other efforts to balance traffic, transit, freight and goods movement, and parking demands.</p> <p>Secondary Impacts for Alternatives 4 and 5 A 1st Avenue streetcar currently being considered as part of the Center City Transit Study would provide another way for event attendees, especially those using ferry services, to connect to Seattle Center. This would reduce the number of people using bus, monorail, and South Lake Union Streetcar transit services. The effective implementation of transportation demand reduction strategies through a Transportation Management Program would result in increases in demands on other transportation modes and systems, including pedestrians, transit, and bicycles.</p> <p>Cumulative Impacts for Alternatives 4 and 5 There would be direct impacts to the general vehicular traffic and to the movement of freight and goods caused by an increase in traffic volumes and congestion for the No Action Alternative by 2018 and 2030. These impacts would be increased on game days. Secondary and cumulative impacts to other motorists could occur by drivers choosing to reroute to avoid congestion at specific intersections.</p>
Public Services and Utilities	<p>Secondary Impacts for all Build Alternatives <u>Fire:</u> Construction of any of the four build alternatives could cause some minor delays in fire service response to the Project Area during construction. Such delays are typical for any major construction activity in and around downtown Seattle. As part of a Construction Management Plan, the project developer would work with the SFD to ensure that adequate access to the area is available during construction.</p> <p>Cumulative Impacts for All Build Alternatives <u>Utilities:</u> The construction of a new 750,000 square-foot spectator sports facility in Seattle at any of the potential locations would cumulatively add to the need for additional sources of natural gas, electricity, telecommunications, and solid waste pickup and handling. The needs for this type of facility would be similar to any large new facility and potential growth in Seattle is part of the forecasting in the load plans for each utility.</p> <p>Cumulative Impacts for Alternatives 2 and 3 A major long-term construction project, the Alaska Way Viaduct replacement, is in the vicinity of the site of Alternatives 2 and 3. The project, events at nearby facilities, and the viaduct replacement project would modify the transportation network in and around downtown, but are not expected to result in significant adverse operational effects on the provision of public services. Depending on the route used, some public service providers would experience increased traffic-related delay. Others would experience less traffic-related delay.</p> <p><u>Police:</u> Over the long term, the demand for police protection service in the vicinity of the Proposed Project or Alternative 3 could increase as a result of the cumulative effect of the proposal and other anticipated</p>

Table 1-3 (Continued)
Summary of Secondary and Cumulative Impacts

Element of the Environment	Secondary or Cumulative Impact
	<p>development projects in the Stadium District and larger SoDo area. Yet, as the city has grown and developed over the last 25 years, reported major crimes have shown a steady downward trend. The decline was continuous from 1988 to 2000. The lowest year for reported major crimes was 2012 when the major crime rate reported was 62 percent lower than the rate reported in 1988 (SPD - Major Crimes a 25-Year Review).</p> <p>Cumulative Impacts for Alternatives 4 and 5</p> <p>Two major long-term construction projects, the north portal of the Alaska Way Viaduct replacement and the Mercer Corridor Project, are in the vicinity of the Alternatives 4 and 5. In combination with construction of either Alternative 4 or 5 with events at nearby facilities, the viaduct replacement, and Mercer Corridor projects would modify the transportation network in and around downtown. Increased congestion may have operational effects on the provision of public services. Depending on the route used, some public service providers may experience increased traffic-related delay.</p>
Economics	A new arena in Seattle would add cumulatively to the venues available for sports and concerts.

**Table 1-4
Summary of Significant Unavoidable Adverse Impacts**

Element of the Environment	Significant Unavoidable Adverse Impact
Geology	No significant unavoidable adverse impacts to geology are expected.
Air	No significant unavoidable adverse impacts to air quality are expected.
Water	No significant unavoidable adverse impacts to surface or groundwater are expected
Scenic Resources	No significant unavoidable adverse impacts to scenic resources are expected.
Noise	Even with the identified mitigation measures, short-term significant unavoidable adverse noise impacts due to pile driving could occur from the construction of Alternatives 2 or 3.
Land Use	No significant unavoidable adverse impacts to land use are expected.
Historic and Cultural Resources	No significant unavoidable adverse impacts to historic or cultural resources are expected.
Transportation	<p>Significant unavoidable adverse impacts were found for the following sub-elements of transportation:</p> <p>Traffic Volumes</p> <ul style="list-style-type: none"> • No Action Alternative - peak hour traffic volumes would increase substantially over current levels in both the SoDo and Seattle Center vicinities. • All Build Alternatives - The order of magnitude of change in traffic volumes associated with an arena for any event case falls within the range of current event experience. There would be an increase in traffic volumes during peak conditions on event days, which would occur more frequently with an arena. A number of measures have been identified to reduce the level of increase in traffic volumes, including demand reduction, and management of vehicles to orient them to the most appropriate route. <p>Traffic Operations</p> <ul style="list-style-type: none"> • No Action Alternative - Several additional intersections in both the Stadium District and Seattle Center area are forecast to operate at LOS E or LOS F under the No Action Alternative conditions. • Alternatives 2 and 3 - Several additional intersections in the Stadium District are forecast to operate at LOS E or LOS F and with additional traffic due to events at the Arena. On event days, delays would be expected to increase as a result of Arena event traffic. • Alternatives 4 and 5 – Several additional intersections in the Seattle Center area are forecast to operate at LOS E or LOS F and with additional traffic due to events at an arena at the site of KeyArena or Memorial Stadium. On event days, delays would be expected to increase as a result of arena event traffic. <p>Freight and Goods Movement</p> <ul style="list-style-type: none"> • No Action Alternative - Several additional intersections in both the Stadium District and Seattle Center area are forecast to operate at LOS E or LOS F under the No Action Alternative conditions. These conditions would impact freight activity to the extent identified in the impact analysis. • Alternatives 2 and 3 - On event days, delays would be expected to increase as a result of Arena event traffic. These conditions would impact freight activity to the extent identified in the impact analysis. • Alternatives 4 and 5 - On event days, delays would be expected to increase as a result of Arena event traffic. These conditions would impact freight activity to the extent identified in the impact analysis. <p>Parking</p> <ul style="list-style-type: none"> • Alternatives 2 and 3 - The increase in event days anticipated with the Arena (especially the increase in high attendance event days) would result in the increased frequency of parking impacts. This results in greater competition for parking with other area stakeholders, including commercial businesses in neighborhoods such as SoDo, Pioneer Square, and the International District. • Alternatives 4 and 5 – As described in the impact analysis, the increase in event days anticipated with the Arena would result in increased frequency of parking impacts resulting in competition for parking throughout the primary, and, on occasion, the extended study area surrounding Seattle Center. <p>Pedestrian Safety and Connections</p> <ul style="list-style-type: none"> • Alternatives 2 and 3 - Increased frequency of events together with the proximity of the Arena to the S. Holgate Street rail crossings would increase the potential for conflict between pedestrians and rail, east of the site. If a pedestrian overpass were constructed, this issue would be largely

Table 1-4 (Continued)
Summary of Significant Unavoidable Adverse Impacts

Element of the Environment	Significant Unavoidable Adverse Impact
	<p>eliminated. With at-grade improvements together with increased manual control of pedestrians at crossings, the potential would be reduced but not eliminated.</p> <ul style="list-style-type: none"> • Alternatives 4 and 5 - No identified significant unavoidable adverse impacts are expected
Public Services and Utilities	No significant unavoidable adverse impacts to public services and utilities are expected.

Section 2 - Description of Alternatives

2.1 Proposed Action

WSA Properties III, LLC (ArenaCo) has applied to the City for the future construction of an approximately 750,000 square feet (sf), 20,000-seat spectator sports facility (Seattle Arena). ArenaCo's objective is to build and operate a 20,000-seat Seattle Arena for NBA and NHL home teams on a site located at 1700 – 1st Avenue S. As described in Section 2.2.3 Permitting Process, the design of the Proposed Project is subject to review by the Downtown Design Review Board (Downtown DRB) and the project design has been evolving in response to DRB comments. The current design package is available on line through the DRB website at; <http://www.seattle.gov/dpd/AppDocs/GroupMeetings/DRProposal3014195AgendaID4538.pdf> or at DPD's Public Resource Center.

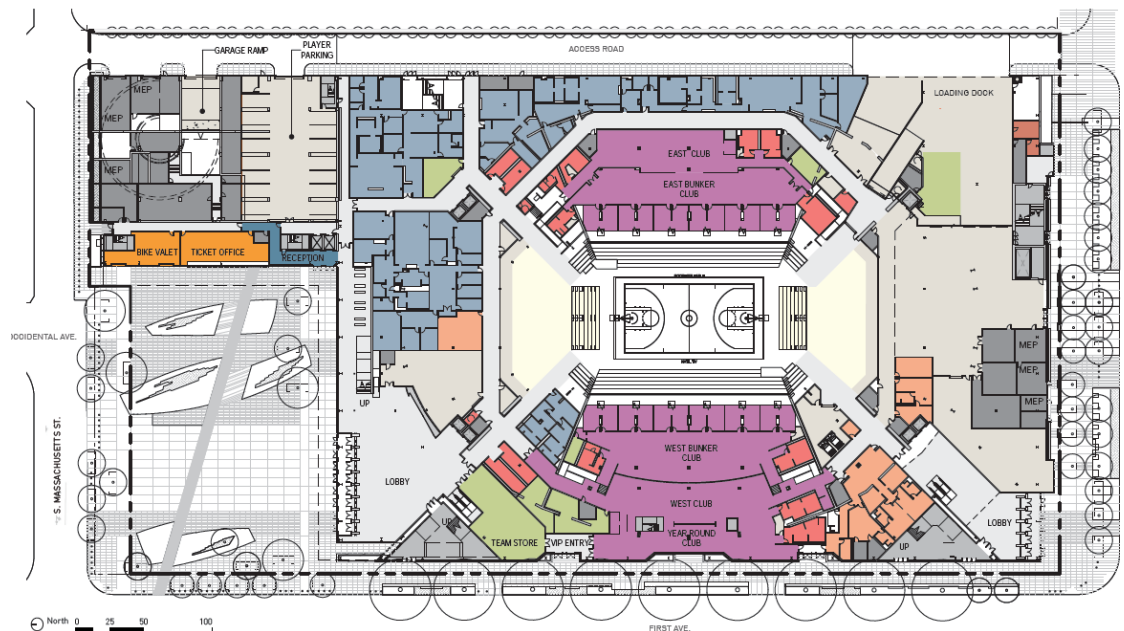


Figure 2-1

Stadium District Proposed Arena Site Plan

The Proposed Project (Alternative 2) would include the demolition of 8 existing structures of approximately 128,087 sf, and grading would occur for construction. The Proposed Project includes a proposed street vacation of the portion of Occidental Avenue S. between S. Holgate and S. Massachusetts Streets, and a realignment of S. Massachusetts Street between Occidental Avenue S and 1st Avenue S. Parking for the facility is proposed to be provided by use either of existing off-site parking or the construction of new off-site parking on a lot south of Holgate Street (referred to in this document as the "South Warehouse site") (See Figure 2-2).

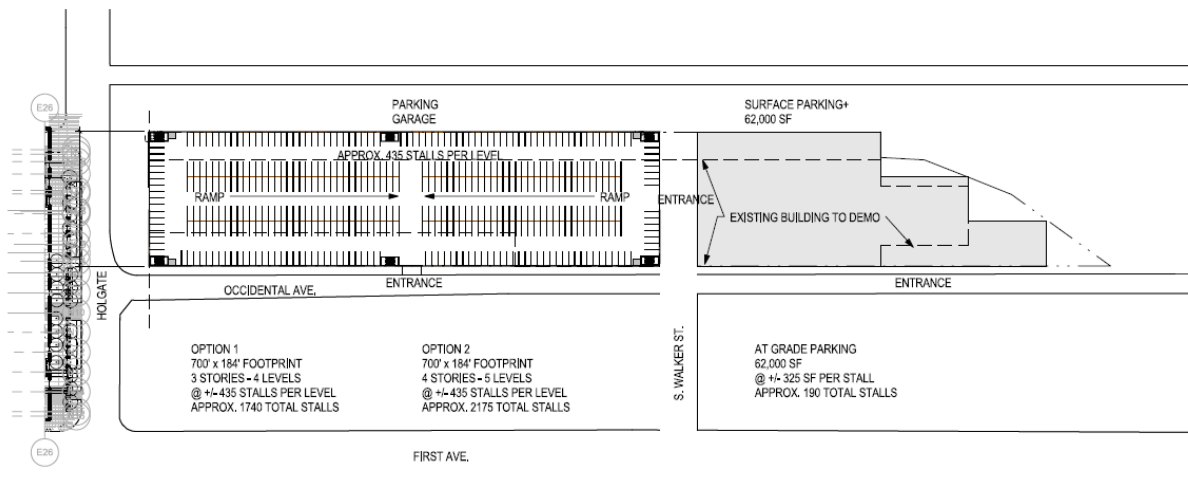


Figure 2-2

South Warehouse Site Parking Location

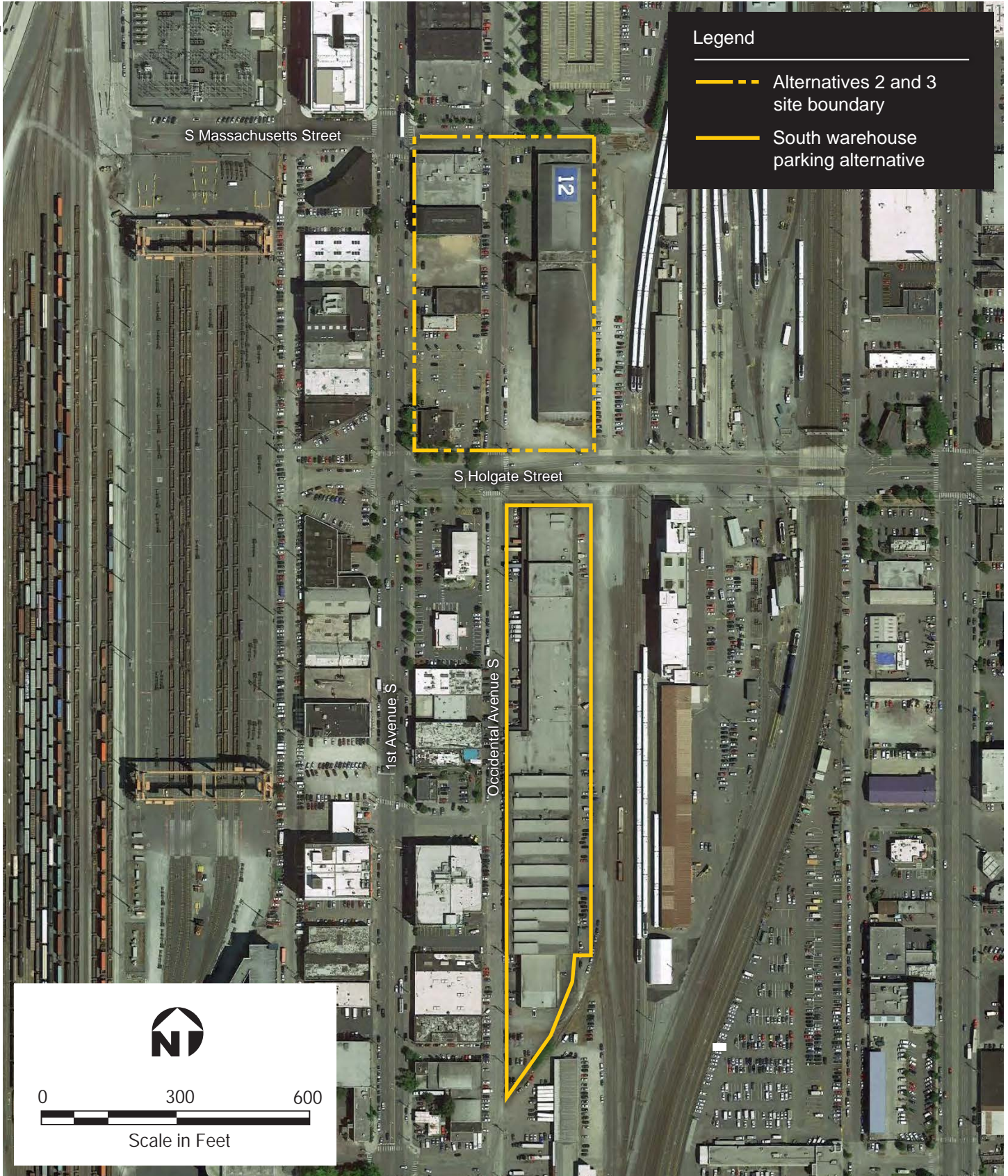
The proposed action includes all regulatory, transactional and other decisions necessary to accomplish the Project. The Project design includes a number of components intended to lessen environmental impacts including systems designed to reduce water and electrical use, stormwater runoff, and to encourage alternative forms of transportation (bicycle valet parking). This EIS also identifies potential mitigation measures that will be considered by decision-makers during permit decisions and permit conditioning.

The City and County’s objective is to determine whether to participate in ArenaCo’s private proposal to build and operate the Seattle Arena for NBA and NHL home teams. While the City and County could decide to pursue participation in a project to build and operate such an arena at a location different than the ArenaCo site, including the Memorial Stadium or Key Arena sites considered in this Environmental Impact Statement (EIS), no proposal for the City and County to participate in such a project currently exists other than ArenaCo’s proposal to build and operate the Arena on its South Downtown (SoDo) property.

2.2 Site and Site Vicinity

The proposed site is located within SoDo in the Stadium Transition Area, south of Safeco Field and CenturyLink Field. SoDo includes the areas of Pioneer Square, the International District, the Stadium Transition Area (Overlay District) and the North Duwamish neighborhood.

See Figure 2-3 Site Vicinity – Alternatives 2 and 3.



Source: Google Earth Pro

Figure 2-3
Site Vicinity
Alternatives 2 and 3

Warehouses, small businesses, and parking now occupy the site of the Proposed Seattle Arena. The site is surrounded by similar uses. Newer development has occurred in parcels to the west of 1st Avenue S. Newer uses include midrise office and mixed commercial uses with street-front retail and restaurants. To the north of the site is the Safeco Field parking garage. Recently, land uses in the immediate vicinity are trending away from warehouse to office, light manufacturing with storefront retail, and other small businesses associated with Safeco Field, and CenturyLink Field and Exhibition Center.

BNSF Railroad and Amtrak facilities are located to the east of the existing stadiums and the Proposed Seattle Arena site. Facilities include passenger and freight rail lines as well as several structures that support those activities. BNSF's loading yard is located one block to the west. Port of Seattle container shipping facilities are located west of the loading yard.

2.3 City of Seattle Permitting

2.3.1 Zoning

The Proposed Project site is located within the Stadium Transition Area Overlay zoning district. The underlying zoning of the Proposed Seattle Arena site is Industrial-Commercial, 85 foot height limit (IC-85). Spectator sports facilities are permitted outright in the zone. Within the Stadium Transition Area Overlay District, maximum height limits of the underlying zone are not applicable to spectator sports facilities.

The eastern portion of the Proposed Seattle Arena site (the portion along the railroad right-of-way) extends into General Industrial 2 (IG2) U/85 zoned land.

The applicant has proposed to use either existing off-site parking or to build new off-site attendee parking on the South Warehouse Site south of Holgate Street. Per SMC 23.74.008, footnote 1: "Parking required for a spectator sports facility or exhibition hall is allowed and shall be permitted to be used for general parking purposes or shared with another such facility to meet its required parking."

The Proposed Project is going through design review, and consistency with Land Use Code development standards will be reviewed as part of the review of the Master Use Permit (MUP) application.

2.3.2 Permitting Process

Before the project can be approved for construction, the Department of Planning and Development (DPD) must complete the SEPA compliance process and decide if the project complies with development regulations. The project must also be reviewed by the Downtown Design Review Board (DRB), and a proposed street vacation must be approved by the Seattle City Council.

A pre-submittal conference with DPD occurred on October 11, 2012, and an application for Early Design Guidance (EDG) was filed with DPD on October 18, 2012. EDG is the first step in the

Design Review process. During EDG, the project's designers describe their analysis of the urban context and explore at least three concept design alternatives that fit within the height and density the Land Use code allows for the site. In its review, the Board decides which of the City's design guidelines are the most important for the developer to address in the project's design. There have been four EDG meetings with the Downtown DRB: November 27, 2012, December 11, 2012, January 22, 2013, and March 5, 2013. On April 30, 2013, the applicant filed a Master Use Permit (MUP) application with more detailed drawings that incorporate the early design guidance. There have been two meetings with the Design Review Board as part of the recommendation phase of review, the first on August 6, 2013 and the second on September 17, 2013. The project will continue through Design Review. The MUP cannot be issued until both the SEPA and Design Review processes are complete and the City Council has made a decision whether to approve the proposed street vacation of a portion of Occidental Avenue S.

The proposed street vacation of a portion of Occidental Avenue S. must be reviewed by the Seattle Design Commission before the vacation is considered by the City Council. The proposal has been reviewed at six Design Commission meetings since 2012. The Commission's final review and vote will occur after the Final EIS is published in May 2015. The City Council is anticipated to consider the street vacation in summer 2015.

2.4 Project Activities

2.4.1 Construction

Construction of the proposed Arena is anticipated to take approximately two years after permit issuance. Construction activities would begin with the demolition of 8 existing structures of approximately 128,087 sf, followed by site preparation and foundation construction. See each element of the environment in Section 3 for a description of construction impacts and proposed mitigation measures.

2.4.2 Operation

The following event schedule has been anticipated for the new Arena. Arena events in conjunction with other events are shown graphically on Figure 2-4:

- **NBA Basketball** – 41 home games between November and mid-April; up to 16 home playoff games in April and May, and pre-season games in October.
- **NHL Hockey** – Similar to NBA; with a new Arena, the NBA and NHL seasons would generally run concurrently with additional NHL games occurring in September.
- **WNBA Basketball** – 17 home games from mid-May to late September, including playoffs.
- **Other Arena Events** – There is also the potential for an increased number of events unrelated to the professional sports teams. Based on discussion with the proponent a

total of 60-65 additional events were assumed to occur, distributed throughout the year, with a slightly higher concentration in November and December.

2.5 Alternatives

SEPA requires an EIS to discuss reasonable alternatives to a proposed project. When a project is for a “private project” on a specific site, the EIS is required “to evaluate only the no-action alternative plus other reasonable alternatives for achieving the proposal’s objective on the same site.” SMC 25.05.440 (D) (4).

A “private project” is defined as “any proposal primarily initiated or sponsored by an individual or entity other than an agency.” SMC 25.05.780. Because the proposed Arena was initiated by a private entity, ArenaCo, would be financed primarily by ArenaCo, and would be constructed and operated by ArenaCo, it is a private project for purposes of the alternatives analysis required by SEPA.

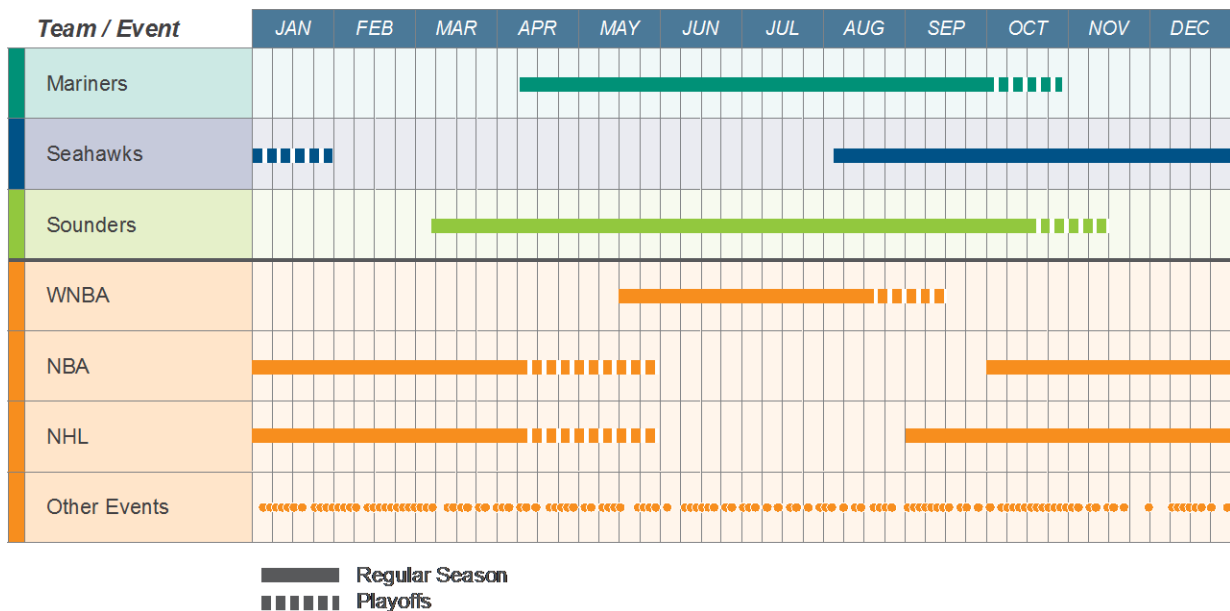


Figure 2-4
Anticipated Event Calendar

As stated above, the onsite alternatives must be reasonable alternatives that achieve the proposal’s objective. ArenaCo’s objective is to build and operate a spectator sports facility on property it owns in Seattle’s SoDo neighborhood. The facility is to accommodate NBA and NHL home teams in Seattle. This EIS includes analysis of two onsite alternatives.

ArenaCo proposed that the City and County help fund the Arena and participate in development of the Arena in other ways. To help inform future City and County decisions whether to participate in the ArenaCo private project, the City and County decided to compare the potential environmental impacts of ArenaCo’s Proposed Project in SoDo with the potential environmental impacts of building an arena at other locations. The additional locations are the KeyArena site at the Seattle Center and Memorial Stadium site adjacent to Seattle Center.

Analysis of those two locations is included in this EIS, in addition to the two onsite alternatives in SoDo and a “no action” alternative.

As noted above, while the City and County could decide to pursue participation in a project to build and operate such an arena at a location different than the ArenaCo site, including the Memorial Stadium or KeyArena sites considered in this EIS, no proposal for the City and County to participate in such a project currently exists other than ArenaCo’s proposal to build and operate the Arena on its South Downtown (SoDo) property.

The EIS includes an evaluation of the following alternatives:

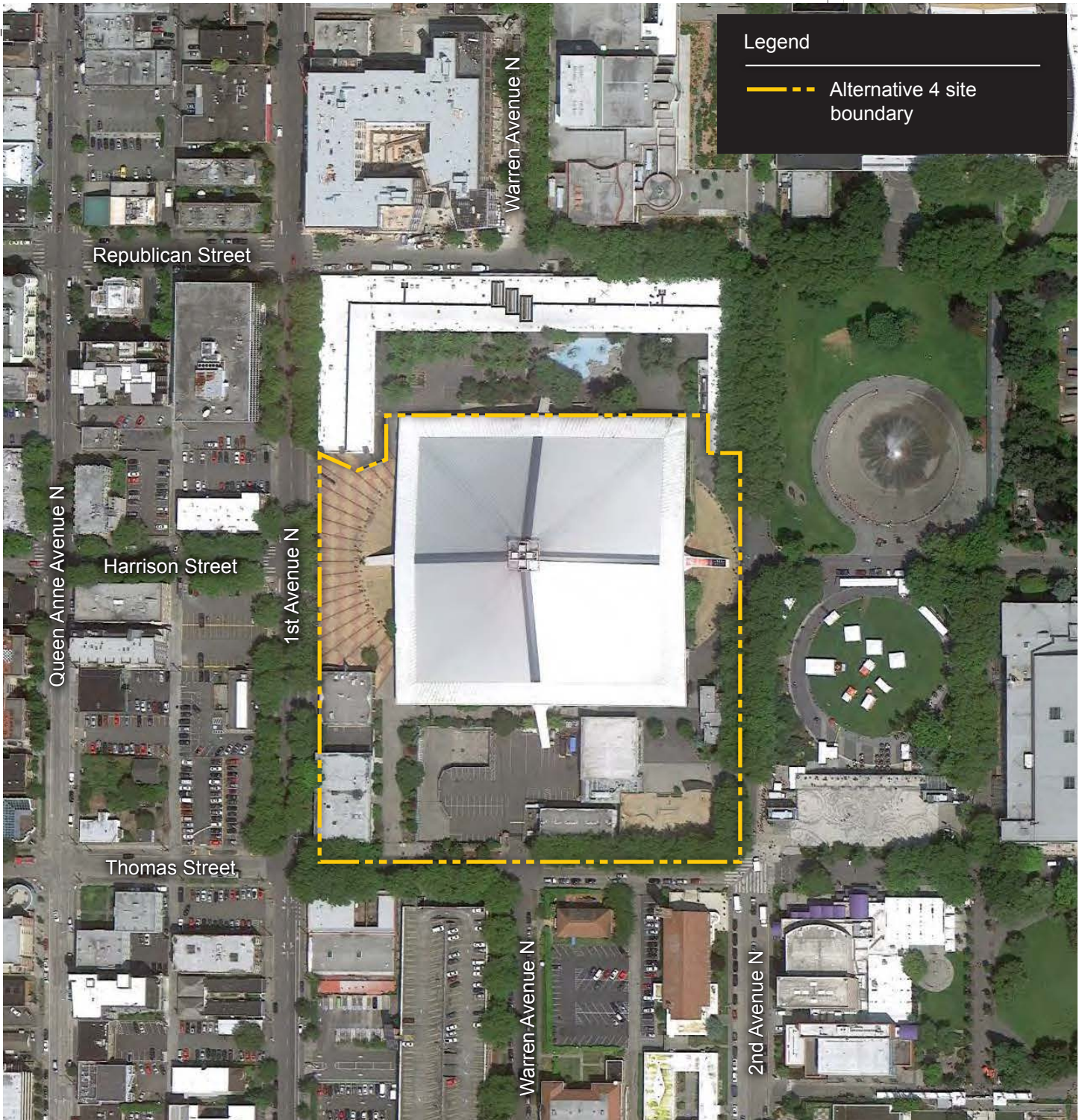
- **Alternative 1 – No Action Alternative**
- **Proposed Project (Alternative 2) – Stadium District 20,000-Seat Arena:** 20,000-seat spectator sports arena to be located at 1700 – 1st Avenue S.
- **Alternative 3 – Stadium District 18,000-Seat Arena:** 18,000-seat spectator sports arena to be located at 1700 – 1st Avenue South.
- **Alternative 4 – KeyArena 20,000-Seat Arena:** demolish the KeyArena at Seattle Center and replace it with a 20,000-seat spectator sports arena.
- **Alternative 5 – Memorial Stadium 20,000-Seat Arena:** demolish the Seattle School District’s Memorial Stadium and replace it with a 20,000-seat spectator sports arena.

The locations of the action alternatives are shown on Figures 2-3, 2-5, and 2-6.

2.6 Alternatives Considered But Not Advanced

In addition to the five alternatives to be analyzed in the EIS, the City and County considered whether to evaluate other locations for an arena for comparative purposes, but due to various constraints such as minimum parcel size, zoning, and accessibility, none of those locations were deemed to be appropriate for further study. The other locations that were considered but not advanced for further analysis in this EIS are described in Appendix A.

The City and County also considered whether remodeling the KeyArena would be an option. Between 2004 and 2008, Seattle Center studied how the KeyArena could be remodeled to meet current NBA standards. There have been diverse opinions by various NBA ownership groups as to whether this study, “*NewArena Imagine the Future*” successfully met current NBA building standards. Because the existing basketball seating bowl was to be retained, the proposal did not meet NHL standards. While the KeyArena could work as an interim facility for basketball and hockey, remodeling the KeyArena would not meet the project purpose or objective of building and operating an arena for Seattle NBA and NHL home teams.



Source: Google Earth Pro

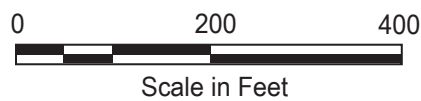
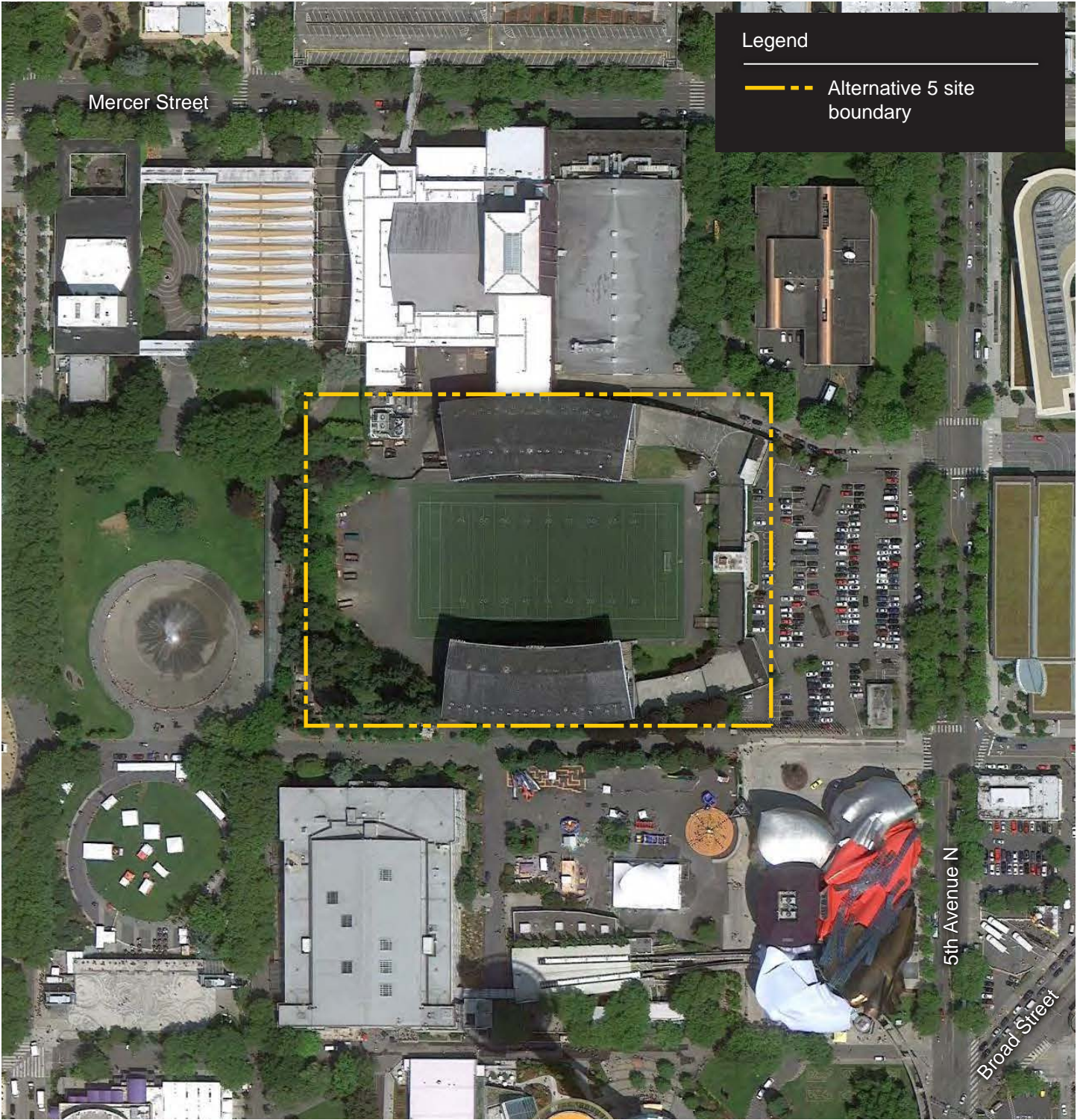


Figure 2-5
**Site Vicinity
 Alternative 4**



Source: Google Earth Pro

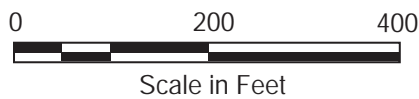


Figure 2-6
**Site Vicinity
 Alternative 5**

2.7 Benefits and Disadvantages of Delaying Project Implementation

If ArenaCo chose to delay construction of the Arena, potential benefits would include:

- Delaying construction impacts and perhaps avoiding conflicts with other construction projects occurring in the SoDo Seattle area.
- Allowing more certainty regarding future traffic conditions resulting from planned improvements to surrounding roadways (SR 99 Bored Tunnel) and transit (Sound Transit Link light rail and additional Metro routes).

The disadvantage of delaying construction may be to delay or reduce the likelihood of the presence of an NBA and NHL team in Seattle, with the resulting loss of the jobs and economic stimulus that major sports facilities can provide.

2.8 2018 Operation Impacts

At the time of publication of the Draft EIS in August 2013, it was anticipated that the Seattle Arena would be completed by 2016 prior to completion of the Waterfront Seattle project and Link Light Rail (Northgate, East, and Lynnwood). The Draft EIS included an analysis of potential traffic impacts for 2016 – 2018, the period of time between the opening of the Arena and the completion of major construction projects. The year of opening for the Arena is now estimated to be 2018. This EIS includes a review of potential transportation impacts for 2018 when all of the major infrastructure improvements (Alaskan Way Viaduct, Waterfront Seattle, SR 520 Bridge Replacement, Mercer Corridor, and Link Light Rail (University) would be substantially complete. The discussion of interim operational impacts has been eliminated from this EIS and it is no longer relevant.

Section 3 - Environmental Analysis

3.1 Geology and Soils

3.1.1 Stadium District Alternatives - Alternatives 2 and 3

3.1.1.1 Affected Environment

Topography

The site of the Proposed Project (Alternative 2) and Alternative 3 is located within the area of Seattle that was formerly tidelands until it was filled in the early 1900s. As shown on Figures 3.1-1 and 3.1-2, the topography of the general area and project site is flat-lying with a very gentle downward gradient of less than one percent to the west, in the direction of Elliott Bay.

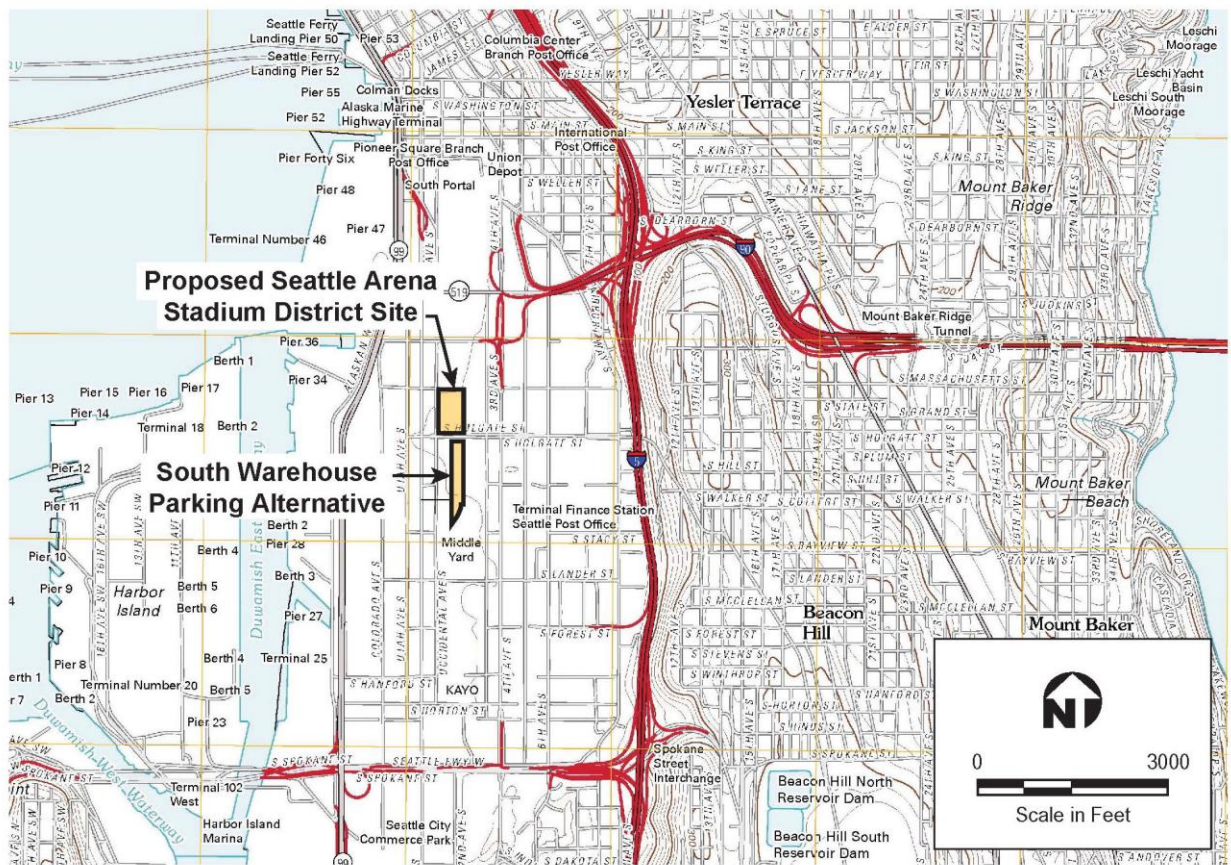
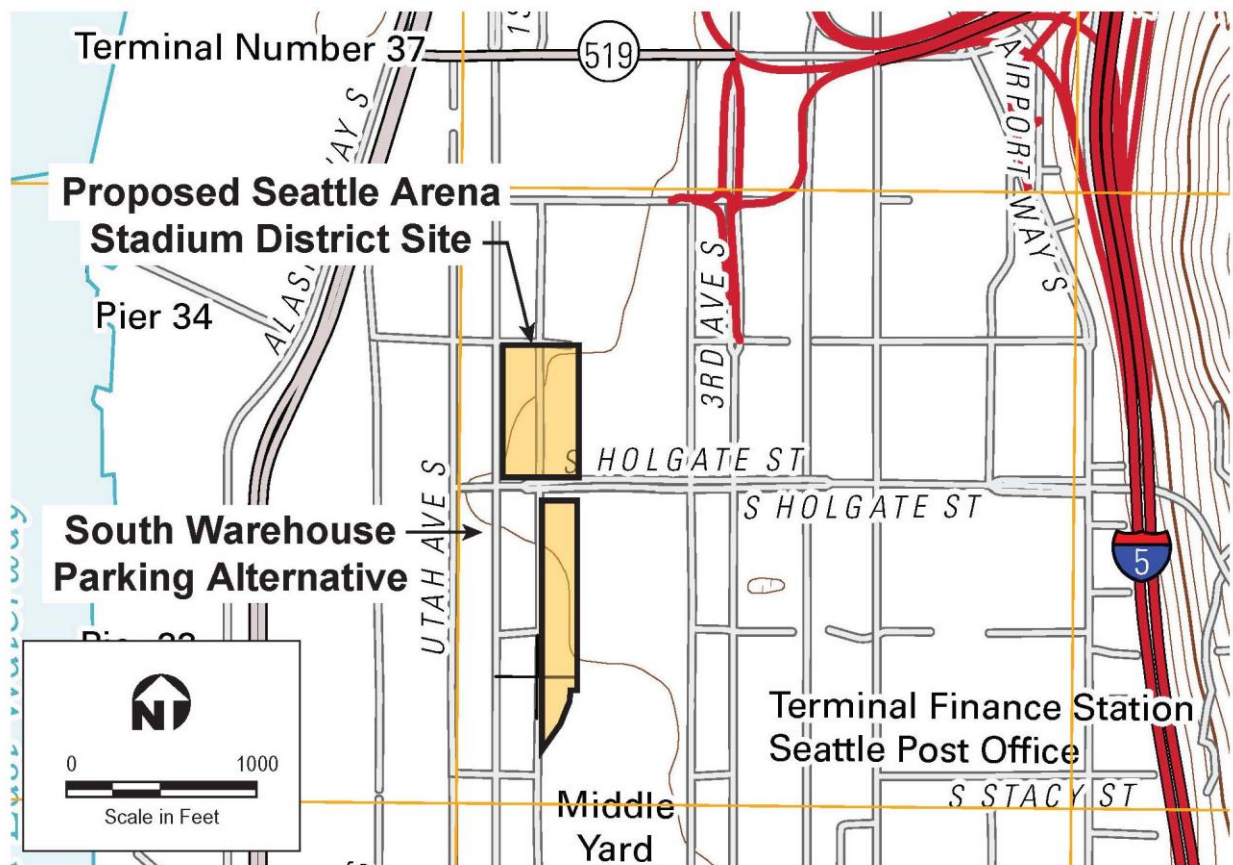


Figure 3.1-1
Regional Topography



Source: USGS 7.5-minute topographic quadrangle, Seattle South, Washington, 2011

Figure 3.1-2

Stadium District Site Topography

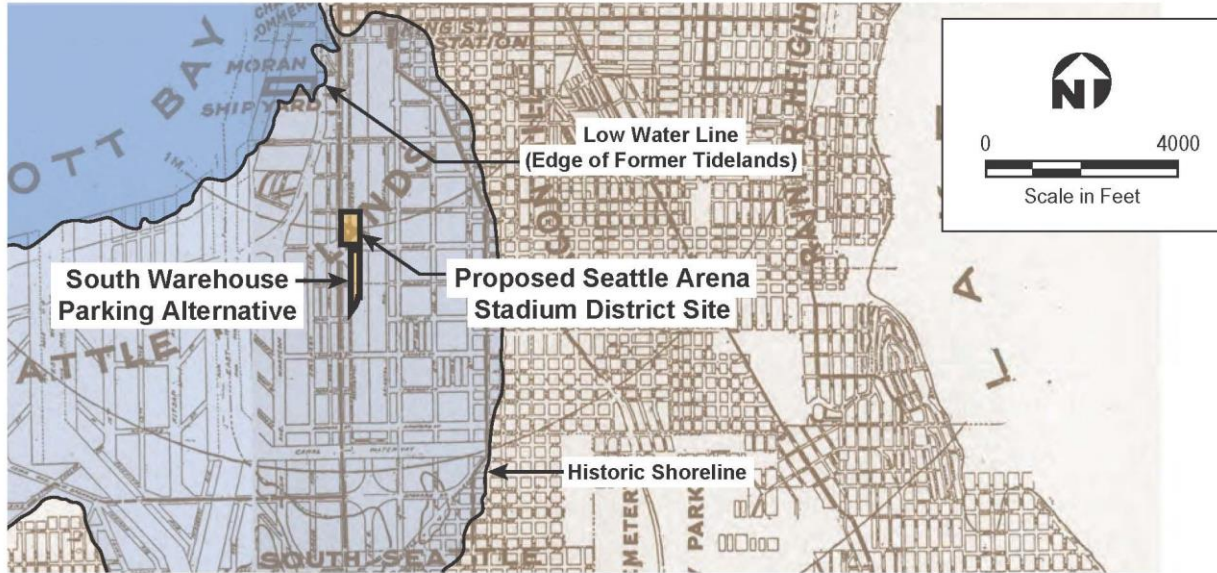
Geology and Soils

The geology within the Puget Sound region is primarily the result of glaciation that occurred between about 2 million to 10,000 years ago, which is known as the Pleistocene Epoch.

Upwards to several thousands of feet of ice were present at that time. The glaciation resulted in both the scouring of the landscape and the deposition of glacial materials, which includes silt, sand, and gravel with occasional cobbles and boulders. Within the general area of the project site, the depth to bedrock is on the order of hundreds of feet below the ground surface (Yount et al. 1985).

The project site is located within an area of extensive in-filling resulting from the re-grading of the downtown area of Seattle more than 100 years ago, during which time millions of cubic yards of hydraulic fill were transported to fill the former tidelands. In addition, dredged soil from the Duwamish River and Elliott Bay may have also been deposited within the area of the project site.

To illustrate the amount of fill placement, Figure 3.1-3 shows the historic shoreline and the former edge of the tidelands at the low water line with respect to the project site. The photographs presented on Figures 3.1-4 through 3.1-6 further show the conditions within the general project site area prior to the fill placement.



Source: Souvenir Guide of the Alaska-Yukon-Pacific Exposition, 1909

Figure 3.1-3
Historic Shoreline of Elliott Bay



Figure 3.1-4
Beacon Hill and First Hill from Tideflats, ca. 1904
(exact location unknown)

(Source: Ashahel Curtis ca. 1904; University of Washington Libraries, Special Collections Division)



Figure 3.1-5

Elliott Bay in 1901 Before Tidelands Were Filled

(Source: Ashahel Curtis 1901; University of Washington Libraries, Special Collections Division)



Figure 3.1-6

Seattle Tideflats from Beacon Hill, ca. 1895-1898

(Source: Seattle Municipal Archives 130374)

The characteristics of geology within the area of and underlying the project site are based on historic and current (Hart Crowser 2013) subsurface explorations, geotechnical laboratory classification of soil samples, and field observations.

Historical boring logs were completed within the immediate vicinity of the project site and were reviewed by the Washington Department of Natural Resources Subsurface Geology Information System (WADNR 2013). In addition, two borings and two cone penetrometers were advanced on the project site. The borings were drilled to depths of about 155 and 157 feet below the ground surface, and the cone penetrometers were advanced to depths of about 117 and 135 feet below the ground surface.

Geophysical data in the form of downhole shear wave velocity measurements were also collected. Vibrating wire piezometers were installed in the two borings in order to measure the depth to groundwater.

The locations of both the nearby historical and onsite recent explorations are presented on Figure 3.1-7. As shown on Figure 3.1-8, which is a conceptual geologic cross section, the subsurface explorations completed on the project site encountered four general soil units.

Starting at the ground surface, the four units of soil composition located on or within the vicinity of the Stadium District site are:

Loose Fill: This unit typically consists of very loose to medium dense sand, silt, and gravel. Wood debris and abandoned timber piles may be encountered in this unit. The thickness varies but is generally 10 to 20 feet.

Loose to Medium Dense Sand and Silt: This unit is generally characterized as inter-bedded alluvial and estuarine deposits. Alluvial deposits typically consist of very loose to medium dense sand to silty sand. Estuarine deposits typically consist of very soft to stiff silt to very sandy silt but may locally include clay. Abandoned timber piles may be encountered in this unit as well. This unit extends to the glacial soils noted below.

Very Dense Sand and Gravel: This unit of glacial soil typically consists of dense to very dense sand and gravel and may include cobbles and boulders. The expected depth to this unit is about 100 to 140 feet below the existing ground surface. These soils are glacially over-consolidated and occasionally cemented and are very strong.

Hard Silt and Clay: This unit of glacial soil typically consists of glacially over-consolidated, hard silt and clay. This unit has a much lower permeability than the overlying granular soils. The geologic unit was not encountered in all of the subsurface explorations so the unit may not be continuous across the site.

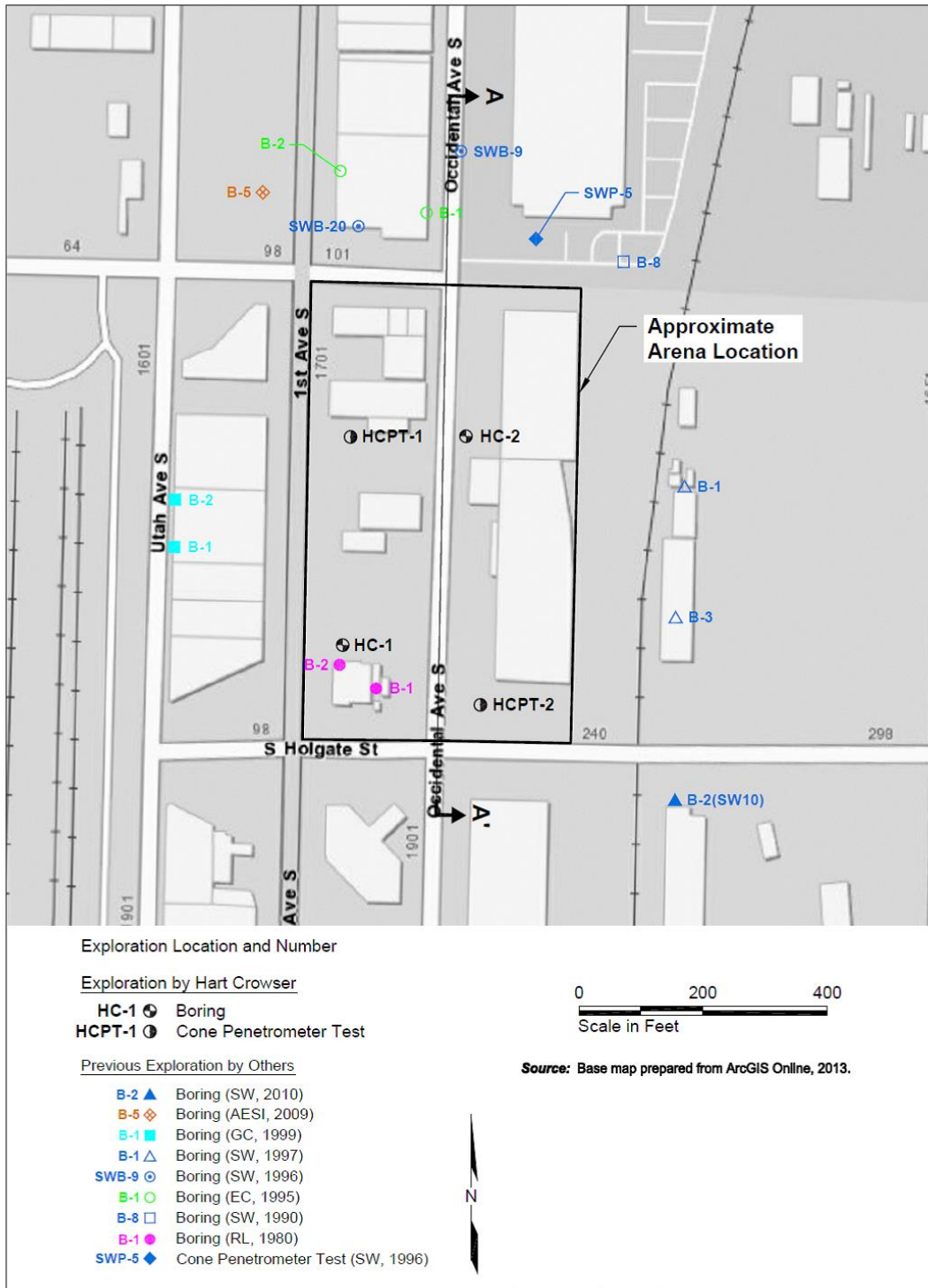


Figure 3.1-7
Site and Exploration Plan

(Source: Hart Crowser 2013)

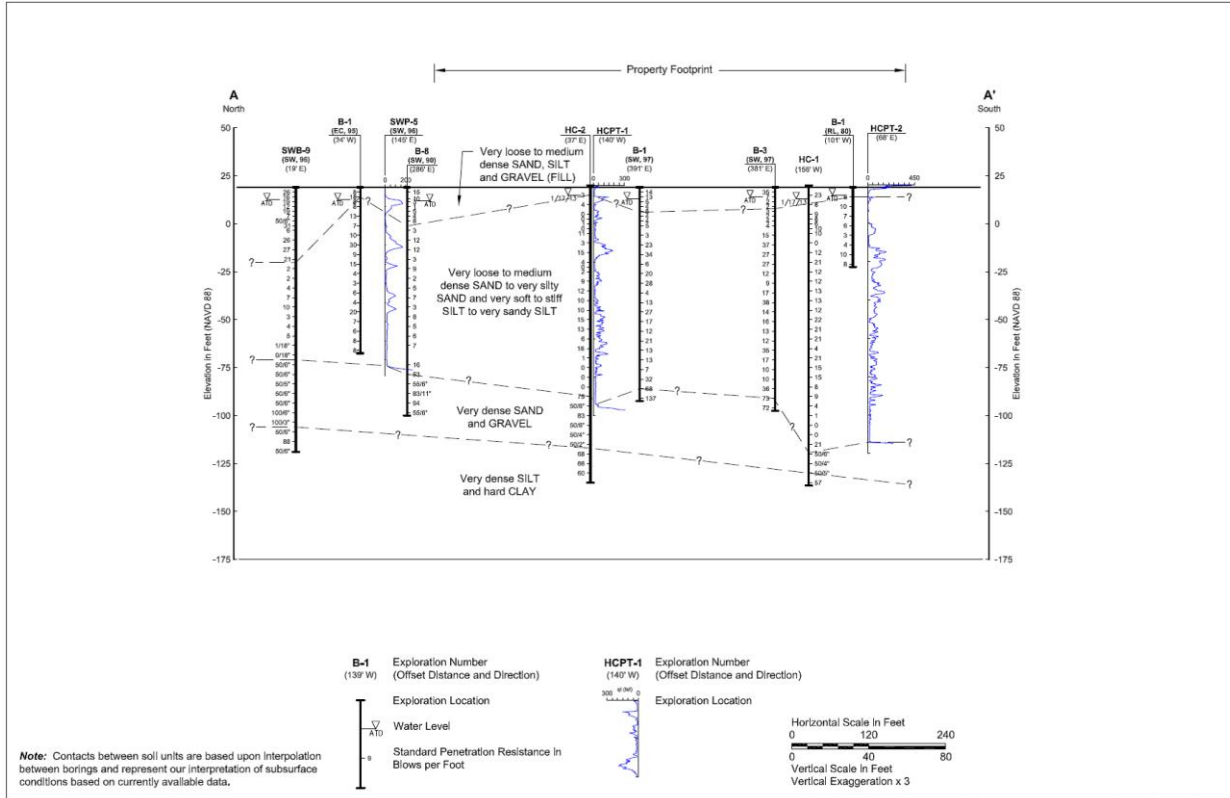


Figure 3.1-8
Conceptual Geologic Cross-Section

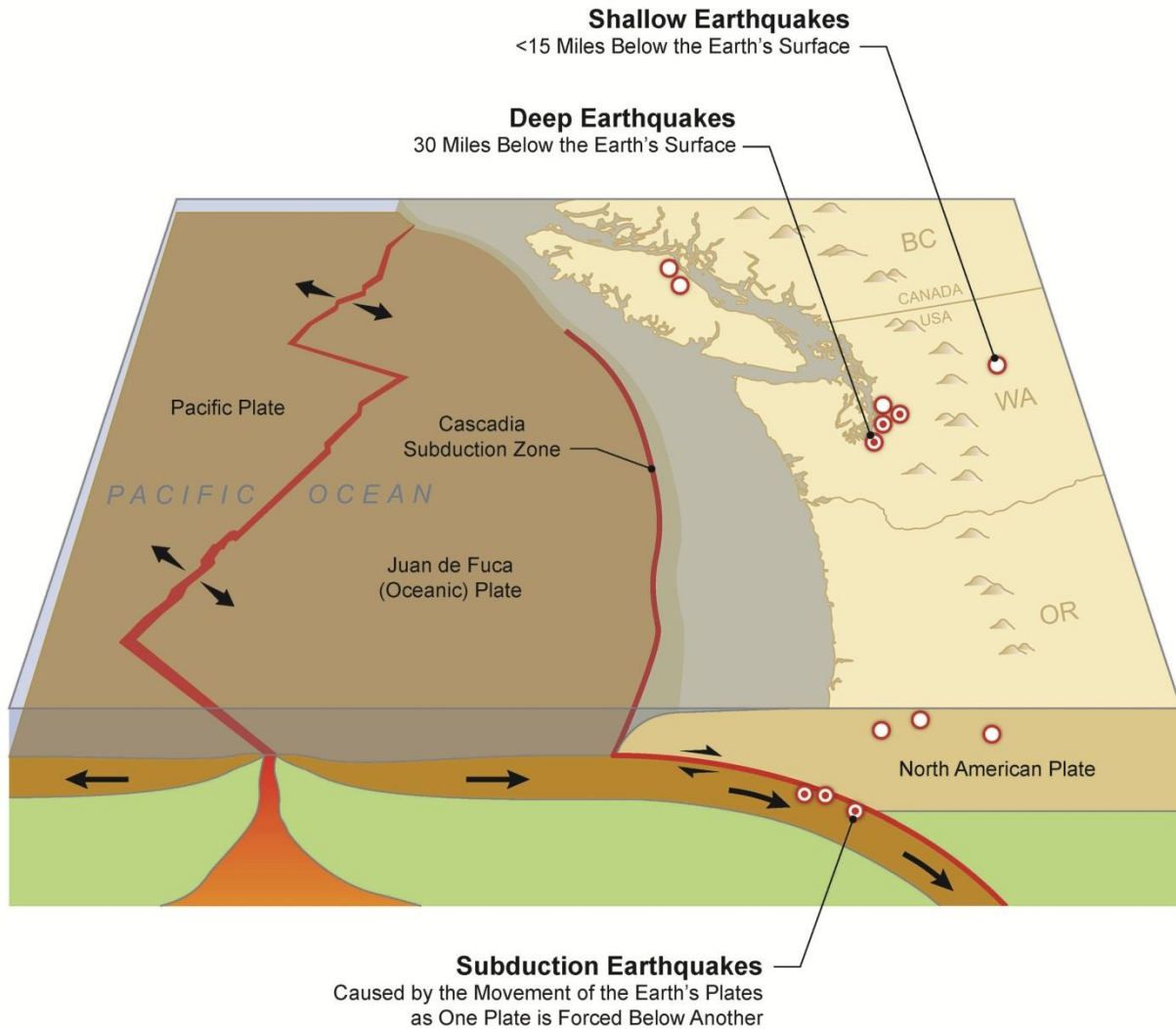
As noted earlier, vibrating wire piezometers were installed in the two exploratory borings. The groundwater levels were measured in January 2013 and found to be at about five to eight feet below the ground surface.

Details of the conditions observed at the subsurface exploration locations are shown on the boring logs. The results of geotechnical laboratory testing are included in Appendix B and should be referred to for specific information.

Geologic Hazards

The Pacific Northwest is seismically active. As shown on Figure 3.1-9, Seattle is located to the east of the Cascadia Subduction Zone, which is where the Juan de Fuca Plate is plunging below the North American Plate. Earthquakes occur as a result of relative plate movement.

The most recent significant earthquake within the Seattle area occurred in 2001. But even more significant earthquakes have occurred within the past 100 to more than 1,000 years. The earthquakes occur at varying depths below the ground surface and have been associated with physical changes to the ground surface in the form of fault rupture, liquefaction and lateral spreading, as well as tsunamis or tidal waves and seiches.



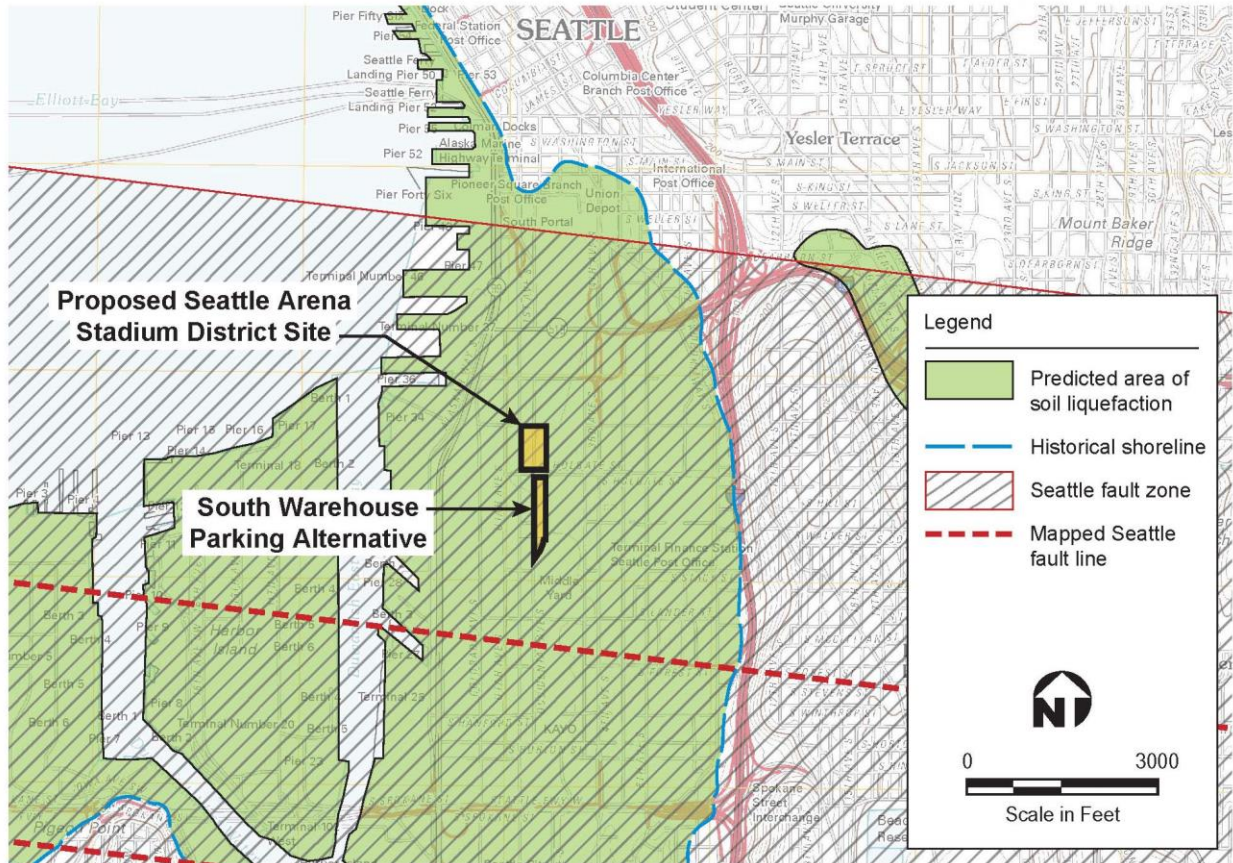
Source: Adapted from Troost (2003)

Figure 3.1-9

Potential Seismic Source Zones in the Pacific Northwest

Fault Rupture

As shown on Figure 3.1-10, the site of the Proposed Project (Alternative 2) and Alternative 3 is about one mile north of the mapped limits of the Seattle Fault (USGS 2012) but within the area noted as the Seattle Fault Zone (Troost 2005). Based on the review of existing information, the probability of fault rupture affecting the proposed building structure during its design life of 30 years was considered to be low due to the low recurrence interval of fault movement (on the order of hundreds to thousands of years), the width of the fault zone, and the relatively deep bedrock.



Source: USGS 7.5-minute topographic quadrangle, Seattle South, Washington, 2011

Figure 3.1-10
Mapped Seattle Fault Line

Liquefaction

Liquefaction is a condition where loose, granular, saturated soil behaves like quicksand when an earthquake occurs. As depicted on Figure 3.1-10 (showing subduction zone, plates, Seattle Fault Zone and predicted area of liquefaction), the site soils are susceptible to liquefaction. It is estimated that about one to two feet of liquefaction-induced ground settlement could occur following a Maximum Considered Earthquake (MCE) event (Hart Crowser 2013).

In addition, liquefaction theoretically could occur to a depth of about 80 feet (Hart Crowser 2013). However, observations and the analysis of damage in past earthquakes suggest that lateral deformation and instability effects of liquefaction generally decrease as the depth of a liquefiable layer increases. In addition, the engineering solutions to fully address deep liquefaction are not considered practical and cost-effective.

Lateral Spreading

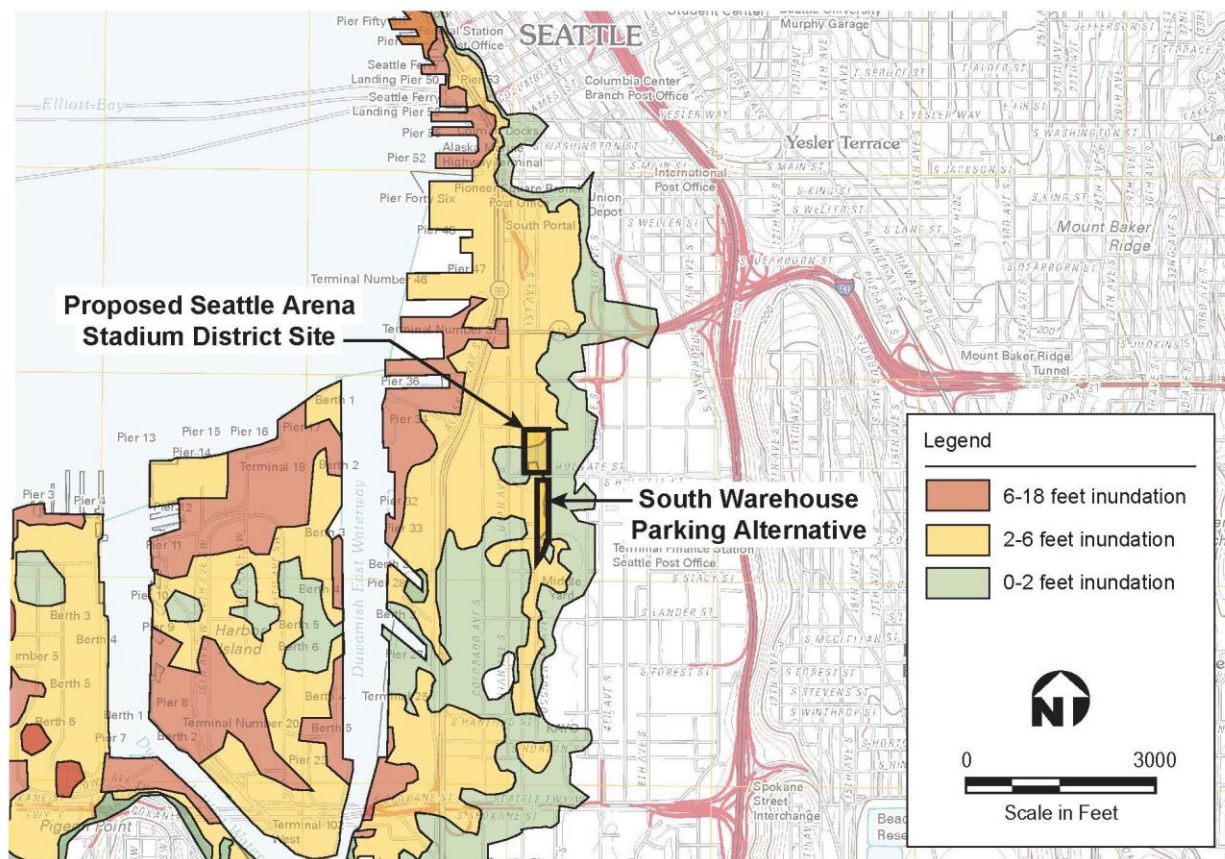
Lateral spreading is ground movement that occurs laterally as a result of liquefaction or reduced soil strength within or under a slope during an earthquake. Because the project site

and surrounding areas are generally flat, and the shoreline is protected and supported by retaining structures hundreds of feet from the site, it is thought that the lateral spreading hazard is low.

Tsunamis and Seiches

Tsunamis and seiches are water waves that are created by an earthquake. Tsunamis or tidal waves occur when large volumes of rock or soil are displaced on the ocean bottom during the earthquake. In comparison, seiches involve the oscillation of the water from shaking of the earth.

As shown on Figure 3.1-11, the site of the Proposed Project (Alternative 2) and Alternative 3 is mapped as being within a tsunami inundation zone and indicates that the project site has a potential inundation depth of up to about 6 feet. However, the risk of tsunami inundation is expected to be low given the relatively low frequency of large earthquakes along the Seattle Fault. Also, there would likely be adequate warning to evacuate the project site if a large tsunami from a distant source were predicted.



Source: USGS 7.5-minute topographic quadrangle, Seattle South, Washington, 2011

Figure 3.1-11
Tsunami Inundation Zone

Earthquakes may also cause seiches to occur in lakes, bays, and large rivers. However, the closest body of water to the project site is Elliott Bay, which is approximately one-half mile west of the project site. It is considered highly unlikely that an earthquake-induced seiche would cause flooding of the project area and site.

Erosion and Enlargement

Erosion is the process whereby the earth is worn away by the action of water, winds, waves, etc. In contrast, enlargement is the process whereby land mass is added or an area is in-filled, either as the result of erosion (such as at the mouth of a stream) or through human-related activities.

Based on field observations and observations made during a geotechnical engineering investigation (Hart Crowser 2013), the soil at the site of the Proposed Project (Alternative 2) and Alternative 3 is predominantly fine-grained and susceptible to erosion.

As described above under Geology and Soils, the site of the Proposed Project (Alternative 2) and Alternative 3 is located within an area of extensive in-filling resulting from the re-grading of the downtown area of Seattle more than 100 years ago during which time millions of cubic yards of hydraulic fill were transported to fill the former tidelands.

3.1.1.2 Impacts of the No Action Alternative at Alternative 2 and 3 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternatives 2 and 3 for a new Arena. There would be no direct effects to geology or soils.

3.1.1.3 Impacts of Alternatives 2 and 3

Key Foundation-Related Design Elements

The Proposed Project (Alternative 2) and Alternative 3 would include the following key foundation-related elements and options:

- Site preparation to include demolition and removal of the existing structures
- Shoring / support of excavation options to allow for the foundation-related excavations to a depth of up to 20 feet below the present ground surface. Options considered include:
 - Secant pile (overlapping drilled shafts) / slurry wall cutoff (overlapping rectangular panels) shoring to a depth of about 125 to 155 feet across the site
 - Soldier piles and lagging (H-piles installed in drilled holes filled with concrete and spaced along the site perimeter with wood lagging placed between the piles to retain the soil)

- Sheet piles (continuous, interlocking, steel sheets that are driven along the site perimeter to retain the soil)
- Ground freezing shoring (uses onsite refrigeration facilities and pipes to freeze a block of soil to allow excavation adjacent to the frozen soil)
- Foundation support options that are being considered include:
 - Deep foundations, such as pipe piles driven to a depth of about 125 to 155 feet below the ground surface, supporting a structural concrete slab
 - A structural slab supported by stone columns, driven to depth of about 40 to 60 feet below the ground surface, combined with ground improvement

Construction Impacts

The construction related to the Proposed Project (Alternative 2) or Alternative 3 would likely result in several direct effects with respect to the geology and soils. These effects would have potentially adverse environmental consequences if they are not appropriately identified, evaluated, and mitigated. Potential direct effects for the Proposed Project (Alternative 2) or Alternative 3 include the following (impacts related to groundwater are presented in Section 3.3 Water):

- The demolition of the structures would result in the generation of concrete and other building materials. This material would have to be processed for reuse or disposed of as construction debris. The quantities of construction debris are unknown but could potentially be reprocessed onsite or as part of other ongoing projects in the area. If the concrete and other building materials cannot be re-processed, it will be disposed in landfills, reducing the available volume at the landfills.
- The foundation-related excavations would include activities that could result in sediment mixing with stormwater, thereby creating turbid water. Potential sources of turbidity include exposed soils related to excavations and foundation system installation, spillage from dump trucks, and the tracking of mud from equipment-related tires onto the roadway.
- The potential exists for encountering contaminated soils and groundwater during the construction. If encountered, the soil and / or groundwater would, depending on the contaminant concentrations, potentially require special handling, treatment, transport, and / or disposal at offsite locations. An investigation would likely be conducted prior to initiating the construction efforts in order to confirm the presence or absence of contamination.
- Drilled shafts may be planned for both preparing the site for excavations and foundation support of the proposed development. During construction of the drilled shafts, loosely compacted soil and fill materials (e.g., glacial soil, building materials, piling from before in-filling in the 1900s) could be encountered. Glacially-derived cobbles and boulders are

also known to exist in the glacial deposits encountered at depth. These materials may result in difficulties and delays during the construction.

- Underground utilities are present beneath and adjacent to the project site. If the proposed excavations for foundation-related elements and for the relocation of utilities are not adequately supported, then lateral and vertical movements of the ground supporting the utilities could occur. These movements could result in damage to buried utilities and to structures or roadways located adjacent to the excavations, if the amount of movement is excessive. Design studies would be conducted to evaluate the potential for these movements.
- Ground vibrations would likely occur during construction as a result of the use of heavy equipment during the demolition of existing structures, ground improvement activities, compaction equipment operations, and truck traffic. These vibrations could be annoying to individuals working or living within the area, possibly cause settlement of loose soils near the source of vibration, and / or potentially cause damage to nearby structures or utilities.
- An earthquake could occur during the construction, which would result in damage to the site in the form of liquefaction, ground settlement and / or damage to partially completed structures and would cause schedule delays. However, based on the earthquake recurrence interval, such an event is not considered likely.
- The construction related to Alternatives 2 and 3 would likely result in several direct effects with respect to erosion. For example, the foundation-related excavations would include activities that could result in sediment mixing with stormwater, thereby creating turbid water. Potential sources of turbidity include exposed soils related to excavations and foundation system installation, spillage from dump trucks, and the tracking of mud from equipment-related tires onto the roadway.

Operation

During the operation of the Proposed Project (Alternative 2) or Alternative 3, no direct effects to the geology, soils, and erosion are anticipated. However, the potential exists for an earthquake to occur during the lifetime of the Proposed Project or Alternative 3, which has the potential to damage the structure and other site features, such as underground utilities.

3.1.1.4 Mitigation Measures

The following measures could reduce or eliminate geological impacts (mitigation measures related to groundwater are presented in Section 3.3 Water):

- A detailed geotechnical investigation was conducted to understand the subsurface conditions in support of project design. Measures to mitigate long-term foundation settlement and seismic hazards were identified and include the following:

- Constructing the proposed structure on deep foundations that extend through the compressible soils to denser bearing material in order to mitigate foundation settlement.
 - Designing the new structures according to relevant and appropriate seismic design methods to mitigate liquefaction and ground settlement.
 - Improving site soils as necessary to reduce the risk of liquefaction and related seismic damage.
 - Designing the new structure to meet or exceed earthquake loading requirements in the latest issues of the relevant and appropriate building codes.
- Implementing best management practices to mitigate adverse effects of sedimentation and erosion, and offsite migration of silt-rich soil and turbid water.
 - Implementing vibration monitoring if necessary to prevent offsite adverse effects.
 - Sampling and analyzing onsite soil and groundwater to determine the presence or absence of contamination. If contaminated soil and / or groundwater are encountered during the investigation and / or construction, and depending on the contaminant concentrations, the materials could potentially require special handling, treatment, transport, and / or disposal at offsite locations.

3.1.1.5 Secondary and Cumulative Impacts

Alternatives 2 and 3 would occur on a site that was the result of the cumulative disposal of fill during the early 1900s, which is currently susceptible to liquefaction during an earthquake. The construction of the foundation system for the Proposed Project (Alternative 2) or Alternative 3 would generally stabilize the site and limit future earthquake-related damage.

Secondary effects related to the geology and soils would occur either farther from the project site footprint and / or later in time. Potential secondary effects for the Proposed Project (Alternative 2) or Alternative 3 include:

- Aggregate in the form of sand and gravel would be needed to mix with cement to create concrete and for use in onsite fills. The sand and gravel are sourced from gravel pits located within the Puget Sound area. The use of aggregate on the project would reduce the supplies of material that might be used elsewhere for other projects. However, the quantity required for the construction of the Proposed Project (Alternative 2) or Alternative 3 would be considered minimal.
- The onsite silt-rich soil would be exposed to the weather during the proposed excavations and foundation construction. The exposed soils could be transported offsite. In addition, spillage from dump trucks and soil on truck tires could also result in similar consequences beyond the project site.

- Trucks would be transporting heavy equipment and / or construction materials to the project site and to remove excess soils and construction debris. The trucks could cause deterioration of nearby streets and roadways if the loads exceeded the strength of the roadway base material, leading to cracking or rutting of pavements.

No secondary effects are anticipated during the operation of the Proposed Project (Alternative 2) or Alternative 3 with respect to the geology and soils.

3.1.1.6 Significant Unavoidable Adverse Impacts

Effects considered to be significant, unavoidable and adverse are those that might require new locations for the project or the use of a different method of supporting the new structure. This environmental assessment determined that no direct or indirect effects of the Proposed Project (Alternative 2) or Alternative 3 related to the geology and soils would be significant, unavoidable and adverse.

The most important issue related to the geology and soils for Alternatives 2 and 3 is the potential for seismic loading. The above-mentioned appropriate methods would be implemented to mitigate adverse consequences of seismic loading, including mitigation for liquefaction potential and densification of the soil through use of ground improvement methods, if determined to be necessary. Designers would follow relevant and appropriate design requirements for seismic loading during the design of all project-related structures.

3.1.2 Seattle Center Area Alternatives - Alternatives 4 and 5

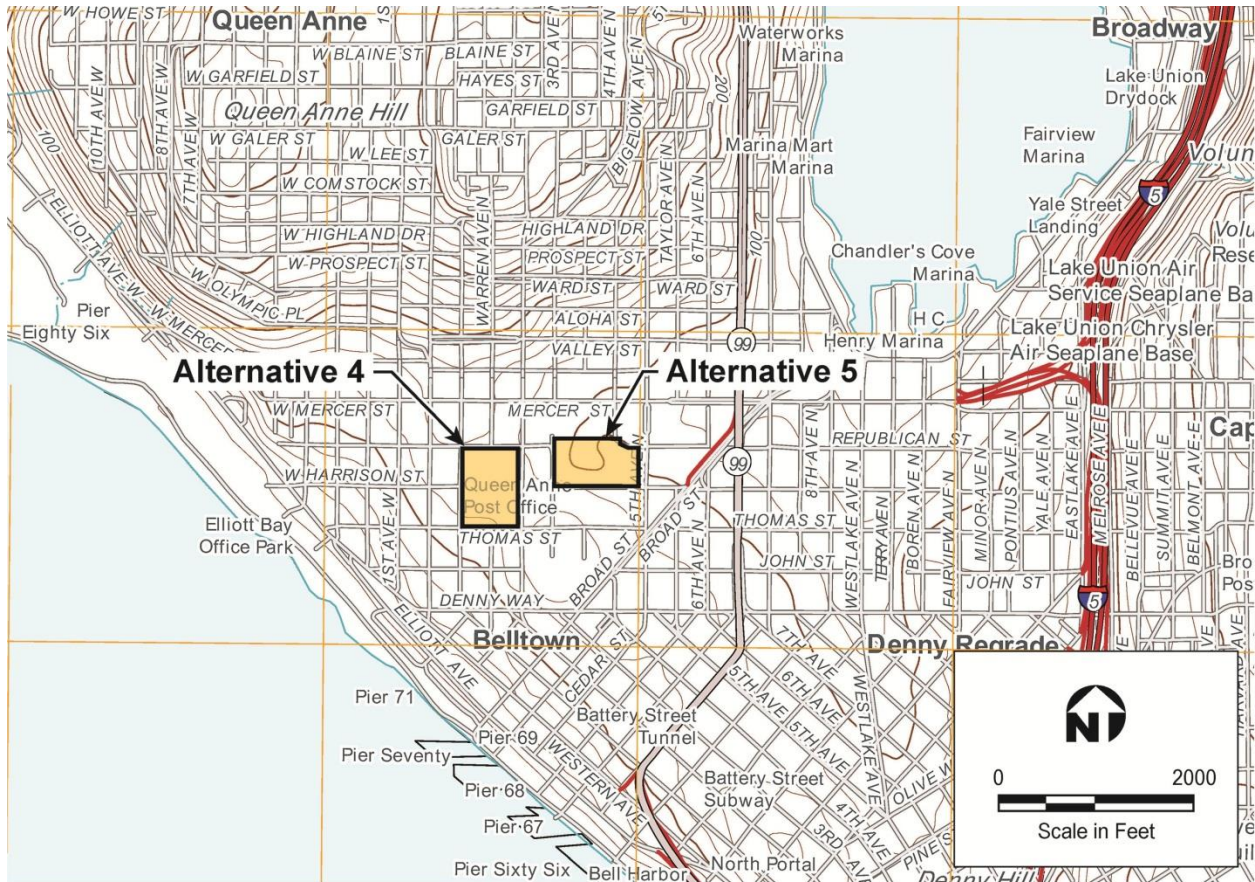
3.1.2.1 Affected Environment

Topography

The Seattle Center KeyArena site and the Seattle School District's Memorial Stadium are located north of the downtown Seattle core, within the area near the base of Queen Anne Hill. As shown on Figure 3.1-12 (Topography), the topography within the area surrounding the two sites is gently rolling, but is bound to the north by the relatively steep, south-facing slope that is associated with Queen Anne Hill.

Geology and Soils

Both the KeyArena site and the Memorial Stadium site are located within an area of re-grading that occurred more than 100 years ago; and served as a source of the soil used to fill the tidelands south of the downtown Seattle core. Earthworks were completed as part of the construction of the Memorial Stadium site in 1947 and then again during the expansion in about 1974. The KeyArena site was excavated when the facility was constructed in 1962, as part of the World's Fair.



Source: USGS 7.5-minute topographic quadrangles, Seattle North and Seattle South, Washington, 2011

Figure 3.1-12
North Downtown Topography

Geology

The characteristics of geology within the area of and underlying both the KeyArena site and the Memorial Stadium site is based on historical subsurface explorations within the nearby vicinity and existing literature. The geology at both sites is underlain by mostly glacial deposits of a mixture of silt, sand and gravel that generally increases in density with depth below the ground surface.

Groundwater at the location of the nearby Space Needle was encountered at depths ranging from about 55 to 80 feet below the ground surface (Dames & Moore 1961). However, groundwater was not encountered in several other borings that were completed as deep as about 100 feet below the ground surface of both the KeyArena site and the Memorial Stadium site.

Geologic Hazards

As noted earlier, Seattle is situated within a seismically active region. However, the geologic hazards associated with both the KeyArena and the Memorial Stadium sites are dramatically

different than the project site associated with the site of Alternatives 2 and 3. Due to the presence of relatively dense glacial materials beneath the general Seattle Center area, the only geologic hazard of potential significance is ground shaking. However, a detailed review of the tendency for amplification or attenuation is part of the design process that would be performed for the sites, and the structures would be designed to mitigate the hazard.

Erosion and Enlargement

The existing conditions at the Alternatives 4 and 5 sites are generally underlain by glacial deposits. There is also a significant percentage of fine-grained soil that is also susceptible to erosion.

3.1.2.2 Impacts of the No Action Alternative at Alternative 4 and 5 Sites

Under the No Action Alternative, there would be no demolition and construction at the sites of either Alternative 4 or 5 for a new arena. There would be no direct effects to geology or soils.

3.1.2.3 Impacts of Alternative 4 and 5

Key Foundation-Related Design Elements

The Alternatives 4 and 5 sites would not require the installation of deep foundation support as needed for the Proposed Project (Alternative 2) or Alternative 3. However, the following key foundation-related elements and options were considered for the impacts assessment:

- Site preparation to include demolition and removal of the existing structures.
- Shoring / support of excavation options to allow for the foundation-related excavations to an unknown depth below the present ground surface. However, the foundation design is only conceptual for Alternatives 4 and 5.

Construction Impacts

Similar to the construction effects for Alternatives 2 and 3, the construction related to Alternatives 4 and 5 would likely result in several direct effects with respect to erosion. For example, the foundation-related excavations would include activities that could result in sediment mixing with stormwater, thereby creating turbid water. Potential sources of turbidity include exposed soils related to excavations and foundation system installation, spillage from dump trucks, and the tracking of mud from equipment-related tires onto the roadway.

Construction-related impacts that are anticipated to be different for Alternatives 4 and 5 include the following:

- An earthquake could occur during the construction, but the damage would likely be significantly less than for the Proposed Project (Alternative 2) or Alternative 3 due to the soils not being susceptible to liquefaction.

- Deep foundation support will likely not be necessary for Alternatives 4 and 5. Therefore, the foundation installation should be less challenging than for the Proposed Project (Alternative 2) or Alternative 3.

Operation

During the operations of an arena at the KeyArena site, no direct effects to the geology and soils are anticipated. However, the potential exists for an earthquake to occur to the lifetime of the facility, which has the potential to damage the structure and other site features, such as underground utilities.

3.1.2.4 Mitigation Measures

The following measures could reduce or eliminate geological impacts: :

- Conducting a detailed geotechnical investigation to understand the subsurface conditions in support of project design. As part of the study, identify measures to mitigate long-term foundation settlement and seismic hazards during the project design and construction. The recommended mitigation measures would be similar to those recommended for Alternatives 2 and 3.
- All other recommended mitigation measures would also be similar to the Proposed Project (Alternative 2).

3.1.2.5 Secondary and Cumulative Impacts

Secondary effects related to the geology and soils would occur either farther from the project site footprint and / or later in time. Potential secondary effects for Alternatives 4 and 5 include:

- Aggregate in the form of sand and gravel would be needed to mix with cement to create concrete and for use in onsite fills. The sand and gravel are sourced from gravel pits located within the Puget Sound area. The use of aggregate on the project would reduce the supplies of material that might be used elsewhere for other projects. However, the quantity required for the construction of an arena at the site of either Alternative 4 or 5 would be considered minimal.
- Trucks would be transporting heavy equipment and / or construction materials to the project site and to remove excess soils and construction debris. The trucks could cause deterioration of nearby streets and roadways if the loads exceeded the strength of the roadway base material, leading to cracking or rutting of pavements.

No secondary effects are anticipated during the operation of an arena at the site of Alternative 4 or 5 with respect to the geology and soils. No secondary effects are anticipated during the operation of an arena at the site of either Alternative 4 or 5 with respect to the geology and soils.

3.1.2.6 Significant Unavoidable Adverse Impacts

No direct or indirect effects of Alternatives 4 and 5 related to the geology and soils are anticipated to be significant, unavoidable and adverse.

3.2 Air Quality

3.2.1 Introduction

3.2.1.1 Air Quality Trends

Air pollutants associated with development projects in the Puget Sound area primarily are related to vehicular emissions. The air pollutants potentially include particulate matter, air toxics, diesel exhaust, carbon monoxide (CO), ozone, and greenhouse gases (GHGs).

In urban areas of the Puget Sound, motor vehicles are the largest source of air emissions. Over the last two decades, many pollutant levels have declined, and air quality has generally improved. Elevated fine particle levels are the most important air quality challenge in Puget Sound. Ozone levels also remain a concern in the region. Air toxics have been present at levels that pose adverse health effects (PSCAA 2012).

Air quality in the project area is regulated by the U.S. Environmental Protection Agency (EPA), Washington State Department of Ecology (Ecology), and the Puget Sound Clean Air Agency (PSCAA). Under the Clean Air Act, the EPA has established the national ambient air quality standards (NAAQS). The NAAQS are designed to protect public health with an adequate margin of safety. The PSCAA is primarily responsible for monitoring and regulating air quality in the Seattle area.

The EPA has designated most regions as attainment, maintenance, or nonattainment areas in regard to air quality standards. Nonattainment areas are geographic regions where air pollutant concentrations for a specific pollutant have persistently exceeded the NAAQS, while attainment areas have had measured concentrations below standards. Maintenance areas are regions that were previously in nonattainment but have since attained compliance. The Seattle area is currently in attainment for all EPA-regulated air pollutants, and has maintenance plans in place for CO, ozone, and particulate matter (PSCAA 2012).

3.2.1.2 Air Pollutants

Particulate Matter

Particulate matter includes fine particles less than 2.5 micrometers in size (PM_{2.5}) and particles less than 10 micrometers in size (PM₁₀). Motor vehicle exhaust emissions are generally in the PM_{2.5} size range, while fugitive dust is generally in the PM₁₀ size range. Fine particles (PM_{2.5}) are more harmful than dust and PM₁₀, because they can be inhaled deeply into the lungs. Fine particles have a greater impact than coarse particles at locations far from the emitting source, because they remain suspended in the atmosphere longer and travel farther.

Particulate emissions have decreased over the past 15 years, and the Puget Sound area is in attainment with federal air quality standards. PM_{2.5} is still one of the major air pollution concerns affecting the Puget Sound area, and PM_{2.5} levels do not meet the PSCAA's more-

stringent health goal (PSCAA 2012). PM10 is no longer a major concern in the Puget Sound area, and the PSCAA ceased all PM10 monitoring in 2006. Fine particulate matter levels in the Puget Sound area are often higher in the winter months because of stagnant air inversions and wood burning in fireplaces and wood stoves.

Air Toxics and Diesel Exhaust

Air toxics are broadly defined as over 400 pollutants potentially harmful to human health and the environment. Many air toxics are a component of either particulate matter or volatile organic compounds (VOCs) (a precursor to ozone). Although air toxics concentrations have declined since 2003 in the Puget Sound area, the health risks remain substantial. Recent studies show people living near ports and roadways have higher exposures and health risks (PSCAA 2013a).

In the Puget Sound area, diesel particulate matter (DPM) accounts for most of the potential cancer risk from all air toxics. This pollution comes from diesel-fueled trucks, cars, buses, construction equipment, rail, marine, and port activities.

Carbon Monoxide

CO is an odorless, colorless gas that reduces the oxygen-carrying capability of blood. The majority of CO comes from vehicle exhaust, and the highest levels typically occur in winter at busy traffic intersections. In spite of substantial increases in vehicle travel, automobile emissions of CO have been reduced in urban areas of Puget Sound as the result of federal emission standards for new vehicles and the Washington State vehicle inspection and maintenance (I&M) program.

CO levels are well below federal standards and are no longer considered a pollutant of concern in the Puget Sound area. This region was designated as “attainment” status in 1996 and has not exceeded the CO standard since 1990. Based on monitoring data, emissions inventory projections, and continued improvements in vehicle technology, it is highly unlikely that measured CO levels will exceed the EPA standard in the future (PSCAA 2013a). The maximum 8-hour CO concentration in 2010 in the Puget Sound area was 1.1 parts per million (ppm), which was well below the EPA standard of 9 ppm (PSCAA 2012).

Ozone

Ozone is a major component of smog. Harmful ozone near the earth's surface results from a reaction of sunlight with nitrogen oxides (NOx) and VOCs, which are known as ozone precursors. Ground-level ozone is primarily a product of regional vehicular traffic and industrial sources. Ozone is a summertime air pollution problem in the Puget Sound area, and the period of concern is May through September. The highest concentrations of ozone are measured in the communities downwind of these large urban areas. The Puget Sound area has not exceeded the EPA ozone standard since 1992, and was designated as attainment status for ozone in 1996 (PSCAA 2013a). Ozone remains a pollutant of concern in the Puget Sound area, because the EPA

might tighten the federal ozone standard. If the ozone standard were lowered, then it is likely that portions of the Puget Sound area would be determined to be in violation of the new standard.

Greenhouse Gases

The major GHGs are ozone, carbon dioxide (CO₂), methane, nitrous oxide, and hydrofluorocarbons. The major source of GHGs in the Puget Sound region is transportation, which includes cars, trucks, buses, aircraft, construction equipment, recreational vehicles, boats and ferries. GHGs contribute to climate change in the Pacific Northwest. The PSCAA does not monitor greenhouse gas levels in the ambient air in the Seattle area.

The 2010 King County Strategic Plan established environmental sustainability as one of King County's eight goals. The plan outlines objectives to reduce climate pollution and prepare for the effects of climate change on the environment, human health and the economy and to minimize King County's operational environmental footprint. Washington State Law RCW 70.235.020 requires that by 2020 Washington State reduce overall greenhouse gas emissions to 1990 levels and that by 2050 emissions are further reduced to fifty percent below 1990 levels.

The King County Comprehensive Plan directed that the county collaborate with other local governments to reduce greenhouse gas emissions in the region to eighty percent below 2007 levels by 2050 and incorporate climate change considerations into county plans, programs and projects among other related policies and goals.

The City of Seattle Office of Sustainability and Environment (OSE) conducts a community inventory of GHG emissions every three years, and the most recent available inventory is from 2008. The community inventory measures the entire City's GHGs emissions. The OSE's community GHG inventory is the primary method of gauging progress toward Seattle's near-term and long-term goals of reducing climate pollution (City of Seattle 2008b).

Seattle GHG emissions are produced from 3 main sources: transportation (62 percent), buildings (21 percent), and industry (17 percent). Transportation GHG emissions are the largest source and remain Seattle's biggest challenge.

The City of Seattle's Climate Action Plan includes the goal of being carbon neutral. The Climate Action Plan includes a wide range of GHG-reduction strategies.

3.2.2 Stadium District Alternatives - Alternatives 2 and 3

3.2.2.1 Affected Environment

The Stadium District is located in the Puget Sound maintenance areas for CO, ozone, and PM₁₀. Maintenance areas are regions that were previously in nonattainment of EPA air quality standards, but have since attained compliance with the NAAQS. Major sources of air pollutants in the area include the Duwamish industrial area, the Port of Seattle, rail yards, and vehicular

traffic on area roadways. The Seattle area is currently in attainment for all EPA-regulated air pollutants, and air quality at the Stadium District site is not expected to exceed the NAAQS.

The Seattle Duwamish PM10 maintenance area is comprised of the Duwamish industrial and commercial area immediately south of the downtown district and includes the Port of Seattle. Its northern boundary is Dearborn Street from Puget Sound on the west to I-5 on the east, which includes the Stadium District site. Emissions primarily come from industrial sources, with a minor amount of emissions from diesel exhaust and gasoline-fueled motor vehicles. Fugitive dust is a negligible source of particulate matter (Federal Register 2001).

Sensitive land uses include the commercial area along 1st Avenue S. Residences are not located in the immediate vicinity of the project site. The closest residential areas are located to the north in the Pioneer Square area.

The nearest air quality monitoring stations are located at Beacon Hill to the east and the Duwamish Valley to the south. The Seattle Beacon Hill monitoring site represents typical urban emissions, which are a mixture of mobile sources, industrial sources, and residential wood burning. The Seattle Duwamish monitoring site represents a mixture of mobile sources, port and marine sources, industrial sources, and residential wood burning. Air quality measurements at these two locations have not exceeded the EPA standard for PM2.5 or CO.

3.2.2.2 Impacts of the No Action Alternative at Alternative 2 and 3 Site

Construction

Construction emissions from a new arena would not occur under the No Action Alternative in the Stadium District. Other anticipated projects in the Stadium District area would temporarily generate air pollutants during construction, which would be most noticeable at nearby sensitive land uses such as residences, hospitals or institutions. Because construction emissions would be temporary in duration and small in quantity, comply with the PSCAA regulations, and include mitigation, construction emissions would be low under Alternative 1, No Action.

Operation

Long-term sources of air pollutants in the Stadium District area are primarily from vehicular traffic. Event traffic at a new arena would not occur under the No Action Alternative. Vehicular emissions of air pollutants in the Stadium District area would continue from background traffic. Background traffic would continue to grow, which would proportionately increase vehicular emissions. Any increase in vehicular emissions under No Action would likely be offset by emission reductions from future improvements in vehicle technology.

3.2.2.3 Impacts of Proposed Project (Alternative 2) – Stadium District 20,000-Seat Arena

Construction

Demolition, site preparation, and construction activities would intermittently generate particulate matter, odors, and engine exhaust. Particulate matter (dust, PM2.5 and PM10) would be emitted from ground clearing, excavation, material piles, building construction, and trucks depositing mud on streets. Engine exhaust would include small amounts of CO, GHGs, and particulate matter from trucks and construction equipment. Diesel-powered construction equipment would emit small amounts of diesel exhaust and air toxics. Engine exhaust and paving activities could be sources of odors at times. Construction emissions would occur during the approximately two-year construction schedule, and any construction impacts would be considered short-term or temporary impacts.

Construction equipment, temporary detours, lane restrictions, and other construction activities would increase traffic congestion at times. Emissions from traffic would increase while vehicles experience greater delay. Any vehicular emissions from construction traffic would contribute a small amount compared with area automobile traffic, because construction traffic would be a small fraction of the total traffic in the area. Emissions from temporary traffic delays as a result of construction equipment could be reduced by the Construction Transportation Management Plan (CTMP) that will be prepared for the Proposed Project.

Potential construction impacts would be mostly localized to the vicinity of the construction activity. Residences are not located in the immediate vicinity of the Stadium District site, and the potential for site-specific construction impacts to sensitive land uses would be low.

To reduce fugitive dust, odors, and engine exhaust, construction activities would include mitigation measures such as spraying with water and emission-control devices on equipment. Construction activities would comply with the PSCAA regulations to minimize fugitive dust (PSCAA 2013b). With the mitigation and dust-control measures, the quantity of air emissions during construction would be relatively small compared to other local sources in the Stadium District area.

It is possible that a NBA or NHL team may be acquired prior to the completion of a new arena. If so, during construction of the Arena under Alternative 2 or 3, NBA or NHL games would be played at another location, most likely KeyArena. Vehicular emissions during NBA games would be similar to emissions at other larger events at KeyArena, but would occur for additional NBA games during the two-year construction period. Because traffic conditions for temporary use of KeyArena would be similar to large events already there, emissions in the Queen Anne neighborhood should not increase substantially. Any traffic mitigation to reduce traffic volumes and congestion during temporary use of KeyArena would provide corresponding reductions in vehicular air emissions.

Because construction emissions would be temporary and minimal, comply with the PSCAA regulations, and include mitigation, construction emissions would be low under the Proposed Project (Alternative 2).

Operation

Operation of the Arena building itself would not be a point source of air pollutants at the Stadium District site. Operational impacts under the Proposed Project would be attributable to vehicular traffic during events. Event traffic would primarily emit CO, precursors of ozone, particulate matter, and GHGs from vehicles. Highest event emissions would likely occur during a weekday peak hour with additional traffic arriving at the Arena. The Proposed Project would include traffic mitigation to reduce volumes and congestion, and to encourage transit use, which would reduce traffic emissions of air pollutants during events. See Section 3.8 Transportation.

The Proposed Project would affect local emissions of CO from traffic in the immediate vicinity, particularly at congested traffic signals in the Stadium District area. CO levels measured in Seattle have been well below the health-based EPA standards, and it is highly unlikely that measured CO levels would exceed the federal standard in the future (PSCAA 2013a). While Arena events would increase local emissions of CO at Stadium District intersections, CO levels are anticipated to be below the EPA air quality standards. Future CO levels in the Stadium District likely would decrease because of continued improvements in vehicle technology.

Event traffic under the Proposed Project also could affect regional emissions of the precursors of ozone (VOC and NO_x). Ozone is a summertime air pollution problem in the Puget Sound area, and the period of concern is May through September (PSCAA 2013a). Because most events at the Arena would not occur during the peak-ozone period of May through September, the Proposed Project would not likely contribute to ozone concentrations that would exceed EPA air quality standards.

Diesel-powered vehicles are a source of fine particles, diesel exhaust, and air toxics (PM_{2.5}). The relative proportion of diesel vehicles in event traffic under the Proposed Project would be relatively small.

Additional traffic volumes before and after events, under the Proposed Project are not anticipated to cause any exceedances of air quality standards at nearby monitoring sites. Measured concentrations of air pollutants have not recently exceeded EPA air quality standards at the closest monitoring stations at Beacon Hill and the Duwamish Valley. These monitoring stations have not measured any recent violations of air quality standards related to larger events at Safeco Field and CenturyLink Field. Because traffic volumes under the Proposed Project would be lower than the larger events at Safeco Field and CenturyLink Field, events under the Proposed Project similarly should not result in exceedances of air quality standards at the nearby Beacon Hill and the Duwamish Valley monitoring stations.

GHG emissions under the Proposed Project have been quantified with the King County GHG Emissions Worksheet (King County 2011). The King County GHG Emissions Worksheet estimates GHG emissions that would be created over the lifespan of a building project. GHG emissions include obtaining construction materials, fuel used during construction, energy consumed during the buildings operation, and transportation by building occupants. The King County GHG Emissions Worksheet is included as Appendix C to this FEIS. The estimated GHG emissions for the Proposed Project are summarized in Table 3.2-1 below. As noted in footnote 1, the calculated emissions include vehicular traffic emissions during Arena events.

**Table 3.2-1
Estimated Greenhouse Gas (GHG) Emissions**

Alternative	Building Size (Square Feet)	Lifespan Emissions⁽¹⁾ (MTCO2e)	Annual Emissions⁽²⁾ (MTCO2e)	Percentage of Annual City-wide GHG Emissions
Proposed Project	750,000	691,481	23,049	0.3 %
City of Seattle ⁽³⁾ City-wide Emissions	--	--	6,770,000	--

Notes: (1) Lifespan Emissions include construction, electricity during operation, and vehicular traffic during Arena events. GHG emissions are estimated as MTCO2e (metric tons CO2 equivalent)
 (2) Annual Emissions based on a 30-year lifespan of the proposed Arena.
 (3) City-wide GHG emissions from all sources, based on 2008 community inventory (City of Seattle, 2008b).

The building size of the proposed Arena would be approximately 750,000 sf for a 20,000-seat spectator sports facility. The estimated GHG emissions would be 691,481 MTCO2e (metric tons CO2 equivalent) during the lifespan of the Proposed Project. Based on a lifespan of 30 years for the proposed Arena, the annual emissions would be 23,049 MTCO2e per year. The annual emissions under the Proposed Project would be 0.3 percent of the City-wide GHG emissions (Table 3.2-1).

The Proposed Project would be designed to reduce its GHG emissions. The Arena would be designed and operated to meet or exceed green building and sustainability practices, which would reduce its overall carbon footprint and would help the City of Seattle to achieve its goal of being carbon neutral. Design and operational features could include:

- Efficient lighting fixtures, in both interior and exterior
- Bicycle and pedestrian improvements, which would reduce the number of vehicles and their exhaust emissions
- Measures to encourage transit use and car pools during events
- Parking for bicycles
- Electric car infrastructure
- LEED (Leadership in Energy and Environmental Design) Silver or higher certification
- Solid waste reduction during events

- Water conservation and reuse fixtures
- Promoting solar use where possible, and using alternative energy sources
- Onsite stormwater management and treatment

Emissions from vehicles would increase during events at the Arena, which could be considered an adverse impact. Event traffic is not anticipated to cause any exceedances of EPA's health-based air quality standards.

3.2.2.4 Impacts of Alternative 3 – Stadium District 18,000-Seat Arena

Construction

Air quality impacts and mitigation during construction would be similar to the Proposed Project (Alternative 2). Because construction emissions would be temporary and minimal in quantity, comply with the PSCAA regulations, and include mitigation, construction emissions would be low under Alternative 3.

Operation

Operation of the Arena building itself would not be a point source of air pollutants at the Stadium District site. Operational impacts would be attributable to vehicular traffic during events at the Arena. The types of vehicular emissions under Alternative 3 would be similar to those described under the Proposed Project, although the quantity of vehicular emissions would be lower because of fewer vehicles attending the 18,000-seat Arena. Additional traffic volumes during events at the Arena are not anticipated to cause any exceedances of the EPA health-based air quality standards.

The size of the Arena building under Alternative 3 would be approximately 750,000 square feet for an 18,000-seat spectator sports facility. The estimated GHG emissions for Alternative 3 are summarized in Table 3.2-1. The annual emissions would be 23,049 MTCO₂e per year, which would be 0.3 percent of the City-wide GHG emissions (Table 3.2-1). The Arena under Alternative 3 would include similar design and operation features as the Proposed Project to reduce its overall carbon footprint.

Emissions from vehicles would increase during events at the Arena, which could be considered an adverse impact. Event traffic is not anticipated to result in any exceedances of EPA's health-based air quality standards. Alternative 3 would include traffic mitigation to reduce volumes and congestion, and to encourage transit use, which would reduce traffic emissions of air pollutants during events.

3.2.2.5 Mitigation Measures Applicable to both Alternatives 2 and 3

Construction

The project alternatives would include mitigation measures to reduce emissions of dust, odors, and engine exhaust during construction. Construction activities would comply with the PSCAA regulations that require reasonable precautions to minimize fugitive dust (PSCAA 2013b). Construction equipment also would include emission-control devices to reduce CO, GHGs, and particulate emissions from gasoline and diesel engines. Construction mitigation would be incorporated into construction plans and contractor specifications in the construction contracts. The project alternatives could include, among other measures, the following mitigation measures during construction:

- Spraying water, when necessary, during demolition, grading, and construction activities to reduce emissions of particulate matter.
- Covering dirt, gravel, and debris piles to reduce dust and wind-blown debris.
- Covering open-bodied trucks to reduce particulate matter blowing off trucks or dropping on roads while transporting materials. Alternatively, wetting materials in trucks or providing adequate freeboard (space from the top of the material to the top of the truck) could be used to reduce dust and deposition of particulate matter.
- Providing wheel washers at construction sites to remove particulate matter from vehicle wheel wells and undercarriages before they exit to decrease deposition of particulate matter on area roadways.
- Sweeping public streets, when necessary, to remove particulate matter deposited on paved roads and subsequent wind-blown dust.
- Turning off construction trucks and engine-powered equipment during long periods of non-use, instead of being left idling, to reduce exhaust emissions and odors.
- Requiring emission-control devices on construction equipment and using relatively new, well-maintained equipment to reduce exhaust emissions of CO, GHGs, and particulate matter from engine exhaust.

The construction contractors could participate in the PSCAA's Diesel Solution Program, to voluntarily reduce diesel exhaust. Reduction strategies under the Diesel Solutions Program include using cleaner fuels, retrofitting engines and exhaust systems, and replacing older equipment with newer, cleaner equipment. Reducing diesel exhaust from construction equipment would reduce emissions of fine particulate matter and air toxics during the construction period.

The project would include a CTMP to reduce temporary traffic delays on area streets (see Section 3.8 Transportation). The CTMP could include specific hours of construction, temporary

traffic detours, scheduling construction trucks, and flagging. Routing and scheduling construction equipment to reduce delays to traffic during peak travel times would reduce air impacts caused by traffic delays while waiting for construction trucks and other activities.

A telephone hotline number would be published and maintained by the construction company to directly receive calls from the public on air quality impacts and other construction issues.

Construction activities could encourage waste reduction and use of green building materials, which would reduce overall GHG emissions and be consistent with the City of Seattle's goal to achieve carbon neutrality. Construction waste from the project site could be recycled and reused. Reuse of construction, demolition, and land clearing wastes onsite if feasible would reduce the number of trucks required to transport the material. Reducing the number of construction trucks would reduce their exhaust emissions.

Operation

Any transportation mitigation measures included in the Proposed Project to reduce traffic volumes and congestion correspondingly could also apply to Alternative 3 and could reduce traffic emissions of air pollutants (see Section 3.8 Transportation). Such measures could include encouraging transit use and carpooling, bicycle parking and routes, access improvements, traffic signal optimization, intersection realignments, improved pedestrian facilities, and police control of traffic during events. The Proposed Project would include a Transportation Management Plan (TMP) to reduce the number of fans arriving by single-occupancy vehicles.

3.2.2.6 Secondary and Cumulative Impacts

Cumulative impacts on air quality would be related to short-term increases in construction activity and to long-term increases in traffic volumes and congestion. Cumulative construction impacts could occur from the Proposed Project (Alternative 2) or Alternative 3 and other development projects being constructed at the same time in the Stadium District. Because construction emissions under the Proposed Project or Alternative 3 and other development projects would be temporary in duration and comply with PSCAA requirements, short-term cumulative impacts during construction would be low.

Long-term cumulative increases in traffic volumes and congestion would result from the combined Arena event volumes under the Proposed Project or Alternative 3 and from future growth in traffic resulting from other future projects in the area. At the Stadium District area under Alternatives 2 and 3, air pollutant emissions could increase from expansion of Port facilities, increased rail traffic, vehicular traffic diverted by tolling the new SR-99 Tunnel, and new residential development in the North Lot of CenturyLink Field.

Secondary impacts on air quality could result from economic growth and changes in land uses induced by the Arena. Any growth induced by the Proposed Project or Alternative 3 would incrementally increase traffic volumes and associated traffic air pollutants. Although the

location and specific amount of growth is unknown, incremental increases in traffic emissions likely would be small.

3.2.2.7 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to air quality from the construction or operation of the Proposed Project or Alternative 3 are expected.

3.2.3 Seattle Center Area Alternatives - Alternatives 4 and 5

3.2.3.1 Affected Environment

The KeyArena site and the Memorial Stadium site are both located in the Puget Sound maintenance areas for CO and ozone, but are outside the maintenance area for particulate matter. Major sources of air pollutants include residential woodstoves and vehicular traffic on area roadways. Because the Seattle area is currently in attainment for all EPA-regulated air pollutants, air quality at both sites are not expected to exceed the NAAQS.

Sensitive land uses adjacent to the KeyArena site include the KEXP Radio studios, Seattle International Film Festival (SIFF) offices, the VERA Project (located in the Northwest Rooms), Seattle Repertory Theater, the International Fountain and Lawn, and the Center Skatepark. Sensitive land uses adjacent to the Memorial Stadium site include the Armory, International Fountain and Lawn, McCaw Hall, EMP Museum, and the Bill & Melinda Gates Foundation. High-density residential areas are several blocks to the west and north of both sites of Alternatives 4 and 5.

The nearest air quality monitoring stations are located at Queen Anne Hill to the north and at Olive and Boren to the east. Air quality measurements at these two locations have not exceeded the EPA standard for PM_{2.5}.

3.2.3.2 Impacts of the No Action Alternative at Alternative 4 and 5 Sites

Construction

Construction emissions from a new arena would not occur under the No Action Alternative at either the KeyArena or Memorial Stadium sites. Other anticipated projects in the Queen Anne area would temporarily generate air pollutants during construction, which would be most noticeable at nearby sensitive land uses such as residences, hospitals or institutions. Because construction emissions would be temporary in duration and small in quantity, comply with the PSCAA regulations, and include mitigation, construction emissions would be low under Alternative 1, No Action.

Operation

Long-term sources of air pollutants in the Queen Anne area are primarily from vehicular traffic. Event traffic at a new arena would not occur under the No Action Alternative. Vehicular

emissions of air pollutants in the Queen Anne area would continue from background traffic. Background traffic would continue to grow, which would proportionately increase vehicular emissions. Any increase in vehicular emissions under No Action would likely be offset by emission reductions from future improvements in vehicle technology.

3.2.3.3 Impacts of Alternative 4 – KeyArena 20,000-Seat Arena

Construction

Air quality impacts and mitigation during construction would be similar to the Proposed Project (Alternative 2). Localized construction emissions of dust, odors, and engine exhaust could be more noticeable at times under Alternative 4, because more sensitive land uses are near the KeyArena site. Because construction emissions would be temporary in duration and small in quantity, comply with the PSCAA regulations, and include mitigation, construction emissions would be low under Alternative 4, KeyArena.

During construction of an arena under Alternative 4, NBA or NHL games would need to be played at another location, most likely the Tacoma Dome, if teams are acquired prior to the construction of a new arena. Vehicular emissions during NBA games would be similar to emissions at other large events at the Tacoma Dome, but would be additive to events already programmed for the Tacoma Dome during the two-year construction period. Because traffic conditions for temporary use of the Tacoma Dome would be similar to large events already there, emissions in Tacoma's stadium district would not increase substantially. Any traffic mitigation to reduce in traffic volumes and congestion during temporary use of the Tacoma Dome would provide corresponding reductions in vehicular air emissions.

Operation

Operation of an arena building itself would not be a point source of air pollutants at the KeyArena site. Operational impacts would be attributable to vehicular traffic during events at the arena. The types of vehicular emissions under Alternative 4 would be similar to those described under the Proposed Project.

Traffic during events at an arena, at the site of Alternative 4, are not anticipated to cause any exceedances of air quality standards. Measured concentrations of air pollutants have not recently exceeded EPA air quality standards at the closest monitoring stations at Queen Anne Hill, and at Olive and Boren. These monitoring stations have not measured any recent exceedances of air quality standards related to similar events at the KeyArena. While traffic volumes would be slightly higher than the existing KeyArena, events under Alternative 4 should not cause exceedances of air quality standards in the vicinity of the closest monitoring stations at Queen Anne Hill and at Olive and Boren.

The size of an arena at the Alternative 4 site would be approximately 750,000 sf for a 20,000-seat spectator sports facility. The estimated GHG emissions for Alternative 4 are summarized in Table 3.2-1. The annual emissions would be 23,049 MTCO₂e per year, which would be 0.3

percent of the City-wide GHG emissions (Table 3.2-1). An arena under Alternative 4 would include similar design and operation features as the Proposed Project to reduce its overall carbon footprint.

Emissions from vehicles would increase during events at such an arena, which could be considered an adverse impact. Event traffic is not anticipated to cause any exceedances of EPA's health-based air quality standards. Alternative 4 would include traffic mitigation to reduce volumes and congestion, and to encourage transit use, which would reduce traffic emissions of air pollutants during events.

3.2.3.4 Impacts of Alternative 5 – Memorial Stadium 20,000-Seat Arena

Construction

Air quality impacts and mitigation during construction would be similar to the Proposed Project (Alternative 2). Localized construction emissions of dust, odors, and engine exhaust could be more noticeable at times under Alternative 5, because more sensitive land uses would be near the Memorial Stadium site. Because construction emissions would be temporary in duration and small in quantity, comply with the PSCAA regulations, and include mitigation, construction emissions would be low under Alternative 5, Memorial Stadium.

Operation

Operation of an arena building itself would not be a point source of air pollutants at the Memorial Stadium site. Operational impacts would be attributable to vehicular traffic during events at the arena. The types of vehicular emissions under Alternative 5 would be similar to those described under the Proposed Project. Similar to Alternative 4, traffic during events at the arena is not anticipated to cause exceedances of air quality standards in the vicinity of the closest monitoring stations at Queen Anne Hill and at Olive and Boren.

The size of an arena at the Alternative 5 site would be approximately 750,000 sf for a 20,000-seat spectator sports facility. The estimated GHG emissions for Alternative 5 are summarized in Table 3.2-1. The annual emissions would be 23,049 MTCO₂e per year, which would be 0.3 percent of the City-wide GHG emissions (Table 3.2-1). An arena under Alternative 5 would include similar design and operation features as the Proposed Project to reduce its overall carbon footprint.

Emissions from vehicles would increase during events at the arena, which could be considered an adverse impact. Event traffic is not anticipated to cause any exceedances of EPA's health-based air quality standards. Alternative 5 would include traffic mitigation to reduce volumes and congestion, and to encourage transit use, which would reduce traffic emissions of air pollutants during events.

3.2.3.5 Mitigation Measures Applicable to both Alternatives 4 and 5

Construction

The potential construction mitigation measures would be the same as listed above for Alternatives 2 and 3 in Subsection 3.2.2.5.

Operation

Any transportation mitigation measures included for Alternatives 4 and 5 to reduce traffic volumes and congestion correspondingly would reduce traffic emissions of air pollutants (see Section 3.8 Transportation). Such measures could include encouraging transit use and carpooling, bicycle parking and routes, access improvements, traffic signal optimization, intersection realignments, improved pedestrian facilities, and police control of traffic during events. If an arena were constructed at the site of either Alternative 4 or 5, the construction project would include a TMP to reduce the number of fans arriving by single-occupancy vehicles.

3.2.3.6 Secondary and Cumulative Impacts

Secondary and cumulative impacts caused by either Alternative 4 or 5 would be similar to those described above in Subsection 3.2.2.6 for the Proposed Project and Alternative 3. Cumulative impacts on air quality would be related to short-term increases in construction activity and to long-term increases in traffic volumes and congestion. Cumulative construction impacts could occur from an arena and other development projects being constructed at the same time on or near Seattle Center. Because construction emissions under Alternatives 4 and 5 and other development projects would be temporary in duration and comply with PSCAA requirements, short-term cumulative impacts during construction would be low.

Long-term cumulative increases in traffic volumes and congestion would result from combined arena event volumes under Alternatives 4 and 5 and from future growth in traffic resulting from other future projects in the area. Near Seattle Center, air pollution emissions could increase from vehicular traffic diverted by tolling the new SR-99 Tunnel, and new residential and commercial development in the lower Queen Anne and South Lake Union areas.

Secondary impacts on air quality could result from economic growth and changes in land uses induced by the development of a new arena. Any growth induced by the Alternatives 4 or 5 would incrementally increase traffic volumes and associated traffic air pollutants. Although the location and specific amount of growth is unknown, incremental increases in traffic emissions likely would be small.

3.2.3.7 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to air quality from the construction or operation of Alternatives 4 or 5 are expected.

3.3 Water

3.3.1 Stadium District Alternatives - Alternatives 2 and 3

3.3.1.1 Affected Environment

Groundwater

As noted in Section 3.1, Geology and Soils, vibrating wire piezometers were installed in the two exploratory borings that were completed as part of a site-specific geotechnical engineering investigation (Hart Crowser 2013). The groundwater levels were measured in January 2013 and found to be at about five to eight feet below the ground surface.

The groundwater gradient beneath the subject site is anticipated to be relatively flat but gently towards Elliott Bay to the west. Due to the distance from Elliott Bay, the influence of tidal fluctuations is anticipated to be negligible.

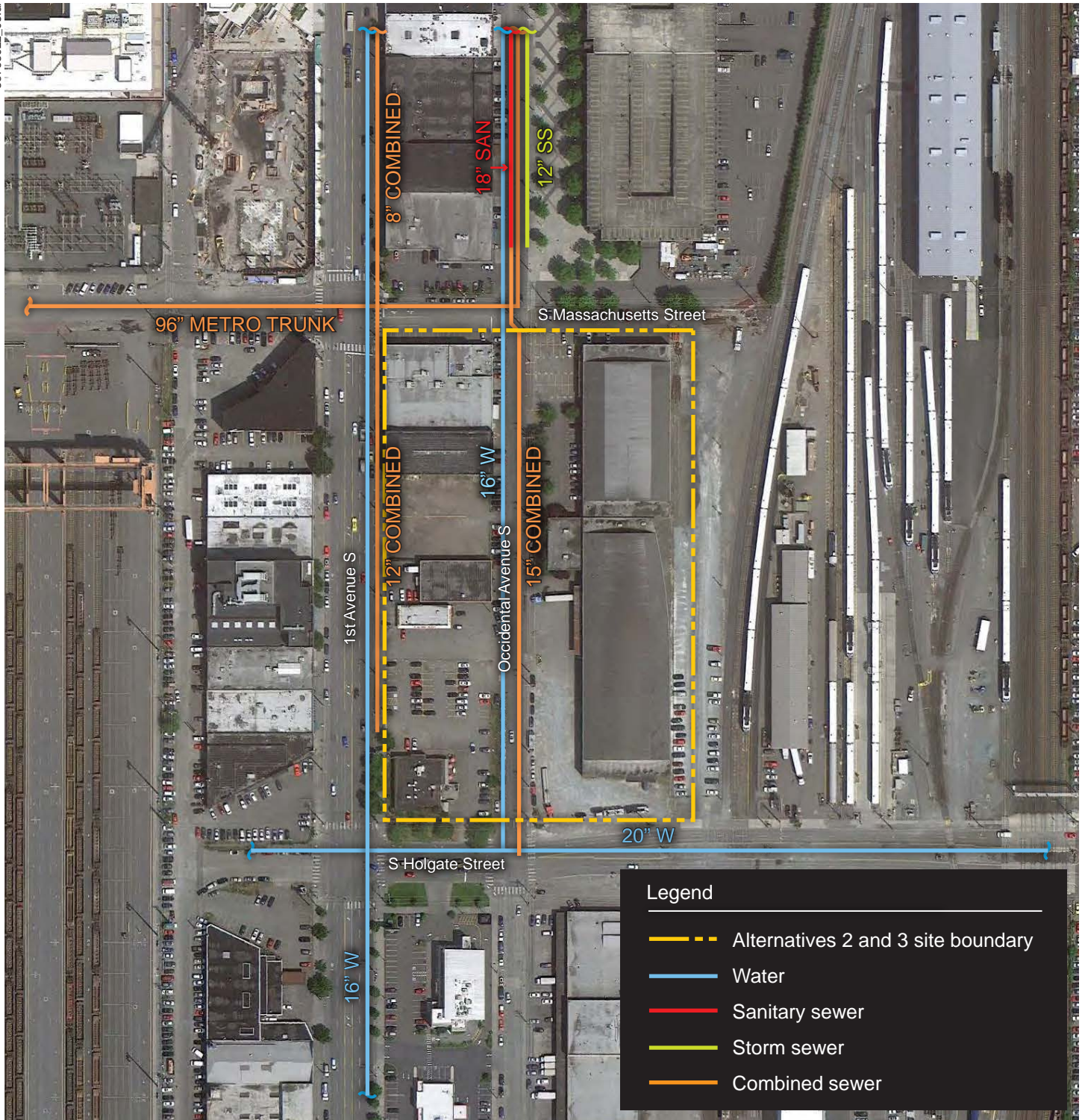
The Stadium District site of Alternatives 2 and 3 is located within an area of past and present industrial and commercial land uses. The past actions have resulted in reported releases of contaminants to the environment. Based on a preliminary review of relevant literature sources within the immediate vicinity of the project site, the potential exists for the presence of contaminated soil and groundwater. However, soil and groundwater quality-related sample collection and laboratory testing were not included in the scope of work during the completion of the subsurface explorations on the project site. The groundwater gradient likely generally follows the topography, which generally slopes towards the south.

Water System (SPU)

Water mains serving the Alternatives 2 and 3 site include an existing 20-inch water main on S. Holgate Street, an existing 16-inch water main on Occidental Avenue S. and an existing 16-inch water main on 1st Avenue S. No hydrant flow tests have been recently performed in the project area, but a flow test at the intersection of S. Massachusetts Street and Occidental Avenue S. conducted in 1998 produced a flow capacity of 12,761 gallons per minute (gpm) at 20 pounds per square inch (psi) residual pressure. Per a May 9, 2012, email correspondence with Melissa Hill of SPU, the static pressure at the Stadium District site is 135 psi. The total current water usage within the development area is unknown. See Figure 3.3-1.

Stormwater System (SPU)

For existing stormwater runoff, the Alternative 2 and 3 site surface cover consists primarily of impervious surfaces (asphalt paving, brick paving, gravel and building rooftops). A portion of the site has sparse tree cover and landscaping, but combined account for less than approximately three percent of total site cover. As a result, precipitation runs off of impervious surfaces and is conveyed primarily into the underground combined sewer system that runs from south to north in an existing 12-inch main on the east side of 1st Avenue S., and



Source: Google Earth Pro

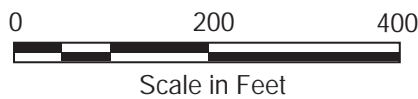


Figure 3.3-1
**Utilities in the Vicinity of
 Alternative 2 and Alternative 3**

in a 15-inch main near the center of Occidental Avenue S. In addition to the combined sewer mains serving the area, there is an existing 12-inch separated stormwater main on the east side of Occidental Avenue S. that begins just north of the S. Massachusetts Street intersection. This storm line travels north along Occidental Avenue S. and 1st Avenue S. to the 72-inch trunk sewer main on Royal Brougham Way. This is a First Flush system meaning that the first part of a rainstorm is diverted to the King County Elliot Bay Interceptor (EBI), and larger storms are then discharged to Puget Sound. This system also acts as the overflow route when the EBI goes into combined sewer overflow (CSO) mode (see description of the Kingdome CSO operation below) which provides for more combined sewer to stay in the system prior to discharge. The volumes in this portion of the system are greatly influenced by the way King County operates its system. See Figure 3.3-1.

Combined Sewer System (SPU and King County)

Existing wastewater generation from the Alternative 2 and 3 sites is produced by discharges from 6 occupied buildings, and flows to the combined sewer system that runs from south to north in an existing 12-inch main on the east side of 1st Avenue S. and in a 15-inch main near the center of Occidental Avenue S. Based on the Proposed Project and Alternative 3 configuration, an estimated annual existing sewer production volume of 500,000 gallons was calculated.

The 96-inch EBI is owned and maintained by the King County Water Wastewater Treatment Division (KCWTD) and runs adjacent to the project site for a short distance. This is a critical facility, and the structural integrity and function must be protected in place during construction, and access for maintenance and repair must be provided both during and after construction of the Arena has been completed. The interceptor approaches the project site from the west along S. Massachusetts Street. It is directly adjacent to the north limits of the project site between 1st Avenue S. and Occidental Avenue S., where it turns north and runs within Occidental Avenue S. on its way to the West Point Treatment Facility. At the intersection of S. Massachusetts Street and Occidental Ave S., KCWTD has a maintenance hole (W10-139) that would need to be protected during construction activities. See Figure 3.3-1.

3.3.1.2 Impacts of the No Action Alternative at Alternative 2 and 3 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternatives 2 and 3 for a new arena. There would be no direct effects to groundwater, water supply, stormwater systems, or sanitary sewer systems.

3.3.1.3 Impacts of Alternatives 2 and 3

Groundwater

As noted in Section 3.1, Geology and Soils, the Proposed Project (Alternative 2) and Alternative 3 would include a number of foundation-related construction elements that could result in groundwater-related direct effects:

- Groundwater flow may be altered by the presence of the retaining walls to support the foundation-related excavations. Areaways and basements adjacent to the new facilities could experience leakage or partial flooding if groundwater mounding occurs.
- Construction-related activities may result in the release of pollutants such as sediment, oil and grease that can increase turbidity and affect other water quality parameters. Also, the acidity of the groundwater can be altered if runoff comes into contact with curing concrete.
- Dewatering associated with excavations beneath the water table, which is about five to eight feet below the ground surface, would be needed with respect to the foundation construction. The dewatering could result in groundwater flow from adjacent areas being drawn toward the excavated areas. The groundwater may potentially be contaminated. Depending on the type(s) and concentrations of contaminants, there may be the need to collect and treat the water. This could lead to schedule delays.
- Dewatering associated with excavations can cause ground subsidence and damage adjacent utilities, in the absence of mitigation measures, due to the presence of fill soils. Vibration and/or settlement monitoring could be required to protect utilities and other structures. Damage to underground utilities has occurred in the vicinity as a result of dewatering activities.
- SPU's combined sewer system and storm systems have limited capacity for accommodating dewatering flows. It should not be assumed that contaminated groundwater can be dewatered to the sewer system. A King County Discharge Authorization, as well as SPU approval, is required prior to discharging contaminated groundwater to the sewer system.
- KCWTD has limited capacity in the EBI for accommodating dewatering flows. Construction techniques which minimize discharging flows to the combined sewer system should be considered.

Water System (SPU)

Prior to design development, the design engineer would obtain a water availability certificate from Seattle Public Utilities (SPU). This certificate would provide water service connection information and would recommend an existing water line to connect to. The certificate will also identify any water system improvements that are required under Seattle Municipal Code and SPU policy for development projects. It is anticipated that the Proposed Project (Alternative 2) or Alternative 3 would be able to connect to either the existing 20-inch water line on S. Holgate Street or the existing 16-inch water line on 1st Avenue S. Additional fire flow tests would be required by SPU during the design coordination process to verify current flow capacity. It is anticipated that the static pressure of 135 psi would be adequate for the Arena development.

The existing water use on the site would increase with the Arena development. While the total current water usage within the development area is unknown, the preliminary mechanical demands for cooling towers are estimated to be approximately 1,800,000 gallons per year. Water use based on the calculated wastewater discharge from the Arena development is 5,200,000 gallons for Alternative 2 (20,000-seat Arena) and 4,700,000 gallons for Alternative 3 (18,000-seat Arena). A discussion of wastewater generation is included below under “Sanitary Sewer System.”

The existing 16-inch feeder main in Occidental Avenue S. is one of two alternate feeds to the Pioneer Square seismic backbone main from Beacon Hill Reservoir. If Occidental Avenue S., between S. Massachusetts Street and S. Holgate Street were to be vacated, the current ability to feed the 24-inch Pioneer Square seismic backbone main from either the Holgate Street feeder or the 1st Avenue S. feeder would be lost.

To accommodate the loss of the 16-inch Occidental feeder in the proposed vacation area, the remaining 16-inch feeder in 1st Avenue S. would need to be upsized and reconstructed to be seismically resistant. The existing 16-inch Occidental feeder, severed by the street vacation at S. Massachusetts Street, would need to be extended west to connect with the upgraded 24-inch seismically resistant feeder in 1st Avenue S. Valving at the supply junction of 1st Avenue S. and S. Massachusetts Street would need to be arranged so that either the 16-inch feeder in Occidental Ave S. or the 16-inch feeder in 1st Avenue S. (north of Massachusetts St.) could be supplied from the upgraded 24-inch feeder approaching Massachusetts from the south. Similarly, at 1st Avenue S. and S. Holgate Street, valving would need to be provided such that the single, seismically upgraded 24-inch feeder north of S. Holgate Street could receive two alternate supplies from the reservoir; from either the east (via S. Holgate Street) or from the south (via 1st Avenue S.).

An additional fire main loop around the Arena site to provide fire protection along the east side of the new facility would likely be constructed, depending on DPD and Fire Department review comments.

Stormwater System (SPU)

The likely offsite storm connection for the site of Alternatives 2 or 3 would be the 12-inch City of Seattle-separated storm line on Occidental Avenue S. that begins at a maintenance hole just north of the intersection with S. Massachusetts Street. Additional stormwater storage for the Proposed Project (Alternative 2) or Alternative 3 at this site would have a benefit to helping the whole stormwater system operate better. According to maps published by SPU, the project area is not in a capacity constrained system, and the project design team expects approval for this connection point. In the event that the 12-inch Seattle-separated storm line on Occidental Avenue S. is not deep enough to properly serve the site without pumping, it may be necessary to reconstruct the existing 12-inch and 24-inch storm lines to provide a deeper connection point. This concern will be passed on the site design team for evaluation during the design process.

Table 3.3-1 provides estimated annual existing and proposed stormwater flows for the Alternatives 2 and 3.

**Table 3.3-1
Estimated and Proposed Annual Stormwater Flows -
Alternatives 2 and 3**

Condition	Stormwater (Gal)
Existing	5,900,000
Alternatives 2 and 3	4,950,000 ¹

¹Based on the Arena assuming a 35,000 SF green roof

Further reduction in runoff is anticipated. If the project connects to the 15-inch City of Seattle combined sewer system flowing north along Occidental Ave S. instead of the separated stormwater system, it would be part of the Kingdome sub-basin. Combined storm and sewer flows in this 915-acre sub-basin are managed by a regulator located near S. Royal Brougham Way and Alaskan Way S. During normal operation, the regulator diverts flow into the 96-inch EBI that ultimately flows to the West Point Treatment Plant in Magnolia.

In the event that the EBI is at capacity, the regulator diverts flow to the Kingdome CSO Outfall. This outfall is operated by the King County Wastewater Treatment Division and discharges into the Duwamish River. Between 1992 and 2011, the Kingdome CSO averaged 6.4 overflows per year.

King County’s CSO Long Term Control Plan (LTCP) was adopted by the King County Council in 2012, and is required to be implemented by Washington Department of Ecology and a federal consent decree with the US Department of Justice and Environmental Protection Agency. As part of the LTCP, King County is required to build a \$271 million (2010 dollars) 151 mgd CSO wet weather treatment plant between King Street and Hanford Street regulator stations and will modify the EBI to divert wastewater flows to the new plant. The project, called the King Street, Kingdome, Lander, and Hanford (HLKK) treatment plant, is currently scheduled to be completed by 2030 and could begin in 2021 or earlier. If the project schedule is moved earlier, it is important to coordinate construction staging and transportation to reduce impacts to the community, a community with construction fatigue from the current large infrastructure projects (seawall, viaduct replacement, etc.). More information is available at: <http://www.kingcounty.gov/environment/wastewater/CSO/ProgramReview/Plan/9Projects.aspx>

The Proposed Project (Alternative 2) and Alternative 3 would be designed to meet current City stormwater codes. As the stormwater from Alternatives 2 or 3 would ultimately flow to the combined sewer system, flow control facilities are required. Two additional City requirements apply to the development: 1) Implementing green infrastructure to the maximum extent feasible; and 2) Green Area factor. Specific best management that would address these requirements is in early design, but a net reduction in stormwater runoff volume compared to existing conditions would occur.

All design requirements for incorporation of onsite detention, utilization of “Green Stormwater Infrastructure” practices and “Green Area Factor” would be incorporated into the site design.

Code standards would also be used to prepare Temporary Erosion and Sedimentation Control plans, and all standards would be followed during construction activities to protect the existing stormwater and combined sewer systems and the project site environment.

Sanitary Sewer System (SPU and King County)

The proposed connection point for wastewater discharge from Alternatives 2 or 3 is the existing City of Seattle 15-inch combined sewer maintenance hole located in the intersection of S. Massachusetts Street and Occidental Avenue S.

For proposed wastewater generation, the Stadium District site is a zero lot-line development, and would occupy the full extents of existing parcels and a partial vacation of Occidental Avenue S. between S. Massachusetts Street and S. Holgate Street.

With a seating capacity of 20,000 or 18,000 and holding year-round events and permanent offices, the Arena would generate a significant amount of wastewater. A preliminary estimate of wastewater production based off of the mechanical engineers and civil engineers estimates was developed. Table 3.3-2 below provides estimated annual existing and proposed wastewater flows for the Arena:

**Table 3.3-2
Estimated Annual Existing and Proposed Wastewater Flows -
Alternatives 2 and 3**

Condition	Wastewater (Gallons)
Existing	500,000
Alternative 2	5,200,000 ¹
Alternative 3	4,700,000 ¹

¹ Conservative estimate, no water reuse strategies implemented.

Because the site would be transformed from a low, full-time equivalent use area to a heavily used, year round Arena, wastewater production would increase substantially. Water reuse strategies (rainwater collection, smart detention, and onsite wastewater treatment) are being evaluated as part of the design process to reduce wastewater and stormwater discharges from the site.

Current plans call for the design of the development to take advantage of code compliant low flow plumbing fixtures and also to use water reuse design practices wherever practical. These efforts would minimize the effect of the additional flows to the existing system. Table 3.3-3 shows the anticipated annual flows to the combined system for the existing development and for the future development, assuming that the stormwater from the site is routed to the existing separated stormwater system as recommended:

**Table 3.3-3
Estimated Existing and Proposed Total Annual Flow to Combined Sewer -
Alternatives 2 and 3**

Condition	Stormwater (Gallons)	Wastewater (Gallons)	Total to Combined Sewer (Gallons)
Existing	5,900,000	500,000	6,400,000
Alternative 2	N/A	5,200,000 ¹	5,200,000 ¹
Alternative 3	N/A	4,700,000 ¹	4,700,000 ¹

¹Conservative estimate, no water reuse strategies implemented.

Existing combined sewer mains along Occidental Avenue S. within the project area would be removed or abandoned, and new stormwater and wastewater discharges from the Arena development would be routed to either separated or combined systems after all required detention, water quality, and water reuse treatments have been completed onsite.

Stormwater and wastewater systems would be piped independently to their point of connection with existing facilities, even if they are both routed to the combined system. This would allow future separation of the two systems without construction of new facilities within the Project Site. Given the calculated flows from the site, it is not anticipated that any new or replaced sewer mains would be required to support the development of either Alternative 2 or 3.

Because the northerly limits of the Stadium District site stop at the southern right-of-way line of S. Massachusetts Street, there is no proposed construction over the existing EBI sewer, with the possible exception of paving and installation of additional utilities to support the development.

Greater amounts of wastewater flows are anticipated to be produced by the developed site than the existing site, but without the inclusion of stormwater flows, these flows are within the capacities of the existing combined sewer system north of the project site in Occidental Avenue S. The final determination of existing system capacity and possible need for new or reconstructed sewer mains will be determined by capacity analysis and system modeling during the design phase of the project.

3.3.1.4 Mitigation Measures Applicable to Both Alternatives 2 and 3

Construction

The project design team will prepare an analysis of the existing soils properties and loading conditions for the 96-inch EBI sewer, and provide recommendations for monitoring and / or mitigation for any construction activities that could cause either lateral or vertical movement of the ground and their impact on the interceptor. This analysis and recommendation would be completed and submitted to the King County Wastewater Treatment Division for review and comments as part of the design review process prior to construction.

The following measures would be used to mitigate impacts to water and water quality:

- If groundwater as a result of the installation of retaining walls becomes an issue, the applicant would identify and implement engineering solutions, such as the installation of a perimeter drainage system.
- Before temporary or permanent discharge of groundwater to the SPU sewer system is allowed, the project applicant will need to evaluate alternatives such as on-site treatment before discharging to sewer or storm drain facilities, depending upon the type and concentration of contaminants in the groundwater.
- It is important to keep the route of the interceptor available for maintenance and repairs. Construction activities within S. Massachusetts Street that would prevent maintenance personnel from gaining access either in an emergency or for routine maintenance operations would be avoided or coordinated with SPU.

The following mitigation measures are recommended for consideration by DPD as part of permit decisions:

- In order to prevent schedule delays during construction as a result of the potential presence of contaminated groundwater, complete a groundwater quality investigation in advance of the scheduled construction in order to determine the presence or absence of the contamination. If contamination is found to be present, identify and implement engineering solutions to remedy the situation before the construction commences.
- Based on existing soil properties and the total depth of cover over the pipe, it may be necessary to monitor the ground over the top of the pipe for settlement, and any extremely heavy construction loads may need to be restricted from traveling over the interceptor sewer.
- Ground vibrations would likely occur during construction and demolition. Conduct studies as necessary to determine how to prevent or mitigate the potential to cause damage to underground utilities. Implement vibration monitoring during construction to prevent any damage to the Elliot Bay Interceptor. In addition to vibration monitoring, it may be necessary to establish baseline conditions for underground utilities, such as elevation data, leak surveys, and other means. Settlement monitoring and reporting may be required during dewatering and/or construction activities that generate high impacts or ground vibration.

Operation

- **Groundwater:** No impacts have been identified and no mitigation measures are anticipated to be needed. If contaminated soils and/or groundwater are encountered, special design consideration may be required in order to minimize hazards encountered later by SPU crews performing routine maintenance or repairs to water, stormwater, and sewer

systems. SPU may also be required to utilize specialized safety equipment and PPEs for maintenance

- Water System (SPU): Since the proposed vacation of Occidental Ave S will result in the decommissioning of SPU's existing 16 inch cast iron feeder main, there may be short term operational changes during construction in order to preserve fire flow and customer service, as well as longer term operational changes due to the relocation and possible upsizing of water feeder mains in the vicinity. New services for domestic and fire system connections would be provided as necessary to meet City code requirements.
- Stormwater System (SPU): No mitigation is anticipated to be needed.
- Sanitary Sewer System (SPU and King County): Flows are anticipated to be within the capacities of the existing combined sewer system north of the project site in Occidental Avenue S. No mitigation is anticipated to be needed.

3.3.1.5 Secondary and Cumulative Impacts

There would be cumulative impacts to water supply and discharge created by the development of a new Arena in conjunction with other development in the Stadium District area. New and larger buildings may cumulatively increase the need for additional water supply; however code-compliant plumbing fixtures are targeted toward reducing supply needs on a per-person basis. New code requirements for onsite detention of stormwater, utilization of "Green Stormwater Infrastructure" practices and "Green Area Factor," low-flow plumbing fixtures and water reuse design practices may reduce overall stormwater and sanitary sewer flows.

3.3.1.6 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to groundwater, water supply or discharge facilities are expected.

3.3.2 Alternative 4 - KeyArena 20,000-Seat Arena

3.3.2.1 Affected Environment

Groundwater

As noted in Section 3.1, Geology and Soils, at the location of the nearby Space Needle the groundwater was encountered at depths ranging from about 55 to 80 feet below the ground surface (Dames & Moore 1961). However, groundwater was not encountered in several other borings that were completed as deep as about 100 feet below the ground surface.

Water System (SPU)

Existing water mains serving the project area include a 12-inch water main on Thomas Street and a 12-inch water main on 1st Avenue N. No hydrant flow tests have been recently performed in the project area so the full fire capacity is unknown. Per the March 11, 2013,

email correspondence with Mark Jaeger of SPU, the static pressure at the KeyArena site is approximately 90 psi. See Figure 3.3-2.

Stormwater System (SPU)

For existing stormwater runoff, the KeyArena site is assumed to be approximately 6 acres of the overall 10.95 acre parcel, where surface cover consists primarily of impervious surfaces (asphalt paving, concrete walkways and stairs, gravel and building rooftops). The KeyArena site is assumed to not include the existing Northwest Rooms, which are on the northerly portion of the parcel. A portion of the assumed site area has sparse tree cover and landscaping, but combined account for less than approximately three percent of total site cover, similar to the Stadium District site for Alternatives 2 and 3. Stormwater is currently collected from the KeyArena site in a separate piped stormwater system. The collected stormwater from the north half of the site is routed to a 24-inch separated stormwater main running east on Harrison Street. The collected stormwater from the south half of the site is routed to the east to an existing stormwater detention vault before being discharged to the 24-inch separated stormwater main running east on Harrison Street. See Figure 3.3-2.

Sanitary Sewer System (SPU)

Wastewater generation from the existing KeyArena site is produced by discharges from seven occupied buildings. Based on an arena configuration similar to the Proposed Project (Alternative 2), an estimated annual sewer production volume was calculated, and is summarized in the table below as “wastewater.”

Sanitary sewer “wastewater” is discharged to multiple side sewers with connection points to the existing combined public sewer system. Sewage is discharged from structures at the northwest corner of the KeyArena site to a 12-inch combined sewer at the intersection of 1st Avenue N. and Harrison Street, and also to an 8-inch combined sewer in 1st Avenue N. just south of Harrison Street. Another side sewer from the south end of the site connects to an 8-inch combined sewer main in Warren Avenue N., and two additional side sewers from the north and east sides of the site connect to the 8-inch combined sewer main in 2nd Avenue N. See Figure 3.3-2.

3.3.2.1 Impacts of the No Action Alternative at Alternative 4 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 4 for a new arena. There would be no direct effects to groundwater, water supply, stormwater systems, or sanitary sewer systems.

3.3.2.2 Impacts of Alternative 4 - KeyArena 20,000-Seat Arena

Groundwater

As a result of the anticipated depth to groundwater, Alternative 4's structure or foundation would likely not intercept groundwater during construction.

Water System (SPU)

Prior to design development, the design engineer would obtain a water availability certificate from SPU. This certificate would provide water service connection information and would recommend an existing water line to connect to. It is anticipated that Alternative 4 would be able to connect to either the existing 12-inch water main on Thomas Street or the 12-inch water main on 1st Avenue N. Fire flow tests would be required by SPU during the design coordination process to verify adequate fire flow availability. It is anticipated that the static pressure of 90 psi and 12-inch water mains would be adequate for arena development needs.

The existing water usage on the KeyArena site would likely increase with construction of a new arena. The total 2012 water usage records for the existing KeyArena show usage of approximately 1,500 CCF (1,122,000 gallons, which seems low and may not include all associated meters). An arena development would be larger and have a higher occupancy capacity than the existing structure. Water use based on the calculated wastewater discharge from an arena development would be 5,200,000 gallons. A discussion of wastewater generation is included as "Sanitary Sewer System" below.

No major water facilities are planned to be removed or relocated as part of the development. An additional fire main loop around the KeyArena site to provide fire protection along the north and east sides of a new facility would likely be constructed, depending on DPD and Fire Department review comments.

Stormwater System (SPU)

The likely stormwater connection to the downstream system is assumed to be at or near the existing maintenance hole at the intersection of 2nd Avenue N. and Harrison Street on the 24-inch separated stormwater main. Table 3.3-4 provides estimated annual existing and calculated annual stormwater flows for an arena at the KeyArena site, which are assumed to be the same as for Alternative 2:

**Table 3.3-4
Estimated Existing and Future Annual Stormwater Flows -
Alternative 4 – KeyArena Site**

Condition	Stormwater (Gallons)
Existing	5,900,000
Alternative 4	4,950,000 ¹

¹Based on the arena assuming a 35,000 SF green roof

As with the other alternatives, further reduction in runoff is anticipated.

Preliminary estimates show that stormwater runoff from the site would decrease with the construction of a new arena. An arena would be designed to meet current City stormwater codes.

As the arena would connect to the separated stormwater system, both water quality and flow control facilities would likely be required. Two additional City requirements apply to the development: 1) Implementing green infrastructure to the maximum extent feasible; and 2) Green Area factor. Specific best management practices that would address these requirements have not been identified as there is no design proposed for the KeyArena site, but a net reduction in stormwater runoff volume compared to existing conditions is anticipated to occur.

All design requirements for incorporation of onsite detention, utilization of “Green Stormwater Infrastructure” practices and “Green Area Factor” would be incorporated into the site design if an arena were to be constructed on the KeyArena site. Code standards would also be used to prepare Temporary Erosion and Sedimentation Control plans, and all standards would be followed during construction activities to protect the existing stormwater and combined sewer systems and the project site environment.

Sanitary Sewer System (SPU)

With a seating capacity of 20,000 and holding year-round events and permanent offices, an arena would generate a significant amount of wastewater. A preliminary estimate of wastewater production based off of the mechanical engineers and civil engineers estimates was developed. The existing KeyArena has a seating capacity of 17,000, and since the actual total discharge for the site is not currently known, the existing total is assumed to be a percentage of the potential future development based on total seating capacity. Table 3.3-5 provides estimated annual existing and future wastewater flows for an arena at the KeyArena site:

**Table 3.3-5
Estimated Annual Existing and Future Wastewater Flows -
Alternative 4 – KeyArena Site**

Condition	Wastewater (Gallons)
Existing (17,000 seats)	4,420,000
Alternative 4 (20,000 seats)	5,200,000 ¹

¹Conservative estimate, no water reuse strategies implemented.

Water reuse strategies (rainwater collection, smart detention, and onsite wastewater treatment) are being evaluated as part of the design process to further reduce wastewater and stormwater discharges from the site.

Stormwater is already discharged to a separate system in the vicinity of the site, so all wastewater flows can be routed through multiple existing sidesewer connections, depending on the best layout for the new arena. Given the relatively large wastewater flows from the site, the existing public sewer system would need to be analyzed during the design process to

determine where and how many different connections would be required to prevent exceeding the downstream capacity of the existing sewer mains.

If a new arena were to be developed on the KeyArena site, it is anticipated that the design of a new development would take advantage of code compliant low-flow plumbing fixtures and also to use water reuse design practices wherever practical. These efforts would minimize the effect of the additional flows to the existing system.

It is anticipated that marginally more wastewater flows would be produced by the developed site than the existing site, but these flows would be anticipated to be within the capacities of the existing combined sewer system serving the site.

3.3.2.3 Mitigation Measures

- Groundwater: No impacts to groundwater at the KeyArena site are anticipated and no mitigation measures are anticipated to be needed.
- Water System (SPU): No mitigation is anticipated to be needed for the water system, as there are no identified significant impacts.
- Stormwater System (SPU): No mitigation is anticipated to be needed.
- Sanitary Sewer System (SPU and King County): Flows are anticipated to be within the capabilities of existing systems. No mitigation measures are anticipated to be needed.

3.3.2.4 Secondary and Cumulative Impacts

There would be cumulative impacts to water supply and discharge created by the development of a new arena in conjunction with other development in the Seattle Center area. New and larger buildings may cumulatively increase the need for additional water supply; however code-compliant plumbing fixtures are targeted toward reducing water supply needs on a per person basis. New code requirements for onsite detention of stormwater, utilization of “Green Stormwater Infrastructure” practices and “Green Area Factor” low flow plumbing fixtures and water reuse design practices may reduce overall stormwater and sanitary sewer flows.

3.3.2.5 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to groundwater, water supply or discharge facilities are expected.

3.3.3 Alternative 5 - Memorial Stadium 20,000-Seat Arena

3.3.3.1 Affected Environment

Groundwater

As noted in Section 3.1, Geology and Soils, at the location of the nearby Space Needle the groundwater was encountered at depths ranging from about 55 to 80 feet below the ground surface (Dames & Moore 1961). However, groundwater was not encountered in several other borings that were completed as deep as about 100 feet below the ground surface.

Water System (SPU)

Existing water mains serving the project area include a 20-inch water main on Mercer Street or the 8-inch water main on 5th Avenue N. A hydrant one block north of Memorial Stadium at 4th Avenue N. and Mercer Street was tested on November 7, 2008, and was found to have a capacity of 4,000 gpm at 20 psi residual pressure. Per the March 11, 2013, email correspondence with Mark Jaeger of SPU, the static pressure at the Memorial Stadium site is approximately 100 psi. The total 2012 water usage for the existing Memorial Stadium was approximately 3,600 CCF (2,692,800 gallons). See Figure 3.3-3.

Stormwater System (SPU)

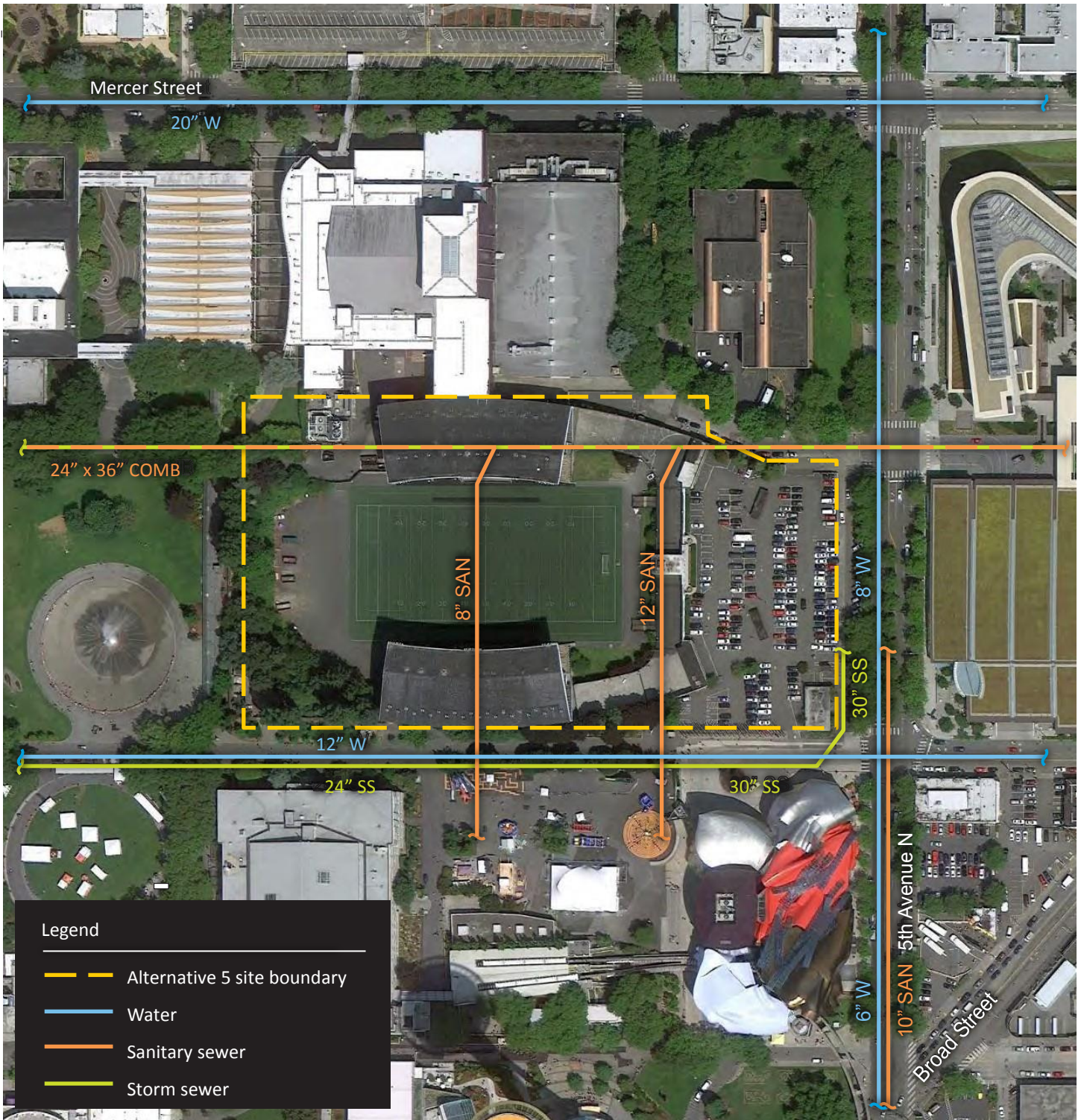
For existing stormwater runoff, the Memorial Stadium site is assumed to be all of the 6.3 acre parcel, where surface cover consists primarily of impervious surfaces (FieldTurf artificial playing surface, concrete walkways and stairs, gravel and building rooftops). A portion of the assumed site area has sparse tree cover and landscaping, but combined accounts for less than approximately three percent of total site cover, similar to the Stadium District and KeyArena sites. Stormwater is currently collected from the Memorial Stadium site in a separate piped stormwater system and routed to a 30-inch separated stormwater main running north on 5th Avenue N. See Figure 3.3-3.

Sanitary Sewer System (SPU)

Wastewater generation from the existing site is produced by discharges from stadium rest rooms and concession stands. Sanitary sewer “wastewater” is discharged to multiple side sewers with connection points to the existing 12-inch combined public sewer mains on Nob Hill Avenue N. and 4th Avenue N. (this main runs under the existing stadium site). The existing wastewater produced from the Stadium site is unknown, but an estimate based on the number of existing seats is roughly 3,120,000 gallons. See Figure 3.3-3.

3.3.3.2 Impacts of the No Action Alternative at Alternative 5 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 5 for a new arena. There would be no direct effects to groundwater, water supply, stormwater systems, or sanitary sewer systems.



Source: Google Earth Pro



Figure 3.3-3
Utilities in the Vicinity of
Alternative 5

3.3.3.3 Impacts of Alternative 5 – Memorial Stadium 20,000-Seat Arena

Groundwater

As a result of the anticipated depth to groundwater, Alternative 5's structure or foundation would likely not intercept groundwater during construction.

Sanitary Sewer System (SPU)

Wastewater generation from the existing site is produced by discharges from stadium rest rooms and concession stands. Sanitary sewer "wastewater" is discharged to multiple side sewers with connection points to the existing 12-inch combined public sewer mains on Nob Hill Avenue N. and 4th Avenue N. (this main runs under the existing stadium site). The existing wastewater produced from the Stadium site is unknown, but an estimate based on the number of existing seats is roughly 3,120,000 gallons. See Figure 3.3-3.

3.3.3.4 Impacts of the No Action Alternative at Alternative 5 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 5 for a new arena. There would be no direct effects to groundwater, water supply, stormwater systems, or sanitary sewer systems.

3.3.3.5 Impacts of Alternative 5 – Memorial Stadium 20,000-Seat Arena

Groundwater

As a result of the anticipated depth to groundwater, Alternative 5's structure or foundation would likely not intercept groundwater during construction.

Water System (SPU)

Prior to design development, the design engineer would obtain a water availability certificate from SPU. This certificate would provide water service connection information and would recommend an existing water line to connect to. It is anticipated that an arena on this site would be able to connect to either the existing 20-inch water main on Mercer Street or the 8-inch water main on 5th Avenue N. Additional fire flow tests may be required by SPU during the design coordination process to verify adequate fire flow availability. It is anticipated that the static pressure of 100 psi and the size of the existing supply mains in the area would be adequate for arena development.

The existing water usage on the site would likely increase with construction of a new arena. The total 2012 water usage for the existing Memorial Stadium was approximately 3,600 CCF (2,692,800 gallons), and a new arena development would have a higher occupancy capacity than the existing stadium (20,000 seats versus 12,000 seats). Water use based on the calculated wastewater discharge from the arena development is 5,200,000 gallons.

No major water facilities are planned to be removed or relocated as part of the development. An additional fire main loop around the Memorial Stadium site to provide fire protection along the east side of a new facility would likely be required to be constructed, depending on DPD and Fire Department review comments.

Stormwater System (SPU)

The likely stormwater connection to the downstream system is assumed to be at or near the existing connection with the 30-inch stormwater main on 5th Avenue N., just north of the intersection with Harrison Street. Table 3.3-6 provides estimated annual existing and future stormwater flows for an arena, which is assumed to be the same as for Alternatives 2 and 3:

**Table 3.3-6
Estimated Annual Existing and Future Stormwater Flows -
Alternative 5 – Memorial Stadium Site**

Condition	Stormwater (Gallons)
Existing	5,900,000
Alternative 5	4,950,000 ¹

¹Based on the Arena assuming a 35,000 SF green roof

As with the other alternatives, further reduction in runoff would be anticipated. Preliminary estimates show that stormwater runoff from the site would decrease with the construction of a new arena. An arena at this site would be designed to meet current City stormwater codes.

As the arena would connect to the separated stormwater system, both water quality and flow control facilities would likely be required. Two additional City requirements apply to the development: 1) Implementing green infrastructure to the maximum extent feasible; and 2) Green Area factor. Specific best management practices that would address these requirements have not been identified as there is no design proposed for the Memorial Stadium site, but a net reduction in stormwater runoff volume compared to existing conditions is anticipated to occur.

All design requirements for incorporation of onsite detention, utilization of “Green Stormwater Infrastructure” practices and “Green Area Factor” would be incorporated into the site design. Code standards would also be used to prepare Temporary Erosion and Sedimentation Control plans, and all standards would be followed during construction activities to protect the existing stormwater and combined sewer systems and the project site environment.

Sanitary Sewer System (SPU)

Based on an arena configuration similar to the Proposed Project (Alternative 2), an estimated annual sewer production volume was calculated, and is summarized in the table below as “wastewater.” For potential future wastewater generation, the Memorial Stadium site would be a zero lot-line development, and would occupy the full extent of 6.3-acre stadium parcel.

With a seating capacity of 20,000 and holding year-round events and permanent offices, an arena at the Memorial Stadium site would generate a substantial amount of wastewater. A

preliminary estimate of wastewater production based off of the mechanical engineers and civil engineers estimates was developed. The existing Memorial Stadium has a seating capacity of 12,000, and since the actual total discharge for the site is not currently known, the existing total is assumed to be a percentage of the potential future development based on total seating capacity. Table 3.3-7 provides estimated annual existing and future wastewater flows for an arena at the Memorial Stadium site:

**Table 3.3-7
Estimated Annual Existing and Future Wastewater Flows -
Alternative 5 – Memorial Stadium Site**

Condition	Wastewater (Gallons)
Existing (12,000 seats)	3,120,000
Alternative 5 (20,000 seats)	5,200,000 ¹

¹ Conservative estimate, no water reuse strategies implemented.

Water reuse strategies (rainwater collection, smart detention, and onsite wastewater treatment) would be evaluated as part of the design process to further reduce wastewater and stormwater discharges from the site.

Stormwater is already discharged to a separate system in the vicinity of the site, so all wastewater flows could be routed through multiple existing sidesewer connections, depending on the best layout for a new arena. Given the relatively large wastewater flows from the site, the existing public sewer system would need to be analyzed during the design process to determine where and how many different connections would be required to prevent exceeding the capacity of downstream sewer mains. In addition, the depth of the existing 12-inch sewer main on 4th Avenue N. would need to be evaluated as part of an arena design to determine whether the foundation elevation for the arena at the Memorial Stadium site would impact the existing sewer, thus requiring a relocation of these facilities or a revision to the depth of the arena structure.

It is anticipated that if an arena were to be located on the Memorial Stadium site, the design of the development would take advantage of code compliant low flow plumbing fixtures and also use water reuse design practices wherever practical. These efforts would minimize the effect of the additional flows to the existing system.

It is anticipated that substantially greater wastewater flows would be produced by the developed site than the existing site, but these flows would be within the capacities of the existing combined sewer system serving the site. The depth of the existing 12-inch sewer main on 4th Avenue N. in relationship to the potential Alternative 5 structure elevation for an arena may require either a relocation of the existing 12-inch sewer main, or a change in the depth of an arena structure to mitigate any potential conflicts.

3.3.3.6 Mitigation Measures

- Groundwater: No impacts to groundwater at the Memorial Stadium site are anticipated and no mitigation measures are anticipated to be needed.

- Water System (SPU): No mitigation is anticipated to be needed for the water system, as there are no identified significant impacts. New services for domestic and fire system connections would be provided as necessary to meet City code requirements.
- Stormwater System (SPU): No mitigation is anticipated to be needed.
- Sanitary Sewer System (SPU and King County): Flows are anticipated to be within the capabilities of existing systems. No mitigation measures are anticipated to be needed.

3.3.3.7 Secondary and Cumulative Impacts

Secondary and cumulative impacts from Alternative 5 would be the same as described above for Alternative 4.

3.3.3.8 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to groundwater, water supply or discharge facilities are expected.

3.4 Scenic Resources

3.4.1 Introduction

As described in Section 2, ArenaCo is proposing to construct an approximately 750,000 square feet – 20,000-seat spectator sports facility. The approximate dimensions of the facility would be 400 feet wide, 720 feet long (including exterior features such as the pedestrian plaza), and up to 125 feet tall. For the purpose of analyzing potential effects on visual resources, it has been assumed that the structure would be of the same size and dimensions for each of the Action Alternatives.

The City of Seattle's State Environmental Policy Act (SEPA) rules provide protection for certain defined public views and views toward historic landmarks. The section on Public View Protection indicates, "*The City has developed particular sites for the public's enjoyment of views of mountains, water and skyline and has many scenic routes and other public places where such views enhance one's experience*" (SMC 25.05.675). Protected views include Mount Rainier, the Cascade and Olympic mountain ranges, Puget Sound, Lake Washington, Lake Union, the Ship Canal, and the Downtown Skyline. The City does not protect views from private property.

3.4.1.1 Public Viewpoints

An inventory completed by the City of Seattle (City) in May 2002 represents a visual appraisal and inventory of amenities at 86 sites throughout Seattle (City of Seattle 2002). These sites are identified in Seattle's Environmental Policies governing the review and conditioning of physical development in the City (SMC 25.05.675P). These sites represent the extent to which the City historically has considered public views in the review and conditioning of development through the Master Use Permit and SEPA review process.

Of these, nine have a potential view of the site of the Proposed Project or other Build Alternatives:

- Bhy Kracke Park Viewpoint
- Gasworks Park Viewpoint
- Hamilton View Point Park Viewpoint
- Kerry Park Viewpoint
- Kobe Terrace Park Viewpoint
- Myrtle Edwards Park Viewpoint
- Dr. Jose Rizal Park Viewpoint
- Seacrest-Harbor Vista Park Viewpoint

- Admiral Viewpoint in Belvedere Park

Accordingly, each of the identified viewpoints was studied to determine whether the Proposed Project or other Build Alternative would affect the view from the park; see Sections 3.4.2.3 Impacts of Alternatives 2 and 3, and 3.4.3.3 Impacts of Alternatives 4 and 5 below for more information.

3.4.1.2 Views of the Space Needle

Seattle's SEPA Policy on Public View Protection, SMC 25.05.675 P.2.c states:

c. It is the City's policy to protect public views of the Space Needle from the following public places. A proposed project may be conditioned or denied to protect such views, whether or not the project meets the criteria of the Overview Policy set forth in SMC Section 25.05.665.

- i. Alki Beach Park (Duwamish Head)*
- ii. Bhy Kracke Park*
- iii. Gasworks Park*
- iv. Hamilton View Point*
- v. Kerry Park*
- vi. Myrtle Edwards Park*
- vii. Olympic Sculpture Park*
- viii. Seacrest Park*
- ix. Seattle Center*
- x. Volunteer Park*

Accordingly, each of the identified locations was studied to determine whether the Proposed Project or other Build Alternatives would be visible from that park and whether it would affect the view from the park of the Space Needle; see Section 3.4.3.3 Impacts of Alternatives 4 and 5 below for more information.

Scenic Routes

The City's SEPA policies also address the protection of public views from City streets designated as scenic routes; see Sections 3.4.2 and 3.4.3 for more information.

3.4.2 Stadium District Alternatives – Alternatives 2 and 3

3.4.2.1 Affected Environment

Views from Public Viewpoints

Five viewpoints were identified as having a potential view of Alternatives 2 and 3. A summary of these viewpoints describing which alternative may be visible from that location, and the main viewing direction of the alternative's location is provided in Table 3.4-1 below. The location of the viewpoints is shown on Figure 3.4-1.

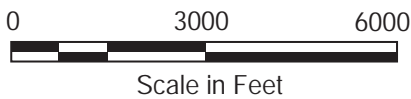
33763922_11.ai

Legend

- Viewpoint potentially affected by Alternatives 2 and 3
- Viewpoint potentially affected by Alternatives 4 and 5
- Potentially affected scenic route

Viewpoints

- 1 Bhy Kracke Park Viewpoint
- 2 Gasworks Park Viewpoint
- 3 Hamilton View Point Park Viewpoint
- 4 Kerry Point Park Viewpoint
- 5 Kobe Terrace Park Viewpoint
- 6 Myrtle Edwards Park Viewpoint
- 7 Dr. Jose Rizal Park Viewpoint
- 8 Seacrest-Harbor Vista Park Viewpoint
- 9 Admiral Viewpoint in Belvedere Park
- 10 Alki Beach Park Viewpoint
- 11 Olympic Sculpture Park Viewpoint
- 12 Volunteer Park Viewpoint



Source: USGS 7.5-minute topographic quadrangles, Seattle North, Seattle South, Duwamish Head, and Shilshole Bay, Washington, 2011

Figure 3.4-1

Scenic Viewpoints and Scenic Routes Near Alternatives

**Table 3.4-1
Public Viewpoints Where Alternatives 2 and 3 May Be Visible**

Public Viewpoint	Alternative(s) Potentially Visible	Viewing Direction
Hamilton View Point Park Viewpoint	Alternatives 2 and 3	East-Southeast
Kobe Terrace Park Viewpoint	Alternatives 2 and 3	Southwest
Dr. Jose Rizal Park Viewpoint	Alternatives 2 and 3	West
Seacrest-Harbor Vista Park Viewpoint	Alternatives 2 and 3	East-Southeast
Admiral Viewpoint in Belvedere Park	Alternatives 2 and 3	Northeast

Views of the Space Needle

There are no SEPA-protected views toward, or of, the Space Needle in the vicinity of Alternatives 2 and 3.

Scenic Routes

Scenic routes in the vicinity of Alternatives 2 and 3 include 12th Avenue S., Interstate 5 (I-5), and Interstate 90 (I-90). The relationship of the scenic routes to these alternatives is described below.

12th Avenue S.

This scenic route provides views westward primarily at the 12th Avenue S. Bridge crossing S. Dearborn Street, with views of the Seattle Skyline, Puget Sound, the Olympic Mountains, West Seattle, and South Downtown.

Interstate 5

Southbound I-5 motorists have a limited number of views of Alternatives 2 and 3. Northbound motorists approaching downtown have a few opportunities to view the alternatives vicinity with the Downtown Skyline in the background. Safeco Field and CenturyLink Field are visual landmarks from the northbound I-5 locations where views are possible.

Interstate 90

Views toward the west from I-90 are of a perspective toward CenturyLink Field and the Dearborn Street vicinity.

3.4.2.2 Impacts of the No Action Alternative at Alternative 2 and 3 Site

As this alternative does not include construction of a new arena, impacts to scenic resources would not occur as a result of construction of a new Arena. Westerly views toward the SoDo Arena site include the adjacent marine industrial landscape in the background. The industrial landscape includes the views of the Port’s 27 container cranes (as of February 2015), most of which are 100 feet in height and painted either orange or white, colors that contrast with the background. In addition the Port container facilities include a daily changing landscape of

stacks of containers being loaded or unloaded, and container trucks or trains delivering or picking up the containers.

3.4.2.3 Impacts of Alternatives 2 and 3

Construction

Short-term alterations from viewpoints may occur during construction. No impacts are anticipated with Alternatives 2 or 3.

Views from Public Viewpoints

Hamilton View Point Park Viewpoint

The viewpoint, located on the promontory of Admiral Hill, provides panoramic views of the Downtown Skyline and Cascade Mountains, secondary views of Puget Sound, and a protected view of the Space Needle across Elliott Bay. Tall trees on the slopes below partially obscure views of ferry traffic and maritime activity and may further obscure views of the City Skyline in the future. Due to the distance and lack of a clear view due to vegetation, Alternative 2 or 3 would likely be seen as additional elements in the background of downtown buildings.

Kobe Terrace Park Viewpoint

Kobe Terrace offers panoramic views of the Downtown Skyline (International District and Pioneer Square areas) and a framed view of Puget Sound. Safeco Field (approximately 225 to 250 feet high) and CenturyLink Field (approximately 251 feet high) are currently visible from this viewpoint. With either Alternative 2 or 3, the proposed Arena constructed to the south of Safeco Field would be visible as it would be up to 125 feet high; however views of Puget Sound would not be affected.

Dr. Jose Rizal Park Viewpoint

This park's viewpoint offers wide-angle views of the Olympic Mountains, Puget Sound, and the Downtown Skyline. Both Safeco Field and CenturyLink Field feature prominently in the view. With either Alternative 2 or 3, the proposed Arena constructed to the south of Safeco Field would be visible; however views of Puget Sound would not be affected.

Seacrest-Harbor Vista Park Viewpoint

The park provides panoramic views of Puget Sound, the Downtown Skyline, Mt. Rainier, and a protected view of the Space Needle. Due to the distance of the viewpoint to the site of Alternatives 2 or 3, the Arena would add to the Downtown Skyline but not be prominent in the view.

Admiral Viewpoint in Belvedere Park

This viewpoint offers panoramic views of the Downtown Skyline, Puget Sound, and the Cascade Mountains. With either Alternative 2 or 3, the proposed Arena constructed to the south of Safeco Field would be visible; however existing views of the Downtown Skyline and the Cascade Mountains would not be affected.

Views from Scenic Routes

The Proposed Project (Alternative 2) or Alternative 3 would be visible from the 12th Avenue S., I-5, and I-90 scenic routes. Views from users of these routes are glancing and intermittent. From these scenic routes, the existing Safeco Field and CenturyLink Field are visible, along with Port activities and industrial-type uses. The Arena would be visible at points along both interstates and 12th Avenue S., but at a smaller height and scale than the existing Stadiums.

Views from Private Property

With a height of approximately 125 feet and dimensions of approximately 720 by 400 feet, Alternatives 2 or 3 would be smaller than the two existing Stadiums, but larger than many of the older industrial buildings located to the south. Depending on the distance from the site, the presence of the new Arena would change the existing foreground, middle ground or background views from private properties. Existing views from downtown toward the south and from residences east of the site of Alternatives 2 and 3 looking toward the Puget Sound would also change.

3.4.2.4 Mitigation Measures

There would be changes to some views from public viewpoints and scenic routes. No mitigation is anticipated to be needed.

3.4.2.5 Secondary and Cumulative Impacts

No secondary impacts are expected.

Cumulative impacts may result from future increased heights and densities of new development near these alternatives that could add to the obstruction of views of Puget Sound from identified public parks. Adding a new building of the proposed size of the Arena would add to the skyline in this location, extending the higher profile of buildings farther to the south than currently exists with the Safeco Field and CenturyLink Field.

3.4.2.6 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to scenic resources are expected from the construction and operation of either the Proposed Project or Alternative 3.

3.4.3 Seattle Center Area Alternatives - Alternatives 4 and 5

3.4.3.1 Affected Environment

Views from Public Viewpoints

Six viewpoints were identified as having a potential view of Alternatives 4 and 5. A summary of these viewpoints describing which alternative may be visible from that location, and the main viewing direction of the alternative's location is provided in Table 3.4-2 below. The location of the viewpoints is shown on Figure 3.4-1.

**Table 3.4-2
Public Viewpoints Where Alternatives 4 and 5 May Be Visible**

Public Viewpoint	Alternative(s) Potentially Visible	Viewing Direction
Bhy Kracke Park Viewpoint*	Alternatives 4 and 5	South
Gasworks Park Viewpoint*	Alternatives 4 and 5	Southwest
Hamilton View Point Park Viewpoint*	Alternatives 4 and 5	East-northeast
Kerry Park Viewpoint*	Alternatives 4 and 5	Southeast
Myrtle Edwards Park Viewpoint*	Alternatives 4 and 5	East-northeast
Seacrest-Harbor Vista Park Viewpoint*	Alternatives 4 and 5	Northeast

* indicates viewpoint also has a SEPA-protected view of the Space Needle.

Views of the Space Needle

As described in Table 3.4-2 above, views from specified Seattle City Parks of the Space Needle are protected; an analysis of impacts is described in Section 3.4.3.3 Impacts of Alternatives 4 and 5 below.

Scenic Routes

The streets on the perimeter of these alternatives are designated as scenic routes for their territorial views of the City and surrounding mountains and water bodies; and views of structures within Seattle Center such as the Space Needle and the Pacific Science Center.

3.4.3.2 Impacts of the No Action Alternative at Alternatives 4 and 5 Sites

As this alternative does not include construction of a new arena, impacts to scenic resources would not occur.

3.4.3.3 Impacts of Alternatives 4 and 5

Construction

Short-term alterations from viewpoints may occur during construction. No impacts are anticipated with Alternatives 4 or 5.

Views from Public Viewpoints

Bhy Kracke Park Viewpoint

The park viewpoint features panoramic views of the Downtown Skyline, and secondary views of Lake Union, Puget Sound, and the Cascades. Some views are partially obscured by vegetation. With Alternative 4 at the KeyArena site, an arena would be approximately twice as high as the existing KeyArena (up to 125 feet high from the existing 70 feet above ground level from the KeyArena). The Land Use section (Section 3.6) suggests that the floor of a new arena could be placed at a level similar to the playing floor of the existing KeyArena, and this would lower the overall height of the structure.

At the Alternative 5 Memorial Stadium site, the arena would be up to 40 feet taller than the existing Memorial Stadium. Memorial Stadium is approximately 85-feet high. As the view from Bhy Kracke Park Viewpoint is partially obscured by vegetation, Alternative 5 would be partially visible from this location.

Gasworks Park Viewpoint

The park's viewpoints present panoramic views of Lake Union, the Downtown Skyline, the Lake Washington Ship Canal, and a protected view of the Space Needle. Views of Alternatives 4 and 5 would be obscured by Queen Anne Hill and existing development.

Hamilton View Point Park Viewpoint

The viewpoint, located on the promontory of Admiral Hill, provides panoramic views of the Downtown Skyline and Cascade Mountains, secondary views of Puget Sound, and a protected view of the Space Needle across Elliott Bay. With Alternative 4, the arena would be taller than the existing KeyArena, unless the playing floor of a new arena were placed at the same level as the existing floor of the KeyArena. If not lowered into the site, a new arena at the site of the KeyArena may feature more prominently in the skyline.

Development of an additional 40 feet in height (approximately) at the Memorial Stadium location for Alternative 5 would not affect views from Hamilton Park of the Downtown Skyline or Cascade Mountains due to the distance.

Kerry Park Viewpoint

This park offers panoramic views of the Downtown Skyline, Puget Sound, Mt. Rainier, the Cascade Mountains, and a protected view of the Space Needle. As the arena under Alternative 4 would be taller than the existing KeyArena (unless lowered into the site similar to the existing KeyArena), views from Kerry Park of the site would be changed by a higher roofline. The Memorial Stadium location is obscured by vegetation; Alternative 5 would not be visible from Kerry Park.

Myrtle Edwards Park Viewpoint

The park offers panoramic views of Puget Sound, Olympic Mountains, the Downtown Skyline, and Mt. Rainier, with a protected view of the Space Needle. An existing building obscures the view of the locations of Alternatives 4 and 5 from the park.

Seacrest-Harbor Vista Park Viewpoint

The park provides panoramic views of Puget Sound, the Downtown Skyline, and Mt. Rainier, and a protected view of the Space Needle. As an arena under Alternative 4 would be taller than the existing KeyArena, distant views of the site from this viewpoint would be altered by the higher roofline.

Development of an additional 40 feet in height (approximately) at the Memorial Stadium location for Alternative 5 would not affect views from Seacrest-Harbor Vista Park of the Downtown Skyline or Mt. Rainier due to the distance; adverse effects resulting from Alternative 5 are not anticipated.

Views of the Space Needle

Each of the following parks was analyzed to determine whether Alternatives 4 and/or 5 would be visible from the park, and whether an arena on either site would affect the view of the Space Needle (see Table 3.4-3). The location of the parks and the viewpoints is shown in Figure 3.4-1.

**Table 3.4-3
Summary of Potential View Effects of the Space Needle**

Seattle Park	Would Alternative(s) be Visible?	Would Alternative Affect the View of the Space Needle?
Alki Beach Park	Yes (Alternatives 4 and 5)	No
Bhy Kracke Park	Yes (Alternatives 4 and 5)	Yes (Alternative 5)
Gasworks Park	No	No
Hamilton View Point	Yes (Alternatives 4 and 5)	No
Kerry Park	Yes (Alternative 4) No (Alternative 5)	No
Myrtle Edwards Park	No	No
Olympic Sculpture Park	No	No
Seacrest Park	Yes (Alternatives 4 and 5)	No
Seattle Center	Yes (Alternatives 4 and 5)	Depends on location of viewer within Seattle Center
Volunteer Park	Yes (Alternatives 4 and 5)	No

A view of the Space Needle was determined to be “affected” if the alternative would be located in front of the Space Needle in the view from the park or within the identified view corridor.

If Alternative 5 were implemented, views of the Space Needle would be affected from Bhy Kracke Park, as an increase in height at the current Memorial Stadium of up to 40 feet may

obstruct a portion of the lower view of the Space Needle. The City requires mitigation measures if a proposed project would reduce the full view of the Space Needle, which is 605 feet tall, beyond at least three-quarters of the structure and the entire saucer (City of Seattle 2001a and 2001b). Generally, this means that mitigation measures would be required for any structure in excess of 151 feet that could block views. As the proposed Arena is up to 125 feet tall, it is below the threshold requiring mitigation.

Views from Scenic Routes

Alternatives 4 or 5 would add to the skyline views from adjacent scenic routes. Depending on the location on the surrounding street and the viewing direction, vehicular drivers, bicyclists, and pedestrians would have intermittent views of the arena amidst structures visible at Seattle Center.

Views from Private Property

With a height of approximately 125 feet and dimensions of approximately 720 by 400 feet, Alternatives 4 or 5 would be larger and taller than the existing KeyArena and Memorial Stadium unless a new arena on the site of the KeyArena were depressed into the site similar to the existing KeyArena. Depending on the distance from the site, the presence of a new arena at either the site of Alternative 4 or 5 would change the existing foreground, middle ground or background views from private properties. Views from downtown and nearby residences would change.

3.4.3.4 Mitigation Measures

There would be changes to some views from public viewpoints and scenic routes. No mitigation is anticipated to be needed.

3.4.3.5 Secondary and Cumulative Impacts

No secondary impacts are expected.

Cumulative impacts may result from future increased heights and densities of new development near Seattle Center that could further obstruct views of the Space Needle from designated parks. Similar to Alternative 2 and 3, adding a new building of the proposed size of the arena at either the site of the KeyArena or Memorial Stadium would alter the skyline of this portion of Seattle.

3.4.3.6 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to scenic resources are expected from the construction and operation of an arena at the site of either Alternatives 4 or 5.

3.5 Noise

3.5.1 Introduction

Noise impacts from a new arena are anticipated to be largely due to the construction, and not to the operation itself, as the activities would be contained within a building. Noise from crowds outside of a spectator sports facility, or from traffic going to or from a spectator sports facility are not typically included in a noise analysis of a facility. This impact assessment is focused on the construction of an arena at the Stadium District site, the KeyArena site and the Memorial Stadium site.

3.5.1.1 Noise Characteristics

Noise can be defined generally as unwanted sound. Prolonged exposure to very high sounds can cause hearing loss or impairment, although environmental noise in urban areas rarely approaches sound levels that could cause hearing damage. The primary effect of environmental noise is annoyance that interferes with sleep, thought, and conversation.

Noise is expressed on a logarithmic scale in units of decibels (dB). Noise is composed of many frequencies, and the various frequencies commonly are measured as A-weighted decibels (dBA), which approximate how an average person hears a sound. Under the logarithmic decibel scale, a doubling of the number of noise sources, such as the number of vehicles on a roadway, increases noise levels by 3 dBA. For example, a noise source emitting a noise level of 60 dBA added to another noise source of 60 dBA results in a combined noise level of 63 dBA, not 120 dBA.

The common descriptor for measuring and predicting environmental noise is the equivalent sound level (L_{eq}). The L_{eq} can be considered a measure of the average sound level for a specific period of time. The maximum sound level during that period of time is called the L_{max} . Unlike the L_{eq} that is an average over a period of time, L_{max} is a measurement of a single event of short duration during that time period. Both the L_{max} and L_{eq} are used in local noise ordinances to evaluate the noise limits at receiving properties.

Loudness, compared to physical sound measurement, refers to how people judge a sound and varies from person to person. A listener often judges an increase of 5 dBA to be readily noticeable and an increase of 10 dBA to be twice as loud. A change of sound level of 2 dBA or lower generally would not be perceptible.

3.5.1.2 Noise Regulations

Noise regulations provide a basis for evaluating potential noise impacts and mitigation measures during construction of the proposed Arena. The City of Seattle has noise regulations in Chapter 25.08 of the Seattle Municipal Code. The Seattle noise limits are based on the land

use districts or zones of both the noise source and receiver, and on the time of day. The Seattle noise regulations are summarized in Table 3.5-1.

**Table 3.5-1
City of Seattle Exterior Sound Level Limits**

District of Sound Source	District of Receiving Property			
	Residential Day (L_{eq} dBA)	Residential Night (L_{eq} dBA)	Commercial (L_{eq} dBA)	Industrial (L_{eq} dBA)
Residential	55	45	57	60
Commercial	57	47	60	65
Industrial	60	50	65	70

Notes:

- 1) The exterior sound level limits are based on the L_{eq} during the measurement interval, using a minimum measurement interval of 1 minute for a constant sound source, or a one-hour measurement for a non-continuous sound source.
- 2) During a measurement interval, L_{max} may exceed the exterior sound level limits by no more than 15 dBA.
- 3) Sound level limits are reduced by 10 dBA for residential receiving property between 10:00 PM and 7 AM during weekdays and between 10:00 PM and 9:00 AM on weekends and legal holidays (SMC 25.08).

The Seattle noise regulations have specific provisions for construction noise in Section 25.08.425 of the Seattle Municipal Code. Construction activities in Seattle generally have higher noise limits between 7:00 AM and 10:00 PM on weekdays, and between 9:00 AM and 10:00 PM on weekends and holidays; but must meet the lower noise limits in Table 3.5-1 during nighttime hours. The noise limits in Table 3.5-1 may be exceeded in daytime by 25 dBA for large construction equipment such as dozers and drills, by 20 dBA for portable construction equipment such as chainsaws and powered hand tools, and by 15 dBA for maintenance equipment such as lawn mowers.

Noise from construction impact equipment such as jackhammers and pile drivers during any 1-hour period may not exceed a L_{eq} of 90 dBA continuously, 93 dBA for 30 minutes, 96 dBA for 15 minutes, and 99 dBA for 7 1/2 minutes. The higher noise limits for impact equipment may occur between 8:00 AM and 5:00 PM on weekdays and 9:00 AM and 5:00 PM on weekends and holidays.

3.5.2 Stadium District Alternatives – Alternatives 2 and 3

3.5.2.1 Affected Environment

Alternatives 2 and 3 would be located in the southern portion of the Stadium District, which is in the South Downtown area of the City of Seattle (See South Downtown Neighborhoods Figure 3-1 in Chapter 3). The Stadium District site is surrounded by mixed commercial and light industrial uses, including offices, warehouses, parking lots, street-front retail, and restaurants. To the north of the site is the Safeco Field parking garage, Safeco Field, CenturyLink Field, and CenturyLink Event Center. BNSF Railroad facilities are located to the east of the existing stadiums and the Stadium District site.

Noise-sensitive land uses include the commercial area along 1st Avenue S., Safeco Field, CenturyLink Field, and CenturyLink Event Center that are sensitive to noise during events.

Residences are not located in the immediate vicinity of the Stadium District site. The nearest residential areas are located to the north in the International District and Pioneer Square area.

The existing noise environment in and around the Stadium District site is typical of an active urban and industrial area. Existing noise sources include traffic on area roadways, loading-dock operations, rail yards and trains, overhead aircraft, and trucks serving the industrial and Port uses to the south. Major events at Safeco Field and CenturyLink Field also are local noise sources.

3.5.2.2 Impacts of the No Action Alternative at Alternatives 2 and 3 Site

Construction

Under the No Action Alternative, construction noise for a new arena would not occur at the Stadium District site of Alternatives 2 and 3. Other anticipated development projects in the Stadium District areas would temporarily generate noise during construction. Construction noise impacts would not be anticipated under Alternative 1, No Action.

3.5.2.3 Impacts of Proposed Project (Alternative 2) – Stadium District 20,000-Seat Arena

Construction

Construction activities would intermittently generate noise from demolition, site preparation, construction, and paving activities. Construction noise levels would vary, depending on the equipment being used, location, and time and duration of the construction activity. Noise during construction could be disruptive at times for nearby land uses. Construction noise would be most noticeable at locations near construction activities, and during nighttime construction if proposed. Any potential construction noise impacts would be considered temporary or short-term, and would include reasonable mitigation measures to reduce construction impacts. Construction activities also would comply with the City of Seattle noise regulations where applicable.

Construction noise sources would include earth movers, generators, trucks, and impact equipment. Maximum noise levels of construction equipment would be similar to the typical construction equipment noise levels presented in Table 3.5-2 below.

The construction noise levels in Table 3.5-2 are for individual equipment operating separately, and do not represent L_{eq} levels over any particular period. Average L_{eq} levels would depend on the type and number of construction equipment, how often the equipment operates, location within the construction area, and distances to nearby residences. Because various construction equipment at any time could be turned off, idling, or operating at less than full power, and because construction machinery is typically used to complete short-term tasks, average construction L_{eq} levels would be lower than the maximum sound levels in Table 3.5-2.

**Table 3.5-2
Construction Equipment Sound Ranges**

Equipment	Examples	Noise Level At 50 feet (dBA)⁽¹⁾	Noise Level At 100 feet (dBA)⁽²⁾	Noise Level At 400 feet (dBA)⁽³⁾
Earth Moving	Compactors, loaders, backhoes, tractors, graders, pavers	73-96	67-90	55-78
Materials Handling	Concrete mixers and pumps, cranes, derricks	74-88	68-82	56-70
Stationary	Pumps, compressors, generators	69-87	63-81	51-69
Hauling	Trucks	83-94	77-88	65-76
Impact Equipment	Pile drivers	95-106	89-100	77-88
Impact Tools	Jackhammers, rock drills, pneumatic wrenches	81-98	75-92	63-80

Notes:

- 1) Noise levels at 50 feet from *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances* (U.S. EPA 1971).
- 2) Noise levels at other distances extrapolated by an attenuation rate of 6 dBA per doubling of distance from the source at 50 feet.
- 3) Noise levels do not consider the shielding effects of buildings and other obstructions.

Pile driving would be the major source of construction noise. Pile driving with impact equipment includes repetitive, loud banging, which could be particularly intrusive to nearby receivers. While pile driving would be intermittent and limited to daytime hours, construction noise from pile driving could be an adverse impact for some nearby land uses.

Pile driving activity related to construction of the Proposed Project (Alternative 2) could result in noise levels in the range of 95 to 106 dBA at 50 feet (Table 3.5-2). Pile driving noise would be highest at the commercial uses along 1st Avenue S. The nearest existing residential receptors to the Stadium District site are the work / live lofts in the Bemis building at 55 South Atlantic, which is approximately 700 feet away from potential pile driving activity. At that distance, pile driving noise levels would be 72 to 83 dBA.

All pile driving would include mitigation to comply with the noise limits in the City of Seattle noise regulations. Potential mitigation measures would include using the quietest available equipment or noise shielding. Pile driving also would be restricted to the time periods of 8:00 AM to 5:00 PM on weekdays and 9:00 AM to 5:00 PM on weekends and holidays.

Ground vibrations could occur during construction as the result of the use of heavy equipment during the demolition of existing structures, ground improvement activities, compaction equipment operations, and truck traffic. These vibrations could be annoying to individuals working or living within the area, and / or potentially cause damage to nearby structures or utilities. Vibration monitoring would be implemented if necessary to prevent offsite adverse effects (see Section 3.1, Geology and Soils).

Construction noise levels would vary over time and location during the construction period. Construction noise from louder construction equipment would be greater at times than background noise levels in the vicinity of the construction activity. An adverse impact could

occur temporarily at noise-sensitive locations near construction activity during daytime hours. If construction were to include pile driving, then noise impacts could occur at adjacent offsite uses. Nighttime impacts are not anticipated, because nighttime construction noise would not occur. Any construction noise impacts would be short-term impacts.

Construction noise would be reduced with reasonable mitigation measures, such as using engine enclosures and mufflers, locating equipment farther from sensitive receptors, and turning off equipment during periods of nonuse. Construction activity also would comply with the applicable provisions of the City of Seattle noise regulations.

It is possible that a NBA or NHL team could be acquired prior to the completion of a new arena. If so, during construction of the Proposed Project, NBA games would need to be played at another location, most likely KeyArena in the Queen Anne area of the City of Seattle. Vehicular noise associated with NBA or NHL games would be similar to traffic noise at other larger events at KeyArena. Because traffic conditions for temporary use of KeyArena would be similar to large events already there, traffic noise in the Queen Anne area are not anticipated to increase substantially. Any traffic mitigation to reduce traffic volumes during temporary use of KeyArena would provide corresponding reductions in traffic noise before and after events.

3.5.2.4 Impacts of Alternatives 3 – Stadium District 18,000-Seat Arena

Construction

Construction noise levels and mitigation would be similar to Alternative 2. An adverse impact could occur temporarily at noise-sensitive locations near construction activity during daytime hours. If construction were to include pile driving, then noise impacts could occur at adjacent offsite uses. Nighttime impacts are not anticipated, because nighttime construction noise would not occur. Any construction noise impacts would be short-term impacts.

3.5.2.5 Mitigation Measures Applicable to Alternatives 2 and 3

Construction

The Proposed Project or Alternative 3 would include reasonable mitigation measures to reduce construction noise impacts at nearby land uses. Because construction noise is subject to the City of Seattle noise regulations, noise mitigation could be required to comply with the City's noise limits. Construction mitigation would be incorporated into construction plans and contractor specifications in the construction contract. Construction mitigation measures for the Proposed Project or Alternative 3 would include the SMC 25.08.425 requirements limiting the hours of noisier construction activities, including:

- Noisier construction activities would be limited to between 7:00 AM and 10:00 PM, eliminating construction noise and vibration during sensitive nighttime hours.

- Pile driving and use of other impact equipment would be limited to between 8:00 AM and 5:00 PM on weekdays and 9:00 AM and 5:00 PM on weekends and holidays pursuant to SMC 25.08.425.C, eliminating impact noise during sensitive nighttime hours.

In addition, the following construction noise mitigation measures are recommended for consideration by DPD:

- Equipping engines of construction equipment with adequate mufflers, intake silencers, or engine enclosures would reduce engine noise.
- Requiring contractors to use the quietest equipment available, maintain all equipment, and train their equipment operators would reduce noise levels and increase efficiency of operation.
- Turning off construction equipment during prolonged periods of nonuse would eliminate noise from construction equipment during those time periods.
- Locating stationary equipment and construction staging areas away from sensitive uses would reduce noise impacts because of greater distances to noise-sensitive receptors. The actual construction staging would be determined during the final design phases of the project.
- Installing temporary noise barriers, shields, or curtains around stationary construction equipment would decrease noise levels at nearby sensitive receptors.
- Routing construction trucks to avoid sensitive receptors.
- Implementing vibration monitoring if necessary to prevent offsite adverse effects.

As noted above, pile driving noise would be limited to the hours allowed in the Noise Ordinance (8:00 AM to 5:00 PM on weekdays and 9:00 AM to 5:00 PM on weekends and holidays). The number of piles and types of pile drivers have not yet been determined. In addition to the restriction on time of day, noise from impact-type pile driving could be reduced by shielding, enclosures, regular maintenance, and other best management practices. The contractors could evaluate substituting auger-drilled piles for driven piles where necessary, which would substantially reduce construction noise and vibration but increase costs.

Nearby land uses could be notified in advance when noise-generating construction activities are scheduled. A telephone hotline number could be published and maintained by the construction company to directly receive calls from the public on noise and vibration impacts and other construction issues.

Under Alternatives 2 and 3, construction activities could be coordinated to limit louder construction noise from disrupting events scheduled at Safeco Field, CenturyLink Field, and CenturyLink Event Center. The contractors could develop and implement a construction noise management plan to reduce noise and vibration during construction. The plan could identify

measures to ensure compliance with the City of Seattle noise limits at receivers near construction activity.

3.5.2.6 Secondary and Cumulative Impacts

Cumulative noise impacts would be related to short-term increases in construction activity near the sites of Alternatives 2 and 3. Cumulative construction impacts could occur from the Proposed Project (Alternative 2) or Alternative 3 and other development projects being constructed at the same time near the Stadium District. Because construction noise under the new Arena and other development projects would be temporary in duration and comply with City noise regulations, short-term cumulative impacts during construction would be low under Alternatives 2 and 3.

Secondary noise impacts could result from economic growth and changes in land uses induced by the Proposed Project or Alternative 3. Any development induced by the Proposed Project or Alternative 3 would incrementally increase noise during construction activities. Although the location and specific amount of new development are unknown, incremental increases in construction noise likely would be small under Alternatives 2 and 3.

Secondary and cumulative noise impacts in the Stadium District would not occur under Alternative 1, No Action.

3.5.2.7 Significant Unavoidable Adverse Impacts

Short-term significant unavoidable adverse noise impacts due to pile driving could occur from the construction of Alternatives 2 or 3.

3.5.3 Seattle Center Area Alternatives – Alternatives 4 and 5

3.5.3.1 Affected Environment

Alternative 4 would be located in the Seattle Center, and Alternative 5 would be located adjacent to Seattle Center. Seattle Center is located in the lower Queen Anne area of the City of Seattle (See Uptown Urban Center Figure 3-3 in Chapter 3). Alternative 4 – KeyArena (KeyArena site) would be located in the western portion of the Seattle Center, while Alternative 5 – Memorial Stadium (Memorial Stadium site) would be located adjacent to the eastern portion of the Seattle Center. The Seattle Center is a mix of entertainment, museum, retail, open space, and recreational uses.

Noise-sensitive land uses include Seattle Center facilities, such as the KEXP Radio studios, SIFF, the VERA Project, Seattle Repertory Theater, the International Fountain and Lawn, Center House, McCaw Hall, and EMP Museum. The Uptown commercial district, which includes a variety of restaurants, is adjacent to the northwest corner of KeyArena. South of KeyArena is the Sacred Heart Catholic Church. East of the Memorial Stadium Site is the Bill & Melinda Gates Foundation headquarters. Multifamily and single-family residences are to the west, south, and north of the Seattle Center.

The existing noise environment in and around the Seattle Center is typical of an active urban area. Existing noise sources include traffic on area roadways, overhead aircraft, and events within the Seattle Center.

3.5.3.2 Impacts of the No Action Alternative at Alternative 4 and 5 Sites

Construction

Under the No Action Alternative, construction noise for a new arena would not occur at the sites of Alternatives 4 and 5. Other anticipated development projects in the Seattle Center area would temporarily generate noise during construction. Construction noise impacts would not be anticipated under Alternative 1, No Action.

3.5.3.3 Impacts of Alternative 4 – KeyArena 20,000-Seat Arena

Construction

Construction noise levels and mitigation would be similar to the Proposed Project (Alternative 2), however the site of Alternative 4 would not require the installation of deep foundation support that would be needed for the site of Alternatives 2 and 3. This may lessen the need for pile driving.

Localized construction noise could be more noticeable at times under Alternative 4, because more sensitive land uses are located near the KeyArena site. If pile driving were required, pile driving noise would be as high as 89-100 dBA at the Fountain Lawn, which would be as close as 100 feet from potential pile driving activity, and potentially higher at the KEXP Radio studios depending on where a new arena were placed on the KeyArena site.

The nearest existing residential receptors to the KeyArena Site are multifamily units to the west across 1st Avenue N., which are approximately 100 - 150 feet away from potential pile driving activity. At that distance, pile driving noise levels would be 85 to 96 dBA.

An adverse impact could occur temporarily at noise-sensitive locations near construction activity during daytime hours. If construction were to include pile driving, then noise impacts could occur at adjacent offsite uses. Nighttime impacts are not anticipated, because nighttime construction noise would not occur. Any construction noise impacts would be short-term impacts.

If there is a new NBA or NHL team in Seattle before a new arena is constructed and open, NBA or NHL games would need to be played at another location, most likely the Tacoma Dome during construction of an arena under Alternative 4. Vehicular noise during NBA games would be similar to traffic noise at other large events at the Tacoma Dome. Because traffic conditions for temporary use of the Tacoma Dome would be similar to large events already there, traffic noise in Tacoma's stadium district is not anticipated to increase substantially. Any traffic mitigation to reduce traffic volumes during temporary use of the Tacoma Dome would provide corresponding reductions in traffic noise before and after events.

3.5.3.4 Impacts of Alternative 5 – Memorial Stadium 20,000-Seat Arena

Construction

Construction noise levels and mitigation would be similar to the Proposed Project (Alternative 2), however the site of Alternative 5 would not require the installation of deep foundation support that would be needed for the site of Alternatives 2 and 3. This may lessen the need for pile driving.

Localized construction noise for Alternative 5 would be similar to the impacts of construction noise from Alternative 4, as both locations have sensitive land uses near the sites. Construction of Alternative 5 could include pile driving noise as high as 89-100 dBA at the Fountain Lawn and McCaw Hall, which would be as close as 100 feet from potential pile driving activity.

The nearest existing residential receptors to the Memorial Stadium Site are multifamily units to the north across Mercer Street, which are approximately 500 feet away from potential pile driving activity. At that distance, pile driving noise levels would be 76 to 86 dBA.

An adverse impact could occur temporarily at noise-sensitive locations near construction activity during daytime hours. If construction were to include pile driving, then noise impacts could occur at adjacent offsite uses. Nighttime impacts are not anticipated, because nighttime construction noise would not occur. Any construction noise impacts would be short-term impacts.

3.5.3.5 Mitigation Measures Applicable to Both Alternatives 4 and 5

Construction

Similar to construction at the Stadium District site, the construction of an arena at either the KeyArena or Memorial Stadium sites would include reasonable mitigation measures to reduce construction noise impacts at nearby land uses. Because construction noise is subject to the City of Seattle noise regulations, noise mitigation could be required to comply with the City's noise limits. Construction mitigation could be the same as listed in Subsection 3.5.2.5 for Alternatives 2 and 3.

Under Alternative 4 or 5, construction activities could be coordinated to avoid disrupting events at the Seattle Center.

The contractors could develop and implement a construction noise management plan to reduce noise and vibration during construction. The plan could identify measures to ensure compliance with the City of Seattle noise limits at receivers near construction activity.

3.5.3.6 Secondary and Cumulative Impacts

Cumulative noise impacts would be related to short-term increases in construction activity near the sites of Alternatives 4 and 5. Cumulative construction impacts could occur from the

construction of an arena in the lower Queen Anne area with other development and roadway projects being constructed at the same time near Seattle Center. Because construction noise for a new arena and other development projects would be temporary in duration and comply with City of Seattle noise regulations, short-term cumulative noise impacts during construction would be minor under Alternatives 4 and 5.

Secondary noise impacts could result from economic growth and changes in land uses induced by a new arena at either site of Alternative 4 or 5. Any development induced by a new arena would incrementally increase noise during construction activities. Although the location and specific amount of new development are unknown, incremental increases in construction noise likely would be small under Alternatives 4 and 5.

Secondary and cumulative impacts in the Seattle Center area would not occur under Alternative 1, No Action.

3.5.3.7 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse noise impacts are expected from the construction or operation of an arena at the site of Alternative 4 or 5.

3.6 Land Use

3.6.1 Stadium District Alternatives – Alternatives 2 and 3

3.6.1.1 Affected Environment

Existing Land Use

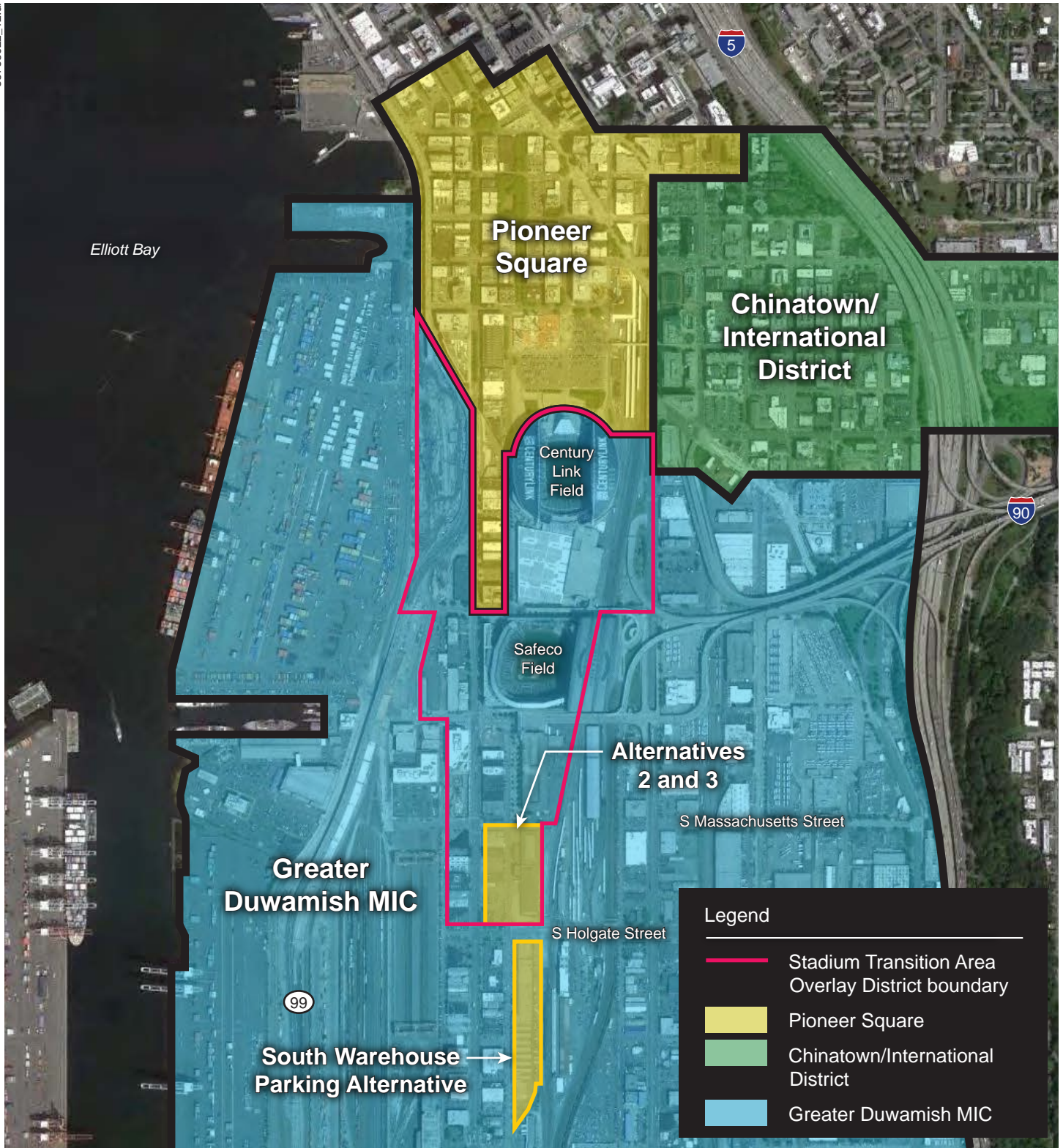
The Proposed Project (Alternative 2) and Alternative 3 would be located on 1st Avenue S. between S. Massachusetts Street and S. Holgate Street. The project site includes the block between 1st Avenue S. and Occidental Avenue S. and properties to the east of Occidental Avenue S. to the railroad right-of-way, between S. Massachusetts Street and S. Holgate Street (See Site Vicinity Figure 2-2 in Chapter 2). Warehouses, small businesses, and parking on undeveloped lots now occupy the project site. The site is surrounded by similar uses. Midrise office and mixed commercial uses with street-front retail and restaurants are to the west of the project site along 1st Avenue S. To the north of the site is the Safeco Field parking garage, Safeco Field, CenturyLink Field, and CenturyLink Event Center. BNSF Railroad facilities are located to the east of the existing stadiums and the site. Facilities include passenger and freight rail lines as well as several structures that support those activities. An area of mixed retail, commercial, warehouses, and light manufacturing is to the south of the site.

Greater Duwamish Manufacturing and Industrial Center (MIC) / South Downtown

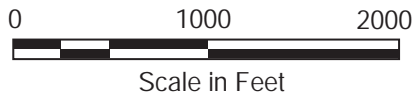
South Downtown includes the areas of Pioneer Square, the International District, the Stadium Transition Area (Overlay District) and the North Duwamish neighborhood. The North Duwamish is part of the Duwamish Manufacturing and Industrial Center (MIC) (See Figure 3.6-1 South Downtown Neighborhoods).

The Seattle Comprehensive Plan 2004-2024 job target for the Greater Duwamish is to add 9,750 new jobs. At the time the job target was created in 2004, there were 60,205 jobs in the Greater Duwamish Urban Village. Puget Sound Regional Council 2011 estimates for jobs in the Greater Duwamish Urban Village was 57,833, and showed a decline of 4% for 2004-2010. See DPD's Urban Center / Village Employment Growth Report located at www.seattle.gov/dpd/cms/groups/pan/@pan/documents/web_informational/dpds022046.pdf.

The primary employer is the Port of Seattle. Port-related businesses also account for a substantial number of jobs. There has been an annual decline in covered employment (see Table 3.6-1 for definition of covered employment) since the high of 67,728 in 2008. Port and industrial-related job growth is the goal for development in this area. The Port of Seattle's seaport is made up of 1,543 acres of waterfront land and nearby properties including container terminals, general purpose / cargo terminals, foreign trade zone, break-bulk cargo and refrigerated cargo and storage. Population and households have been declining in this area and, unlike in many other areas of the city, this is an acceptable trend supported by land use policies. New housing is prohibited by code in industrial zones (except for existing caretaker quarters and artist studio/ dwellings).



Source: Google Earth Pro



Job No. 33763922

Figure 3.6-1
**South Downtown Neighborhoods
 Alternative 2 and Alternative 3**

**Table 3.6-1
Selected Area Demographics**

	Population Change 2000-2010	Covered Employment Change 2004-2010	2010 Housing Units Renter Occupied	2010 Population / HH
Pioneer Square	28%	-15%	85%	2,252 / 937
Chinatown / In District	28%	26%	95%	3,466 / 2,227
Commercial Core	-15%	2%	78%	5,917 / 2,985
Duwamish / SODO	-10%	-4%	48%	2,354 / 994
Seattle-wide	8%	4%	52%	608,660 / 283,510

Source: City of Seattle compiled reports from WA State Employment Security Quarterly Census of Employment and Wages. "Covered employment" typically represents 85-90% of total employment. Covered employment means employment that is subject to the Employment Security Law and on which Unemployment Insurance taxes must be paid and reports filed when the wage liability criteria are met. Covered employment does not include independent contractors and other self-employed persons.

To the north of the site of the Proposed Project and Alternative 3, within Greater Duwamish MIC, CenturyLink Field and Event Center hosts world class soccer matches, Seattle Seahawks football, concerts, consumer shows and other events. Safeco Field is home to Major League Baseball (MLB) and other events. The area covered by both stadiums and associated parking is approximately 65 acres.

Since the development of CenturyLink Field and Event Center and Safeco Field, the City of Seattle has created the Stadium Transition Area Overlay District. The intent is to focus non-industrial uses to specific locations within the overlay district, and to discourage conversion of industrial sites to non-industrial uses in industrial areas located to the south of the overlay district. See Section 3.10 Regulatory Framework for a discussion of zoning and the City of Seattle Comprehensive Plan.

Pioneer Square Neighborhood

The Pioneer Square Neighborhood is located north of the Stadium Overlay District. This neighborhood consists of approximately 142 acres, has an estimated 2010 population of 2,252, and supports 10,124 jobs (2011 estimate, Table 3.6-1). The Pioneer Square neighborhood is home to 937 households. The neighborhood is characterized as a Historic District containing a mix of retail, office, warehouse, and housing.

Chinatown / International District Neighborhood

The International District is the closest concentration of housing in the broader South Downtown area. It is the historic and cultural center of Seattle's Asian community. This neighborhood has an estimated 2010 population of 3,466, and supports 7,840 jobs (2011 estimate, Table 3.6-1). The neighborhood's southern boundary is Dearborn Street. The southern boundary to this neighborhood is separated from the Stadium District site by an area of industrial-commercial uses, warehouses, and rail yards of the northern edge of the Greater Duwamish neighborhood.

3.6.1.2 Impacts of the No Action Alternative at Alternatives 2 and 3 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternatives 2 and 3 for a new arena. The existing warehouses, small businesses, and parking on the site of Alternatives 2 and 3 would remain until any other development would occur.

3.6.1.3 Impacts of Alternatives 2 and 3

Land Use

Construction

No land use impacts during construction are anticipated for the Proposed Project or Alternative 3.

Operation

Either the Proposed Project (Alternative 2) or Alternative 3 would change the land use of the project site from warehouses, vacant lots used for parking, and mixed commercial uses to a spectator sports facility and pedestrian-oriented retail and other small businesses similar to those associated with Safeco Field, CenturyLink Field, and CenturyLink Event Center.

The Proposed Project (Alternative 2) or Alternative 3 would be constructed on 1st Avenue S. between S. Massachusetts Street and S. Holgate Street including the proposed vacation of one block of Occidental Avenue S. A summary of the proposed changes in development is provided in Table 3.6-2.

**Table 3.6-2
Summary of Proposed Changes**

Site Address, Parcel Number or Area (Listed south to north)	Current Use Alternative 1 - No Action	Proposed Use Alternatives 2 and 3	Approximate Square Feet of Proposed Use
1750 Occidental Ave S. Parcel # 766620-6285	Warehouse	Arena	750,000
1760 1ST AVE S. Parcel # 766620-6425	Restaurant	Arena	
1746 1ST AVE S. Parcel # 766620-6420	Vacant / Undeveloped Parking	Arena	
1740 1ST AVE S. Parcel # 766620-6417	Convenience Store / Gas Station	Arena	
1730 1ST AVE S. Parcel # 766620-6415	Warehouse	Arena	
17xx1 1ST AVE S. Parcel #766620-6410	Vacant Lot	Arena	
1714 1ST AVE S. Parcel # 766620-6405	Warehouse	Arena / Public Plaza	40,500
1700 1ST AVE S. Parcel # 7666206400	Restaurant	Public Plaza	11,000

¹17xx 1st AVE S is the address shown on the King County Assessor's website for this parcel.

Both the Proposed Project and Alternative 3 would include a street vacation of Occidental Avenue S. between S. Holgate and S. Massachusetts Streets. Land use impacts of the street closure are minimal since the uses related to that street would be demolished in construction of the Proposed Project or Alternative 3. The uses associated along Occidental Avenue S. between S. Holgate and S. Massachusetts Streets would no longer exist. Pedestrians would be able to access to S. Holgate Street businesses via 1st Avenue S. The applicant has proposed to provide parking through either the use of existing off-site parking or by the construction of a new parking structure on the South Warehouse Site south of Holgate Street. Existing land uses would remain adjacent to the site; however, if parking is constructed, the warehouse site south of Holgate would be changed from warehouse to structured parking (See Section 3.6.1.5 for a discussion of Secondary and Cumulative Impacts). The Proposed Project or Alternative 3 likely would encourage commercial, retail, and mixed use development in the vicinity of the site, such as eating and drinking establishments, retail stores, and sports-related businesses.

3.6.1.4 Mitigation Measures Applicable to Alternatives 2 and 3

No mitigation measures have been identified.

3.6.1.5 Secondary and Cumulative Impacts

For Alternatives 2 and 3, there would be a cumulative impact of developing another large spectator sports facility adjacent to the two existing facilities, Safeco Field and CenturyLink Field and Event Center, in the area north of the industrial center. Land uses outside of the Stadium Transition Overlay District would likely change to serve the expanding needs and more commercial character of the Stadium District in contrast to the industrial-commercial and general industrial character of the Port of Seattle and the Greater Duwamish MIC.

ArenaCo owns additional properties within and outside the Stadium Overlay District. No development has been proposed for those properties, however development of the Proposed Project or Alternative 3 could induce the redevelopment of those properties for commercial uses designed to support the Proposed Arena or stadiums. New development would be subject to a site specific evaluation under SEPA and Land Use Code development and use regulations.

The Proposed Project could make the South Downtown area more attractive to non-industrial developers, which could indirectly result in changes to the use of some properties. Such changes could also encourage Port and Manufacturing Industrial Center-related development by providing support services (e.g., offices, office-related retail and eateries) to businesses and workers in the area (Port Terminals 46 and 30 are within a 15-minute (3/4 mile) walking radius of the proposed Seattle Arena site). Property values in the South Downtown area could rise and rents could increase for some businesses.

3.6.1.6 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse land use impacts are expected.

3.6.2 Alternative 4 – KeyArena 20,000-Seat Arena

3.6.2.1 Affected Environment

Existing Land Use

KeyArena was built in 1962 as the Washington State Pavilion for the Century 21 Exposition and Seattle World's Fair. It has been remodeled over the years to accommodate new tenants including the Seattle SuperSonics and the Women's National Basketball Association (WNBA) Seattle Storm. The arena accommodates approximately 17,000 spectators for sporting events, nationally touring concerts, family shows and conferences. The gross square footage of the existing building is 129,000 on an approximately 11-acre (476,814 SF) site. The building height is 70 feet above ground.

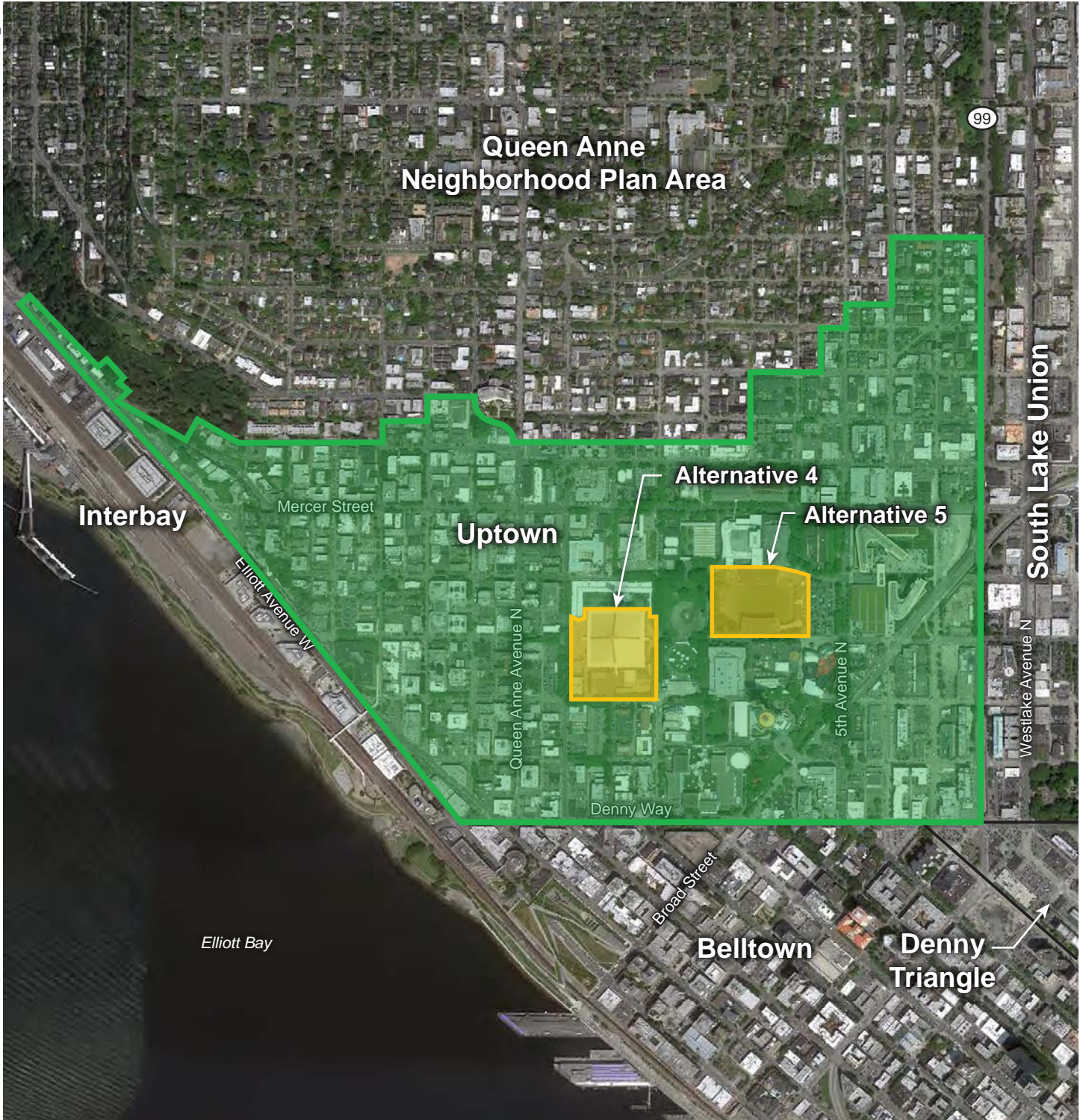
KeyArena hosts multiple tenants and events including the WNBA, Seattle University Men's basketball, Rat City Rollergirls, concerts, ice shows and speakers.

The KeyArena site occupies approximately 17 percent (11 acres) of Seattle Center's total 69-acre area. The Seattle Center is jointly owned by the City of Seattle and various private entities. The existing uses in the vicinity of the KeyArena include assembly, entertainment, commercial, office and storage buildings, surface and structured parking. Main entrances to the Seattle Center campus are located at 2nd Avenue N. and Thomas Street; the Monorail Terminal; and Harrison Street and 5th Avenue N. One of KeyArena's main entrances is located on the western side of Seattle Center at Harrison Street.

Beyond the Seattle Center, land uses in the surrounding area include meeting rooms, parking lots, retail, offices, apartments, condominiums, and restaurants. North of the business district on the nearby slope of Queen Anne Hill, is a mixture of multifamily and single-family residences. To the east of Seattle Center is the Bill and Melinda Gates Foundation headquarters.

The Uptown commercial district is adjacent to the northwest corner of KeyArena. There are a variety of restaurants ranging from fast food to fine dining that benefit from patronage from Seattle Center event-attendees.

Alternatives 4 and 5 are located near the northern boundary of the Downtown Urban Center in the Uptown neighborhood (see Figure 3.6-2). The Uptown Village Center is surrounded by several neighborhoods: Interbay neighborhood to the west; the Uptown Queen Anne neighborhood planning area to the north; the South Lake Union (SLU) neighborhood to the east; Denny Triangle to the southeast; and the Belltown neighborhood to the south.



Source: Google Earth Pro

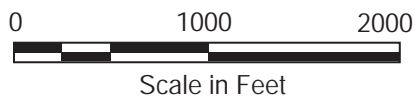


Figure 3.6-2
Uptown Urban Center
Alternative 4 and Alternative 5

Four of the surrounding neighborhoods have experienced major population growth since 2000. This would provide a steady demand for entertainment, retail and dining at Seattle Center, and within surrounding neighborhoods. Uptown and SLU have experienced major population and job growth since 2004. Denny Triangle and Belltown have had an increase in housing and population but a decrease in employment (Table 3.6-3).

**Table 3.6-3
Uptown Area Demographics**

	Population Change 2000-2010	Total Population 2010	Housing Percent 2000-2010	Employment Growth Change 2004-2010
Uptown	44%	7,300	40%	8%
South Lake Union	14%	3,774	213%	50%
Denny Triangle	102%	3,248	221%	-18%
Belltown	41%	11,961	49%	-6%

Source: Census 2010, Summary File 1; City of Seattle, Urban Center / Village Employment Growth Report, November 2012

3.6.2.2 Impacts of the No Action Alternative at Alternative 4 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 4 for a new arena. The existing KeyArena would remain until any other development would occur. No land use impacts would be anticipated.

3.6.2.3 Impacts of Alternative 4

Land Use

An arena replacement for the KeyArena would be consistent with both the current zoning and regulations, as well as compatible with the existing land use. The KeyArena site is currently occupied by a spectator sports facility. The use of the site would remain the same, however, a new structure may exceed the current height of the KeyArena.

No land use impacts are expected under Alternative 4.

Construction

Construction of an arena would temporarily displace some existing uses: current KeyArena activities would shift to other venues on a temporary or permanent basis depending upon the time of year of construction and the seasonally-based activities of some tenants (e.g., WNBA, roller derby). Table 3.6-4 lists major tenants that may be displaced and possible alternative locations for their events.

Depending on the alignment of an arena on the existing KeyArena parcel, temporary or potential permanent displacements to facilities, and activities conducted within the surrounding buildings may include: the West Court building, the NASA building, Seattle Center Pavilion, the Blue Spruce building, the Skatepark and the Restroom Pavilion.

**Table 3.6-4
Potential Key Arena Displacements**

Tenant	Facility Requirements: Space Type and Capacity	Current Capacity	Regional Options for Relocation / Capacity
WNBA Seattle Storm	Regulation Basketball Court; 14,000-seat capacity*	17,072**	Comcast Arena in Everett / 9,150 Tacoma Dome / 17,100 UW Alaska Airline Arena / 10,000
Seattle University Men's Basketball / NCAA Tournament	Regulation Basketball Court; 14,000-seat capacity	17,072	Comcast Arena in Everett / 9,150 ShoWare Center in Kent / 7,300 Tacoma Dome / 17,100 UW Alaska Airline Arena / 10,000
Rat City Rollergirls	Flat track	Average attendance of 4,420 for 2010 - 2013	Multiple locations*** e.g., Magnuson Park Building #30 (site of 2013 tournament)
Concerts	Stage and seating	16,641 (end-stage concerts) 17,459 (center-stage)	Comcast Arena in Everett / 10,000 Tacoma Dome / 23,000
Disney on Ice (Ice shows)	Ice Rink	15,177	Comcast Arena in Everett / 8,300

*Seattle Storm WNBA 2010-2012 Attendance: High – 13,659 (2011); Average High 11,452; Low – 7,747 (2002); Average Low 7,747

**Source: www.WNBA.com

***Setting up a flat track for roller derby—"it can be done on any flat surface that is suitable for skating, such as skating rinks, basketball courts, parking lots, and even airplane hangars. This greatly reduces the capital needed to start up a roller derby league." (Source: Women's Flat Track Derby Association website, www.wftda.com)

Operation

Depending on how an arena may be situated on the KeyArena site and the availability of a future arena at this site for events other than NBA and NHL, current KeyArena activities and activities immediately surrounding KeyArena (listed below in Table 3.6-5) may need to shift to other venues on a permanent basis.

**Table 3.6-5
Summary of Potential Changes at KeyArena**

Seattle Center Building Designations	Current Use Alternative 4 - No Action	Proposed Use Alternative 4	Approximate Square Feet of Proposed Use
KeyArena 411,727 GSF	Arena	Arena	750,000
West Court 11,560 GSF	Commercial and ticket sales	Arena	
NASA 5,600 GSF	Storage	Arena	
Blue Spruce 18,368 GSF	Office	Arena	
Seattle Center Pavilion 17,700 GSF	Exhibit, trade show and event space	Arena	
Skatepark	Skatepark	Arena	
Restroom Pavilion	Public Restroom	Arena	

Uses and impacts would be similar to the existing KeyArena. The KeyArena has a current capacity of 17,000 for sporting events. Alternative 4 would have a capacity of 20,000 visitors.

3.6.2.4 Mitigation Measures Applicable to Alternative 4

If an arena were to replace the existing KeyArena, existing tenants would be displaced for up to two years during the construction period, and may be permanently displaced. Potential mitigation measures include:

- Notice to existing tenants of the construction period as far in advance as possible.
- Assistance in identifying alternative locations in which to hold games, concerts and other events.
- Assistance in publicizing the relocation to the potential attendees.
- Assistance in working with the ArenaCo event schedulers to determine whether the displaced tenants could come back to the new arena once construction is completed.

3.6.2.5 Secondary and Cumulative Impacts

Alternative 4 would not result in a secondary or cumulative land use impact since a new arena would be replacing a similar use (KeyArena) and not compounding uses. Continued growth and expansion of retail, restaurants and entertainment within Seattle Center would help to support surrounding residential and job growth targets identified in the City of Seattle Comprehensive Plan.

3.6.2.6 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse land use impacts are expected.

3.6.3 Alternative 5 – Memorial Stadium 20,000-Seat Arena

3.6.3.1 Affected Environment

Existing Land Use

Owned by the Seattle School District, Memorial Stadium was built to honor former Seattle high school youths who gave their lives in World War II. It was dedicated in 1948, and a memorial wall, inscribed with the names of the war dead, was erected outside the stadium in 1952. It is now a site for school athletics and various community athletics, concerts and events. Memorial Stadium consists of a spectator stadium, and a 1,800 square foot office building. Memorial Stadium hosts both School District and other public events.

Located near the northern boundary of the Downtown Urban Center in the Uptown neighborhood, the Memorial Stadium site is bordered by the Seattle Center on the north, west, and south, the Interbay neighborhood farther to the west; the Uptown Queen Anne neighborhood farther to the north; the SLU neighborhood to the east; Denny Triangle to the

southeast; and the Belltown neighborhood farther to the south. The Bill and Melinda Gates Foundation headquarters is located across 5th Avenue N. to the east of Memorial Stadium. General land use surrounding the study area site includes parking lots, general retail, offices, apartments, condominiums, and restaurants. North of the business district of the nearby slope of Queen Anne Hill, is a mixture of multifamily and single-family residences.

The demographics for the Uptown neighborhood are described above in Table 3.6-3.

3.6.3.2 Impacts of the No Action Alternative at Alternative 5 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 5 for a new arena. The existing Memorial Stadium would remain until any other development Proposed Action would occur. No land use impacts would be anticipated.

3.6.3.3 Impacts of Alternative 5

Land Use

A Seattle arena located on the site of the Memorial Stadium would be consistent with current zoning but may exceed height limits of current regulations. The use would be compatible with the existing land use. The site is currently occupied by a recreational sports facility. Theatre and spectator sports facilities are permitted uses in Neighborhood Commercial 3 (NC3).

Major land use improvements that would be required to implement Alternative 5 include demolition of the existing Memorial Stadium, office building, and surface parking; and redevelopment of the stadium site as an indoor spectator sport arena. The Memorial Wall could be demolished; or preserved or protected in some way.

The use of the Memorial Stadium site for an arena would be compatible with surrounding land uses. Memorial Stadium is surrounded by Neighborhood Commercial zoning, and this zoning provides a buffer between the Memorial Stadium site and neighborhood residences.

Current Memorial Stadium activities would need to shift to other venues on a permanent basis. The Seattle School District would have to either locate and construct a new stadium for school-related activities, or add existing activities to other existing School District facilities.

The displacement of existing recreational users of the Memorial Stadium is described in Recreation section of Public Services and Utilities: Section 3.9.

3.6.3.4 Mitigation Measures Applicable to Alternative 5

If an arena were to be built on the Memorial Stadium site, the proponent would need to acquire the Memorial Stadium property. This could provide the School District with funding for an alternative School District stadium.

3.6.3.5 Secondary and Cumulative Impacts

Alternative 5 could result in a secondary land use impact as the Seattle School District may need to construct a new stadium to accommodate school athletic activities, and that new stadium could potentially displace another existing use.

3.6.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse land use impacts are expected.

3.7 Historic and Cultural Resources

3.7.1 Introduction

Federal, state and local programs authorized under the National Historic Preservation Act (NHPA) of 1966 and the Seattle Landmarks Preservation Ordinance (Seattle Municipal Code [SMC] 25.12) provide a means of evaluating the significance of historic and cultural resources. The NHPA and Washington state law (RCW 27.34 Historic Preservation) establish the National and State Registers of Historic Places, respectively. Historic resources are also identified and protected by the Seattle Landmarks Preservation Ordinance (SMC 25.12) and the International Special Review District and the Pioneer Square Preservation District (SMC 23.66).

3.7.1.1 Historic Resources

The Seattle Landmarks Preservation Ordinance applies to all structures that are over twenty-five years old that meet at least one of the six landmark designation criteria listed in SMC 25.12.350, Standards for designation. Properties are eligible for nomination at 25 years. Nomination is voluntary for structures 25-50 years old, and is mandatory for structures greater than 50 years old. There are four steps to the landmarks designation process: nomination, designation, controls and incentives, and a designating ordinance.

In addition, Title 25 of the Seattle Municipal Code provides policies regarding historical preservation (SMC 25.05.675.H.2).

3.7.1.2 Cultural Resources

Seattle's SEPA Policy on Archaeological Sites, SMC 25.05.675 H.2.e states:

e. On sites with potential archaeological significance, the City may require an assessment of the archaeological potential of the site. Subject to the criteria of the Overview Policy set forth in SMC Section 25.05.665, mitigating measures which may be required to mitigate adverse impacts to an archaeological site include, but are not limited to:

- i. Relocation of the project on the site;*
- ii. Providing markers, plaques, or recognition of discovery;*
- iii. Imposing a delay of as much as ninety (90) days (or more than ninety (90) days for extraordinary circumstances) to allow archaeological artifacts and information to be analyzed; and*
- iv. Excavation and recovery of artifacts.*

3.7.2 Stadium District Alternatives – Alternatives 2 and 3

3.7.2.1 Affected Environment

Historic Resources

In July 2013, a review of structures was conducted on the site of Alternatives 2 and 3 by Nicholson Kovalchick Architects (See Appendix D Historic Building Surveys). Table 3.7-1 lists the 6 structures over 25 years old which are located on the Alternatives 2 and 3 site.

**Table 3.7-1
Structures Over 25 Years Old on the Alternatives 2 and 3 Site**

Structure Address	Year Built
1750 Occidental Avenue S.	1954
1760 1st Avenue S.	1976
1740 1st Avenue S.	1985
1730 1st Avenue S.	1967
1714 1st Avenue S.	1929-30
1700 1st Avenue S.	1935-36

Of the structures shown in Table 3.7-1, 3 must have an historical building assessment as they are over 50 years old: the building at 1750 Occidental Avenue S.; the building at 1714 1st Avenue S., and the building at 1700 1st Avenue S. Nomination of the other three structures is voluntary as they are between 25 and 50 years old. A summary of the structure review conducted in July 2013 is provided below. See Appendix D for the complete reports.

The building at 1750 Occidental Avenue S. is 61 years old. An addition was constructed on the north side of this building in 1956-57; and in 1987 a second addition was constructed on the west side of the building. According to Nicholson Kovalchick Architects, this building does not appear to meet any of the six landmark designation criteria listed in SMC 25.12.350 that is required for designation: *“Although an unusually sizeable building, it does not rise to the level of significance of a landmark.”*

The building at 1714 1st Avenue S. is approximately 85 years old and was constructed in the Art Deco “zigzag” style. It was remodeled in the early 2000s, and all of the original windows on the primary or west elevation were removed and replaced. According to Nicholson Kovalchick Architects, based on the research conducted, the 1714 First Avenue S. building does not appear to meet any of the six landmark criteria at this point, due to renovation of the building in recent years which removed the original windows on the primary façade: *“Although still a recognizably Art Deco building, the current windows are a significant blow to the building’s integrity.”*

The building at 1700 1st Avenue S. is approximately 79 years old and has been considerably altered since the original construction due to damage suffered during the 1949 and 1965 earthquakes. In addition, significant alterations have been made to the north, east, and west elevations of the building and the building has lost its original integrity. According to Nicholson Kovalchick Architects, this building does not appear to meet any of the six landmark designation

criteria listed in SMC 25.12.350 that is required for designation; in addition, they found that: *“the building has been significantly altered over time and has lost its original integrity.”*

See Appendix D for more information on these structures.

Cultural Resources

As part of the environmental review conducted for the Safeco Field project, archaeological resources were studied from the Pioneer Square Preservation District east to the International Special Review District, and the industrial lands extending south to S. Walker Street, including the Project area for Alternatives 2 and 3. Relative to the original Seattle shoreline, the Project area for these alternatives would have originally been underwater. The majority of potentially significant archaeological materials are assumed to have been deposited prior to the fills that occurred in the early 1900s, which generally buried materials 15 to 35 feet below current grades (Washington State Major League Baseball Stadium Public Facilities District 1996).

3.7.2.2 Impacts of the No Action Alternative at Alternative 2 and 3 Site

As this alternative does not include demolition or alteration of existing structures, or earthwork and construction activities, impacts to historic and cultural resources would not occur.

3.7.2.3 Impacts of Alternatives 2 and 3

Construction

Historic Resources

Each of the structures identified in Table 3.7-1 are proposed to be demolished under Alternatives 2 and 3. A historical building assessment would be required prior to any construction or demolition activities for the three structures that are over 50 years old. Per the review conducted in July 2013, it appears that none of the buildings would meet any of the six designation criteria required for nomination. Nomination of the remaining three structures is voluntary and is not proposed.

Any building within Seattle that is over 50 years old must go through the landmark status process before it can be removed. If the landmark status nomination is denied, demolition may proceed and impacts to historic resources would not occur. If the Landmarks Preservation Board designates a property, a Controls and Incentives Agreement for the landmark is negotiated by staff with the property owner. Once an agreement is reached and signed, it is forwarded to the Landmarks Preservation Board for approval at a public meeting. Controls define those features of the landmark to be preserved and outline the Certificate of Approval process for changes to those features. If one or more of the structures are designated as a landmark, any change to the structure would constitute an impact to historic resources.

Cultural Resources

Project activities would require ground disturbance. Per Section 3.1 Geology and Soils, excavation to allow for construction of the foundation may occur at a depth of about 20 feet below the present ground surface. As archaeological materials may be found in the project area between 15 to 35 feet below the ground surface, construction and excavation activities have the potential to affect archaeological and cultural resources. Measures would be in place to protect archaeological materials should they be encountered during construction.

Operation

The operation of an arena at the Stadium District site is not anticipated to have an effect on historic or cultural resources.

3.7.2.4 Mitigation Measures Applicable to Alternatives 2 and 3

Historic Resources

If a building is nominated as an historic landmark, and the landmark status nomination is denied, mitigation would not be required as impacts to historic resources would not occur. If the landmark status nomination is upheld by the Landmarks Preservation Board, the proponent would work with staff to develop a Controls and Incentives Agreement. In addition, any changes to historic features would follow the Certificate of Approval Process.

Cultural Resources

An Unanticipated Discovery Plan would be prepared for the project that provides for notification and consultation among the State Historic Preservation Office Department of Archeology and Historic Preservation (DAHP), Tribes, and the City related to discoveries of unknown archaeological materials or human remains.

3.7.2.5 Secondary and Cumulative Impacts

The Proposed Project or Alternative 3 are not anticipated to have a secondary historic and cultural impact or cumulative cultural impact. Loss of historical landmarks would add to cumulative loss of historic structures; however any loss would be minimized through the Certificate of Approval Process and coordination with the Landmarks Preservation Board.

3.7.2.6 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to historic or cultural resources are expected from the construction or operation of Alternatives 2 or 3.

3.7.3 Alternative 4 – KeyArena 20,000-Seat Arena

3.7.3.1 Affected Environment

Historic Resources

In March 2013, a historic landmark study was conducted for the KeyArena site and the greater Seattle Center area (Artifacts Architectural Consulting and HistoryLink.org 2013). The study is included in Appendix D. Table 3.7-2 lists the 7 structures over 25 years old which are located on the KeyArena site.

**Table 3.7-2
Structures Over 25 Years Old at the KeyArena Site**

Structure	Year Built
KeyArena	1962
Blue Spruce Building	1956
NASA Building	1962
Northwest Rooms	1962
Seattle Center Pavilion	1962
West Court Building	1953
International Fountain Pavilion	1961

Of the structures shown in Table 3.7-2, four were deemed eligible for nomination based on meeting at least one of the six landmark designation criteria listed in SMC 25.12.350, Standards for designation: KeyArena, the NASA Building, the Northwest Rooms, and the Seattle Center Pavilion. Subsequent to the study, the Northwest Rooms and International Fountain Pavilion were nominated for landmark designation. The nomination was approved by the Seattle Landmarks Preservation Board on June 19, 2013, a public meeting held on August 7, 2013, to consider landmark designation, and the landmark designation was approved by ordinance by the Seattle City Council. As the KeyArena, NASA Building and the Seattle Center Pavilion are over 50 years old, a historical building assessment must be performed before altering or demolishing the structures.

Cultural Resources

Archaeological resources may be present under the project site; however the site has undergone previous development, including ground disturbance, excavation and grading activities related to KeyArena and the other structures listed in Table 3.7-2.

3.7.3.2 Impacts of the No Action Alternative at Alternative 4 Site

As this alternative does not include demolition or alteration of existing structures, or earthwork and construction activities, impacts to historic and cultural resources would not occur.

3.7.3.3 Impacts of Alternative 4

Construction

Historic Resources

If a new arena were to be built at KeyArena, the existing structure would have to be demolished. As KeyArena is over 50 years old, a historical building assessment must be performed before any changes could occur. If the building is nominated for landmark status and the nomination of KeyArena is denied, construction and demolition activities could proceed.

Cultural Resources

Project activities would require ground disturbance. Due to the extensive ground disturbance performed for the construction of KeyArena, it is unlikely that archaeological materials would be found or affected. Measures would be in place to protect archaeological materials should they be encountered during construction.

Operation

The operation of an arena at the KeyArena site is not anticipated to have an effect on historic or cultural resources.

3.7.3.4 Mitigation Measures

Historic Resources

If a new arena were to be built at KeyArena, the existing building would have to be submitted through a landmark status nomination. If the nomination were denied, a possible outcome would be the removal of KeyArena. If the landmark status nomination is upheld by the Landmarks Preservation Board, the proponent would be required to work with staff to develop a Controls and Incentives Agreement. The agreement may include measures such as preservation of the iconic roofline and façades. In addition, any changes to historic features would follow the Certificate of Approval Process or may be denied.

Cultural Resources

If a new arena were to be built at KeyArena, an Unanticipated Discovery Plan would be prepared that provides for notification and consultation among the DAHP, Tribes, and the City related to discoveries of unknown archaeological materials or human remains.

3.7.3.5 Secondary and Cumulative Impacts

If the eligible buildings (see Table 3.7-2) surrounding the KeyArena are nominated and approved as historic landmarks, the demolition of the KeyArena and its replacement could have a secondary historic impact if the approval of the eligible buildings is based on relationship to

other Century 21-era structures. If the KeyArena is determined to be a historic landmark, the loss of the building would add to cumulative loss of historic landmarks; however any loss would be minimized through the Certificate of Approval Process and coordination with the Landmarks Preservation Board. The replacement of the KeyArena is not anticipated to have secondary or cumulative impacts to cultural resources.

3.7.3.6 Significant Unavoidable Adverse Impacts

The KeyArena has been found eligible for nomination as an historic landmark, however the building has not been nominated and a determination has not been made as to whether it would meet the City's landmark criteria. If declared a landmark, demolition and replacement would be required to comply with a Controls and Incentives Agreement. No significant unavoidable adverse impacts to historic or cultural resources are expected.

3.7.4 Alternative 5 – Memorial Stadium 20,000-Seat Arena

3.7.4.1 Affected Environment

Historic Resources

Memorial Stadium was constructed in 1948 and the Memorial Wall was commissioned and constructed separately in 1952. Both Memorial Stadium and the Memorial Wall are owned by Seattle Public Schools and have draft landmark status nomination applications prepared which were on hold as of March 2013 (Artifacts Architectural Consulting and HistoryLink.org 2013). As of February 2015, neither structure had been designated as a Seattle landmark.

As part of the Century 21 Master Plan Final EIS, Seattle Center proposed initiating a separate nomination process for the Memorial Wall. The Century 21 Master Plan envisions a prominently relocated Memorial Wall adjacent to Fifth Avenue N. as part of the redevelopment of the Memorial Stadium site (City of Seattle 2008a).

Cultural Resources

Archaeological resources may be present under the project site; however the site has undergone previous development, including ground disturbance and grading activities.

3.7.4.2 Impacts of the No Action Alternative at Alternative 5 Site

As this alternative does not include demolition or alteration of existing structures, or earthwork and construction activities, impacts to historic and cultural resources would not occur.

3.7.4.3 Impacts of Alternative 5

Construction

Historic Resources

If an arena were to be built at Memorial Stadium, the existing building and Memorial Wall would have to go through a landmark status nomination. If the nomination were denied, a possible outcome would be the removal of Memorial Stadium and removal and / or relocation of the Memorial Wall.

Cultural Resources

Project activities would require ground disturbance. Due to previous ground disturbance done for the construction of the Memorial Stadium, it is unlikely that archaeological materials would be found or affected. Measures would be in place to protect archaeological materials should they be encountered during construction.

Operation

The operation of an arena at the Memorial Stadium site is not anticipated to have an effect on historic or cultural resources.

3.7.4.4 Mitigation Measures

Historic Resources

If an arena were to be built at Memorial Stadium, the existing building and Memorial Wall would have to go through the historical building assessment process. If the building and wall were nominated and the nomination were denied, a possible outcome would be the removal of Memorial Stadium and relocation of the Memorial Wall. If the landmark status nomination is upheld by the Landmarks Preservation Board, the proponent would work with staff to develop a Controls and Incentives Agreement. The agreement may include measures such as preservation of the roofline or façades. In addition, any changes to historic features would follow the Certificate of Approval Process.

Cultural Resources

If an arena were to be built at Memorial Stadium, an Unanticipated Discovery Plan would be prepared that provides for notification and consultation among the DAHP, Tribes, and the City related to discoveries of unknown archaeological materials or human remains.

3.7.4.5 Secondary and Cumulative Impacts

If the Memorial Stadium is determined to be a historic landmark, the loss of the building would add to cumulative loss of historic landmarks; however any loss would be minimized through the

Certificate of Approval Process and coordination with the Landmarks Preservation Board. The replacement of the Memorial Stadium is not anticipated to have secondary or cumulative impacts to cultural resources.

3.7.4.6 Significant Unavoidable Adverse Impacts

Both Memorial Stadium and the Memorial Wall have draft landmark status nomination applications prepared which are on hold as of March 2013 (Artifacts Architectural Consulting and HistoryLink.org 2013). A determination has not been made as to whether the stadium or the Memorial Wall would meet the City's landmark criteria. If declared a landmark, demolition and replacement would be required to comply with a Controls and Incentives Agreement. No significant unavoidable adverse impacts to historic or cultural resources are expected.

3.8. Transportation

3.8.1 Introduction

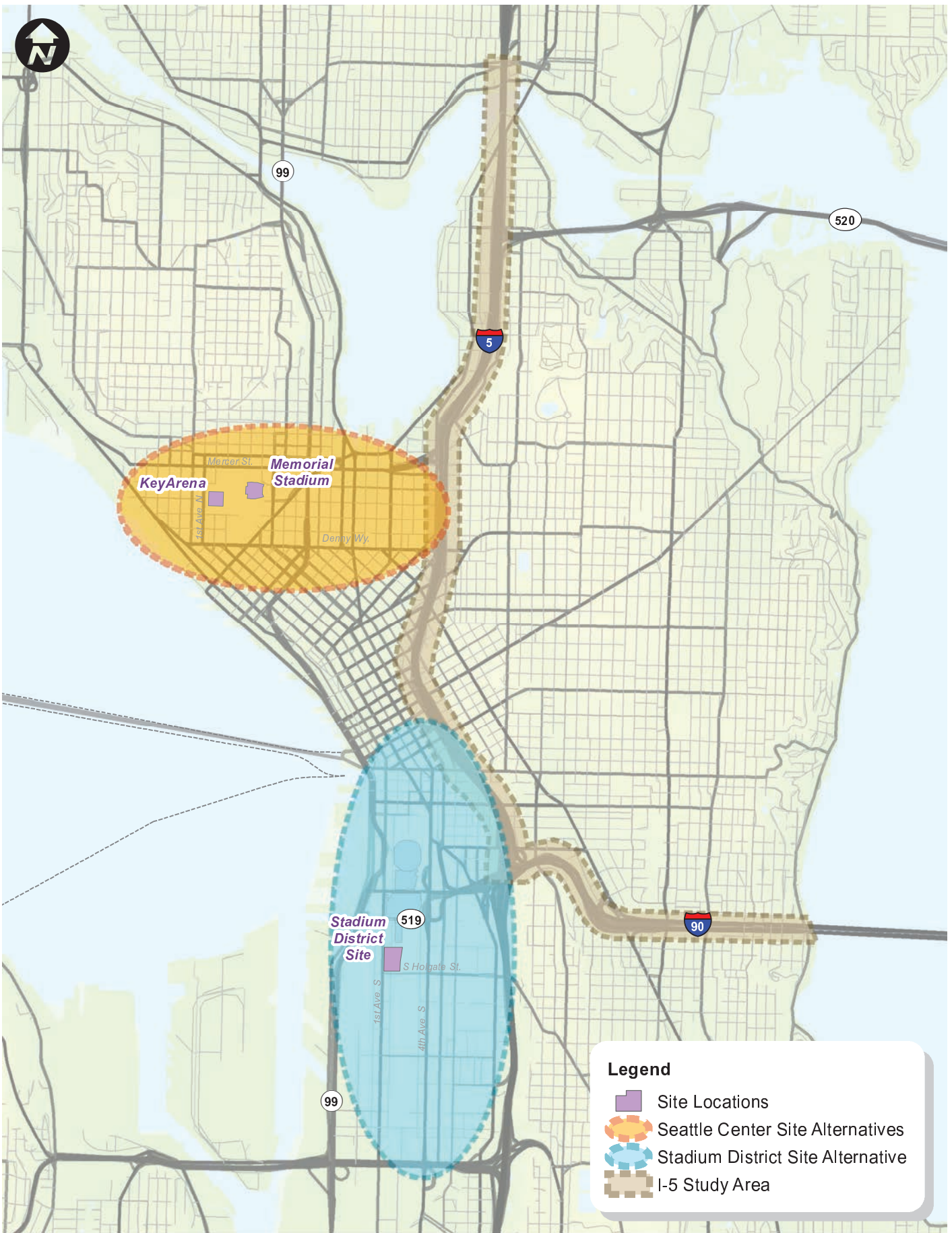
This section summarizes information contained in Appendix E, Transportation Resource Report. Please see Appendix E for additional details on the methodology used for collection of data and analysis, and for additional details contained in figures and tables provided to illustrate the information.

All of the site alternatives are located amidst the evolving transportation infrastructure of Seattle's downtown area. Major investments in transportation infrastructure underway include the Alaskan Way Viaduct / State Route (SR) 99 replacement project, SR 520 Bridge Replacement, the Waterfront Seattle Project, the Mercer Corridor Project, and investments in regional transit infrastructure. Specific transportation changes related to these mega-projects will affect regional transportation patterns as well as those in the vicinity of the Stadium District site, the KeyArena site and the Memorial Stadium site for years into the future; all are in different stages of visioning, design and / or construction. Figure 3.8-1 shows the locations of the Alternatives in the greater downtown area of Seattle.

The Stadium District Site is located immediately south of two other larger event venues, Safeco Field and CenturyLink Field. Further northwest, north and northeast, lies Pioneer Square, with its blend of residential, commercial and office uses. The Port of Seattle operates several port and intermodal terminals immediately to the west, along the Duwamish waterway. The Port operates four major terminals including Terminal 5 in West Seattle, Terminal 18 on Harbor Island, Terminal 25/30, and Terminal 46. Terminal 46 is the largest of these, with primary access via the Atlantic Street / 1st Avenue intersection.

KeyArena is a multipurpose arena with a capacity of over 17,000 people for basketball, about 15,000 people for hockey, and 15,000 to over 17,000 people for concerts, depending on the stage set up and seating configuration. It lies on the west edge of the Seattle Center along 1st Avenue N. KeyArena historically housed the Seattle Supersonics basketball team, and minor league hockey. Recently, it has been home to the Seattle University men's basketball team, the Seattle Storm WNBA team, and a range of other events. KeyArena sits in the heart of the Lower Queen Anne neighborhood, which borders the Seattle Center on the west and north.

Memorial Stadium, owned by the Seattle School District, lies adjacent to the eastern boundary of Seattle Center. Memorial Stadium was originally constructed in 1947. It currently has a capacity of 12,000 people; historically, capacity has been as high as over 17,000 people when the Seattle Sounders professional soccer team played there in the mid-1970s. It is located between Harrison and Republican Streets, west of 5th Avenue N., and separated from 5th Avenue N. by a surface parking lot also owned by Seattle Schools.



Transportation/Parking Analysis Study Areas

Seattle Arena

3.8.1.1 Summary of Site Plan Components

A number of site plan components are relevant to the transportation impact evaluation. These include:

- **Proposed Street Vacation** – As part of the project application, the proponent has requested the vacation of Occidental Avenue S. from S. Holgate Street to S. Massachusetts Street.
- **New North-South Connection** – A new north / south connection is proposed to be constructed on the east edge of the site extending from S. Holgate Street to S. Massachusetts Street. It is understood that this connection would generally not be open to the public, except during event conditions, as it would allow potential access to Safeco Field parking garage through an easement.
- **S. Massachusetts Street Realignment** – This roadway will be realigned to the north between 1st and Occidental Avenues S. The new roadway alignment will allow for a pedestrian plaza on the north side of the Arena. It will also eliminate the S. Massachusetts Street offset at the 1st and Occidental Avenues S. intersections. The improvements will provide alignment of S. Massachusetts Street across 1st Avenue S. and coordinate with improvements on the southwest corner of the intersection.
- **Pedestrian Access** – Primary pedestrian access to the site is proposed to be located on the northwest and southwest quadrants of the building. In addition, frontage modifications along S. Holgate Street, 1st Avenue S. and S. Massachusetts Street would include wider sidewalks, street furniture, street trees, rain gardens and understory planting and related building elements.
- **Public / Pedestrian Feature** – A large public plaza that includes seating, water features, pedestrian concrete, and incorporation of permeable pavements, trees and landscaping would be located on the north end of the site.
- **Service and Loading** – The service and loading area would be accessed from the proposed north / south roadway connection, north of S. Holgate Street.
- **Parking** – The applicant has proposed to provide parking for the facility by either use of existing off-site parking or the construction of new off-site parking on a lot south of Holgate Street (referred to in this document as the “South Warehouse site”).

3.8.1.2 Horizon Years for Analysis

Transportation impact analysis considered not only the 2018 year of opening, but the status of the major infrastructure projects affecting transportation in the region and downtown area.

The analysis was designed to recognize two primary horizon years for analysis as follows:

- **2018 Horizon** – This horizon year enables short term analysis that encompasses the completion of all of the substantive portions of the major infrastructure projects identified in Figure 3.8-2. Regional Transportation Timeline. This includes the expansion of the Streetcar, SR 520, Mercer West, SR 99, Waterfront Seattle, and Phase 1 of the Seawall project.
- **2030 Horizon** – This horizon year is consistent with area-wide transportation modeling of the future condition with all of the transportation infrastructure in-place, as well as the extension of Sound Transit (ST) east and north as indicated.

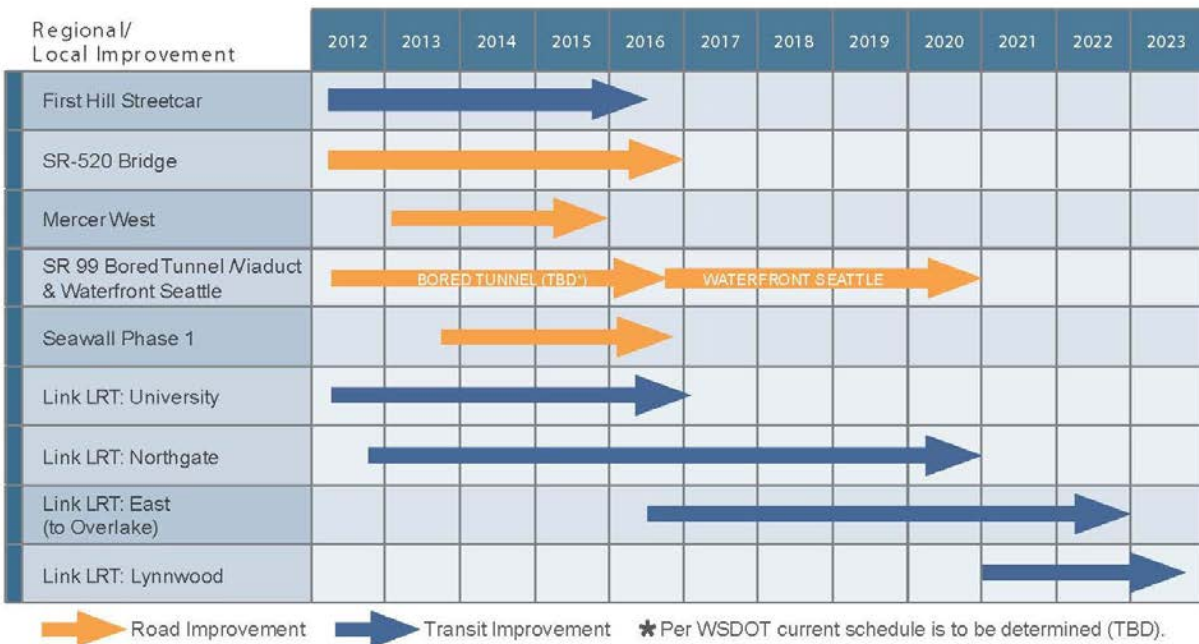


Figure 3.8-2
Regional Transportation Project Timeline

3.8.1.3 Event Analysis Cases

This section describes the basis for determining event cases for analysis of the Stadium District alternatives and the Seattle Center area alternatives, separately, as the factors influencing the determination of the event cases varied between the two site areas. Alternatives 2 and 3 would be located on the same site in the Stadium District of SoDo, and would be influenced by events at CenturyLink Field and Event Center and Safeco Field. Alternatives 4 and 5 would be located on or adjacent to the Seattle Center and would be influenced by activities occurring at the Seattle Center. In the case of the Seattle Center area alternatives, each of the alternatives would displace one of the existing event venues.

These cases were determined in consideration of these factors:

- **Event Venue Major Tenant Activities** – In the Stadium District alternatives, major tenant activities included both the Proposed Project (Alternative 2) or Alternative 3, as well as the activities associated with Safeco Field and CenturyLink Field and Event Center. In the Seattle Center area alternatives, the background level of events at the surrounding Seattle Center venues was assumed to be the same for both Alternative 4 and Alternative 5; however the existing and future uses of the venues to be replaced in each alternative were identified as part of the No Action Alternative.
- **Event Calendars** – Existing and future (with arena) event calendars were reviewed as available to assist in identifying potential seasonal overlaps between venue tenants.
- **Event Attendance Frequencies** – Using the seasonal calendars as appropriate, the frequency of event attendance levels at differing thresholds was summarized.
- **Event Analysis Cases** – Using the combination of the two summaries above, analysis cases were identified that provide a basis for understanding impacts of a single event at a new arena as well as multiple event conditions.

See Appendix E for a detailed description of major tenant activities, event calendars, and existing venue frequencies.

A number of the existing venues have overlapping tenant seasons. The Mariners and Sounders FC schedules overlap from April through November. The Seahawks season starts in August, resulting in a third existing overlapping schedule. Considering the potential for playoffs, there is a generally a four-month window (August to November) where all three existing sports teams could be playing regular season or playoff games.

The current Transportation Management Plan (TMP)¹ developed for Safeco Field and CenturyLink Field addresses this situation and requires that when a dual event is anticipated, and the attendance is expected to exceed 58,000 people for a weekday event and 65,000 people for a weekend event, the events must be separated by a minimum of 4 hours from the completion of one to the start of another.

Event Assumptions for New Arena

The following assumptions were made for events in the new Arena:

- NBA Basketball – 41 home games between November and mid-April; up to 16 home playoff games in April and May; and pre-season games in October.
- NHL Hockey – Similar to NBA with additional NHL games occurring in September.

¹ 2012 Safeco Field TMP – Dual Event conditions

- With a new Arena, the NBA and NHL seasons would generally run concurrently.
- WNBA Basketball – 17 home games from mid-May to late September, plus playoffs.
- Other Arena Events – There is also the potential for increased events unrelated to the professional sports teams. Based on discussion with the proponent a total of 60-65 additional events were assumed to occur, distributed throughout the year, with a slightly higher concentration during November and December.

The primary overlap in schedules with the existing Stadium District venues due to the Proposed Project (Alternative 2) or Alternative 3 would be associated with the WNBA season. This would occur between May and September for the WNBA regular season, extending to October with WNBA playoffs. During these months, the Sounders FC and the WNBA averaged four home games a month. During this same period, the Mariners in 2012 averaged 11-16 home games per month, typically played via 2 week-long home stands. The Mariners and NHL would overlap in September. The most significant potential overlap in schedules would occur in the event that the tenant of the Proposed Project (Alternative 2) or Alternative 3, professional basketball or soccer, is playing a home playoff game and overlapping with a well-attended baseball game in Safeco Field.

Frequency of Event Attendance Levels

A total of 186 events were identified as potentially occurring in the Arena. Based on typical attendance of 75 to 65 percent for NBA and NHL, respectively, the majority of the events are anticipated to have an attendance of 15,000 or less. The impacts associated with a single event occurring at the new arena would be the most common occurrence (See Table 3.8-1).

**Table 3.8-1
Arena Event Attendance Ranges**

Attendance Range (Persons)	Frequency
0 to 500	2
501 to 2,500	0
2,501 to 5,000	10
5,001 to 10,000	52
10,001 to 15,000	88
15,001 to 18,000	12
18,001 to 20,000	22
Total No. Events	186

3.8.1.4 Stadium District Alternatives – Alternatives 2 and 3

Event Analysis Cases

Table 3.8-2 illustrates the event cases developed for transportation and parking analysis in this document for the Stadium District alternatives.

**Table 3.8-2
Stadium District - Event Cases for Analysis**

Description	Attendance (Persons)		
	No Action	Action	Project Impact
Alternative 2 - 20,000 Seat Arena			
1 Case S1 – Single Event (Arena Only)			
New Arena	0	20,000	+20,000
Safeco Field	0	0	+0
CenturyLink	0	0	+0
Total Attendance	0	20,000	20,000
2 Case S2 – Dual Event (Arena + Mariners or Sounders)			
New Arena	0	20,000	+20,000
Safeco Field	40,500	40,500	+0
CenturyLink	0	0	+0
Total Attendance	40,500	60,500	20,000
3 Case S3 – Triple Event (Arena + Mariners or Sounders + CenturyLink)			
New Arena	0	20,000	+20,000
Safeco Field	47,500	47,500	+0
CenturyLink	5,000	5,000	+0
Total Attendance	52,500	72,500	20,000
Alternative 3 - 18,000 Seat Arena			
Case S1 – Single Event (Arena Only)			
New Arena	0	18,000	+18,000
Safeco Field	0	0	+0
CenturyLink	0	0	+0
Total Attendance	0	18,000	18,000
Case S2 – Dual Event (Arena + Mariners or Sounders)			
New Arena	0	18,000	+18,000
Safeco Field	40,500	40,500	+0
CenturyLink	0	0	+0
Total Attendance	40,500	58,500	18,000
Case S3 – Triple Event (Arena + Mariners or Sounders + CenturyLink)			
New Arena	0	18,000	+18,000
Safeco Field	47,500	47,500	+0
CenturyLink	5,000	5,000	+0
Total Attendance	52,500	70,500	18,000

The event cases represent the most frequent level of arena impact (Single Event), as well as an illustration of more significant potential, though comparatively rare, multiple event scenarios. Because of the complexity of the analysis, the inclusion of multiple event venues as part of baseline conditions under multiple no action comparison, the event cases have been defined (S1 – S3, reflecting Stadium District Cases 1-3) as follows:

- **Case S1 – Single Event (Arena Only)** – This designation will always describe the event case that includes the Proposed Project (Alternative 2) or Alternative 3, compared to a no action background condition that has no other event added in.

- **Case S2 – Dual Event (Arena plus Mariners or Sounders)** – A well-attended baseball or soccer game together with a capacity event in the Proposed Project (Alternative 2) or Alternative 3 would represent an infrequent, but significant dual event case to illustrate. In this case, the Mariner game would be added to the non-event baseline to provide a Case 2 No Action baseline for analysis comparison.

For purposes of this analysis, and given the proximity of Safeco Field and CenturyLink Field to the Stadium District site, the dual (and triple) event case is characterized as including a high attendance event at Safeco Field (baseball). It should be recognized that the analysis could just as easily represent a similarly sized soccer event at CenturyLink Field. The event case analysis assumes simultaneous events with uniform arrival and departure times as well as total cumulative attendance.

- **Case S3 – Triple Event (Arena + Mariners / Soccer + CenturyLink Concert)** – A triple event scenario was identified that includes activity at all three venues as described above. While even these scenarios may be addressed, limited, or prohibited as a result of a revised event scheduling agreement, the total attendance level likely from this combination was similar to that occurring in the event of a major event at CenturyLink Field, such as Monday night football. It is assumed that a triple event case that included soccer, baseball, and a major event at a new arena would not be scheduled; this would be clarified in the conditions of approval and event scheduling agreement. In this case, the Case 3 No Action baseline would include both the Mariner game and event at CenturyLink. As noted above, the analysis is constructed to reflect a total cumulative event of the attendance indicated.

3.8.1.5 Seattle Center Area Alternatives

The determination of event cases for study for the Seattle Center area alternatives was conducted with the same overall philosophy as those in the Stadium District alternatives. Differences in context between the Seattle Center and SoDo require a different methodology for determining appropriate event cases for analysis. In the Seattle Center alternatives, a new arena would replace an existing event venue of significance. For Alternative 4, the KeyArena would be replaced; for Alternative 5, Memorial Stadium would be replaced.

Event Analysis Cases

Table 3.8-3 illustrates the event cases developed for analysis for the Seattle Center area alternatives. Similar to the Stadium District, analysis cases are linked to each alternative (Cases K1 and K2 for the KeyArena site; Cases M1 and M2 for the Memorial Stadium site). As mentioned before, Case 1 reflects single events (Arena only), Case 2 reflects dual events (Arena plus a background event). In the case of Alternative 4 (KeyArena site), Case K2 reflects a dual event condition with Memorial Stadium event added to no action. In the case of Alternative 5, Case M2 reflects a dual event condition with an event at KeyArena in the background.

**Table 3.8-3
Seattle Center Area Alternatives - Event Cases for Analysis**

Description	Attendance (Persons)		
	No Action	Action	Project Impact
Alternative 4 - KeyArena Site			
1 Case K1 - Single Event (Arena Only)			
KeyArena	12,000	20,000	+8000
Memorial Stadium	0	0	+0
Total Attendance	12,000	20,000	+8000
2 Case K2 - Dual Event (Arena + Memorial Stadium Event)			
KeyArena	12,000	20,000	+8000
Memorial Stadium	5,000	5,000	+0
Total Attendance	17,000	25,000	+8000
Alternative 5 - Memorial Stadium Site			
1 Case M1 - Single Event (Arena Only)			
KeyArena	0	0	+0
Memorial Stadium	5,000	20,000	+15000
Total Attendance	5,000	20,000	+15000
2 Case M2 - Dual Event (Arena + KeyArena Event)			
KeyArena	12,000	12,000	+0
Memorial Stadium	5,000	20,000	+15000
Total Attendance	17,000	32,000	+15000

The event cases for analysis were designed to reflect typical anticipated levels of occurrence for events at the Seattle Center. The multi-event case (Case 2) described a basis for understanding a reasonable worst case scenario for multi-venue attendance at the Seattle Center.

3.8.1.6 Event Transportation Demands

This section summarizes the methodology and resulting trip generation and parking demands for the No Action and Alternative event analysis cases. Forecasting of event-related traffic volumes and parking demands considers the identified event case attendance levels, mode-splits, and general arrival patterns. As the event cases defined are unique to each alternative, the following provides a discussion of the Stadium District alternatives followed by the Seattle Center area alternatives.

Sporting event-related arrival patterns were for purposes of the analysis, assumed to be consistent between the Stadium District and Seattle Center area alternatives, based on limited available data and the intention to provide consistency in analysis comparisons. The arrival patterns developed for the project are based on a review of parking accumulation data for SoDo area garages, data from other NBA facilities, and review of traffic volume data in SoDo. See Appendix E for a detailed description of assumptions made for the percentage of people who would be arriving by car, the average number of people per vehicle (AVO), arrival patterns, and what percentage would be arriving during the PM peak hour.

3.8.2 Stadium District Alternatives - Alternatives 2 and 3

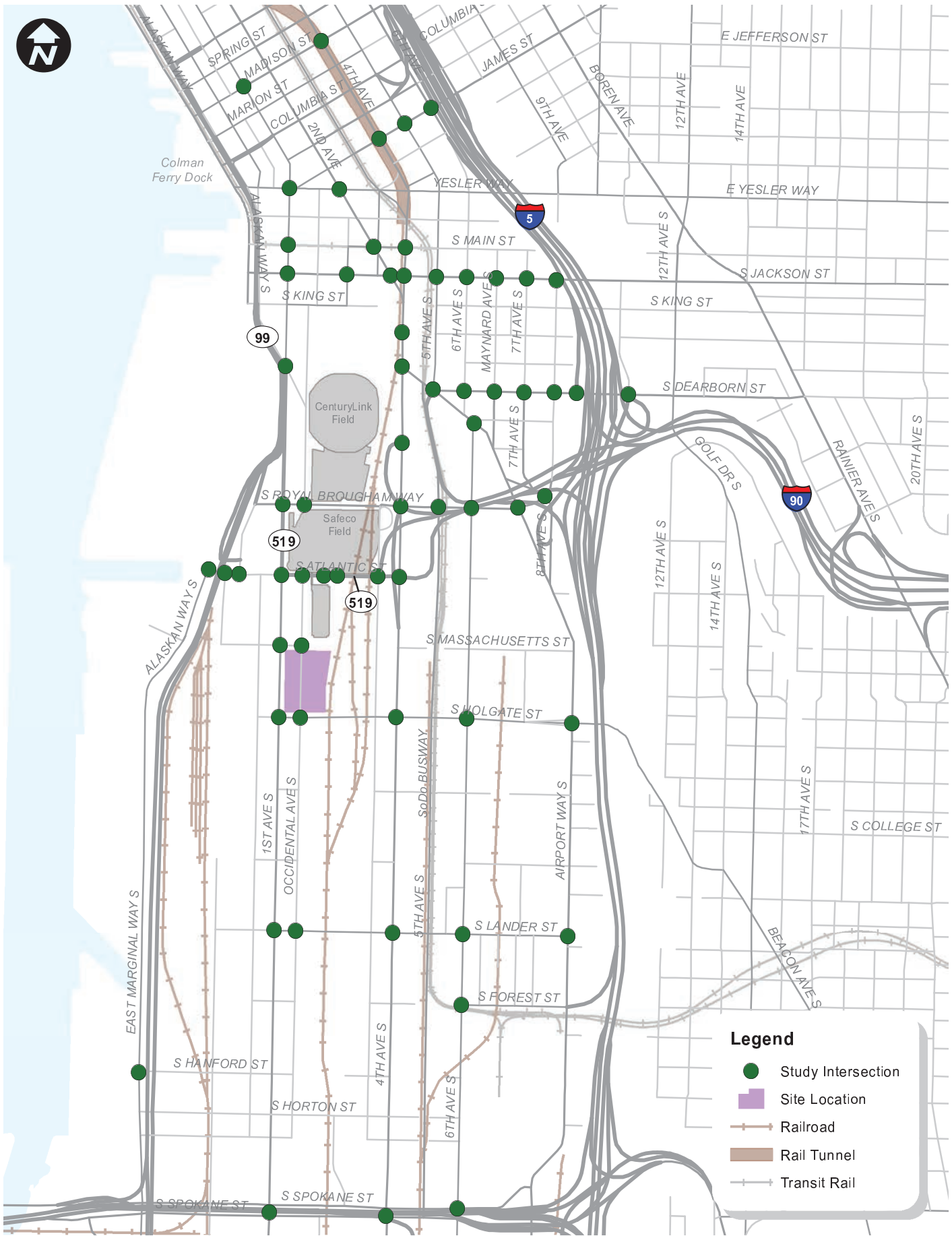
Within the Stadium District, the proposed Seattle Arena would be located at 1700 – 1st Avenue S. on the northeast corner of the 1st Avenue S. / S. Holgate Street intersection. Figure 3.8-3 shows the study area defined for the Stadium District alternatives. The analysis area was determined in consideration of the primary travel patterns for traffic to and from the Stadium District in SoDo, as well as the primary parking areas. The study area generally extends from E. Marginal Way on the west, Interstate 5 (I-5) on the east, Madison Street on the north, and S. Spokane Street on the south. The transportation analysis includes the evaluation of 64 study intersections inclusive of regional access points to the freeway system.

3.8.2.1 Street System

Methodology

The general approach to the evaluation of street system impacts included:

- Inventory of existing roadway infrastructure to determine the current condition of the street system.
- Identification of future transportation projects that would be constructed prior to project completion.
- Evaluation of street system impacts considering three changes to the street network proposed or required as a result of Alternatives 2 and 3.



Stadium District Study Intersections

Seattle Arena

FIGURE 3.8-3

Affected Environment

Regional Access: Regional access to the study area is provided via I-90 to the east and I-5 and SR 99 to the north and south. Roadways in the immediate vicinity of the Stadium District site include principal and minor arterials with traffic signals at major intersections. Table 3.8-4 summarizes the characteristics of major corridors within the study area, highlighting the roadway classification, speed limit, number of lanes, and general characterization of the non-motorized facilities.

**Table 3.8-4
Stadium District Existing Street System Summary**

Roadway	Arterial Classification	Posted Speed Limit	Number of Travel Lanes	Parking?	Sidewalks?	Bicycle Facilities?
1st Ave S.(South of S. Royal Brougham Way)	Principal Arterial	35 mph	5 lanes	Most Blocks	Yes	Yes
1st Ave S.(North of S. Royal Brougham Way)	Minor Arterial	30 mph	4 to 5 lanes	Most Blocks	Yes	Yes
Occidental Ave S	Access Street	25 mph	2 lanes	Yes	Some Blocks	No
S. Lander St	Minor Arterial	30 mph	5 lanes	Most Blocks	Yes	Yes
4th Ave S.	Principal Arterial	35 mph	6 lanes	Most Blocks	Yes	No
6th Ave S.	Minor Arterial	30 mph	2 lanes	Most Blocks	Most Blocks	Yes
Airport Way S.	Principal Arterial	30 to 35 mph	4 to 5 lanes	Few Blocks	Most Blocks	Yes
S. Holgate St (East of 4th Ave S.)	Minor Arterial	35mph	4 lanes	Some Blocks	Some Blocks	No
S. Holgate St (West of 4th Ave S.)	Minor Arterial	30 mph	4 lanes	Most Blocks	Some Blocks	No
S. Atlantic St (West of 1st Ave S.)	Collector Arterial	30 mph	4 lanes	Yes	Yes	No
S. Atlantic St (East of 1st Ave S.)	Access Street	30 mph	4 lanes	No	Yes	No
S. Royal Brougham Way	Principal Arterial / Access Street	35 mph	4 lanes	Most Blocks	Yes	Most Blocks
S. Massachusetts	Access Street	25 mph	2 lanes	Most Blocks	Some Blocks	No
S. Jackson St	Principal Arterial	30 mph	2 to 4 lanes	Few Blocks	Yes	Yes
Yesler Way	Minor Arterial	30 mph	2 lanes	Yes	Yes	Yes
James St	Principal Arterial / Minor Arterial	30 mph	2 to 4 lanes	Most Blocks	Yes	No
2nd Ave	Principal Arterial	35 mph	3 lanes	Most Blocks	Yes	Yes
2nd Ext Ave S.	Principal Arterial	35 mph	3 lanes	Most Blocks	Yes	Yes

The primary arterial routes providing north-south vehicular access in the site vicinity are Alaskan Way S., 1st Avenue S., Occidental Avenue S. and 4th Avenue S. East-west circulation is provided along S. Royal Brougham Way, S. Atlantic Street (Edgar Martinez Drive S.), S. Massachusetts Street, S. Holgate Street, and S. Lander Street.

There is a direct access ramp from 4th Avenue S. at S. Atlantic Street to I-90 and I-5. In addition, I-5 can be access via Spokane Street at 4th Avenue S. further south of the site. Improvements allowing the southbound left-turn from 4th Avenue S. to Spokane Street were completed recently and are not reflected in the operations analysis; given the travel patterns of Arena traffic it is anticipated that use of this movement to access I-5 would be somewhat limited. The main transit corridor in the site vicinity is the SoDo Busway along 5th Avenue S., although a large number of buses travel 4th Avenue S., near the Stadium District site.

Rail crossings: There are both mainline tracks and tail tracks in the area resulting in numerous at-grade crossings along both S. Holgate Street and S. Lander Street. A discussion of the rail facilities and freight activity is included in the Freight and Goods section. Notably, the S. Holgate Street railroad crossings extend from immediately east of the proposed Arena site to west of 3rd Avenue S., a distance over 500 feet of intermittent track crossings.

Event Function – Event Traffic Control Plans: Figure 3.8-4 shows the street functional classifications for the study area. The effective use of several intersections and roadway segments change between without and with event conditions due to closures and restrictions implemented as part of the Traffic Control Plans (TCPs) for Mariners, Seahawks, and Sounders FC games. Figure 3.8-5 illustrates the locations included in the existing TCPs for Safeco Field and CenturyLink Field. The TCPs employed are part of the transportation management for events in the Stadium District and are a function of the event location as well as anticipated attendance levels and associated auto demands. The Seahawks TCPs impacts more locations than the Sounders FC or Mariners due to the higher attendance levels.

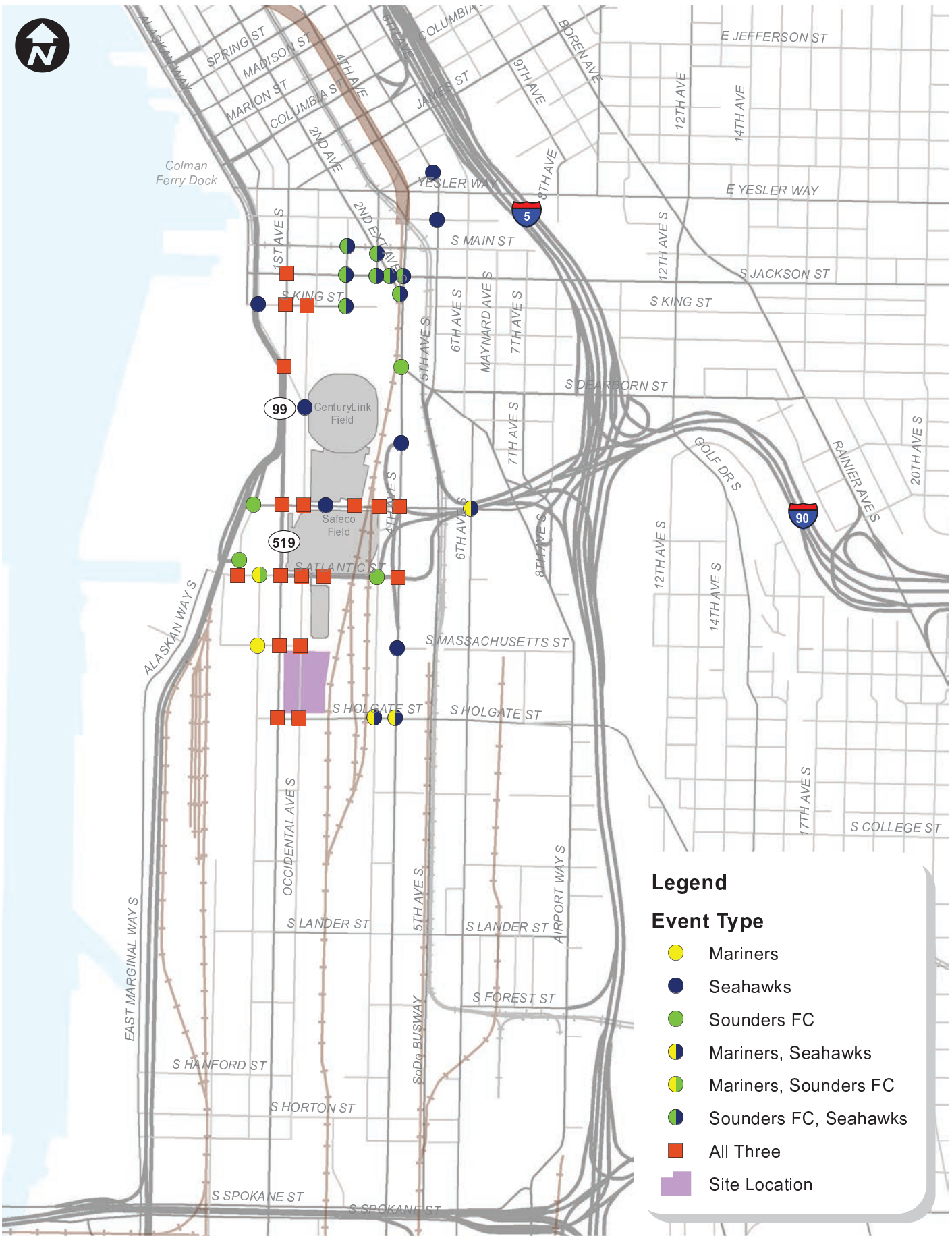
Freight Designations: Several of the arterials within the SoDo area have freight designations that include truck streets, heavy haul routes, and seaport and intermodal connectors. These routes are used by freight operators to access Port of Seattle facilities, intermodal rail yards, and other industrial uses in the SoDo area. Those designations are discussed further in the Freight and Goods section of the report and also shown on Figure 3.8-17. Adjacent to the Arena site, 1st Avenue S. and S. Holgate Street are designated freight routes.



Stadium District Street System

Seattle Arena

FIGURE 3.8-4



Stadium District Intersections Subject to Traffic Control Plans

Seattle Arena

FIGURE 3.8-5

Occidental Avenue S. Use: Occidental Avenue S. is proposed to be vacated as part of either Alternative 2 or 3. The proposed vacation would likely impact the functions described herein. Occidental Avenue S. and S. Massachusetts Street provide local access in the immediate site vicinity. The primary functions of Occidental Avenue S. include access to / from the Safeco Field parking garage, an alternative corridor to 1st Avenue S. for north / south travel, access route for commercial business between S. Holgate Street and S. Atlantic Street, and charter bus and Metro Access bus staging for Mariners events. S. Massachusetts Street links also provides access to the Safeco Field parking garage, commercial businesses between 1st and Occidental Avenues S. and along Occidental Avenue S.

Impacts of the No Action Alternative at Alternative 2 and 3 Site

The study area is undergoing major transportation system changes. A review of local and regional capital improvement programs and long-range transportation plans was conducted to determine planned funded and unfunded transportation projects that would impact the study area. The review included, but was not limited to, transportation plans from the Washington State Department of Transportation (WSDOT), City of Seattle, King County, ST, and the Port of Seattle. Table 3.8-5 provides a summary of key future transportation projects in the study area. In addition, the table provides an understanding of how these transportation projects were incorporated into the No Action Alternative evaluation. Many of the major street system projects impacting vehicular movements would be completed by 2018. Projects slated to be completed beyond 2018 are primarily related to the non-motorized and transit system and would likely encourage a decrease in dependence on the auto mode, during both typical commuter periods, as well as for events in the Stadium District. See Appendix E for a more detailed discussion on how specific transportation projects impact the study area.

**Table 3.8-5
Stadium District: Key Study Area Planned Transportation Projects**

Project Description	Responsible Agency	Expected Completion Date	Funded? ¹	Assumed in Analysis? ²	
				2018	2030
Alaskan Way Viaduct Replacement: SR 99 viaduct replaced with a tunnel between S. Royal Brougham Way and Mercer Street.	WSDOT	TBD ³	Yes	✓	✓
SR 520 Bridge Replacement: Construction of a new SR 520 floating bridge with two general purpose lanes and one HOV / transit lane per direction. Transit and non-motorized projects between SR 202 and I-5 including adding pedestrian/bicycle facilities across Lake Washington. The eastside, west approach and floating bridge segments are funded. The westside projects in the Montlake Interchange vicinity are not funded.	WSDOT	2017	Partial	✓	✓

Table 3.8-5 (Continued)
Stadium District: Key Study Area Planned Transportation Projects

Project Description	Responsible Agency	Expected Completion Date	Funded? ¹	Assumed in Analysis? ²	
				2018	2030
Mercer Corridor: Convert Mercer Street, Roy Street, and Valley Street to two-way operations and improve non-motorized access.	SDOT	2015	Yes	✓	✓
First Hill Streetcar: Two-mile streetcar line serving Capitol Hill, First Hill and International District with connections to Link light rail, Sounder commuter rail and bus service.	SDOT	2015	Yes	✓	✓
Link Light Rail: Extension of the regional light rail system. All segments are funded in ST2, but the year of completion may vary depending on revenue available to fund construction. The segments include: North—University District and Capitol Hill North—Northgate North—Lynnwood East—Bellevue and Redmond South—Extension to S. 200 th Street South—Extension to Kent-Des Moines Road	Sound Transit				
		2016	Yes	✓	✓
		2021	Yes		✓
		2023	Yes		✓
		2023	Yes		✓
		2016	Yes	✓	✓
		2023	Yes		✓
King Street Station Multimodal Terminal: Improve station access including opening of the Grand Stairs to connect the upper Jackson plaza and King Street Station entrance and a new entrance on Jackson plaza. These connections will transform the station into a transportation hub with easy access to express buses, commuter trains and light rail service.	SDOT	Completed 2013	Yes	✓	✓
Elliott Bay Seawall Replacement: Replacement of the existing seawall along the Seattle waterfront from S Washington Street to Broad Street.	SDOT	2019	Yes		✓
Waterfront Seattle: This project creates a continuous public waterfront between S. King Street and Bell Street and includes the design and construction of the new surface Alaskan Way and Elliott Way arterial streets.	SDOT	2014 and beyond	Partial	✓	✓
Southend Transit Pathway: This project creates a new transit corridor on Alaskan Way and Columbia Street with a pair of bus stops near the Stadium District to replace service currently on the Alaskan Way Viaduct.	SDOT / King County Metro Transit	2017	Yes	✓	✓

Table 3.8-5 (Continued)
Stadium District: Key Study Area Planned Transportation Projects

Project Description	Responsible Agency	Expected Completion Date	Funded? ¹	Assumed in Analysis? ²	
				2018	2030
Convention Place TOD: Expansion of the Washington State Convention Center to include a reconfiguration or relocation of transit access, layover and passenger amenities at Convention Place Station. The EIS is under way for this project.	King County Metro Transit / King County	Unknown	No		
Rapid Ride: Bus rapid transit service in six corridors (A through F) and the potential to expand into additional corridors in the future. Service has been initiated in four of the six corridors, and the E and F Lines are expected to start service in 2014.	King County Metro Transit	Completed 2014	Yes	✓	✓
Electric Trolleybus Fleet Replacement: Metro will replace its fleet of 159 trolleybus with modern low-floor vehicles providing more capacity on these routes.	King County Metro Transit	2015	Yes	✓	✓
Industrial Way Direct Access Ramps: This project would provide a direct connection from I-5 to and from the south to the SoDo busway through SoDo.	King County Metro Transit / WSDOT	Unknown	No		
Downtown Neighborhood Projects: Installation of pedestrian countdown signals and sidewalk repairs at the 1st Avenue S. intersections with S. Main Street and S. King Street.	SDOT	Completed 2013	Yes	✓	✓
S. Lander Street Grade Separation: This project grade separates S. Lander St. roadway and the BSNF mainline railroad tracks between 1st Avenue S. and 4th Avenue S.	SDOT	Unknown	No		

1. "Yes" means the project is fully funded for construction, "partial" means the project has some, but not complete funding for construction, and "no" means the project does not have any construction funding.
2. A check indicates that the project was assumed in the analysis related to the horizon year.
3. Due to construction delays, the timing of this is to be determined (TBD) per WSDOT's website March 30, 2015. The improvement was assumed in this analysis for both 2018 and 2030 conditions.

Impacts of the Proposed Project (Alternative 2) – Stadium District 20,000-Seat Arena

Construction

Construction impacts related to the street system would mostly occur on 1st and Occidental Avenues S. and S. Massachusetts and Holgate Streets adjacent to the site. A construction management plan would mitigate these impacts. The plan could include scheduling street closures and other disruptions to the street system during off-peak periods to minimize impacts to the system.

As part of Alternative 2, Occidental Avenue S. between S. Massachusetts and S. Holgate Streets would be vacated. Occidental Avenue S. currently provides secondary access to and from the Safeco Field parking garage, an alternative route for north-south travel, access to the commercial businesses, and charter bus staging area for Safeco Field events.

With development of Alternative 2, the businesses along Occidental Avenue S. between S. Holgate and S. Massachusetts Streets would be removed and the land would be redeveloped with the Seattle Arena. A private access road would be constructed east of the site allowing for the potential for continued local access to the Safeco Field parking garage (for both the 2018 and 2030 horizon years) through an easement. This connection is only proposed to function during events that would use the garage. Traffic currently using Occidental Avenue S. as an alternate north-south route would shift to the parallel 1st Avenue S. corridor.

Other street system changes would occur along the project frontage with the reconstruction of curb faces and the removal of all existing driveways on 1st Avenue S. and S. Holgate Street along the project frontage. S. Massachusetts Street will also be realigned to the north between 1st and Occidental Avenues S. expanding the size of the pedestrian plaza on the north side of the Arena and eliminating the existing roadway offset at its intersections with 1st and Occidental Avenues S.

Operation

As part of Alternative 2, Occidental Avenue S. between S. Massachusetts and S. Holgate Streets would be vacated. Occidental Avenue S. currently provides secondary access to and from the Safeco Field parking garage, an alternative route for north-south travel, access to the commercial businesses, and charter bus staging area for Safeco Field events.

With development of Alternative 2, the businesses along Occidental Avenue S. between S. Holgate and S. Massachusetts Streets would be removed and the land would be redeveloped with the Seattle Arena. Traffic currently using Occidental Avenue S. as an alternate north-south route would shift to the parallel 1st Avenue S. corridor.

Other street system changes would occur along the project frontage with the reconstruction of curb faces and the removal of all existing driveways on 1st Avenue S. and S. Holgate Street along the frontage. The proposal would reestablish a connection to S. Holgate Street by a new

private roadway that would be located on the east edge of the new Arena. This connection is only proposed to function during events that would use the Arena on-site garage. There is a potential for access to the Safeco Field parking garage through an easement.

Impacts of Alternative 3 – Stadium District 18,000-Seat Arena

Construction impacts and mitigation related to development of Alternative 3 would be the same as described for Alternative 2.

No additional modifications to the street system are proposed under Alternative 3 than have been noted for Alternative 2.

3.8.2.2 Public Transportation

Methodology

The general approach to the evaluation of public transportation impacts included:

- Determination of existing transit passenger capacity during pre-and post-event periods for weekday and weekend events.
- Identification of future 2018 and 2030 growth in ridership and change in capacity
- Consideration of event ridership associated with event cases for No Action and Alternatives 2 and 3
- Evaluation of capacity needed to support Alternatives 2 and 3
- Consideration of speed and reliability under existing and future conditions.

The analysis focuses on weekday event conditions because transit ridership and motorized volumes are highest during this timeframe; this provides a conservative estimate of transit capacity and reliability impacts. See Appendix E for a detailed description of the methodology used for each mode of public transportation (bus transit, light rail, Sounder, ferry, and streetcar).

In Fall 2014, Seattle voters approved Proposition 1 to provide funding to maintain current transit service on existing routes in the City of Seattle. The measure came after King County Metro had announced that it would cut 180,000 service hours starting in February 2015.

Transit capacity and route assumptions were not revised to reflect Proposition 1 in this analysis. Proposition 1 affects only Seattle routes, which serve less than half of the event patrons who use transit; thus, the impact of the service change would be minimal. The specific schedule changes resulting from Proposition 1 have not yet been released; however, the transit capacity is not anticipated to change the analysis results in the over capacity zones.

Affected Environment

Regional public transit providers offer a number of ways for people to access the Stadium District including bus, light rail, commuter rail and ferry as illustrated in Figure 3.8-6.

The capacity of these transit services to transport people to and from the Stadium District varies by day (weekday or weekend service) and by the time of day (peak commuter period or evening services). This section summarizes the total passenger ridership and available passenger capacity to and from the Stadium District during a weekday evening; this includes inbound to downtown Seattle transit service from 5:00 to 7:00 PM and outbound from downtown Seattle transit service from 9:00 to 11:00 PM with bus stops near the Stadium District site.

Bus Transit

Bus transit for the Stadium District is concentrated along SR 99 / Alaskan Way, 1st Avenue S., S. Jackson St., 4th Avenue S., SoDo Busway (5th Avenue S.), 6th Avenue S., and the International District Station. Bus service to the Stadium District is currently provided by King County Metro Transit and ST. The primary bus stops serving the Stadium District are located on 4th Avenue S. and 5th Avenue S., near S. Royal Brougham Way and S. Lander Street.

The number of buses in service on routes through the Stadium District during the peak weekday afternoon commuter period is higher leaving the downtown Seattle core than entering. The number of buses in service in the late evening is less than the weekday afternoon commuter period. Bus headways, the time between buses at a bus stop, are shorter during peak weekday afternoon commuter periods (10 to 30 minutes) compared to late evening and weekend service (30 to 60 minutes).

Bus Ridership: Existing bus ridership was provided by King County Metro Transit and ST for buses serving the Stadium District that travel to downtown Seattle from 5:00 to 7:00 PM and out of downtown Seattle from 9:00 to 11:00 PM. The available bus service was grouped into six service zones or corridors for analysis based on the distribution of service in the region:

- Zone 1: Magnolia, Ballard and Fremont area of Seattle
- Zone 2: Along SR 99, I-5, and SR 520, and areas to the north and northeast
- Zone 3: Bellevue, Issaquah, and I-90 to the east
- Zone 4: Southeast Seattle, Tukwila, and Renton
- Zone 5: South on I-5, Federal Way, Burien, and areas to the south
- Zone 6: West Seattle

Bus transit provides almost double the passenger capacity for bringing people to an event from 5:00 to 7:00 PM compared to leaving an event from 9:00 to 11:00 PM. The amount of bus passenger capacity varies to the different areas of King County; there is more bus service along SR 99, I-5, and SR 520 compared to other service centers for buses operating through the SoDo area. The occupancy rate for these buses, which is the total number of passengers on buses through the Stadium District divided by the total passenger capacity of those buses, is approximately 33 percent for inbound (5:00 to 7:00 PM) service and 35 percent for outbound (9:00 to 11:00 PM) service. This means that approximately 6,600 people were traveling to the Stadium District and 3,300 people were traveling away from the Stadium District to areas served by the selected King County Metro Transit and ST routes. The remaining capacity on all buses could accommodate approximately 13,300 passengers inbound and 6,000 outbound during these time frames. During peak commute periods and event days, specific buses and routes within the six zones experience higher ridership and overcrowding.

Weekday bus service (passenger capacity) is reduced by approximately 30 percent from 5:00 to 7:00 PM on weekends and approximately 10 percent from 9:00 to 11:00 PM (for combined King County Metro Transit and ST service). Based on King County Metro Transit ridership, the average number of passengers is approximately 30 percent less on weekends from 5:00 to 7:00 PM compared to weekdays and three percent less from 9:00 to 11:00 PM.

Speed and Reliability: On-time performance information was provided by King County Metro Transit for routes serving the Stadium District, including some ST routes (522, 545, and 550), which was used to determine the reliability of buses to meet schedules. King County Metro Transit and ST bus service to downtown Seattle from 5:00 to 7:00 PM were on-time approximately 75 percent of the time. Buses leaving downtown Seattle from 9:00 to 11:00 PM were on-time approximately 77 percent for King County Metro Transit and 81 percent for ST.

The travel time for buses (an indication of speed and reliability) would be similar to general purpose traffic because they operate in mixed flow through the Stadium District. The corridor travel time evaluation for existing weekday PM peak hour non-event and event conditions shows that increases in travel time as a result of an event are minimal with travel time differences of 30 seconds or less.

Other Service Information: King County Metro Transit has previously provided special service for sporting events such as Seahawks weekend games and Sounder FC games. This special service is paid for by the sports team (Mariners, Sounders FC, and Seahawks). Special park-and-ride services were provided between Northgate Transit Center, South Kirkland Park-and-ride, and the Eastgate Park-and-ride for Seahawks games — this special service has not been provided for weekday games. For Sounders FC games, the special bus service was cancelled in May 2012 due to low demand. Instead of the special park-and-ride service, extra coaches were added on regular King County Metro Transit service to downtown Seattle, as needed, to accommodate Sounders FC fans (source: King County Metro Transit website).

The effects of the passing of Proposition 1 which provides the funding needed to maintain current levels of bus service in the City of Seattle through 2020 were not taken into account in this analysis for reasons documented in the methodology section. Some of the bus service on the Alaskan Way Viaduct is currently subsidized by mitigation funding from WSDOT which expires in 2015. An extension of the funding is being considered by the Washington State Legislature. If not renewed, this could reduce the capacity on the routes currently providing service to SoDo.

ST provides additional bus service as necessary to accommodate passenger loads to special events. Prior to events, an assessment of extra service is determined based on ticket sales for the event.

Light Rail

ST currently provides light rail service from downtown Seattle to the Seattle Tacoma International (SeaTac) Airport via the Central Link light rail. The nearest light rail stations serving the Stadium District are located along the SoDo Busway (5th Avenue S.) at S. Royal Brougham Way (Stadium Station) and S. Lander Street (SoDo Station). Light rail service provides riders with a reliable and uncongested trip into and out of Seattle because routes are entirely within dedicated right-of-ways.

Light rail service currently operates with two car trains per trip; each train was assumed to have a capacity of approximately 200 people. Headways, the times between trains at a station, for inbound service (to downtown Seattle) are 7.5 minutes from 5:00 PM to 6:30 PM and 10 minutes from 6:30 PM to 7:00 PM. Outbound service operates on 10-minute headways from 9:00 PM to 10:00 PM and 15-minute headways from 10:00 PM to the end of service, which is approximately 1:00 AM on weekdays. Weekday light rail service (passenger capacity) is reduced

by approximately 20 percent from 5:00 to 7:00 PM on weekends and does not change from 9:00 to 11:00 PM.

Light rail provides a total capacity for approximately 6,000 passengers traveling inbound to the Stadium District from 5:00 to 7:00 PM and 4,000 passengers outbound from 9:00 to 11:00 PM. During Spring 2012 service, trains had an average maximum load of approximately 50 passengers; approximately 770 passengers were traveling inbound and 480 outbound from downtown Seattle. This represents average maximum passenger loads of less than 30 percent on each train. Total train maximum passenger capacity is approximately 400 people for two-car train sets.

Sounder Commuter Rail Service

ST's Sounder commuter rail service provides service between Lakewood and Seattle with additional stops in Tacoma, Puyallup, Sumner, Auburn, Kent, and Tukwila and between Everett and Seattle with intermediate stops in Mukilteo and Edmonds. The Seattle stop is located at King Street Station. Sounder currently has only regular weekday morning and afternoon service. Trains enter Seattle approximately every 30 minutes during morning commuter periods, from 6:00 to 8:00 AM, and leave approximately every 30 minutes during the evening commuter period or pre-event. Only one train enters Seattle from Everett and two trains from Tacoma (Lakewood stop is not used) during the late evening. No regular weekend service is available. The last weekday train south to Lakewood leaves Seattle at 6:15 PM and to Everett at 6:50 PM. Given that there is no return service for post-event, event attendees would need to find alternative modes; therefore, Sounder commuter rail service was not evaluated.

Only one train provides service to downtown Seattle from Lakewood during the 5:00 to 7:00 PM time frame. This provides capacity for more than 1,900 passengers. Specific ridership information was not available at this time.

Currently, ST provides scheduled special Sounder service to sporting events for the Mariners and Sounder FC games. One train from Lakewood to Seattle and one train from Everett to Seattle are provided for select weekend and holiday games for the Mariners and select weekend games for the Sounder FC. Trains depart Seattle 35 minutes after the end of the event, providing capacity for approximately 1,900 people to Lakewood and 1,100 people to Everett.

Washington State Ferries

Washington State Ferries (WSF) provides ferry service to Seattle at Colman Dock, located near Alaskan Way and Yesler Way. Colman Dock is approximately one-mile northwest of the Stadium District. Ferries to / from Seattle serve Bainbridge Island and Bremerton. The ferries have arrivals and departures scheduled throughout the day with headways of approximately 60 minutes for Bainbridge Island service and approximately 75 minutes for Bremerton service. Ferries serving both of these routes are some of the largest ferries in WSF's fleet, providing

combined vehicle and passenger service. According to WSF's website, these ferries are capable of transporting 2,500 passengers per trip, in addition to vehicles. Weekend ferry service (passenger capacity) increases by approximately 10 percent over weekday ferry service.

WSF Colman Dock service provides a total capacity for approximately 7,300 passengers traveling inbound to the Stadium District from 5:00 to 7:00 PM and 9,800 passengers outbound from 9:00 to 11:00 PM.

An average inbound passenger load of approximately 210 passengers is estimated. During May 2012 service, ferries had an average load of approximately 640 passengers traveling outbound from 9:00 to 11:00 PM.

Passenger Ferry

The King County Ferry District provides passenger-only ferry service between Seattle at Pier 50, and West Seattle and Vashon Island. Ferry departures and arrivals to Pier 50 for the West Seattle route operate on 30-to 60-minute headways, depending on the time of day. Typically, this route stops service at 7:00 PM with no weekend service, but for the summer-fall schedule (April-October), Fridays, Saturdays, and evening events for Mariners, Sounders FC and Seahawks, ferry service is extended to 10:30 PM with 60-minute headways. Passenger-only service between Pier 50 and Vashon Island operates on weekdays only with 60-minute headways.

These vessels have capacity for 170 passengers and 18 bicycles. The West Seattle route provides only two return sailings after sporting events, transporting a total of approximately 340 passengers. The Vashon Island route does not provide return service for sporting events. Ridership information was not available at this time. King County passenger ferries were not assumed to be used by event attendees because of limited service frequency during the winter months.

Impacts of the No Action Alternative at Alternative 2 and 3 Site

Year 2018

The Waterfront Seattle project will provide a pair of bus stops for the SR 99 / Alaskan Way route closer to the Stadium District. Although the exact placement of these bus stops has not been determined, they will likely provide a shorter walking distance or eliminate the need to transfer to another transit mode for people accessing the Stadium District. The current routing is along the Alaskan Way Viaduct and has stops along Columbia Street or Seneca Street depending on direction of travel. No change in passenger capacity is assumed. The anticipated completion date for the Waterfront Seattle Project has been delayed to the year 2020, but the improvements were assumed to be in place in the analysis. The new fleet of King County Metro Transit trolleybuses are anticipated to reduce bus loading / unloading times at bus stops, but are not assumed to impact transit passenger demand or capacity. SR-520 will have a new West

Approach Bridge North in 2016 which will add a third westbound lane and bike-pedestrian facilities across Lake Washington.

ST is scheduled to complete the U-Link light rail extension and add a new station south of Sea-Tac Airport on the Central Link alignment, which would extend service. Light rail capacity would be expanded with the addition of up to four three-car trains. Also, the First Hill Streetcar is scheduled to be completed in late 2015; this would provide a station near 1st Avenue and Jackson Street north of the Stadium District. First Hill Streetcar hours of operation and headways and the time between streetcars were assumed to be similar to the existing South Lake Union Streetcar operations. This would add streetcar service to the Stadium District. No other passenger capacity changes were assumed.

Bus Transit: The number of bus riders was anticipated to increase by approximately two percent per year and headways were assumed to remain unchanged. Bus transit passenger loads would increase by approximately 3,060 inbound passengers and 2,700 outbound passengers for No Action Case S3 compared to existing conditions. This increase in passengers would be slightly less for No Action Cases S1 and S2.

The total passenger load for No Action Case S3 (i.e., Mariners and CenturyLink Event) could be accommodated with assumed bus service levels for all service zones. Because this scenario has the highest assumed passenger demand, the No Action Case S1 and Case S2 could also be accommodated. Similar to existing conditions, some bus routes would experience higher levels of passenger ridership and potentially overcrowding. Travel times under 2018 conditions noticeably increase from existing conditions and further increase with the addition of event traffic, compared to existing conditions.

Light Rail: ST estimates light rail ridership will increase approximately 350 percent, or 19.5 percent annually from the year 2013 to 2018. This is largely associated with 2016 completion of U-Link extension and two new stations on the Central Link light rail alignment. ST would also operate fifteen, two-car train sets and four, three-car train set during peak service.

Headways were assumed to remain at 7.5 to 10 minutes from 5:00 to 7:00 PM and 10 to 15 minutes from 9:00 to 11:00 PM. Light rail passenger loads would increase by approximately 3,455 inbound and 2,025 outbound passengers for No Action Case S3 compared to existing conditions. The increase in passengers would be slightly less for the No Action Case S1 and Case S2. The total passenger load for these scenarios could be accommodated with assumed light rail service levels.

Streetcar: Streetcar passenger loads would increase by approximately 735 inbound and 635 outbound passengers for No Action Case S3 compared to existing conditions. The increase in passengers would be slightly less for the No Action Case S1 and Case S2. The total passenger load for these scenarios could be accommodated with assumed streetcar service levels.

Washington State Ferry Service: No change in the number of WSF vessels serving Colman Dock was assumed from the year 2013 to 2018. The number of walk-on passengers was anticipated to increase by approximately three percent annually from 2013 to 2018. WSF passenger loads would increase by approximately 1,745 inbound and 1,810 outbound passengers for No Action Case S3 compared to existing conditions. The increase in passengers would be the same for the No Action Case S2 and less for the No Action Case S1. The total passenger load for these scenarios could be accommodated with assumed WSF service levels.

Year 2030

By 2030, ST is anticipated to expand light rail service connecting Central Link light rail to downtown Seattle and the eastside communities of Bellevue and Redmond (Overlake) and the Lynnwood Link light rail Extension would extend light rail service north from the University of Washington (UW) in Seattle to the City of Lynnwood. South Link light rail would be extended one additional station to Kent / Des Moines in the vicinity of Highline Community College. This expanded light rail service could result in a reduction in available bus transit capacity in some of the service zones, but King County Metro Transit would redeploy these transit service hours to other parts of the region. Overall transit passenger capacity would increase by 2030.

For all other transit modes (i.e., bus, streetcar, ferry), no change in passenger capacity (service levels) was assumed because of the uncertainty of transit funding.

Bus Transit: The number of people who would use bus service was anticipated to increase by approximately two percent annually to year 2030. Headways were assumed to remain unchanged. Bus transit passenger loads would increase by approximately 4,310 inbound passengers and 2,910 outbound passengers for the No Action Case S3 (slightly less for No Action Cases S1 and S2) compared to existing conditions. The passenger demand could be accommodated with assumed bus service levels for all zones. This analysis includes the assumed redeployment of bus service hours for routes that are redundant and would be discontinued with light rail service extensions to the north. If the redeployment of bus service does not occur, then projected passenger demands could be accommodated under all No Action scenarios.

Due to the re-deployment of bus service, it was assumed some bus riders would transfer to other bus routes and / or light rail, which provides connections similar to current bus routes (such as downtown). Complimentary light rail service has the available passenger capacity (approximately 20,000 inbound and 16,500 outbound) to serve these event attendees. This could place additional demand on park-and-ride lots in north Seattle, Shoreline, Mountlake Terrace, and Lynnwood and increase passenger loads on buses connecting to light rail stations. Travel times under 2030 conditions are generally similar to 2018 conditions with some improvement as a result of decreased in vehicular traffic and increases in transit use.

Light Rail Transit: Light rail passenger loads would increase by approximately 26,380 inbound passengers and 9,670 outbound passengers for the No Action Case S3 compared to existing

conditions. The increases in passengers would be slightly less with the No Action Case S1 and Case S2. More than half of the inbound ridership from 5:00 to 7:00 PM would be on the North Link Extension. Ridership estimates predict that trains would be near capacity through downtown; however, trains would not yet reach maximum load capacity. Many of the passengers boarding in downtown would be connecting to commuter rail at King Street Station. Similar to passenger loads from 5:00 to 7:00 PM, approximately half of the outbound ridership from 9:00 to 11:00 PM would be on North Link.

The total passenger loads for the 2030 No Action scenarios could be accommodated with assumed light rail service levels.

Streetcar Transit: The number of people who would use streetcar transit was anticipated to increase by approximately two percent annually to the year 2030. Headways were assumed to remain unchanged. Streetcar passenger loads would increase by approximately 750 inbound and 635 outbound passengers for the No Action Case S3 compared to existing conditions. The passenger loads would be slightly less for the No Action Case S1 and Case S2. The total passenger loads for these scenarios could be accommodated with assumed light rail service levels.

Washington State Ferry Service: WSF passenger loads would increase by approximately 1,775 inbound and 1,905 outbound passengers for No Action Case S3 compared to existing conditions. The increase in passengers would be the same for Case S2 and less for Case S1. The total passenger loads for these scenarios could be accommodated with assumed WSF service levels.

Impacts of the Proposed Project (Alternative 2) – Stadium District 20,000-Seat Arena

Construction of Alternative 2 could result in some increase in ridership as a result of construction workers traveling to and from the site. It is anticipated that public transportation impacts related to construction would be less than a 20,000-seat event at the Seattle Arena, however the transit use would occur on a daily basis during the two year construction period and would occur during AM and PM peak hours. In addition, construction related activities could impact nearby transit routes and stops as well as pedestrian accessibility to these facilities. A construction management plan could be prepared and impacts to transit could be coordinated with the transit agency in advance and appropriate relocation and signage provided.

Year 2018

Approximately 12 percent of Arena event attendees were estimated to use transit to travel to and from events. The travel forecasts were developed based on review of the TMPs for CenturyLink Field and Safeco Field, which included information on how event attendees currently travel to events; a review of what facilities in other cities generally experience in terms of how event attendees travel to events; and an evaluation of the available passenger

capacity on all transit serving the Stadium District. The analysis assumes a fully-attended event, with approximately 2,320 event attendees arriving by bus, light rail, streetcar, and ferry. Approximately 80 event attendees would be ferry passengers who take their vehicle on the ferry and could arrive outside the analysis period such as during the morning commute period as they take ferry to work and then attend an Arena event in the evening. As such, they are included in the No Action condition for parking and are not additive to the impact of the project. Transit service provided in the study area is assumed consistent with No Action conditions.

Bus Transit: It was estimated that approximately 28 percent of event attendees on transit would use existing bus service to the proposed Arena. This would add approximately 640 bus passengers traveling to and from the Stadium District for the Proposed Project (Alternative 2) Case S2 and Case S3 event scenarios.

Alternative 2 Case S3 could be accommodated with assumed bus service levels. Because this scenario has the highest assumed passenger demand, the Alternative 2 Case S1 and S2 could also be accommodated. Similar to existing conditions, some bus routes would experience higher levels of passenger ridership and potentially overcrowding. Also, park-and-ride lots served by transit to the Stadium District would likely experience increased use during events.

Light Rail: It was estimated that approximately 34 percent of event attendees on transit would use existing and planned light rail service to the proposed Arena. This would add approximately 800 light rail passengers traveling to and from the Stadium District on Central and North Link for Alternative 2 Case S2 and S3. All 2018 Alternative 2 Cases could be accommodated with assumed light rail service levels. The available passenger capacity assumed fifteen two-car train sets and four three-car train set during peak service. The existing Tukwila and planned Angle Lake park-and-ride lots, the only public park-and-ride lots served by the light rail to the Stadium District, are likely to experience increased use during events.

Streetcar: It was estimated that approximately seven percent of event attendees on transit would use streetcar service to the proposed Arena. This would add approximately 160 streetcar passengers traveling to and from the Stadium District on the First Hill streetcar for Alternative 2 Case S2 and S3. These scenarios, including Alternative 2 Case S1, could be accommodated with assumed streetcar service levels.

Washington State Ferry Service: It was estimated that approximately 31 percent of event attendees on transit would use ferry service to the proposed Arena. This would add approximately 720 ferry passengers traveling to and from the Stadium District for Alternative 2 Case S2 and S3. These scenarios, including the 2018 Alternative 2 Case S1, could be accommodated with assumed WSF service levels.

Year 2030

The Proposed Project (Alternative 2) would construct a new 20,000 person arena in the Stadium District. Approximately 14 percent of event attendees were estimated to use transit to travel to and from events. The analysis assumes a fully-attended event, with approximately 2,720 event attendees arriving by bus, light rail, streetcar, and ferry during the weekday analysis period. Approximately 80 of these event attendees would be ferry passengers who take their vehicle on the ferry and could arrive outside the analysis period such as during the morning commute period as they take ferry to work and then attend an Arena event in the evening. As such, they are included in the No Action condition for parking and are not additive to the impact of the project. Transit service provided in the study area is assumed consistent with No Action conditions.

Bus Transit: It was estimated that approximately 15 percent of event attendees on transit would use bus service to the proposed Arena. This would result in approximately 400 bus passengers traveling to and from the Stadium District for Alternative 2 Case S2 and S3.

Bus riders are likely to shift from bus routes to light rail service when light rail service would connect to similar destinations (such as downtown). Light rail service has available passenger capacity (approximately 17,000 inbound and 14,000 outbound) to serve these riders. This could place additional demand on park-and-ride lots in north Seattle, Shoreline, Mountlake Terrace, and Lynnwood and increase passenger loads on buses connecting to light rail stations. In addition, park-and-ride lots served by transit to and from the Stadium District would likely experience increased use during events.

Light Rail: With the expanded light rail system, it was estimated that approximately 54 percent of event attendees on transit would use light rail service to the proposed Arena. This would add approximately 1,460 light rail passengers traveling to and from the Stadium District on Central, North and East Link for Alternative 2 Case S2 and S3. These scenarios, including the 2030 Alternative 2 Case S1, could be accommodated with assumed light rail service levels. Light rail trains would be highly utilized through downtown Seattle during events with the increased light rail ridership. Non-event riders boarding trains in downtown to connect to Sounder commuter rail at King Street Station could experience near capacity trains and choose to walk or ride a connecting bus as an alternative to light rail during events. Park-and-ride lots served by light rail to the Stadium District would also likely experience increased use on event days.

Streetcar: It was estimated that approximately five percent of event attendees on transit would use streetcar service to the proposed Arena. This would add approximately 140 streetcar passengers traveling to and from the Stadium District for Alternative 2 Case S2 and S3. These scenarios, including the 2030 Alternative 2 Case S1, could be accommodated with assumed streetcar service levels.

Washington State Ferry Service: It was estimated that approximately 26 percent of event attendees on transit would use ferry service to the proposed Arena. This would add

approximately 720 ferry passengers traveling to and from the Stadium District for Alternative 2 Case S2 and S3. These scenarios, including the 2030 Alternative 2 Case S1, could be accommodated with assumed WSF service levels.

Impacts of One-Hour Post Event Departure

The impacts on outbound passenger load and capacity that would occur within a one-hour post-event time-frame were reviewed. This evaluation provides an understanding of the sensitivity of the length of the post event timeframe. The two-hour transit capacity assumption, presented previously, is reasonable considering that some event patrons leave an event early and others remain in the area for post-game socializing or entertainment. Using a one-hour post event time period provides a conservative assumption for the transit capacity analysis.

The shorter one-hour post event timeframe has less transit capacity available to serve the same number of people exiting an event compared to the two-hour post event timeframe previously analyzed. Remaining passenger capacity decreases in the majority of cases, resulting in over capacity conditions for some modes. The analysis of the two-hour period demonstrates passenger loads could be accommodated for the modes that are over capacity in the one-hour period (i.e., some passengers would need to travel before or after the one-hour period).

Additional detail related to the one-hour post event departure is provided in Appendix E.

Impacts of Alternative 3 – Stadium District 18,000-Seat Arena

This alternative would result in a small reduction in the number of event attendees and slightly reduce transit ridership associated with an arena. The operational and construction impacts would be similar to Alternative 2.

3.8.2.3 Pedestrians

Methodology

The pedestrian impact evaluation included a broad assessment of the pedestrian environment in the study area and a more specific, quantitative evaluation of important pedestrian routes during event conditions. The broad analysis provides an understanding of the study area as a whole and the pedestrian environment along specific routes to and from major transportation stations and parking within this study area. The more specific quantitative analysis focuses on the 1st Avenue S., 4th Avenue S., and S. Holgate Street pedestrian links in close proximity to the Stadium District site where concentrations of pedestrian volumes are higher. Additional context related to the broad study area and key link evaluation method is provided below.

The broad study area was identified based on the location of parking facilities and major transportation stations that would accommodate Arena demands. The key components of the study area evaluation include:

- Existing inventory of pedestrian facilities and identification of planned transportation projects that would impact the study area
- Analysis of the existing and future pedestrian event travel routes to and from major transportation stations and parking in terms of:
 - **Connectivity** or where gaps exist in the pedestrian facilities making it difficult to access the Stadium District site
 - **Quality** or the condition of the pedestrian facilities including lighting and space

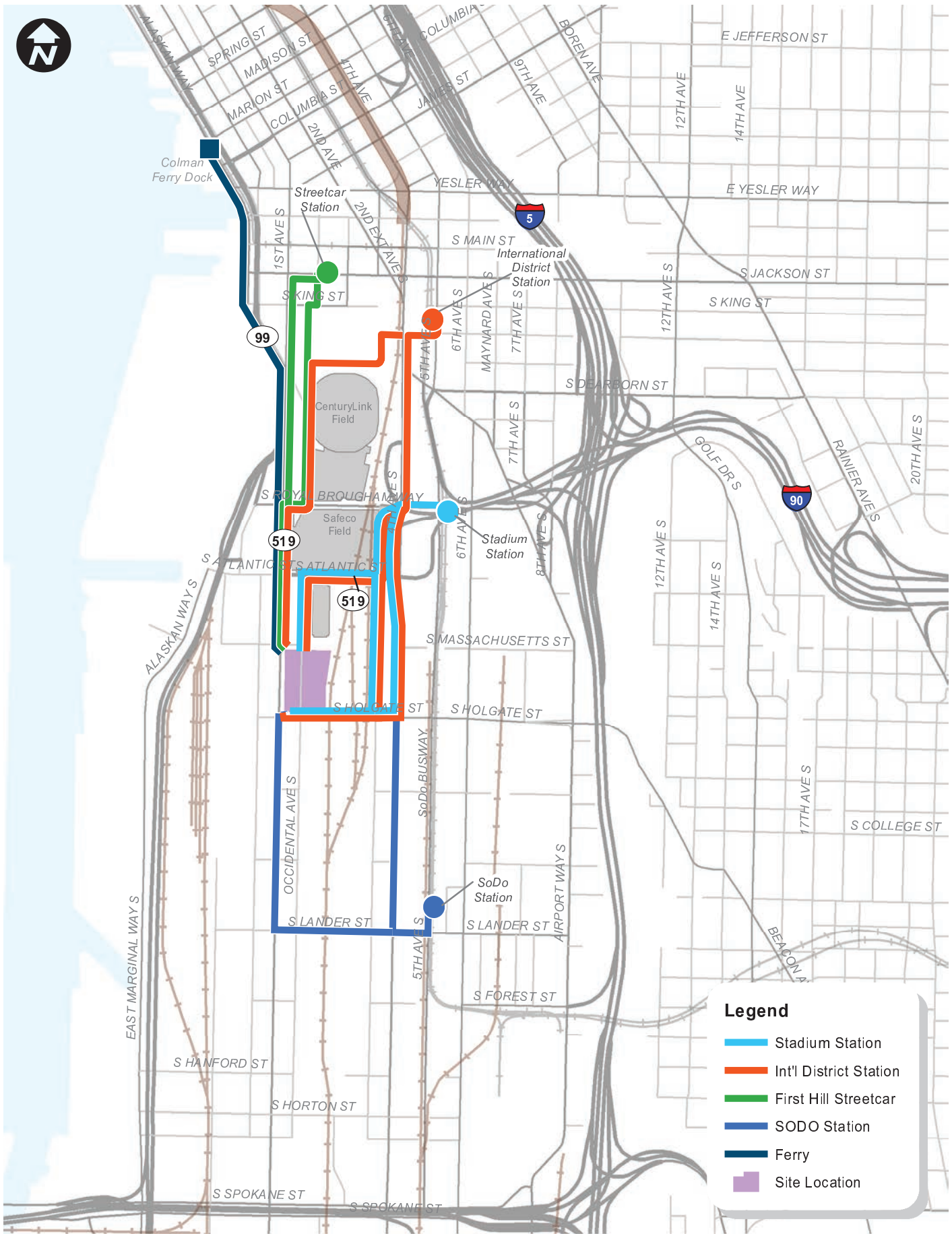
Figure 3.8-7 illustrates the five key pedestrian routes identified for this assessment.

The pedestrian link analysis focuses on weekday post-event conditions when concentrations of pedestrian flows would be highest. Analysis is conducted for one future period representative of both 2018 and 2030 conditions due to the conservative assumptions built into the analysis as well as the fact that the level of pedestrian volumes associated with an event far outweighs non-event background volumes. Pedestrian volumes are a function of event attendance; therefore, based on the same attendance levels 2018 and 2030 volumes would be the same.

The method for the link evaluation includes:

- 1st and 4th Avenues S.: An extension of the traditional Highway Capacity Manual (HCM) methodology was used considering pedestrian flows. It was determined whether sidewalk conditions would be free flow (>10 p/ft/min), restricted (11-23 p/ft/min), or severely restricted (>23 p/ft/min). For severely restricted segments, consideration was given as to whether the conditions were temporary, alternative routes exist, and / or mitigation may be needed to improve conditions.
- S. Holgate Street: The effect of potential railroad activity blocking east-west travel for pedestrians and an evaluation of pedestrian storage needs.

See Appendix E for the basis of estimations of pedestrian volumes and the approach used for each key corridor.



Stadium District Key Pedestrian Routes

Seattle Arena

FIGURE 3.8-7

Affected Environment

The inventory of pedestrian facilities included identification of raised sidewalks, trails, and segments that were missing any kind of facility. Figure 3.8-8 summarizes the study area pedestrian network and identifies the existing trails and gaps in sidewalk network.

When reviewing the inventory, there is generally a difference in the density of the sidewalk connections north of S. Holgate Street as compared to the area south of S. Holgate Street. This is likely due to the level and nature of the development that has occurred north of S. Holgate Street and its proximity to the CBD.

Most of the major north-south and east-west arterials have sidewalks on one or both sides of the streets. Impediments were identified throughout the area that included fire hydrants, signage, or power poles. These impediments reduce the useable width of the sidewalk for short distances. Sidewalks are more intermittent along minor streets such as Occidental Avenue S., Utah Avenue S., and 3rd Avenue S., south of S. Royal Brougham Way.

Weekday pedestrian flows in the study area without an event are generally to and from transit and employment centers or business employees walking to food establishments or parking. Employment centers in the study area include the King County offices located at 201 S. Jackson Street immediately north of CenturyLink Field and offices in the area of Union Station between 4th Avenue S. and 5th Avenue S. Transit facilities in the northern area that have a large pedestrian draw include King Street Station and the International District / Chinatown Station. Pedestrian activity near the Seattle Arena site and in the southern portion of the study area is generally low given the primarily industrial land uses. This low pedestrian activity also occurs along Occidental Avenue S. between S. Massachusetts and S. Holgate Streets where there are no sidewalks and the uses are industrial. Higher pedestrian activity in the southern portion of the study area occurs along corridors accessing transit (e.g., near the SoDo Busway and Link Light Rail stations) and larger employers (e.g., near the Starbucks Headquarters at 1st Avenue S. and S. Lander Street).

The pedestrian travel patterns in the study area change with an event conditions as the main draw becomes either CenturyLink Field or Safeco Field, with flows generally coming to and from event parking areas and transit facilities. Pedestrian volumes in the immediate vicinity of the event venues increase, particularly along 1st Avenue S., S. Jackson Street, S. Royal Brougham Way, and at the signalized pedestrian crossing of 4th Avenue S. between the Union Station Parking Garage and CenturyLink Field. 1st Avenue S. serves as a main north-south pedestrian corridor with several large parking garages in the north and parking lots and on-street parking to the south of CenturyLink Field. The pedestrian volumes along S. Jackson Street, S. Royal Brougham Way and at the 4th Avenue S. signalized crossing are generally related to transit or parking in the International District.

Based on the pedestrian travel patterns described above and the major transportation and parking, four specific routes were identified for further review and are described below.

Stadium Station Route

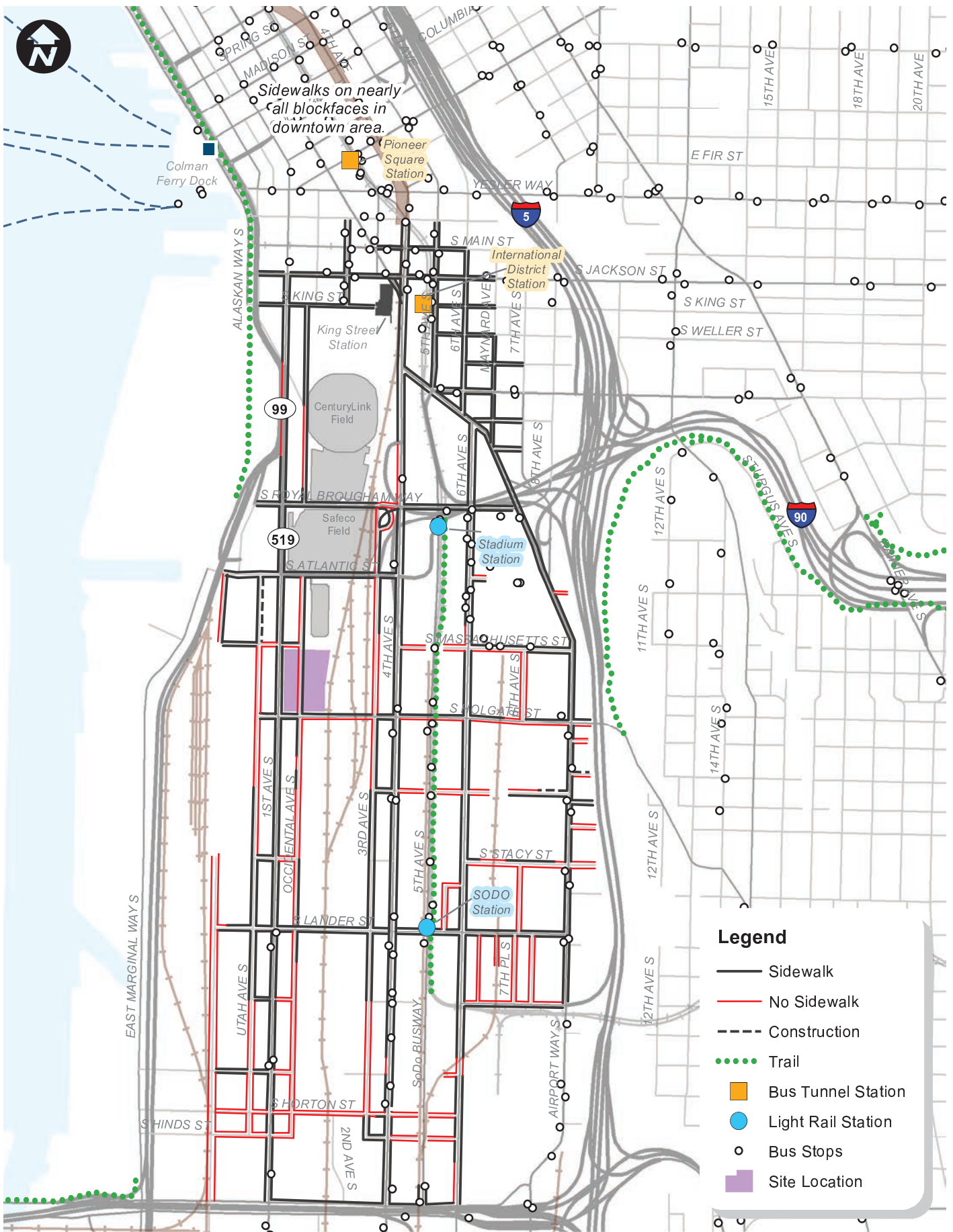
These routes are approximately 1/2-mile long and provide access to the closest transit facility (Stadium Station) to the site. The route from the Stadium Station along S. Atlantic Street and Occidental Avenue S. has newer facilities, wider sidewalks, and is well lit. While the routes along 3rd and 4th Avenues S. are less pedestrian-friendly with minimal to poor lighting and missing or narrow sidewalks. Key issues along this route related to the Stadium District site include: some darker areas where pedestrians walk under large roadway structures as well as minimal lighting along 3rd Avenue S. and poor lighting along 4th Avenue S.; missing sidewalks along 3rd Avenue S. on the west side between S. Atlantic Street and S. Holgate Street and on the east side between S. Massachusetts Street and S. Holgate Street; narrow or constrained sidewalk sections along 4th Avenue S. south of S. Atlantic Street; and pedestrian access issues along S. Holgate Street between 4th Avenue S. and the Stadium District site related to the multiple at-grade crossings that pedestrians need to traverse.

SoDo (Lander) Station Route

The two routes providing access between the site and the SoDo station are both less than one mile long with facilities varying between sidewalks and little to no shoulder. Key issues along these routes related to the Stadium District site include: no sidewalks along S. Holgate Street on the south side; some narrow portions of sidewalk particularly west side of 4th Avenue S. and S. Lander Street; at-grade train crossings could be an access issue as the level of pedestrians increase. Lighting is poor along portions of 1st Avenue S. and all of 4th Avenue S. between S. Holgate Street and S. Lander Street.

International District Station Route

The routes providing access between the site and the International District are both almost one mile. The routes generally provide a pedestrian-friendly environment with sidewalks and enhancements specifically for pedestrians such as the pedestrian bridge between CenturyLink Field and King Street Station, signalized crossing along 4th Avenue S., and the pedestrian ramp at S. Royal Brougham Way and 4th Avenue S. providing access to 3rd Avenue S. There are some deficiencies south of S. Atlantic Street along 3rd and 4th Avenues S. with missing and narrow sidewalk sections and minimal to poor lighting. Key issues along these routes related to the Stadium District site include: some areas are darker where pedestrians walk under large roadway structures when using 4th Avenue S. towards the site as well as minimal lighting along 3rd Avenue S. and poor lighting along 4th Avenue S. south of S. Atlantic Street.; missing sidewalks along 3rd Avenue S. on the west side between S. Atlantic Street and S. Holgate Street and on the east side between S. Massachusetts Street and S. Holgate Street.; narrow or constrained sidewalk sections along 4th Avenue S. south of S. Atlantic Street; and pedestrian access issues along S. Holgate Street between 4th Avenue S. and the Stadium District site related to the multiple at-grade crossings that pedestrians need to traverse.



Stadium District Pedestrian Facilities

Seattle Arena

FIGURE 3.8-8

Ferry (Colman Dock) Route

This route is over one mile long. Much of the route is under construction with development and transportation projects in the vicinity. Along this route lighting is poor along the west side of 1st Avenue S. Overall, the pedestrian network is well connected along these key routes with only a few missing links. The environment is pedestrian-friendly and lighting is adequate. Issues that may rise to a level of concern along key links in close proximity to the site include the poor connection across S. Atlantic Street when coming to and from the northeast, missing and narrow sidewalks along 1st, 3rd and 4th Avenues S., south of S. Atlantic Street, and the extensive at-grade train crossings along S. Holgate Street and lack of pedestrian-oriented crossing control.

Link Evaluation

Non-event and post-event pedestrian counts were conducted in May 2013 along the key segments in the vicinity of the site. The post-event conditions represent pedestrian volumes for an attendance level of approximately 13,000. Tables 2-3 and 2-4 in Appendix E provide the link analysis.

1st and 4th Avenues S.: Based on the existing post-event pedestrian volumes along the 1st and 4th Avenues S. study segments flow rates are an acceptable two p/ft/min or less even with the Mariners game. This analysis indicates that the sidewalks on the east and west sides of both 1st and 4th Avenues S. are adequate to accommodate the existing pedestrian demand.

S. Holgate Street: Pedestrians routinely get stopped during the traverse of the span of tracks along S. Holgate Street when a train ahead causes a gate drop and in some cases, a train behind. Event pedestrian demands are particularly prone to this as the groups of pedestrians occurring after an event have limited refuge when they are stopped by a closing crossing gate. This dynamic results in a potential for conflict between pedestrians and train crossings.

The sensitivity analysis for existing non-event and post-event pedestrian demands shows:

- Pedestrian queues range from approximately 10 to 125 pedestrians, depending on the duration of the blockage.
- Length of sidewalk storage to accommodate queues based on current blockage levels of around 10 minutes range from 20 feet without an event to 40 feet with a Mariners game of approximately 13,000 attendees.
- Blockages up to 45 minutes (representing increased activity) would result in the need for approximately 140 feet of storage to accommodate existing pedestrian demands, which can be accommodated within the existing sidewalk area along S. Holgate Street on the north side.

Impacts of the No Action Alternative at Alternative 2 and 3 Site

The following describes the No Action pedestrian context in terms of the broad study area and proximate links.

The study area was reviewed for funded planned projects related to non-motorized infrastructure and major transportation destinations. Two multiuse paths would be constructed as part of the Alaskan Way Viaduct Replacement Project, completion of the First Hill Streetcar would create a new transit destination, and improvements would be installed by Amtrak at the S. Holgate Street rail crossings. For the No Action condition, five specific pedestrian travel routes were identified to major transportation including Stadium Station, SoDo Station, International District, the Ferry at Colman Dock, and the First Hill Streetcar. The Stadium Station, SoDo Station and International District routes are anticipated to be consistent with the description provided in the Affected Environment because there are no future infrastructure projects impacting these routes. Improvements are anticipated along the Ferry route as a result of the Alaskan Way Viaduct Replacement Project. See figures in Appendix E showing the First Hill Streetcar pedestrian travel route and the Ferry route. Key characteristics of these two routes are described below.

Ferry (Colman Dock) Route

As part of the Alaskan Way Viaduct project, Railroad Way S. is being planned as an improved direct pedestrian connection between the Waterfront and Stadium District. The City is leading the design of this element of the Alaskan Way Viaduct Replacement project. It will include a variety of treatments and lighting features to invite pedestrians along an enhanced connection. There could still be some lighting deficiencies along this route on the west side of 1st Avenue S. between S. Atlantic and S. Holgate Streets as noted under existing conditions; however, redevelopment is occurring in this area and it likely that at least portions of this will be improved as part of development frontage improvements.

First Hill Streetcar

The nearest streetcar stop to and from the Stadium District site would be the Occidental Mall stop along S. Jackson east of 1st Avenue S. The two routes providing access between the site and the streetcar stop are both less than one mile long with facilities. In general, adequate pedestrian facilities exist to / from the north along Occidental Avenue S. transitioning to 1st Avenue S. south of S. Royal Brougham Way and the two routes are well connected. This route also has poor lighting as discussed above along 1st Avenue S.

Overall, with improvements along 1st Avenue S., Railroad Way S., and Alaskan Way, a more pedestrian-friendly environment would be created and the routes would remain well connected. With No Action, there would continue to be a poor connection across S. Atlantic Street when coming to and from the northeast, missing and narrow sidewalks along 3rd and 4th Avenues S. south of S. Atlantic Street. Planned projects would result in additional at-grade train

crossings on S. Holgate Street with no improvements to pedestrian facilities or provision of pedestrian crossing controls.

Link Evaluation

1st and 4th Avenues S.: Based on the No Action post-event pedestrian volumes along the 1st Avenue S. study segments flow rates are acceptable with rates less than 10 p/ft/min. This analysis indicates that the sidewalks on the east and west sides of 1st and 4th Avenues S. are adequate to accommodate the No Action pedestrian demand under all event cases.

S. Holgate Street: During train crossings, pedestrian queues range from 5 to 450 pedestrians, depending on the duration of the blockage. Blockages up to 45 minutes (representing increased activity) would result in the need for approximately 505 feet of storage to accommodate the Case S3 representing 52,500 attendees. This pedestrian queue would be greater than could be accommodated between the railroad tracks and 1st Avenue S along S. Holgate Street; therefore, pedestrians would likely stand closer together and/or extend back along the sidewalk along 1st Avenue S. As noted in the Affected Environment, the pedestrian environment along S. Holgate Street, with related lack of storage, and proliferation of rail crossings, creates an environment with opportunity for conflicts between pedestrians and rail activity. With increases in pedestrians associated with the No Action and planned increases in train activity, these issues would likely increase in the future along S. Holgate Street.

Impacts of the Proposed Project (Alternative 2) – Stadium District 20,000-Seat Arena

Alternative 2 construction would result in intermittent sidewalk closures along the frontage of the site (i.e., 1st Avenue S. and S. Massachusetts and Holgate Streets). A construction management plan would be developed and alternate pedestrian circulation would be provided adjacent to the construction site through the use of temporary walkways, detours and signs.

The following describes the Alternative 2 pedestrian context in terms of the broad study area and proximate links.

Broad Study Area Evaluation

Alternative 2 is not anticipated to change the wider study area or the pedestrian environment along the key travel routes to and from the Stadium District site described in the Affected Environment and No Action.

This alternative would result in the vacation of Occidental Avenue S. between S. Massachusetts Street and S. Holgate Street; therefore, travel patterns for pedestrians using this connection would change. Pedestrian activity occurring along this portion of Occidental Avenue S. is generally minimal during non-event conditions. As event attendance increases, use by pedestrians walking to and from parking located to the south increases. In addition, there are no sidewalk facilities along this segment of Occidental Avenue S., and the environment is poor

given the undefined pedestrian area and the level of business activity occurring. Pedestrians currently using Occidental Avenue S. would likely shift to 1st Avenue S., which has an improved pedestrian environment with a connected sidewalk system. The 1st Avenue S. sidewalk frontage between S. Massachusetts and S. Holgate Streets is proposed at 15 feet, which is adequate to accommodate expected levels of pedestrians for Alternative 2.

Link Evaluation

The evaluation considers frontage improvements along 1st Avenue S. and S. Holgate Street with Alternative 2. Alternative 2 Case S1 pedestrian flows would be restricted and pedestrians would experience crowded conditions assuming the identified peaking characteristics. The multi-event cases (Case S2 and S3) would cause further restricted flows on the east side as well as degrade conditions on the west side of 1st Avenue S. between S. Atlantic and S. Massachusetts Streets.

1st and 4th Avenues S.: Alternative 2 results in a large increase in the pedestrian flow rate along all segments given the proximity of the site to these roadways:

- Alternative 2 Case S1 pedestrian flows on the east side of 1st Avenue S. between S. Atlantic and S. Massachusetts Streets would be severely restricted and pedestrians would experience crowded conditions, assuming the identified peaking characteristics.
- The multi-event cases (Case S2 and S3) would cause further restricted flows on the east side as well as degrade conditions on the west side of 1st Avenue S. between S. Atlantic and S. Massachusetts Streets.
- Given the location of the doors to the Arena along 1st Avenue S. at the northwest (at 1st Avenue S./S. Massachusetts Street) and southwest (1st Avenue S./S. Holgate Street) corners of the building and the approximately 24-foot wide sidewalk (16-foot pedestrian zone) proposed along the frontage, flows along 1st Avenue S. between S. Massachusetts and S. Holgate Streets would be slightly restricted.
- Pedestrian flows along 4th Avenue S. between S. Atlantic and S. Walker Streets would generally experience free flow except on the west side of 4th Avenue S. between S. Atlantic and S. Holgate Streets where the addition of the Arena would result in some crowding due to a constrained sidewalk section. There is capacity on the east side, so pedestrians wanting to avoid crowds could use these facilities. It is noted that along 4th Avenue S. the sidewalk conditions (including width and lack of maintenance) and poor lighting make this route less accessible for pedestrians.

The calculation of pedestrian flow rates suggests that during the peak 15 minutes associated with a capacity event egress sidewalk on the east side of 1st Avenue S. north of Massachusetts Street would be crowded as a result of the Arena. This could be mitigated by rerouting more pedestrians to Occidental Avenue S. immediately north of the site, and / or providing more onsite attractions and amenities to reduce peaking characteristics of post-event egress.

S. Holgate Street: The evaluation assumed that the sidewalk along the S. Holgate Street Arena frontage would be widened to 24-foot and that given the crowding during post event conditions up to 8 pedestrians would walk side-by-side. By comparison, the No Action assumes up to 2 pedestrians would walk side-by-side. Alternative 2 would result in substantially more pedestrians along S. Holgate Street than characterized for the No Action conditions during both event ingress and egress. It is likely that conflicts between pedestrians and trains would increase with Alternative 2 exacerbating an issue that exists under current event and non-event conditions. The introduction of an Arena at this location would substantially increase and concentrate demands over currently observed levels.

As illustrated by the sensitivity analysis for Alternative 2 pedestrian demands:

- Pedestrian queues and storage needs would range from approximately 15 to 330 times greater than characterized for the No Action conditions.
- Pedestrian queues attributable to waiting for passing trains would range from approximately 900 to 8,000 pedestrians, depending on the duration of the blockage.
- Sidewalk storage to accommodate queues based on current blockage levels of around 10 minutes would be over 500 feet.
- Blockages up to 45 minutes (representing increased activity) would result in the need for approximately 2,120 square-feet of storage to accommodate just an Arena event. This would mean that pedestrian queues would extend to 1st Avenue S.

As noted in the Affected Environment, there is an existing pedestrian access issue along S. Holgate Street related to the lack of storage. With significant increases in event-related pedestrian volumes associated with Alternative 2 and planned increases in train activity, pedestrian access issues would increase in the future along S. Holgate Street. Accommodating the large storage needs for pedestrians, particularly during post-event egress, would be difficult even with enhanced at-grade crossings and pedestrian treatments.

Impacts of Alternative 3 – Stadium District 18,000-Seat Arena

Alternative 3 construction would result in intermittent sidewalk closures along the frontage of the site (i.e., 1st Avenue S. and S. Massachusetts and Holgate Streets). A construction management plan would be developed and alternate pedestrian circulation would be provided adjacent to the construction site through the use of temporary walkways, detours and signs.

With 10 percent less seats, this would result in a 10 percent reduction in the overall pedestrian demand as compared to the Alternative 2. Overall transportation impacts for Alternative 3 would be slightly less than those described for Alternative 2 and the analysis of Alternative 2 fully encompasses any transportation impacts that would occur as a result of developing Alternative 3.

3.8.2.4 Bicycle

Methodology

The general approach to the evaluation of bicycle impacts included:

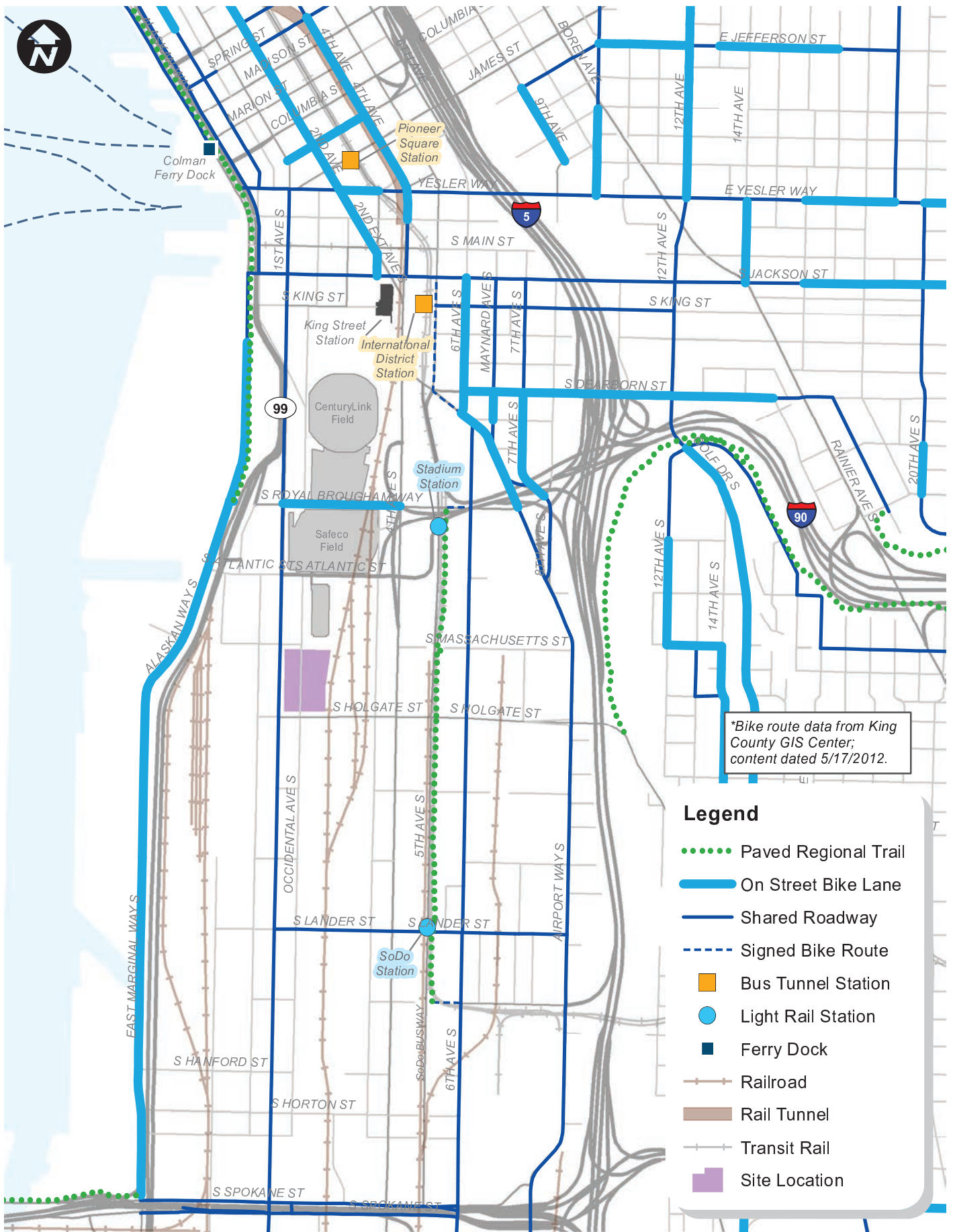
- Inventory of existing bicycle facilities
- Identification of future plans related to bicycle facilities
- Collection of non-event and event bicycle data in the study area
- Evaluation of bicycle impacts considering change in volumes

Affected Environment

Figure 3.8-9 illustrates the bicycle network within the study area. The primary north-south bike corridors include 1st Avenue S. and 6th Avenue S. that include sharrows and shared lanes as well as the bike lane that is provided along E. Marginal Way. The E. Marginal Way bike lane connects to the trail from West Seattle, providing a direct bike connection to downtown.

East-west bicycle connections in the study area are provided by bicycle lanes along S. Royal Brougham Way and shared lane facilities along E. Yesler Way, S. Jackson Street, S. Lander Street and S. Spokane Street.

The Elliott Bay Trail and the SoDo Trail are off-street multi-use trails in the study area. The Elliott Bay Trail runs along Alaskan Way S. in the northwestern part of the study area. It starts at S. Royal Brougham Way and travels north toward the Queen Anne neighborhood. The SoDo Trail is a shorter trail located east of the site between 4th Avenue S. and 6th Avenue S. adjacent to the SoDo Busway. It begins at S. Royal Brougham Way and ends approximately one block south of S. Lander Street. The SoDo Trail can be accessed at S. Royal Brougham Way, S. Holgate Street and S. Lander Street.



Stadium District Bicycle Facilities

Seattle Arena

FIGURE 3.8-9

Weekday event and non-event bicycle volumes were collected in May 2013 along key roadways in the vicinity of the Stadium District site including 1st Avenue S., Occidental Avenue S., 3rd Avenue S., 4th Avenue S., S. Holgate Street, and S. Royal Brougham Way. The volumes were reviewed during pre-event (6:00 to 7:00 PM) and post-event conditions. Event conditions represent a Mariners game with approximately 13,000 attendees. A review of the bicycle volumes shows:

- There is little to no post-event bicycle traffic in the vicinity of the site under both non-event and event conditions. The locations with more than a few bicyclists were closer to Safeco Field. North of S. Royal Brougham Way, and 1st and Occidental Avenues S. had approximately 20 to 35 bicyclists post-game, and 1st Avenue S. south of S. Holgate Street had approximately 15 bicyclists. Given the travel patterns, there is a potential that some of this bicycle traffic was related to the Mariners game.
- Pre-event bicycle volumes were generally higher than post-event for both non-event and event conditions.
- A majority of the bicycle traffic was concentrated along 1st Avenue S. where there are sharrows or shared lanes.
- In general, event bicycle volumes were slightly higher than non-event demands along the north-south corridors (i.e., 1st Avenue S. and 4th Avenue S.). For the east-west corridors (S. Royal Brougham Way, S. Atlantic Street and S. Holgate Street) the comparison of bicycle volumes was inconsistent; however, in general, the volumes were lower with the event as compared to non-event.

It is difficult to know with certainty if increased bicycle volumes with events are a result of the event attendees, bicyclists displaced from other routes, or non-event bicyclists who have chosen to ride specifically on days when events are to occur. Overall, the observed proportional change in bicycle traffic is minimal and the actual change in the number of bicycles on the road is unlikely to create a noticeable impact between event and non-event conditions.

Impacts of the No Action Alternative at Alternative 2 and 3 Site

Bicycle conditions for 2018 and 2030 No Action cases are described below.

2018 Conditions

Bicycle improvements planned and funded in the SoDo study area were reviewed. The most significant projects within the study area are the two multi-use paths being constructed as part of the Alaskan Way Viaduct Replacement Project to be completed by 2018.

Bicycle use is anticipated to continue to grow in Seattle as transportation congestion and cost of parking increases. Bicycle traffic levels were identified in Affected Environment and were not identified as a significant portion of the traffic stream during the pre- and post-event conditions

in the Stadium District study area. No significant change in bicycle traffic is forecasted; however, there is a likelihood that the new multiuse paths will see significant use, especially during summer months. It is possible that these facilities could attract riders from other, less comfortable street routes, thus decreasing relative bicycle volumes on other street grid routes.

2030 Conditions

There are no additional funded improvements for 2030 at this time; however, the City has adopted the Bicycle Master Plan and developed an Implementation Plan.

Bicycle transportation demands in 2030 are expected to be similar to those described for the 2018 condition, which were similar to existing conditions. No new adverse impacts to bicycle travel would occur, with the exception of increased rail crossing activity (frequency and duration) at Holgate Street. This would continue to result in the increased potential for conflicts between bicyclists and train crossings.

In general, as traffic volumes increase in the study area due to future 2018 and 2030 growth, there is a potential for increased conflict between vehicles and bicyclists.

Impacts of the Proposed Project (Alternative 2) – Stadium District 20,000-Seat Arena

Construction of Alternative 2 may result in intermittent bicycle facility closures and re-routing along 1st Avenue S. A construction management plan could be developed to mitigate impacts. Protocol could be included in the plan related to alternate bicycle circulation adjacent to the construction site through the use of temporary facilities, detours, and signs.

Alternative 2 is not anticipated to impact bicycle facilities within the study area. As described in the Affected Environment, bicycle volumes within the study area are generally low in the vicinity of the Stadium District site, and minimal increase is anticipated with the development. Development of the Seattle Arena would result in increased vehicular demands on event days within the study area, which would increase the potential conflicts between bicyclists and vehicles. Bicycle impacts in 2018 and 2030 are anticipated to be similar.

Impacts of Alternative 3 – Stadium District 18,000-Seat Arena

Construction of Alternative 3 may result in intermittent bicycle facility closures and re-routing along 1st Avenue S. A construction management plan could be developed to mitigate impacts. Protocol could be included in the plan related to alternate bicycle circulation would be provided adjacent to the construction site through the use of temporary facilities, detours, and signs

With 10 percent less seats, this would result in a 10 percent reduction in the overall vehicular demand as compared to Alternative 2. Given the lesser demand, bicycle impacts with development of Alternative 3 may be slightly less than with Alternative 2.

3.8.2.5 Traffic Volumes

This section provides a summary of the existing and forecast traffic volumes at the study area intersections and presents the methodology used in developing traffic forecasts for the No Action, Alternative 2, and Alternative 3 analyses.

Methodology

Study Area

A total of 64 intersections were included in the Stadium District alternatives study area (see Appendix E for Figure 2-1 showing locations). Study area intersections were defined considering existing conditions, impacts of future road improvements, and potential impacts of the Proposed Project (Alternative 2) or Alternative 3.

Analysis Time Periods

To determine the appropriate analysis period (weekday versus weekend), 24-hour count data from the City of Seattle was obtained and reviewed for several key locations in the vicinity of the site. Traffic volumes observed during the Saturday and Sunday peak hours range from 38 to 76 percent of the weekday PM peak hour. Based on this information, the analysis of event traffic occurring during the weekday period represents the most appropriate basis for detailed traffic analysis through the SoDo area.

Within the weekday period, additional consideration was given to the appropriate hour for which to conduct the traffic analysis. Weekday PM peak period traffic volumes (4:00 PM to 7:00 PM) under event and non-event conditions were compared along key corridors in the study area.² Based on this review, the analysis focuses on the weekday PM peak hour (4:30 to 5:30 PM) representing the highest overall traffic volumes for the system. While the event related traffic may represent a lower percentage of the overall traffic, the combined volumes represent the highest volumes within the 4:00 to 7:00 PM time period.

Appendix E provides additional detail on the selection of the analysis time period.

Traffic Forecast Methodology – No Action Non-Event Analyses

Future weekday PM peak hour vehicular traffic volumes were developed based on the following general approach:

- Traffic volume forecasts from the Final EIS's for the Alaskan Way Viaduct Replacement Project (July 2011) were summarized for the overlapping study area intersections.

² Weekday PM Peak hour with event traffic volumes were collected on Wednesday, October 17, 2012 during a Sounders FC game with a scheduled start of 7:00 PM

- Traffic forecasts at intersections not included in the Final EIS's for the Alaskan Way Viaduct Replacement Project were estimated based on existing travel patterns and approach volumes for intersections previously reported in the EIS.
- Port of Seattle truck activity for the 2018 and 2030 horizon years was based on data provided by the Port of Seattle, consistent with achieving 3.5 M TEU by 2030.
- Traffic forecasts for the No Action event cases were developed considering a no background event scenario (Case S1) and by adding traffic from either a Mariners game (Case S2) or both a Mariners game and an event at the CenturyLink Field Event Center (Case S3) to the No Action background forecasts.
- Diversion of traffic from S. Holgate Street and S. Lander Street rail crossings to S. Atlantic Street to reflect increased rail crossing closures from increased mainline and non-revenue train activity. Traffic volumes were proportionally diverted consistent with proportional increases to rail crossing closure times.

Weekday PM peak hour without event traffic volumes for the 2018 and 2030 horizon years were estimated based on 2015 and 2030 traffic volume forecasts from the Final EIS for the Alaskan Way Viaduct Replacement Project (July 2011). Traffic volumes developed for the non-tolled bored tunnel alternative were used and account for anticipated changes in traffic volumes and travel patterns.

Traffic volumes developed for 2018 conditions were estimated by interpolating between 2015 and 2030 traffic volumes from the Alaskan Way Viaduct Replacement Project analysis after adjustments were made to account for the revised Port of Seattle cargo estimates. Port of Seattle truck volumes were also scaled to 2018 conditions by interpolating between the 1.87 million TEUs processed by the Port of Seattle in 2012 and the 3.5 million TEUs anticipated by 2030.

Traffic Forecast Methodology – No Action With Event Analyses

Traffic forecasts for the three No Action event cases were developed for the 2018 and 2030 horizon years. Based on this methodology, under 2018 conditions a Mariners game is estimated to generate approximately 3,300 vehicular trips (Case S2 40,500 attendees) and 4,000 vehicular trips (Case S3 47,500 attendees) during the weekday PM peak hour and the event at the CenturyLink Field Events Center would generate approximately 425 trips. As traffic congestion throughout the Puget Sound region increases, attendees of events in the Stadium District would be increasingly likely to use transportation modes other than passenger cars. For the 2030 conditions, the transit mode split was increased. This increase in transit usage results in a forecast of approximately 3,100 vehicular trips associated with the Case S2 Mariners event in 2030, 37,000 trips for a Case S3 Mariners event, and 400 trips forecast for an event at the CenturyLink Field Event Center.

Traffic from these events was distributed to the study area roadways following the distribution based on a historical travel survey for the Washington State Public Facilities District and review of trip distributions for other Stadium District studies. These trips were then assigned throughout the study area, based on the No Action parking supply. Forty-one percent of vehicular trips to a Mariners game or event at CenturyLink Field Events Center were assumed to travel to the study from the north, 27 percent from the east, 27 percent from the south, and five percent from the west.

Traffic Forecast Methodology – Arena Event Traffic

Future weekday PM peak hour vehicular traffic volumes for the Proposed Project (Alternative 2) were developed by adding traffic from the Seattle Arena to the No Action event cases. Similar to the No Action discussion, traffic forecasts for multiple event cases are presented in this section. Traffic associated with the Arena attendees was forecast based on a 20,000 person attendance level, mode splits, average vehicle occupancies, and arrival patterns.

For 2018 conditions an NBA event at the Arena is estimated to generate approximately 2,190 vehicular trips during the weekday PM peak period. In 2030 as transit ridership is forecast to increase, approximately 2,100 weekday PM peak period vehicular trips would be generated by the forecast NBA event in 2030.

Traffic associated with an event in the Proposed Project (Alternative 2) or Alternative 3 was distributed to the study area roadways following the distribution based on historical travel survey data provided for the Washington State Public Facilities District and review of trip distributions for other Stadium District studies. These trips external to the study area were then distributed throughout the study and are consistent with the No Action parking supply.³ Since the vacation of Occidental Avenue S. is an element of the Alternative 2 and Alternative 3 development plans, No Action traffic volumes on Occidental Avenue S. between S. Massachusetts and S. Holgate Streets were redirected to 1st Avenue S. In addition, with increased rail crossing closure times and anticipated increasing vehicle diversion to avoid anticipated congestion, no event traffic was assigned across the S. Holgate Street rail crossing; some event traffic was assumed to travel on S. Holgate Street from 1st Avenue S. to Occidental Avenue S. to the south.

Affected Environment

Existing traffic volumes at the study area intersections were collected during without and with event conditions. The following provides an overview of the traffic volumes for both conditions.

³ This assignment of trips reflected the vacation of Occidental Avenue between S. Massachusetts Street and S. Holgate Street.

Existing Weekday PM Peak Hour Non-Event

Weekday without event traffic counts were collected in early November 2012 from 4:00 to 7:00 PM. The system-wide peak (i.e., one-hour period with the highest volume) occurred between 4:30 and 5:30 PM. Weekday PM peak hour without event traffic volumes along key corridors within the study area are summarized and detailed intersection turning movement volumes are provided in Attachment E-1, which is available from the Seattle Department of Planning and Development (DPD) upon request.

Weekday PM peak hour without event travel is primarily commuter-based with some freight transport and transit activity. Data summarized for the Port of Seattle shows that gate activity begins to decrease during the afternoon period with little-to-no activity typically occurring after 5:00 PM. However, peak hour truck traffic is dependent on the arrival and departure patterns of the shipping vessels and fluctuates throughout the year, and can extend into the weekday PM peak hour period. This condition occurs on a more infrequent basis and is dependent on ship activities. A more detailed discussion of freight activity in the Stadium District area is included in Section 3.8.3.7.

In the vicinity of the Seattle Arena site, weekday PM peak hour non-event traffic volumes are highest along the principal arterials of 1st Avenue S., 4th Avenue S., and Edgar Martinez Drive S. Along 1st Avenue S., adjacent to the site, weekday PM peak hour volumes of approximately 2,100 vehicles per hour (vph) were observed. Traffic volumes along 4th Avenue S., parallel to 1st Avenue S. were approximately 10 percent higher at 2,350 vph. Peak hour volumes of approximately 250 vph were observed along Occidental Avenue S. Along the east / west corridors including Edgar Martinez Drive S. and S. Holgate Street, weekday PM peak hour traffic volumes observed were approximately 2,200 vph and 650 vph, respectively.

Traffic volumes along Occidental Avenue S. were reviewed to identify approximate numbers of vehicles that use Occidental Avenue S. as an alternative travel route to 1st Avenue S. Weekday peak hour turning movement volumes collected in December 2013 demonstrate that this diversion is greatest during the weekday AM peak hour when approximately 200 westbound vehicles on S. Atlantic Street divert southbound onto Occidental Avenue S. to primarily turn right onto S. Holgate Street (150 vehicles). Hourly traffic volumes collected along 1st Avenue S. over a seven-day period in December 2013 demonstrated that additional capacity appears available on 1st Avenue S., suggesting that the observed diversion may not be due to congestion on 1st Avenue S. Field observations indicated that westbound traffic on S. Atlantic Street can include substantial truck traffic destined for Terminal 46 at the Port of Seattle. When this happens, queuing on S. Atlantic Street occurs, which appears to induce some traffic destined for 1st Avenue S. to turn left onto Occidental Avenue S., then right onto S. Holgate Street, before turning south onto 1st Avenue S.

Traffic volumes observed crossing S. Holgate Street during the weekday PM peak hour were approximately 130 vehicles per hour during the weekday AM peak and 60 vehicles per hour during the weekday PM peak. These volumes are substantially less than the traffic turning

to/from the west onto S. Holgate Street from Occidental Avenue S. with a majority likely using this as an alternate route avoiding the 1st Avenue S./S. Atlantic Street intersection. Truck volumes on the four primary streets that border the site, including 1st Avenue S., 4th Avenue S., S. Holgate Street, and Edgar Martinez Drive S. are generally less than five percent during the weekday PM peak hour. Within the immediate study area, bus traffic is primarily limited to 4th Avenue. King County Metro Transit operates three different bus bases in the area and utilizes 4th Avenue S. as a major transit corridor. Bus volumes during the weekday PM peak hour between Edgar Martinez Drive S. and S. Holgate Street total 20 buses based on scheduling information and data provided by King County Metro Transit. This represents about two percent of the total traffic volumes.

Existing Weekday PM Peak Hour With Event

Weekday PM Peak hour with event traffic volumes were collected on Wednesday, October 17, 2012 during a Sounders FC soccer game with a scheduled start of 7:00 PM. Traffic volumes were collected between 4:00 and 8:00 PM to capture the traffic flows of both commuters and event attendees. The peak one-hour period of combined commute and event traffic occurred between 4:30 and 5:30 PM. When comparing the non-event and event traffic volumes, the largest percentage increase is shown along 6th Avenue S. and Edgar Martinez Drive S. This is due primarily to the location of the venue and overall lower background volumes along 6th Avenue S. as compared to 1st Avenue S. and 4th Avenue S. Increases along Edgar Martinez Drive S. are due primarily to connections to the interstate system and access to the Safeco Field parking garage. With an event, traffic volumes along Occidental Avenue S. were observed to decrease slightly. This difference is likely due to a shift in the background traffic volumes and diversion due to congestion around the Safeco Field parking garage. Existing with-event intersection turning movement volumes are provided in Attachment E-1 which is available upon request from DPD.

Similar to the discussion of the non-event conditions, further analysis of the existing volumes within the core area around the site of Alternatives 2 and 3 was conducted. The traffic counts conducted under event conditions showed varying truck percentages along 1st Avenue S., 4th Avenue S., Edgar Martinez Drive S., and S. Holgate Street as compared to without-event conditions. The largest difference noted is the increase in truck volumes along S. Holgate Street and 4th Avenue S. and decrease in truck volumes along Edgar Martinez Drive S. and 1st Avenue S. Shifts in the observed truck volumes could be attributed to a variety of factors including general fluctuations in truck activity on a daily basis or a change in travel patterns due to the Sounders game.

Impacts of the No Action Alternative at Alternative 2 and 3 Site

Forecast traffic volumes for the No Action event cases were developed for the 2018 and 2030 horizon years.

2018 Traffic Volumes

See Appendix E for traffic volumes along key corridors for all three event cases under 2018 conditions. Detailed turning movement volumes for each scenario and at each study intersection are provided in Attachment E-1, which is available upon request from DPD.

Case S1: By 2018, with the completion of the SR 99 bored tunnel project and completion of the Waterfront project, traffic volumes on the surface arterials are expected to increase significantly within the study area relative to existing conditions. Given historical growth (approximately one to two percent annually) in background traffic the primary contributing factor to the increase in traffic is the shifts due to the configuration of the bored tunnel and the lack of access to the CBD within the tunnel. The regional connections to the Stadium District area along 1st Avenue S., 4th Avenue S., and Edgar Martinez Drive S. show:

- An increase of approximately 100 percent on 1st Avenue S. north of Railroad Way S.
- Volumes on 4th Avenue S. north of the S. King Street pedestrian crossing are anticipated to increase on the order of 50 percent.
- South of the site, along both 1st Avenue S. and 4th Avenue S., traffic volumes are anticipated to increase on the order of 35 percent and 30 percent, respectively.

Future truck volumes assumed in the analysis and projected for the roadways are based on the highest truck percentages observed for the existing non-event and event conditions. This provides a conservative estimate of future truck volumes and related impacts on the level of service (LOS) analysis calculations are not underestimated. In addition to the truck percentages and volumes noted in the existing conditions, additional adjustments were applied to account for the growth in Port traffic as well as other trucks as noted in the *Seattle Industrial Areas Freight Access Project*. The information utilized for Port of Seattle adjustments were provided by Heffron Transportation Inc.

Truck traffic in the core area is generally anticipated to increase in number and percentage of overall traffic. The largest increases are noted along the east / west arterials of Edgar Martinez Drive S. and S. Holgate access. For Port-related traffic, these roads are used to access the regional facilities or access customers in the Stadium District area, east of the railroad tracks. Along the primary freight routes such as 1st Avenue S., 4th Avenue S., S. Holgate Street, and Edgar Martinez Drive S., truck volumes are expected to range between one and seven percent.

Case S2: Traffic volumes under 2018 conditions are forecast to increase approximately 14 percent over without-event conditions throughout the study area with a 40,500 attendee Mariners game. Truck volumes or percent heavy vehicles defined in the No Action without event cases were held constant and no increase in trucks was assumed as a result of the Case S2 event. The following bullets provide an overview of the increased volumes approaching the

Stadium District during the weekday PM peak hour based on the assumptions previously outlined for Mariners event arrivals:

- 1st Avenue S., between S. Royal Brougham Way and S. King Street – 30 percent increase
- 1st Avenue S., south leg of 1st Avenue S. / S. Atlantic Street intersection – 10 percent increase
- 4th Avenue S., north of Airport Way S. intersection – 15 percent increase
- 4th Avenue S., south of S. Atlantic Street ramps – 8 percent increase
- Edgar Martinez Drive S. between Occidental Avenue S. and the Westbound I-90 Off-Ramp – 19 percent increase

Case S3: Increases in traffic volumes under this multiple event scenario are 16 percent greater than existing conditions, or only two percent greater than the Case S2. Truck volumes defined in the No Action without-event cases were also held constant with this analysis. The following bullets provide an overview of the increase in volumes approaching the Stadium District during the weekday PM peak hour between non-event (Case S1) and the multi-event (Case S3) traffic volumes:

- 1st Avenue S., between S. Royal Brougham Way and S. King Street – 48 percent increase
- 1st Avenue S., south leg of 1st Avenue S. / S. Atlantic Street intersection – 14 percent increase
- 4th Avenue S., north of Airport Way S. intersection – 18 percent increase
- 4th Avenue S., south of S. Atlantic Street ramps – 10 percent increase
- Edgar Martinez Drive S. between Occidental Avenue S. and the Westbound I-90 Off-Ramp – 27 percent increase

Traffic volumes can fluctuate by 5 to 10 percent day-to-day. Increases in traffic in the study area would generally remain below a 10 percent increase with the 12,000 person attendance increase (the difference between Case S2 and Case S3) with the exception of 1st Avenue S. between S. Royal Brougham Way and S. King Street.

2030 Traffic Volumes

Similar to the 2018 No Action forecasts, truck volumes were based on a review of existing conditions as well as consideration for growth of Port activity.

Case S1: Forecast 2030 conditions along the Stadium District regional connections along 1st Avenue S., 4th Avenue S., and Edgar Martinez Drive S. show the following when compared to 2013 conditions:

- An increase of approximately 100 percent on 1st Avenue S. north of Railroad Way S.
- Volumes on 4th Avenue S. north of the S. King Street pedestrian crossing are anticipated to increase 70 percent
- South of the site, along both 1st 4th Avenues S., traffic volumes are anticipated to increase 75 percent and 60 percent, respectively
- Traffic volumes along 1st Avenue S., north of S. Atlantic Street are shown to decrease slightly from 2018 to 2030 based on modeling done for the Viaduct project

Along the primary freight routes such as 1st Avenue S., 4th Avenue S., S. Holgate Street, and Edgar Martinez Drive S., truck volumes are expected to range between one and seven percent. These heavy vehicle proportions are similar to those under 2018 conditions and with the additional increase in traffic from 2018 to 2030 conditions, provide a conservative analysis by resulting in an increase in heavy vehicle traffic similar to forecast traffic volumes.

Case S2: When compared to growth from existing conditions to 2018 conditions, growth between 2018 and 2030 would occur at a slower rate based on the forecast increases in background traffic volumes and the small decrease in the proportion of Mariners attendees choosing to travel via passenger car. The following bullets provide an overview of the increased volumes approaching the Stadium District during the weekday PM peak hour based on the assumptions previously outlined for Mariners event arrivals and CenturyLink Field Event Center arrivals:

- 1st Avenue S., between S. Royal Brougham Way and S. King Street – 28 percent increase
- 1st Avenue S., south leg of 1st Avenue S. / S. Atlantic Street intersection – 7 percent increase
- 4th Avenue S., north of Airport Way S. intersection –12 percent increase
- 4th Avenue S., south of S. Atlantic Street ramps – 6 percent increase
- Edgar Martinez Drive S. between Occidental Avenue S. and the Westbound I-90 Off-Ramp – 13 percent increase

Case S3: As with the No Action Case S2, this lesser growth due to the combined events is due increases in background traffic and the increasing likelihood of event attendees to choose travel by modes other than passenger car. The following bullets provide an overview of the increases in volumes approaching the Stadium District during the weekday PM peak hour given

the assumptions outlined above for Mariners event arrivals between non-event (Case S1) and the multi-event (Case S3) traffic volumes:

- 1st Avenue S., between S. Royal Brougham Way and S. King Street – 44 percent increase
- 1st Avenue S., south leg of 1st Avenue S. / S. Atlantic Street intersection – 10 percent increase
- 4th Avenue S., north of Airport Way S. intersection – 15 percent increase
- 4th Avenue S., south of S. Atlantic Street ramps – 7 percent increase
- Edgar Martinez Drive S. between Occidental Avenue S. and the Westbound I-90 Off-Ramp – 18 percent increase

Impacts of the Proposed Project (Alternative 2) – Stadium District 20,000-Seat Arena

Alternative 2 would result in an increase in traffic volumes due to workers traveling to and from the site, delivery of material, and truck hauling. It is anticipated that the increase in traffic volumes would be less than generated by a 20,000-seat event at the Seattle. The construction traffic would occur on a daily basis for the 2 year duration of construction activities and occur during AM and PM peak hours.

2018 Traffic Volumes

Traffic volumes along key corridors under 2018 conditions for the multiple event cases are provided in Appendix E. Detailed turning movement volumes for each scenario and at each study intersection are provided in Attachment E-1 which is available upon request from DPD.

Table 3.8-6 summarizes the total traffic volumes within the Proposed Project vicinity and shows the percent increase in traffic volumes compared to No Action conditions.

**Table 3.8-6
2018 Alternative 2 Arena Site Vicinity Traffic Volumes**

Location	Case S1		Case S2		Case S3	
	No Action	Alt. 2	No Action	Alt. 2	No Action	Alt. 2
1st Avenue S. north of S. Massachusetts Street	3,340	3,760 (+13%) ¹	3,685	4,095 (+11%)	3,815	4,215 (+10%)
Edgar Martinez Drive S. west of Westbound I-90 Off-Ramps	2,815	3,375 (+20%)	3,545	4,080 (+15%)	3,790	4,325 (+14%)
S. Holgate Street east of Occidental Avenue S.	830	805 (-3%)	830	805 (-3%)	830	805 (-3%)
4th Avenue S. north of S. Holgate Street	3,455	3,675 (+6%)	3,735	3,945 (+6%)	3,795	4,015 (+6%)

1. Percent increase from No action conditions.

The assignment of Arena event related traffic reflects the overall distribution of parking in the area as well as the travel patterns accessing the Stadium District area. Considering a scenario with no additional events in background traffic (Case S1), roadway volumes increase up to 20 percent within the Proposed Project vicinity. The percent increase is influenced by the level of background traffic, as well as the level of event traffic. Percentage increases associated with the addition of Arena related traffic for subsequent event scenarios decrease although overall traffic volumes increase between 16 and 54 percent with all three events relative to No Action Case S1 condition. The largest increase due to Arena event traffic is forecast along Edgar Martinez Drive S. due primarily to the roadway's connection to and from the regional freeway network and the nearby Safeco Field parking garage. S. Holgate Street volumes remain relatively unchanged with a minor decrease anticipated. This decrease is anticipated due to the shift in traffic associated with the vacation of Occidental Avenue S. and no assignment of event related traffic to the roadway. Event traffic was not assigned to the roadway based on the available parking in the area, capacity constraints on S. Holgate Street due to future rail activity, and anticipated event-related traffic control.

2030 Traffic Volumes

Weekday PM peak hour 2030 Proposed Project traffic volumes are provided in Appendix E. Detailed turning movement volumes for each scenario and at each study intersection are provided in Attachment E-1 which is available upon request from DPD.

Table 3.8-7 summarizes the total traffic volumes within the Proposed Project vicinity compared to 2030 No Action conditions.

**Table 3.8-7
2030 Alternative 2 Arena Site Vicinity Traffic Volumes**

Location	Case S1		Case S2		Case S3	
	No Action	Alt. 2	No Action	Alt. 2	No Action	Alt. 2
1st Avenue S. north of S. Massachusetts Street	4,110	4,525 (+10%) ¹	4,440	4,830 (+9%)	4,555	4,950 (+9%)
Edgar Martinez Drive S. west of Westbound I-90 Off-Ramps	4,005	4,550 (+14%)	4,680	5,205 (+11%)	4,910	5,435 (+11%)
S. Holgate Street east of Occidental Avenue S.	320	295 (-8%)	320	295 (-8%)	320	295 (-8%)
4th Avenue S. north of S. Holgate Street	4,650	4,865 (+5%)	4,910	5,115 (+4%)	4,970	5,175 (+4%)

1. Percent increase from No action conditions.

As shown in Table 3.8-7, roadway volumes increase up to 14 percent within the Arena vicinity as a result of Arena traffic. The percent increase is influenced by the level of background traffic, as well as the level of event traffic. The percentage increase in traffic associated with the addition of Arena related traffic for subsequent event scenarios decrease, although overall traffic volumes increase up to 36 percent with all three events relative to No Action Case S1 forecasts. Consistent with the 2018 conditions, the largest increase due to Arena event traffic is forecast along Edgar Martinez Drive S. due primarily to the roadway’s connection to and from the regional freeway network and the nearby Safeco Field parking garage. Similar to 2018 conditions, S. Holgate Street volumes remain relatively unchanged with a minor decrease anticipated. This decrease is anticipated due to the shift in traffic associated with the vacation of Occidental Avenue S. and no assignment of event related traffic to the roadway. Event traffic was not assigned to the roadway based on the available parking in the area, capacity constraints on S. Holgate Street due to future rail activity, and anticipated event-related traffic control.

Impacts of Alternative 3 – Stadium District 18,000-Seat Arena

Alternative 3 traffic volumes are anticipated to be approximately 10 percent less than those identified for Alternative 2. Given this difference, it is anticipated that the impacts of Alternative 3 would be slightly less than identified for Alternative 2. The traffic volume analysis for Alternative 2 fully encompasses impacts that would occur with Alternative 3.

Transportation Concurrency

The transportation concurrency analysis indicates that with traffic generated by the project, the screenlines would have v/c ratios that are less than the City level of service threshold and thus, the conditions would meet concurrency requirements.

3.8.2.6 Traffic Operations

This section evaluates the magnitude of traffic impacts of the project for each of the defined event cases. The traffic operations analysis included a review of four primary areas: intersection levels of service; corridor performance measured through an assessment of travel times; effects of rail traffic on key corridors; and regional impacts as identified through a review of mainline I-5 and I-90 travel speeds, and ramp terminal LOS. See Appendix E for further detail regarding the methodology applied to each of the four analyses. In reviewing this analysis, it is important to remember that each event cases illustrated would occur with differing frequencies. Case S1 would occur most frequent while Cases S2 and S3 would be relatively rare, or never, depending on mitigation for event scheduling.

Methodology

Intersection Level of Service: At signalized and all-way stop-controlled intersections, LOS is measured in average delay per vehicle for all vehicles at the intersection. At two-way stop-sign-controlled intersections, LOS is reported for the worst operating approach of the intersection. Traffic operations for an intersection can be described alphabetically with a range of LOS values (LOS A through F), with LOS A indicating free-flowing traffic and LOS F indicating extreme congestion and long vehicle delays. Intersection levels of service incorporate several intersection characteristics including signal timing, signal phasing, intersection channelization, traffic volumes, and pedestrian volumes. Description of Level of Service is provided in Appendix E. The City of Seattle's Comprehensive Plan does not define a LOS standard for individual intersections; however, the City generally recognizes LOS E and F as poor operations for signalized locations and LOS F for unsignalized locations. Given the event-related nature of this analysis, and variant frequencies and intensities, traditional intersection LOS standards would not be appropriate as the sole measure of impact on traffic operations.

Corridor Travel Times: Corridor travel times along key corridors were calculated within the study area to provide an additional level of analysis regarding the overall operations of the roadway system. This type of analysis adds context to the results of the intersection LOS described earlier, because it takes into account general travel times between intersections as well as additional delay anticipated at intersections for the specific movements relevant to the identified route.

Travel times were evaluated for four routes and were chosen based on a review of existing travel patterns in the area including key travel routes for commuters and the movement of freight and goods. These routes are generally representative of local circulation or regional travel. The four routes are described as follows:

- **Route 1** focuses on a north-south route along 1st Avenue S. between Railroad Way S. and S. Spokane Street.

- **Route 2** focuses on a north-south route along 4th Avenue S. between S. Spokane Street and the I-90 off-ramp.
- **Route 3** includes north-south travel between I-90 and the CBD along 4th Avenue S. This route represents travel to / from the regional freeway system and the CBD towards the Pioneer Square and International Districts.
- **Route 4** focuses on east-west travel between Port of Seattle facilities west of 1st Avenue S. and the I-5 / I-90 interchange. This route includes S. Atlantic Street from 1st Avenue S. to the freeway ramps on S. Atlantic Street in the vicinity of 4th Avenue S.

Travel times were calculated consistent with HCM methodologies defined for the analysis of arterial systems. This analysis utilized the approach delay for each study intersection along these four routes and a free-flow mid-block travel speed applied to the distance between each study intersection. The mid-block speed is estimated following the Bureau of Public Roads methodology.⁴

Effects of Rail Crossings: Key corridors impacted by rail activity within the study area were analyzed using VISSIM, a microsimulation model.⁵ The simulation model of the rail crossings at S. Holgate Street and S. Lander Street was utilized to conduct the assessment due to its ability to model train operations including the arrival and departure patterns associated with delays caused by the gate down times. This analysis focuses on the BNSF mainline tracks that are located immediately west of 4th Avenue S. Several other non-mainline track crossings exist along S. Holgate Street, which accommodate and facilitate the movement of trains within the rail yard, but have not been included in the model since crossing activity is infrequent during the weekday PM peak period.

Freeway / Regional Access Analysis. The analysis of regional access to the SoDo area focused on both mainline performance considering corridor travel speeds as well as the LOS at the ramp intersections with the surface arterials. The analysis included a review of southbound I-5 between NE 145th and I-90 and westbound I-90 between Rainier Avenue and I-5. Information prepared by the King County expert review panel in 2012 for the potential Arena was included in this analysis. This information highlights historical congestion patterns along the I-5 and I-90 corridors under event conditions. Ramp intersections also evaluated as part of the intersection LOS are highlighted in this section. The analysis of the ramp intersections is consistent with the LOS methodology previously described.

⁴ NCHRP Report 387

⁵ Traffic operations results are presented for the system peak hour. A 20-minute seeding period was used to load traffic onto the roadway network. Vehicular traffic volumes and rail operations during this seeding period replicate traffic volumes and rail operations observed during field data collection.

Affected Environment

The following sections summarize existing traffic operations within the Stadium District study area.

Intersection Operations

As part of the intersection operations analysis, signal timing and phasing information was obtained from either the Seattle Department of Transportation (SDOT) or collected in the field. Lane geometrics and traffic control were confirmed in the field and are summarized for each study area intersection in Attachment E-2 which is available from DPD upon request. The number of intersections operating at LOS C or better, or at LOS D, LOS E, or LOS F is summarized in Figure 3.8-10. Detailed LOS summary tables and worksheets for each scenario are included in Attachment E-3 which is available from DPD upon request.

All study intersections operate at LOS D or better under with event and non-event and without event scenarios with the exception of the six intersections in the non-event and three intersections under the event scenarios.

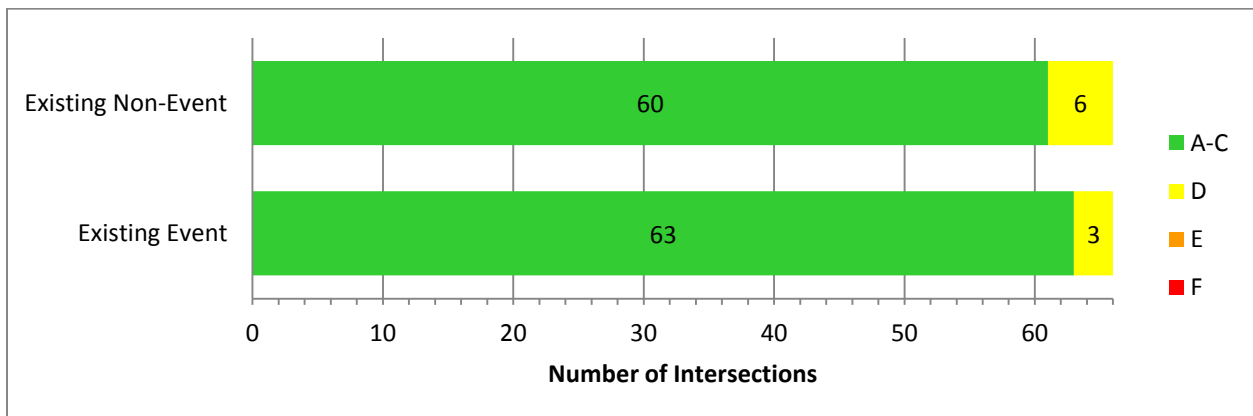


Figure 3.8-10

Stadium District Existing Intersection LOS Comparison

It is noted that actual driver experience may suggest worse LOS than summarized herein. As the LOS reported represents an average delay for the intersection, some movements will operate at a lower level than reported for the overall average. Also, with the high concentrations of pedestrians during events, the analytical tools employed may not fully reflect the level of pedestrian impacts to intersection performance. Intersections that would be subject to these high pedestrian concentrations during observed events include:

- 1st Avenue S. / S. Royal Brougham Way
- 1st Avenue S. / S. Atlantic Street

- 4th Avenue S. / S. Royal Brougham Way

Several locations along S. Jackson Street may be operating better than historical condition due to diversion of traffic caused by existing construction activity. In addition, previous studies and field observations of the 6th Avenue / James Street intersection suggest this intersection has operated worse than currently shown under these existing conditions.

Corridor Travel Times

Table 3.8-8 summarizes the estimated existing travel times on the various routes for weekday PM peak hour non-event and with-event conditions.

**Table 3.8-8
Existing Weekday PM Peak Hour Travel Times Non-Event and With-Event Conditions**

Route	Extents	Direction	Non-Event (m:ss ¹)	With-Event ² (m:ss)
1	1st Avenue S. from Railroad Way S. to S. Horton Street	NB	6:16	6:31
	1st Avenue S. from S Horton Street to Railroad Way S.	SB	6:49	6:50
2	4th Avenue S. from S. King Street to S. Horton Street	NB	6:20	6:54
	4th Avenue S. from S Horton Street to S. King Street	SB	6:54	6:57
3	4th Avenue S. from S. King Street to I-90	NB	1:43	1:33
	4th Avenue S. from I-90 to S. King Street	SB	3:01	2:53
4	S. Atlantic Street from 1st Avenue S. to I-90	EB	1:39	1:24
	S. Atlantic Street from I-90 to 1st Avenue S.	WB	1:23	1:18

1. m:ss = minutes:seconds

2. Reflects counts taken for a Sounders FC game with attendance = 38,500

As shown in Table 3.8-8, travel times generally increase along the four routes with the addition of traffic from an event. It is noted that the level of change in travel time may not be intuitive as it relates to any event with over 38,000 attendees. A number of factors appear to contribute to this condition:

- The observed event was a Seattle Sounders FC soccer game at CenturyLink Field. While no hard data relative to mode split or net vehicle demands is available, anecdotal evidence suggests a higher reliance on non-auto travel than occurs in relation to other Stadium District events of similar attendance.
- Repeated traffic counts for other events in the area also suggest minimal local street system impacts during the weekday PM peak hour conditions.
- Local businesses and downtown motorists who are aware of a pending event adjust their travel behavior, either by time or by mode to avoid being caught in event-related congestion. Depending on the size of the event, the adjusted background traffic appears

to partially, if not substantially offset the added weekday PM peak hour traffic due to an event.

The slight decreases in travel time along some of the routes for an event condition can be attributed to minor changes in signal timing based on traffic volumes. These can be interpreted to experience little overall added delay during observed event conditions. Several intersections along the travel time routes are shown to have left-turn queue lengths that exceed allowable storage, but occur along arterials that have multiple through lanes. As a result, vehicles potentially blocked by these queues are anticipated to utilize the second through lane, minimizing the impact on the overall intersection capacity.

Effects of Rail Crossings

There are at-grade rail crossings throughout SoDo and the greater Duwamish impacting arterial operations. The grade-crossings that have the highest volume of train activity are located along the BNSF Railway's mainline tracks (between 1st Avenue S. and 4th Avenue S.) and also lead and tail tracks associated with the intermodal rail yards. Crossings of the mainline are located at S. Holgate Street, S. Lander Street, S. Horton Street and surface S. Spokane Street. These mainline tracks, and adjacent spur lines, serve regional activity, trains at the intermodal yards, Sounder commuter rail trains, interstate commerce, international transportation and Amtrak trains. Figure 3.8-11 shows the current rail lines and vehicle and pedestrian queuing areas at the S. Holgate Street crossing immediately adjacent to the Proposed Arena site.

Existing Rail activity was simulated based on field observations at S. Holgate Street conducted in December 2013. Based on these observations, trains were assumed to travel at approximately 10 to 15 mph through the study area and gate down times were noted at approximately 8 minutes and 45 seconds on average. Consistent with the observations, existing rail activity assumed in the model included four passenger trains with eight cars per train and one freight train of 73 cars.

Effects of the rail crossings on S. Holgate Street and S. Lander Street between 1st Avenue S. and 4th Avenues S. on the arterial operations were assessed using a VISSIM microsimulation model. Rather than reporting the queue lengths on S. Holgate Street and S. Lander Street, queue lengths on adjacent arterials (1st Avenue S. and 4th Avenue S.) are considered since existing queues have been observed to extend into the adjacent arterials as documented in the *Coal Train Traffic Impact Study* (October 2012, Parametrix). Queue lengths reported for these locations reflect a combination of effects of signal operations as well as impacts of queuing from the at-grade crossings.

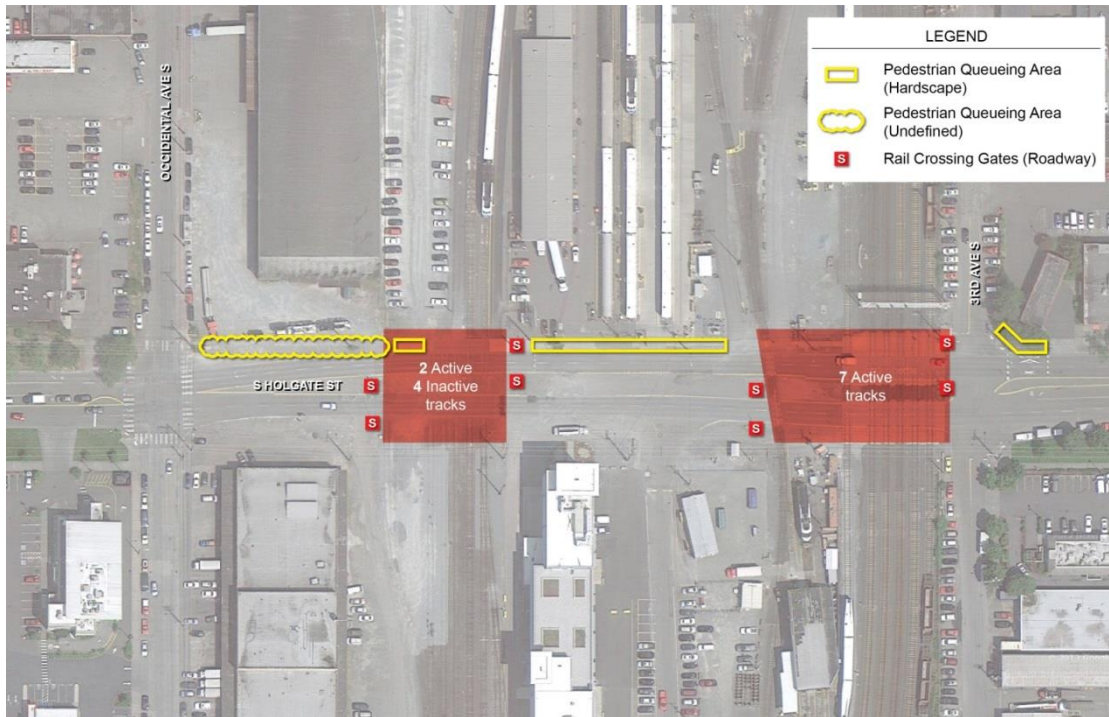


Figure 3.8-11

S. Holgate Street Existing Rail Crossing Locations

Rail crossing gates are activated a total of approximately 8.5 minutes during the weekday PM peak hour with individual closures averaging approximately 2.5 minutes each:

- Maximum queues along 1st Avenue S. and 4th Avenues S. show that maximum queue lengths along the arterial typically increase with the occurrence of the Sounders game.
- The northbound 1st Avenue S. queue at S. Holgate Street is shown to decrease and occurs as a result of increased upstream northbound congestion at 1st Avenue S. / S. Lander Street.

Model results were compared to the values reported in the coal train study for calibration purposes. The queue lengths summarized in the coal train study are generally consistent with previous analyses.

Regional Access Analysis

Primary freeway corridors that provide regional access to the SoDo site include I-5, I-90, SR 520, and SR 99. The weekday PM peak commute period for these corridors occurs between 3:00 and 7:00 PM. I-5 is a north-south corridor with 8 to 10 lanes of capacity through the downtown Seattle area. The corridor serves 7,000 to 7,500 vph in each direction through downtown during the evening commute. The I-5 corridor also includes a set of reversible lanes between

Downtown Seattle and Northgate. This four lane facility operates in the northbound direction during the PM peak period with a volume of 4,500 vph.

Approaching I-5 from the east, I-90 serves up to 9,300 vph during the PM peak period, with higher eastbound volumes leaving Seattle. The I-5 and I-90 corridors experience congestion presently during the PM peak commute (4:00 PM to 7:00 PM). I-5 southbound is congested with speeds less than 30 mph from 145th Street NE through downtown Seattle (north of I-90). These lower speeds are estimated to occur from 4:30 PM to approximately 7:00 PM I-90 westbound operates with speeds less than 30 mph from I-405 to the approach to I-5 during the 4:00 to 7:00 PM window. Figure 3.8-12 depicts typical daily congestion that occurs today on I-5 southbound and I-90 westbound.

When events occur at existing downtown arenas peak travel times through the city increase. The PM peak travel times (on days with events in 2012) increased by up to eight minutes on southbound I-5 between NE 145th and I-90 and up to four minutes on westbound I-90 between I-405 and Rainer Avenue S.

SR 520 is currently a four lane tolled corridor and serves up to 4,800 vph during the PM peak period. Ultimately, the corridor will be six lanes (two general purpose lanes and an HOV lane in each direction). Portions of the project are funded and under construction.

SR 99 currently provides six lanes through the downtown Seattle area and will be replaced by a four-lane tunnel and expanded Alaskan Way surface street when the project is complete. The tunnel is scheduled to open in 2017, and the new surface street will follow in 2018.

The traffic signals or intersections at the ramp termini operate as a constraint as traffic exits the freeway to access the SoDo area. The overall capacity of the intersection and off-ramp approach of nine arterial intersections at the I-5, I-90, and West Seattle Bridge ramp termini were reviewed to determine existing off ramp constraints. This analysis focuses on the off-ramps only as it is most impacted by the inbound regional flows to the Arena. On-ramp capacity is discussed in the intersection operations section. The analysis was completed for event⁶ and non-event conditions.

⁶ Event was a Seattle Sounders soccer game with an attendance of 38,500.

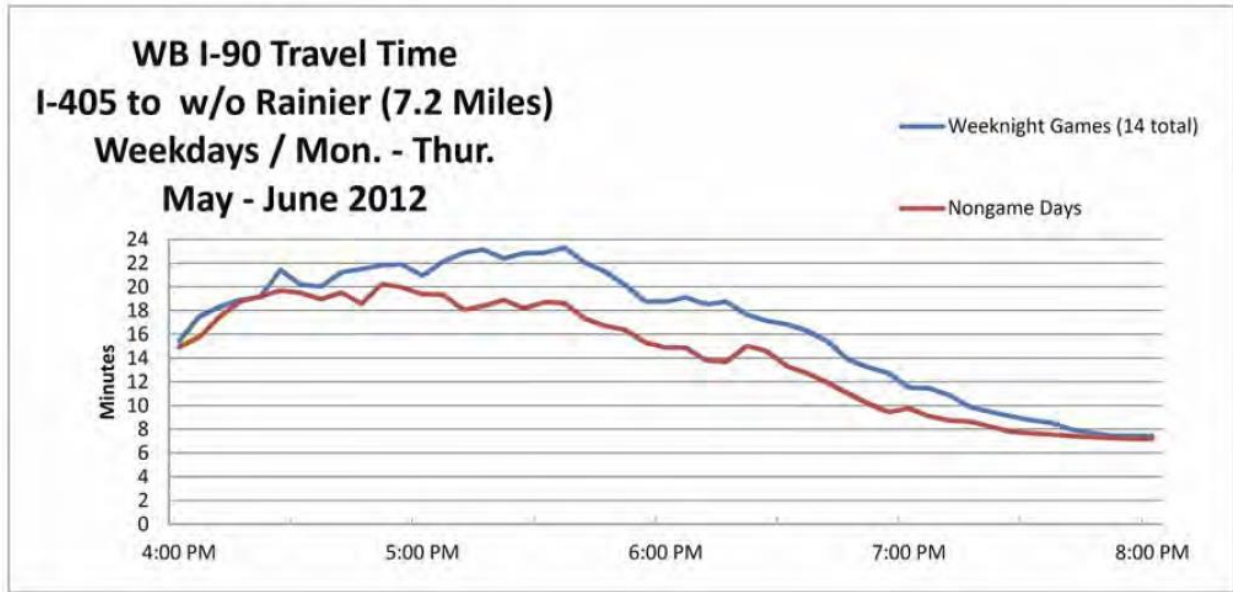
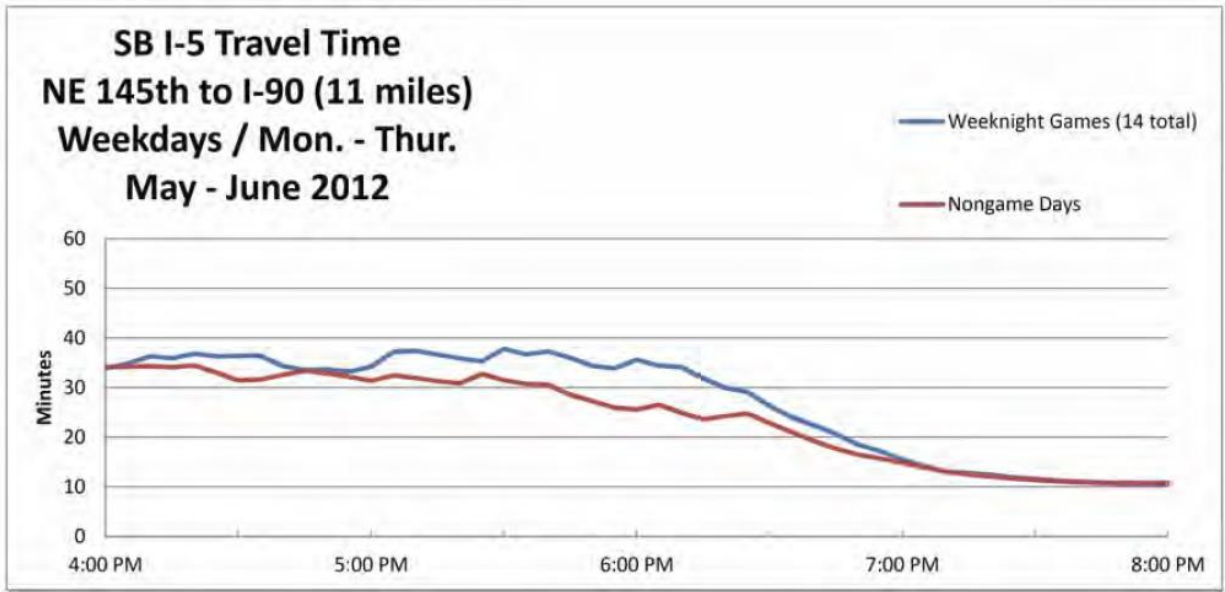


Figure 3.8-12

I-5 and I-90 Existing Travel Times Non-Event and With Event

The study intersections include the following:

- S. Spokane Street / 1st Avenue S.

- S Spokane Street / 6th Avenue S.
- S Forest Street / 6th Avenue S.
- Edgar Martinez Drive S. / I-90 Off-Ramp
- 4th Avenue S. / I-90 Off-Ramp
- S. Dearborn Street / I-90 Off-Ramp
- S. Dearborn Street / I-5 SB Off-Ramp
- S. Dearborn Street / I-5 NB Off-Ramp
- James Street / 6th Avenue

Of the nine study intersections, all the intersections operate with an overall and off-ramp approach of LOS D or better during the normal weekday peak hour and with an event. LOS and delay per vehicle is shown in Table 3.8-9.

**Table 3.8-9
Stadium District Existing Ramp Terminal Weekday PM Peak Hour LOS Summary**

Ramp Termini Intersection	Scenario	Overall LOS / Delay	Off-Ramp LOS / Delay
Spokane St Viaduct / 1st Ave S.	Non-Event	B / 18	D / 43
	Event ¹	C / 20	D / 42
Spokane St / 6th Ave S.	Non-Event	B / 18	B / 16
	Event	C / 31	C / 26
Forest St / 6th Ave S.	Non-Event	B / 11	B / 14
	Event	B / 11	B / 17
E. Martinez Dr S. / I-90 Off	Non-Event	A / 6	B / 18
	Event	A / 6	B / 16
4th Ave S. / I-90 Off	Non-Event	A / 8	D / 46
	Event	B / 11	D / 38
Dearborn St. / I-90 Off	Non-Event	C / 32	D / 52
	Event	C / 26	D / 47
Dearborn St. / I-5 SB Off	Non-Event	A / 8	D / 42
	Event	A / 7	C / 22
Dearborn St. / I-5 NB Off	Non-Event	B / 19	D / 43
	Event	B / 16	B / 18
James St. / 6th Ave	Non-Event	D / 37	D / 46
	Event	C / 24	C / 31

1. Sounders FC soccer game at 38,500 attendance

Impacts of the No Action Alternative at Alternative 2 and 3 Site

The following sections summarize the results of the traffic operations analysis conducted for the No Action alternative. This analysis reflects the forecast traffic volumes and roadway improvements anticipated to be completed by the 2018 and 2030 horizon years. Consistent with the analysis of the Affected Environment, this section presents the results of the

intersection LOS analysis, corridor performance, effects of rail crossings, and an analysis of regional access to the SoDo area.

Intersection Operations

LOS results for 2018 and 2030 non-event peak hour conditions, with the addition of the assumed Mariners event, and with the Mariners event and an event at the CenturyLink Field Events Center are provided in Appendix E. A summary of the No Action LOS for all study area intersections was prepared and compared to existing conditions as summarized in Figure 3.8-13 for 2018 conditions, and Figure 3.8-14 for 2030 conditions. As summarized in these figures:

- Increased traffic volumes and changes in travel patterns result in a greater number of intersections operating at LOS E/F under both 2018 and 2030 No Action conditions.
- The occurrence of Mariners and CenturyLink Field Events Center events also result in worse operations than non-event conditions throughout the study area. Seven to twelve additional intersections operate at LOS E/F under 2018 conditions with one or both events (Cases S2 and S3) and seven to eight more intersections under 2030 conditions compared to the No Action Case S1 conditions for 2018 and 2030.

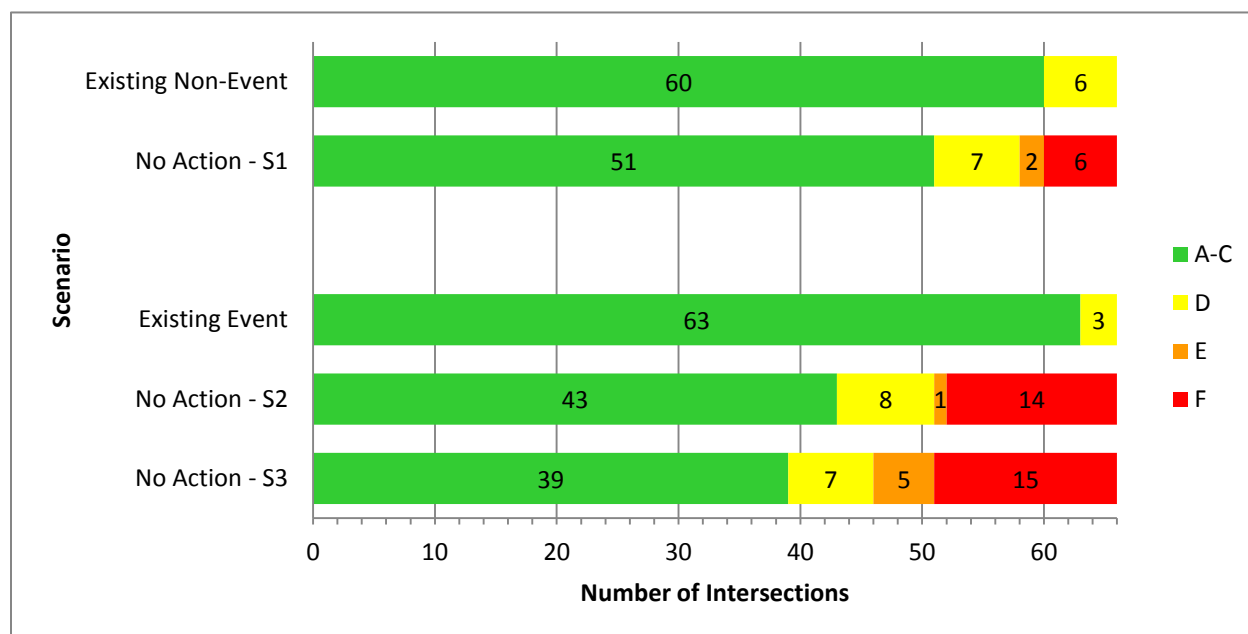


Figure 3.8-13

Stadium District 2018 No Action Intersection LOS Comparison

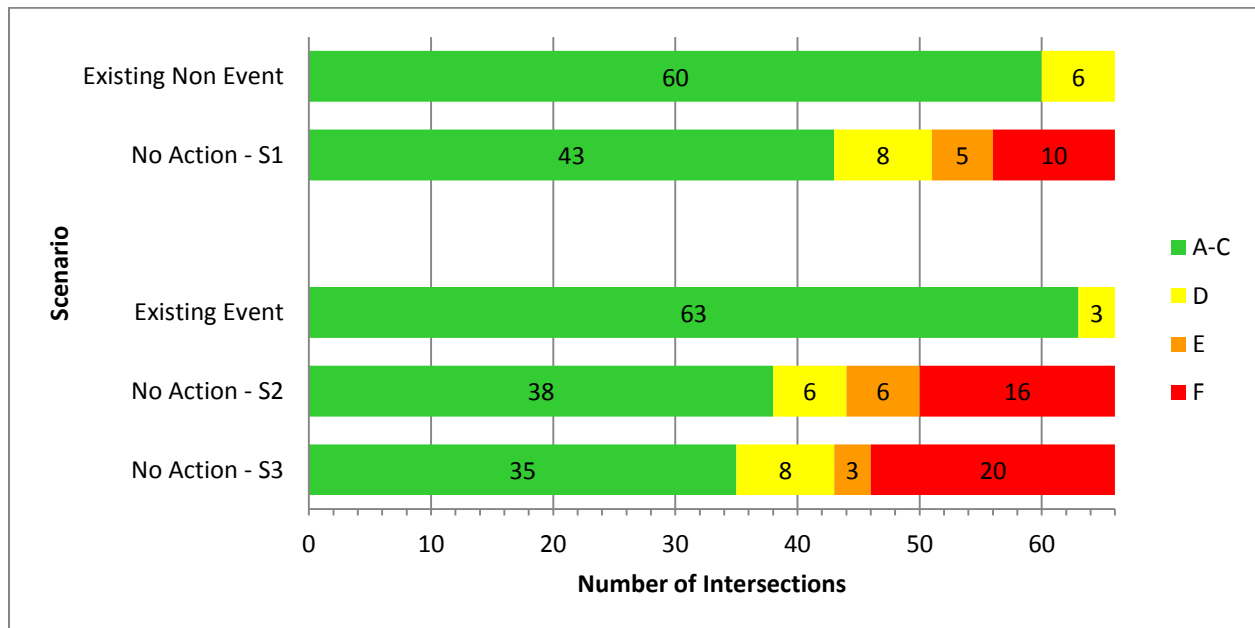


Figure 3.8-14

Stadium District 2030 No Action Intersection LOS Comparison

Of the intersections shown to operate at LOS E or LOS F under 2018 No Action conditions (Cases S1, S2, and S3), seven are located within the vicinity of the Proposed Project site:

- 1st Avenue S. / S. Atlantic Street
- The northbound Occidental Avenue S. approach to Edgar Martinez Drive S.
- Edgar Martinez Drive / East Parking Garage
- The westbound I-90 off-ramp onto Edgar Martinez Drive S.
- The eastbound I-90 on-ramp from Edgar Martinez Drive S.
- The southbound Occidental Avenue S. approach to S. Holgate Street
- 4th Avenue S. / S. Holgate Street

Under 2018 non-event conditions, 1st Avenue S. / S. Atlantic Street operates at LOS F under all event cases. The northbound and southbound Occidental Avenue S. approaches to Edgar Martinez Drive S. and S. Holgate Street operate at LOS D without an event but LOS F with either one or two events. The Edgar Martinez Drive / East Parking Garage, westbound I-90 off-ramp onto Edgar Martinez Drive S., and 4th Avenue S. / S. Holgate Street operate at LOS D for either one or no events, but LOS E under dual events. The eastbound I-90 on-ramp from Edgar Martinez Drive S. operates at LOS E with one event but worsens to LOS F with one or more events. Under 2030 No Action conditions (non-event, single event, or dual event), all nine study

intersections within the project vicinity would operate at LOS F within the vicinity of the Proposed Project site:

- 1st Avenue S. / S. Atlantic Street
- The northbound Occidental Avenue S. approach to Edgar Martinez Drive S.
- Edgar Martinez Drive / West Parking Garage
- Edgar Martinez Drive / East Parking Garage
- The westbound I-90 off-ramp on Edgar Martinez Drive S.
- The eastbound I-90 on-ramp from Edgar Martinez Drive S.
- 1st Avenue S. / S. Holgate Street
- The southbound Occidental Avenue S. approach to S. Holgate Street
- 4th Avenue S. / S. Holgate Street

Under 2030 conditions 1st Avenue S. / S. Atlantic Street, the northbound Occidental Avenue S. approach to Edgar Martinez Drive S, the eastbound I-90 on-ramp from Edgar Martinez Drive S., and 4th Avenue S. / S. Holgate Street would all operate at LOS F regardless of event case. The Edgar Martinez Drive / West Parking Garage intersection would operate at LOS E without an event but worsens to LOS F with one or two events. The Edgar Martinez Drive / East Parking Garage also operates at LOS F with either single or dual events but at LOS D with no event. The remaining three intersections, the westbound I-90 off-ramp onto Edgar Martinez Drive S., 1st Avenue S. / S. Holgate Street, and the southbound Occidental Avenue S. approach to S. Holgate Street, operate at LOS C or better with no event, LOS E with one event, and LOS F with two events.

The methodology adds event traffic to non-event PM peak hour conditions with no regard for capacity constraints. Congestion often results in modified travel behavior for non-event traffic. As a result, the cumulative conditions with an event in all cases likely overstate future congestion levels during the PM peak hour.

Corridor Travel Times

Table 3.8-10 summarizes the calculated travel times under 2018 conditions on the various routes for weekday PM peak hour for all No Action cases. Table 3.8-11 summarizes the estimated travel times under 2030 conditions. Existing conditions are also provided for comparison purposes.

**Table 3.8-10
Stadium District 2018 No Action Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case S1 (m:ss) ¹	Case S2 (m:ss)	Case S3 (m:ss)
1	1st Avenue S from Horton Street to Railroad Way	NB	8:50 (6:16) ²	14:44	17:46
	1st Avenue S from Railroad Way to Horton Street	SB	8:04 (6:49)	8:52	9:30
2	4th Avenue S from Horton Street to King Street	NB	8:29 (6:20)	10:48	11:42
	4th Avenue S from King Street to Horton Street	SB	12:19 (6:54)	17:18	18:37
3	4th Avenue S from I-90 to King Street	NB	2:16 (1:43)	3:53	4:57
	4th Avenue S from King Street to I-90	SB	8:24 (3:01)	12:41	14:12
4	S Atlantic Street from 1st Avenue S to I-90	EB	2:02 (1:39)	2:40	3:03
	S Atlantic Street from I-90 to 1st Avenue S	WB	2:22 (1:23)	7:54	10:39

1. m:ss = minutes:seconds

2. (x) = Existing non-event travel times provided for comparison.

As shown in Table 3.8-10:

- Travel times under 2018 conditions noticeably increase from existing conditions and further increase with the addition of event traffic, compared to existing conditions.
- Travel times under 2018 conditions along route #2 southbound are forecast to exceed 10 minutes under Case S1. Under Cases S2 and S3, route #2 northbound and #3 southbound are forecasted to exceed 10 minutes and 15 minutes for northbound route #1 Case S3 and southbound route #2 for Cases S2 and S3.
- Eastbound travel times along route #4 are expected to increase but at a lower percentage than other routes. This direction of travel is opposite the inbound event flows, minimizing the increase in travel times. Route #4 is also subject to TCPs at Occidental Avenue S. and the Safeco Field parking garage. Traffic control at the Safeco Field garage could increase route #4 travel times beyond what is reported. However, the increase is anticipated to be approximately the same under all three No Action cases.

**Table 3.8-11
Stadium District 2030 No Action Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case S1 (m:ss) ¹	Case S2 (m:ss)	Case S3 (m:ss)
1	1st Avenue S from Horton Street to Railroad Way	NB	9:56 (6:16) ²	17:10	20:15
	1st Avenue S from Railroad Way to Horton Street	SB	9:01 (6:49)	10:19	11:29
2	4th Avenue S from Horton Street to King Street	NB	13:13 (6:20)	18:07	19:28
	4th Avenue S from King Street to Horton Street	SB	17:59 (6:54)	23:18	24:44
3	4th Avenue S from I-90 to King Street	NB	2:27 (1:43)	5:27	6:51
	4th Avenue S from King Street to I-90	SB	15:11 (3:01)	19:28	21:12
4	S Atlantic Street from 1st Avenue S to I-90	EB	8:27 (1:39)	9:35	10:15
	S Atlantic Street from I-90 to 1st Avenue S	WB	3:15 (1:23)	11:37	14:36

1. m:ss = minutes:seconds

2. (x) = Existing non-event travel times provided for comparison.

As shown in Table 3.8-11:

- Under 2030 conditions travel times are generally higher in comparison to 2018 conditions. Most scenarios (especially case 3) show substantial increase in corridor travel times between 2018 and 2030 conditions.
- Route 4 eastbound in particular shows a sizeable increase in corridor travel time—nearly 4 times higher times for each individual case.
- Changes in forecast travel times result from small decreases in traffic volumes at some study intersections and additional diversion from congested freeways as forecast in the Alaskan Way Viaduct Replacement study.

Overall this suggests that the change in travel times compared to existing conditions is more directly impacted by the traffic shifts associated with the modified infrastructure than growth in general. As previously discussed, the event case methodology likely overstates future travel times and congestion due to events.

Effects of Rail Crossing

Rail activity assumed for future conditions was increased beyond existing conditions for both passenger and freight rail activity. For Amtrak and ST, future increases were identified based on their respective master planning documents for scheduled train crossing (revenue service):

- ST plans included six additional trains a day by 2018.⁷ This is assumed to remain unchanged for long-range planning since no further information is available.
- Amtrak Cascades anticipates three additional daily round trips by 2014 and five further daily round trips under long-range planning.⁸
- Freight rail activity was increased by factoring the observed freight trains activity based on Port of Seattle growth forecasts. In addition, coal train activity is anticipated to increase to nine round trips per day under long-term (2023) conditions.⁹

Amtrak plans on adding an additional train crossing just south of the inspection pit tracks that currently terminate on the north side of S. Holgate Street. These tracks will provide access to a planned service building. These tracks are anticipated to service Amtrak trains during the late night hours and thus have not been assumed to add to the train crossing activity along S. Holgate Street during the evening commute peak hour. As noted in the existing conditions, based on anticipated queuing along S. Holgate Street and S. Lander Street and maximum storage being exceeded, queue lengths relative to 1st Avenue S. and 4th Avenue S. are reported:

- Rail crossing gates are activated approximately 17 to 20 minutes during the weekday PM peak hour in 2018 and 41 to 44 minutes in 2030.
- Queues generally increase with traffic growth under future conditions and/or the addition of event generated traffic. However, some are shown to decrease. Note that where this occurs is due to upstream congestion in the simulation model that is caused by increased traffic volumes or rail crossing closure time.

Note that this analysis does not reflect potential effects of the S. Lander Street Grade Separation project. This improvement would eliminate the closure of S. Lander Street when trains are present, and greatly reduce delays and queues associated with rail activity in the study area.

Regional Access Analysis

The primary corridors serving the downtown area are I-5 and I-90. Today during the late afternoon commute, these freeways are congested for approximately two to three hours. The

⁷ Sound Transit, 2013 Service Implementation Plan

⁸ WSDOT, Amtrak Cascades Mid-Range and Long-Range Plans (2008 and 2006, respectively)

⁹ Coal Train Traffic Impact Study, Parametrix (October 2012)

corridors are “at capacity” during the peak period today; therefore the traffic volumes served would not significantly increase during the peak period of 4:00 to 6:00 PM for No Action 2018 and 2030 conditions. As traffic demand increases by 2018 and 2030, the hours of congestion or “peak spreading” would lengthen or transit ridership may increase

Regional or freeway access to the Stadium District is constrained by signals at the terminal of the off ramps. Operations of nine arterial intersections at the I-5, I-90, and West Seattle Bridge ramp termini were reviewed for the No Action event cases. The analysis was conducted for the PM peak hour for 2018 and 2030. Under 2018 conditions during the PM peak hour with an event at the existing stadiums, the 4th Avenue S. / I-90 Off-Ramp would operate with an overall LOS F with a dual-event, but operates acceptably at LOS C under Case S1 conditions. In addition, the following off-ramp approach locations would operate at LOS E/F and include two to four intersections, depending on the number of events:

Case S1	Case S2	Case S3
<ul style="list-style-type: none"> • 4th Avenue S. / I-90 Off-Ramp 	<ul style="list-style-type: none"> • Edgar Martinez Drive S. / I-90 Off-Ramp 	<ul style="list-style-type: none"> • Edgar Martinez Drive S. / I-90 Off-Ramp
<ul style="list-style-type: none"> • Dearborn Street / I-90 Off-Ramp 	<ul style="list-style-type: none"> • 4th Avenue S. / I-90 Off-Ramp 	<ul style="list-style-type: none"> • 4th Avenue S. / I-90 Off-Ramp
<ul style="list-style-type: none"> • Dearborn Street / Southbound I-5 Off-Ramp 	<ul style="list-style-type: none"> • Dearborn Street / I-90 Off-Ramp 	<ul style="list-style-type: none"> • Dearborn Street / I-90 Off-Ramp
<ul style="list-style-type: none"> • Dearborn Street / Northbound I-5 Off-Ramp 	<ul style="list-style-type: none"> • Dearborn Street / I-5 SB Off • Dearborn Street / I-5 NB Off 	<ul style="list-style-type: none"> • Dearborn Street / Southbound I-5 Off-Ramp • Dearborn Street / I-5 NB Off • James Street / 6th Avenue

Under 2030 conditions during the PM peak hour traffic operations near the freeway access to the Stadium District are generally similar to 2018. 4th Avenue S. / I-90 Off-Ramp in particular would operate with an overall LOS E for no event and LOS F for one event and dual event conditions, In addition, the off-ramps approaches located at the following intersections would operate at LOS E/F and include two to four of the nine intersections, depending on the number of events:

Case S1

- 4th Avenue S. / I-90 Off-Ramp
- Dearborn Street / I-90 Off-Ramp

Case S2

- Edgar Martinez Drive S. / I-90 Off-Ramp
- 4th Avenue S. / I-90 Off-Ramp
- Dearborn Street / I-90 Off-Ramp

Case S3

- Edgar Martinez Drive S. / I-90 Off-Ramp
- 4th Avenue S. / I-90 Off-Ramp
- Dearborn Street / I-90 Off-Ramp

Impacts of the Proposed Project (Alternative 2) – Stadium District 20,000-Seat Arena

As described for traffic volumes, construction impacts related to traffic operations would occur as a result of increased traffic levels. To minimize impacts to operations, a construction management plan would be developed and could include scheduling the most intensive construction activities such that they are spread out over time and prohibiting material deliveries from leaving or entering the area during AM and PM peak hours when feasible.

The following sections summarize the results of the traffic operation analysis conducted for Alternative 2. This analysis reflects the addition of traffic from a 20,000 attendee event at the Proposed Project site to study area roadways. The No Action traffic forecasts and operations analyses used in establishing the impacts of the project utilized a layering effect of event-related traffic volumes without applying any diversions in background traffic volumes. Based on a review of the non-event and event volume comparisons discussed previously in this report, this approach likely overstates the cumulative and incremental impact of the project.

Intersection Operations

LOS results for 2018 and 2030 peak hour conditions for Alternative 2 Case S1, S2, and S3 are summarized below. Figure 3.8-15 shows the projected Intersection LOS comparison of Alternative 2 for 2018; and information for 2030 is shown on Figure 3.8-16. Detailed LOS summary tables and worksheets for each of these scenarios are Attachment E-3, which is available from DPD upon request.

- The addition of Arena event trips results in a greater number of worsened LOS E/F values under 2018 and 2030 conditions.
- On a single event day, a total of 16 study intersections would operate at LOS E/F under 2018 conditions with an Arena event while a Mariners only event is forecast to have 15 intersections at LOS E/F. Under 2030 conditions with an Arena only event a total of 21 intersections are forecast to operate at LOS E/F whereas with a Mariners only event, 22 intersections are forecast to operate at LOS E/F.

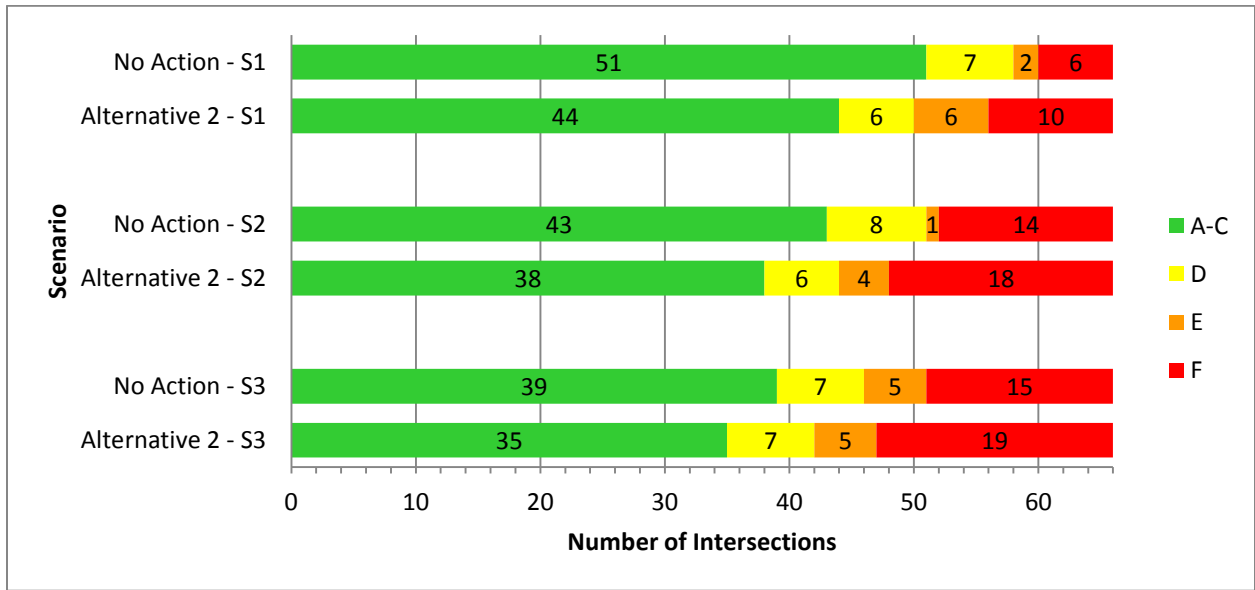


Figure 3.8-15
Stadium District 2018 Alternative 2 Intersection LOS Comparison

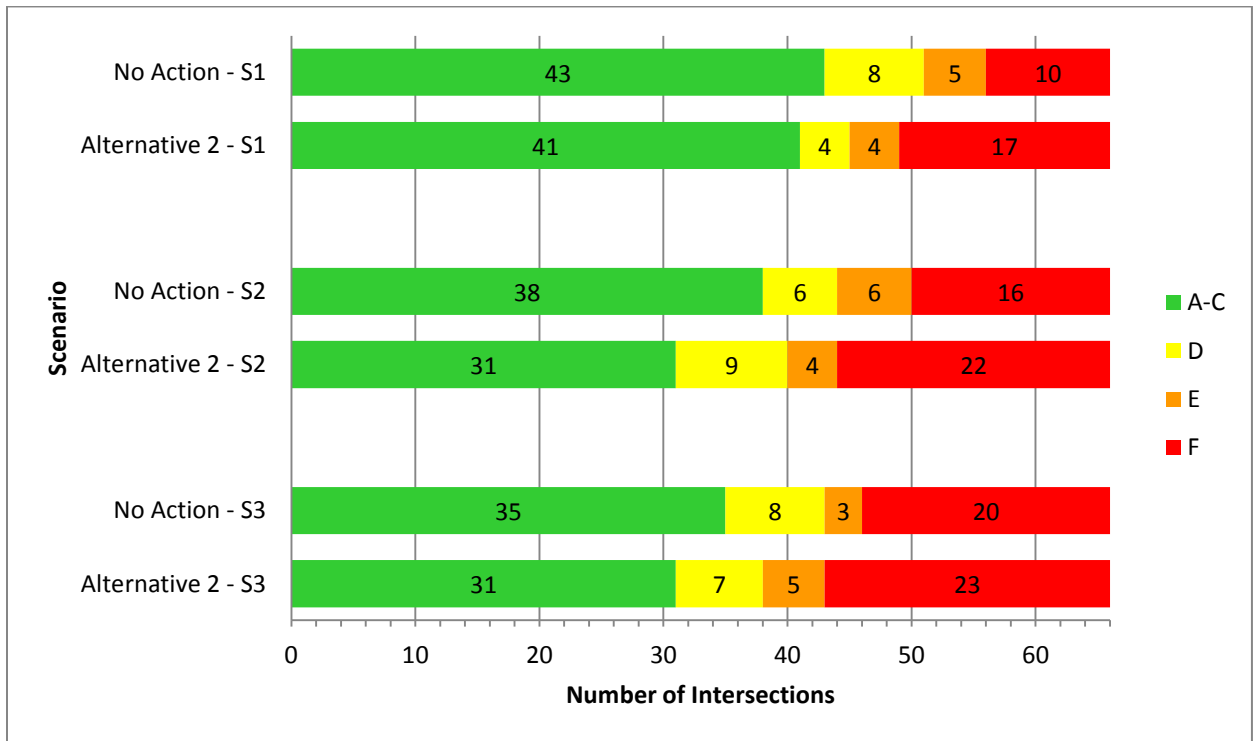


Figure 3.8-16
Stadium District 2030 Alternative 2 Intersection LOS Comparison

- With Case S2 (Arena and Mariners), in 2018, seven additional intersections would operate at LOS E/F for a total of 22 intersection with the addition of Arena traffic. By 2030, four additional intersections would operate at LOS E/F for a total of 26 intersections.
- With Case S3, in 2018, two additional intersections would operate at LOS E/F for a total of 24 intersections with Arena traffic. By 2030, two additional intersections would operate at LOS E/F for a total of 28 intersections.

Table 3.8-12 summarizes the intersections that operate at LOS E or LOS F under 2018 Alternative 2 conditions and forecast results for 2030 conditions are summarized in Table 3.8-13. Note that some intersections would only operate at LOS E or LOS F under the multiple event scenarios (Case S2 and S3).

**Table 3.8-12
2018 Alternative 2 Weekday PM Peak Hour Intersections at LOS E or LOS F**

Roadway	Case S1		Case S2		Case S3	
	No Action	Alt 2	No Action	Alt 2	No Action	Alt 2
4th Avenue / Madison Street	D	E	D	E	D	E
4th Avenue S. / James Street	C	D	C	D	D	E
6th Avenue / James St	C	C	D	E	E	F
1st Avenue / Yesler Way	F	F	F	F	F	F
1st Avenue S. / Main Street	D ¹	F	F	F	F	F
1st Avenue S. / S. Jackson Street	F	F	F	F	F	F
2nd Avenue S. / S. Jackson Street	D	E	F	F	F	F
2nd Avenue S. Extension / S. Jackson Street	F	F	F	F	F	F
4th Avenue S. / Seattle Boulevard S.- Airport Way S.	F	F	F	F	F	F
5th Avenue S. / Airport Way S. / S. Dearborn Street / I-90 WB Off-Ramp	D	D	D	E	E	E
4th Avenue S. / I-90 WB Off-Ramp	C	F	E	F	F	F
1st Avenue S. / S. Royal Brougham Way	C	E	F	F	F	F
Occidental Avenue S. / S. Royal Brougham Way	F	F	F	F	F	F
4th Avenue S. / S. Royal Brougham Way	C	E	E	F	F	F
1st Avenue S. / S. Atlantic Street	F	F	F	F	F	F
Occidental Avenue S. / Edgar Martinez Drive S.	D	F	F	F	F	F
West Parking Garage Access / Edgar Martinez Drive S	C	D	D	E	D	E
East Parking Garage Access / Edgar Martinez Drive S.	A	C	C	F	E	F
I-90 off-ramp / Edgar Martinez Drive S.	A	C	D	E	D	F
I-90 on-ramp / Edgar Martinez Drive S. / 4th Avenue S.	E	F	F	F	F	F
Occidental Avenue S. / S. Holgate Street	D	C ¹	F	F	F	F
4th Ave S. / S. Holgate Street	D	E	E	E	E	F
1st Ave S. / S. Lander Street	C	D	C	D	D	E
Occidental Avenue S. / S. Lander Street	E	E	F	F	F	F

1. LOS and delay improve with Alternative 2 as a result of reduced conflicts at this intersection due to the vacation of Occidental Avenue S. between S. Holgate Street and S. Massachusetts Street.

Table 3.8-13
2030 Alternative 2 Weekday PM Peak Hour Intersections at LOS E or LOS F

Roadway	Case S1		Case S2		Case S3	
	No Action	Alt 2	No action	No action	Alt 2	No action
4th Avenue / Madison Street	E	E	E	F	E	F
4th Avenue / James St	C	D	C	D	D	E
4th Avenue / James St	C	D	C	D	D	E
6th Avenue / James St	C	C	C	F	D	F
1st Avenue / Yesler Way	F	F	F	F	F	F
1st Avenue S. / Main Street	D	F	F	F	F	F
1st Avenue S. / S. Jackson Street	F	F	F	F	F	F
2nd Avenue S. / S. Jackson Street	D	F	F	F	F	F
2nd Avenue S. Extension / S. Jackson Street	F	F	F	F	F	F
4th Ave S/S Jackson St	D	D	D	E	D	E
1st Avenue S. / Railroad N Way S	C	C	C	C	D	E
4th Avenue S. / Seattle Boulevard S.- Airport Way S.	F	F	F	F	F	F
5th Avenue S. / Airport Way S. / S. Dearborn Street/ I-90 WB Off-Ramp	D	F	E	F	E	F
4th Avenue S. / I-90 WB Off-Ramp	E	F	F	F	F	F
1st Avenue S. / S. Royal Brougham Way	E	F	F	F	F	F
Occidental Avenue S. / S. Royal Brougham Way	F	F	F	F	F	F
4th Avenue S. / S. Royal Brougham Way	F	F	F	F	F	F
1st Avenue S. / S. Atlantic Street	F	F	F	F	F	F
Occidental Avenue S. / Edgar Martinez Drive S.	F	F	F	F	F	F
West Parking Garage Access / Edgar Martinez Drive S.	E	F	F	F	F	F
East Parking Garage Access / Edgar Martinez Drive S.	A	F	F	F	F	F
I-90 off-ramp / Edgar Martinez Drive S.	B	E	E	F	F	F
I-90 on-ramp / Edgar Martinez Drive S./ 4th Avenue S.	F	F	F	F	F	F
1st Ave S. / S. Holgate Street	D	E	E	F	F	F
Occidental Avenue S. / S. Holgate Street	C	B	E	F	F	F
4th Ave S. / S. Holgate Street	F	F	F	F	F	F
Occidental Avenue S. / S. Lander Street	F	F	F	F	F	F
4th Ave S. / S Lander Street	C	C	D	E	D	E
E. Marginal Way/ S. Hanford Street	E	E	E	E	E	E

Corridor Travel Times

Table 3.8-14 summarizes the calculated weekday PM peak hour travel times under 2018 conditions on the defined routes. Table 3.8-15 summarizes the calculated travel times under 2030 conditions. No Action results conditions are shown in parentheses and provided for comparison purposes.

As shown in Table 3.8-14 and Table 3.8-15:

- Travel times increase with the addition of Arena event traffic as compared to No Action conditions. In general, the direction of travel for each route that serves vehicle arrivals for the Arena event (e.g. northbound 1st Avenue S.) experiences the greatest travel time increase while the opposing direction experiences a lesser increase (e.g. southbound 1st Avenue S.).
- Travel times for all travel routes with only an Arena event are less than a No Action Case S2 (Mariners-only event condition) with the exception of 4th Avenue S. from S. King Street to S. Horton Street and S. King Street to I-90. Travel times in specific directions are calculated to see large increases with multiple concurrent events (e.g. northbound 1st Avenue S., and westbound S. Atlantic Street).
- The patterns of travel time changes resulting from an Arena event are similar between 2018 and 2030 conditions with 2030 travel times generally greater than 2018 conditions.

**Table 3.8-14
2018 Alternative 2 Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case S1 (m:ss) ¹	Case S2 (m:ss)	Case S3 (m:ss)
1	1st Avenue S from Horton Street to Railroad Way	NB	11:16 (8:50) ²	20:58 (14:44)	24:53 (17:46)
	1st Avenue S from Railroad Way to Horton Street	SB	8:29 (8:04)	9:37 (8:52)	10:56 (9:30)
2	4th Avenue S from Horton Street to King Street	NB	10:06 (8:29)	13:56 (10:48)	14:59 (11:42)
	4th Avenue S from King Street to Horton Street	SB	17:22 (12:19)	22:18 (17:18)	23:53 (18:37)
3	4th Avenue S from I-90 to King Street	NB	3:02 (2:16)	7:28 (3:53)	8:52 (4:57)
	4th Avenue S from King Street to I-90	SB	13:32 (8:24)	17:42 (12:41)	19:29 (14:12)
4	S Atlantic Street from 1st Avenue S to I-90	EB	2:08 (2:02)	2:39 (2:40)	3:01 (3:03)
	S Atlantic Street from I-90 to 1st Avenue S	WB	4:36 (2:22)	12:38 (7:54)	15:48 (10:39)

1. m:ss = minutes:seconds

2. (x) = No Action travel times provided for comparison.

**Table 3.8-15
2030 Alternative 2 Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case S1 (m:ss ¹)	Case S2 (m:ss)	Case S3 (m:ss)
1	1st Avenue S from Horton Street to Railroad Way	NB	15:00 (9:56) ²	24:37 (17:10)	28:33 (20:15)
	1st Avenue S from Railroad Way to Horton Street	SB	9:17 (9:01)	10:42 (10:19)	12:04 (11:29)
2	4th Avenue S from Horton Street to King Street	NB	16:42 (13:13)	22:51 (18:07)	24:39 (19:28)
	4th Avenue S from King Street to Horton Street	SB	23:17 (17:59)	28:40 (23:18)	30:26 (24:44)
3	4th Avenue S from I-90 to King Street	NB	3:40 (2:27)	8:15 (5:27)	9:43 (6:51)
	4th Avenue S from King Street to I-90	SB	19:06 (15:11)	23:26 (19:28)	25:21 (21:12)
4	S Atlantic Street from 1st Avenue S to I-90	EB	9:36 (8:27)	11:18 (9:35)	12:01 (10:15)
	S Atlantic Street from I-90 to 1st Avenue S	WB	9:05 (3:15)	18:30 (11:37)	21:57 (14:36)

1. m:ss = minutes:seconds

2. (x) = No Action travel times provided for comparison.

Effects of Rail Crossing

Rail activity assumed in the modeling is consistent with the level of rail activity identified for the No Action alternative. The traffic volumes in VISSIM were updated to reflect the forecast traffic volumes for the Alternative 2 analysis cases.

- Rail crossing gates are activated approximately 17 to 20 minutes during the weekday PM peak hour in 2018 and 41 to 44 minutes in 2030.
- Queues generally increase with traffic growth under future conditions and/or the addition of event generated traffic. However, some are shown to decrease. Note that where this occurs is due to upstream congestion in the simulation model that is caused by increased traffic volumes or rail crossing closure time.

Regional Access Analysis

Traffic would access the new Arena in the Stadium District via I-5, I-90, SR 99, and local arterials. It is estimated up to 25 percent of the trips that would access the Arena would come from the north via I-5, 20 percent from the east via I-90, and 20 percent via I-5 from the south. The other 35 percent of the trips would access the area via local arterials and SR 99.

The following analysis was completed for conditions with 20,000 spectators under Case S1 through Case S3. For an event at the new Arena, up to an additional 1,300 vph would enter the

city via I-5 or I-90 to reach the Stadium District arena. This is a 6 to 11 percent increase in trips compared to a typical evening commute on any one of those corridors. Table 3.8-16 shows the typical traffic volumes for a weekday and the anticipated increase in traffic with the Arena, and also with the Arena combined with other events (single and dual event scenarios).

The typical weekday traffic flow values shown in Table 3.8-16 are existing volumes but represent future 2018 conditions. Traffic demand (or volume of vehicles that want to use these corridors) increase as land use changes; however, because the corridors are at or near capacity, additional traffic is not served during the peak hour of congestion. Instead “peak separating” occurs and traffic demand is served over multiple hours. Therefore, existing traffic volumes served through these areas during the peak of congestion would be similar in future years unless capacity was increased for I-5 or I-90, but the duration of congestion would increase as traffic demands increase.

Table 3.8-16 focuses on the travel directions of I-5 and I-90 that would experience the greatest increase in trips from an arena event. During the weekday PM peak hour, the majority of the trips (about 94 percent) associated with the Arena are inbound trips (heading to the Arena).

**Table 3.8-16
2018 Alternative 2 Increase in Traffic on Freeway Corridors**

Location	Typical Weekday PM Peak Hour Traffic (vph)	Increase in traffic with SoDo Arena (vph / % compared to typical weekday traffic)		
		Case S1	Case S2	Case S3
I-5 Southbound (through downtown CBD)	7,500 vph	550 vph / 7%	1,300 vph / 17%	1,500 vph / 18%
I-5 Northbound (north of Spokane Street)	7,200 vph	450 vph / 6%	1,000 vph / 14%	1,150 vph / 15%
I-90 Westbound (Approaching I-5)	3,800 vph	450 vph / 11%	1,000 vph 27%	1,150 vph / 29%

The I-5 and I-90 corridors experience congestion presently during the PM peak commute, and events at the existing venues result in increased travel time approaching downtown Seattle. The PM peak travel times (on days with events in 2012) increased by up to eight minutes on southbound I-5 between NE 145th and I-90, and up to four minutes on I-90 between I-405 and Rainer Avenue S. It is anticipated with the Proposed Project traffic, PM peak travel times would increase similar to today for a typical event day only at the new Arena (Case S1).

Traffic volumes and congestion levels on the freeway systems would increase on a game day compared to a typical commute day. About 208 annual events currently occur in the Stadium District, although not all “events” impact weekday PM peak hour commute times equally. The Proposed Project is anticipated to host approximately 22 events per year with attendance in the 18,000 to 20,000 range. These events are assumed to typically be evening events. When

considering all events currently occurring, and those additional events related to the Proposed Project, approximately 40 additional days with events would occur.

Regional or freeway access to the Stadium District is constrained by signals at the terminal of the off ramps. Overall intersection and off-ramp approach operations of nine arterial intersections at the I-5, I-90, and West Seattle Bridge ramp termini were reviewed. The analysis was conducted for the weekday PM peak hour for 2018 and 2030 horizon years, under non-event and with event conditions.

By 2018, during the PM peak hour, three of the freeway terminus study intersections in the Stadium District operate at LOS F, with these representing two additional locations beyond No Action conditions. These include:

- Edgar Martinez Drive S. / I-90 Off-Ramp (Case S2 and S3)
- 4th Avenue / I-90 Off-Ramps (Cases S1, S2 and S3)
- James Street / 6th Avenue (Cases S3)

In addition, the following off-ramps would operate at LOS E or LOS F:

Case S1	Case S2	Case S3
<ul style="list-style-type: none"> • Edgar Martinez Drive S. / I-90 Off-Ramp • Dearborn Street / I-90 Off-Ramp 	<ul style="list-style-type: none"> • Edgar Martinez Drive S. / I-90 Off-Ramp • 4th Avenue S. / I-90 Off-Ramp • Dearborn Street / I-90 Off-Ramp • James Street / 6th Avenue 	<ul style="list-style-type: none"> • Edgar Martinez Drive S. / I-90 Off-Ramp • 4th Avenue S. / I-90 Off-Ramp • Dearborn Street / I-90 Off-Ramp • James Street / 6th Avenue

LOS F conditions means the more trips are approaching the intersection than can be served. Queues would build on some approaches through the peak commute and as traffic enters the city to the Stadium District. Advance signing such as the variable message signs on the freeway and cell phone applications with information on parking availability and congestion are types of measures that could help better direct traffic to underutilized ramps.

For Alternative 2 Case S1 in 2030, up to an additional 1,200 vph would enter the city via I-5 or I-90. This is slightly less than 2018 condition as more people are assumed to use transit to access the Arena as a result of additional transit infrastructure. Increases in traffic and the affect to regional travel times on the I-5 and I-90 freeways would be similar in 2030 as experienced in 2018.

In 2030 during the PM peak hour, one additional freeway terminus intersections near the Stadium District would operate at LOS F compared to 2018 conditions, and also two additional locations beyond No Action conditions. These include:

- Edgar Martinez Drive S. / I-90 Off-Ramp (Cases S2 and S3)
- 4th Avenue / I-90 Off-Ramps (Cases S1, S2 and S3)
- Dearborn Street / I-90 Off-Ramp (Cases S1, S2 and S3)
- James Street / 6th Avenue (Case S3)

In addition, the following off-ramps would operate at LOS E or LOS F under 2030 conditions:

Case S1	Case S2	Case S3
<ul style="list-style-type: none"> • Edgar Martinez Drive S. / I-90 Off-Ramp • Dearborn Street / I-90 off-ramp 	<ul style="list-style-type: none"> • Edgar Martinez Drive S. / I-90 Off-Ramp • 4th Avenue S. / I-90 Off-Ramp • Dearborn Street / I-90 Off-Ramp • James Street / 6th Avenue 	<ul style="list-style-type: none"> • Edgar Martinez Drive S. / I-90 Off-Ramp • 4th Avenue S. / I-90 Off-Ramp • Dearborn Street / I-90 Off-Ramp • James Street / 6th Avenue

Post-Event Traffic Operations

Post-event traffic volumes associated with the event attendees are typically more concentrated (with respect to duration) than is observed under pre-event conditions. To better understand the relationship between weekday PM peak hour commute patterns and post-event related traffic volumes, traffic counts were conducted at intersections along S. Atlantic Street and S. Holgate Street on Monday December 2, 2013 before and after a Monday Night Football game. While actual volumes varied depending on the location, all observed peak 15-minute post-event traffic volumes were less than traffic volumes observed during 15-minute PM commute peak period intervals, and at most observed locations approximately one-half of the PM commute peak period. Post-event traffic counts for a Mariners game¹⁰ indicate that the peak 15 minutes near the end of an event can range between 30 to 40 percent of the total hourly flow that includes this peak with traffic volumes greatest travelling away from the venue.

¹⁰ April 11, 2013

The evaluation of event attendees departing the Arena site was consistent with the methodologies previously discussed (i.e. travel mode choice, increased rail crossing activity, etc.) but with additional assumptions. Non-event traffic volumes for the weekday post-event time period (approximately 9:15-10:15 p.m.) within the vicinity of the project site were forecast by growing existing (2013) non-event traffic volumes consistent with forecast weekday PM commute hour traffic volumes and adding anticipated late evening Port of Seattle truck traffic. Event traffic was then generated assuming that all but 5 percent of vehicles parked by event attendees would attempt to depart within a one hour period near the end of an event.¹¹ A Traffic Control Plan (TCP) was also assumed to be in place to divert event traffic away from the event site, consistent with the 2013 Safeco Field TCP.

Traffic operations were evaluated for 2030 Alternative 1 Case 1 (No Action, No Event), Alternative 2 Case S1 (with Arena event only), and Alternative 2 Case S3 (triple event). Forecast (2030) traffic volumes and resulting intersection LOS values are shown in Appendix E.

The Arena site vicinity intersections are forecast to operate at LOS C or better without an event under 2030 post-event period conditions. Intersections along S Atlantic Street are anticipated to operate at LOS F under post-event conditions with either one or more events. The 4th Avenue S./S. Holgate Street intersection would also operate at LOS F under post-event conditions under the triple event scenario (Alternative 2 Case S3). The remaining intersections within the arena vicinity are anticipated to operate at LOS C or better during post-event conditions; however, calculated delays at S. Holgate Street intersections are likely underestimated since LOS methodologies do not directly reflect the impacts of the S. Holgate rail crossing closure during post-event conditions and since traffic volumes were assumed to divert from S. Holgate Street to alternative travel routes due to rail crossing activity.

As a result of this surge, all Stadium District professional sporting events implement a Traffic Control Plan (TCP) to aid in the dispersion of event attendees to the transportation network. A TCP helps to manage traffic associated with outbound event attendees. Because of forecast increases to rail crossing activity and related increased time that S. Holgate Street is blocked, a sensitivity analysis was completed assuming that S. Holgate Street was blocked for an entire one-hour period under weekday post-event conditions. Traffic volumes increase greatest along S. Atlantic Street where the nearest grade separated rail crossing is provided. It was assumed that traffic would divert from S. Holgate Street similar to current TCP strategies. As a result, delays increase at these intersections already operating at LOS F without full-closure of S. Holgate Street under post-event conditions. In contrast, operations at the 4th Avenue S./S. Holgate Street intersection improves to LOS C due to the decreased traffic volumes travelling on S. Holgate Street through this intersection.

¹¹ Existing peak hour factors (PHFs) were applied in the analysis of Alternative 1 2030 conditions with Case S1 PHFs based on traffic counts in December 2013 without an event and non-event PHFs based on the December 2, 1013 Monday Night Football game.

In addition to the traffic operations impacts outlined above, the increase in the number of event days in the Stadium District and the resulting increases in event traffic volumes related to the Arena would have an impact on emergency vehicle access and circulation to the Stadium District site as well as through the area.

Impacts of Alternative 3 – Stadium District 18,000-Seat Arena

As described for traffic volumes, construction impacts related to traffic operations would occur as a result of increased traffic levels. To minimize impacts to operations, a construction management plan would be developed and could include scheduling the most intensive construction activities such that they are spread out over time and prohibiting material deliveries from leaving or entering the area during AM and PM peak hours when feasible.

Alternative 3 includes the development of an 18,000-person capacity arena on the same site evaluated for Alternative 2. As noted in the traffic volumes section, when considering the mode splits associated with event attendees, the difference between an event with 20,000 and 18,000 attendees equates to approximately 200 vph during the weekday PM peak hour. Given the distribution of traffic to the area, this difference in overall activity would not likely be discernible by the average motorist and would be within the daily fluctuations in the background traffic. Traffic operations measures reported for Alternative 2 are expected to be slightly worse than would occur under Alternative 3, but identified impacts are anticipated to be similar.

3.8.2.7 Freight and Goods Movement

This section describes the existing, No Action, and future impacts associated with the development alternatives on the movement of freight and goods within the SoDo area.

Methodology

The impacts of the alternatives on freight and goods movements are evaluated based on the overall truck volumes, existing and future transportation facilities, and future increases and changes in traffic volumes. This analysis examines the impacts the additional traffic associated with the alternatives have on intersection and arterial performance. Technical data presented in this section is consistent with data presented in the traffic operations section of this report.

Affected Environment

Transportation Network

The transportation network includes designated truck routes, and Port of Seattle terminal facilities, and rail yards and lines.

Truck Routes: The Major Truck Route designation guides the roadway design as well as traffic management. Local and federal agencies have identified several roadway routes as Seaport Highway Connectors and Intermodal Connectors that provide access between Port facilities and

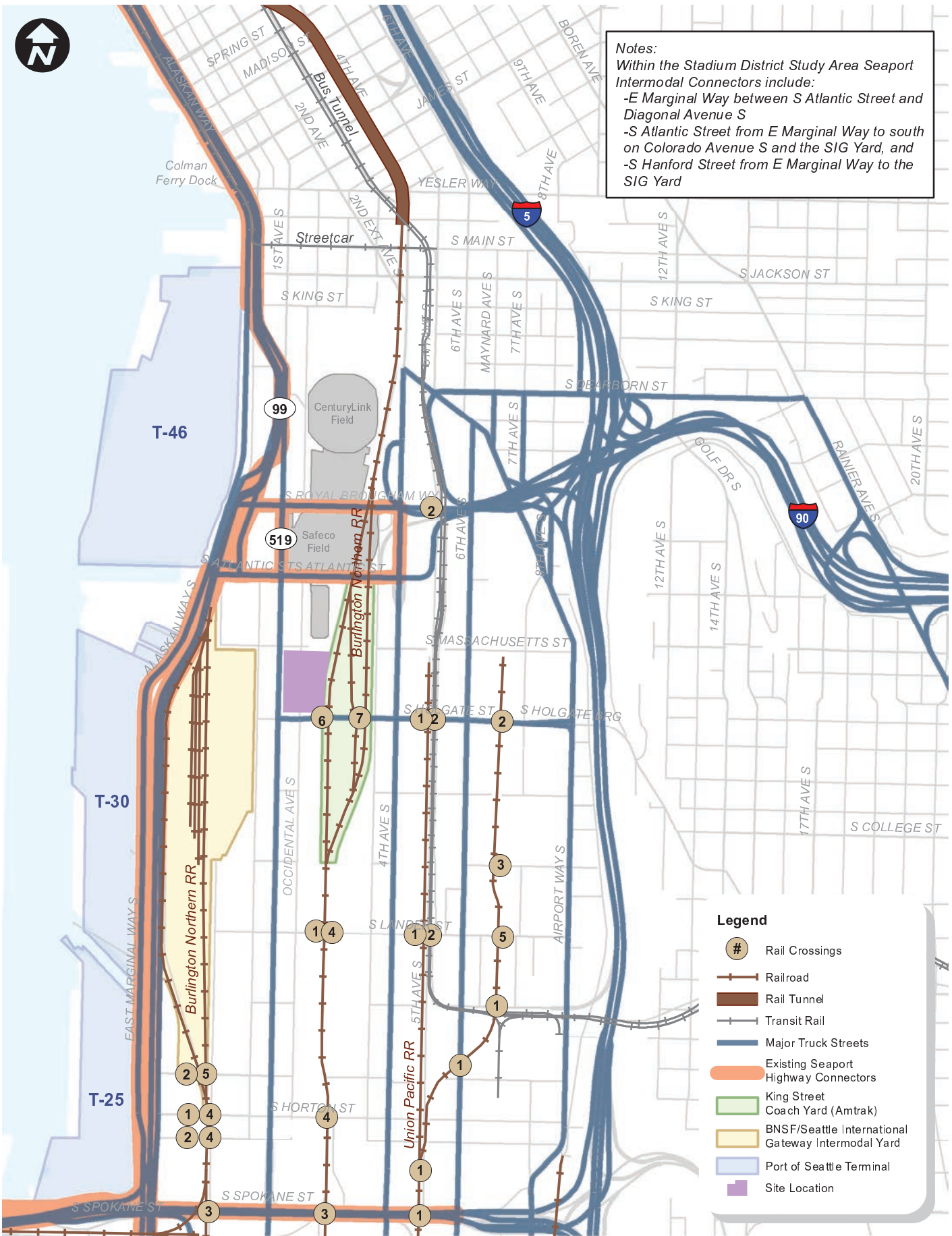
the regional highway system. As shown on Figure 3.8-17, several study area roadways are designated as both a Major Truck Route and a Seaport Highway Connector including E. Marginal Way S., SR 99, the West Seattle Bridge, S. Atlantic Street, and S. Royal Brougham Way. In addition, 1st Avenue S., 4th Avenue S., 6th Avenue S., Airport Way S., S. Dearborn Street, S. Holgate Street, and S. Spokane Street, including the Viaduct and Swing Bridge, are designated as Major Truck Routes.

Port of Seattle Terminals: The Port of Seattle operates four major container terminals (see Figure 3.8-17) located just south of downtown Seattle: Terminal 5 in West Seattle, Terminal 18 on Harbor Island, and Terminals 25/30 and 46 along East Marginal Way S. These terminals facilitate the transfer of import and export cargo containers between ships and land transportation modes such as railcars or trucks. Terminals 5 and 18 support drayage and intermodal transfers as well as have on-dock rail capability, where containers to a common destination can be loaded directly onto a train at the terminal.

Rail Facilities: Within the study area there are three primary freight rail facilities:

- The BNSF mainline railroad tracks
- The BNSF Seattle International Gateway (SIG Yard)
- The Amtrak Pacific Northwest Headquarters and King Street Coach Yard maintenance facility

These facilities and the existing at-grade crossings are shown on Figure 3.8-17. In addition to these facilities, the Union Pacific's (UP) Argo Yard located south of S. Spokane Street provides intermodal service to Port of Seattle terminals, but is located outside of the immediate study area.



Stadium District Rail and Freight Facilities

Seattle Arena

FIGURE 3.8-17

BNSF Tracks: The BNSF mainline runs north-south through the SoDo neighborhood providing rail service between Portland, Seattle, and Vancouver B.C. Within the study area, the mainline runs between 1st Avenue S. and 4th Avenue S. from the Great Northern Tunnel near the 4th Avenue S. / S. Washington Street intersection to south of Spokane Street. Several small spur tracks along the mainline serve adjacent businesses. UP operates a spur track that runs along the west side of 5th Avenue S. / SoDo Busway beginning near S. Massachusetts Street and extending south of the West Seattle Bridge. Smaller spur tracks extend further east across 4th Avenue S. and north along 5th Avenue S. to S. Massachusetts Street. These spur lines allow freight train access to the intermodal facilities, industrial uses in the area, and the Port of Seattle facilities.

SIG Yard: The SIG Yard is divided into two facilities, the North SIG Yard, which is accessed by trucks from S. Massachusetts Street at Colorado Avenue, and Main SIG, which is accessed by trucks from S. Hanford Street east of E. Marginal Way. There is no internal truck connection between these two yards. Containers destined to or originating from locations beyond the Pacific Northwest generally make their overland trip by train. This cargo, known as “intermodal,” is either loaded on a train on T-5 or T-18 or is trucked between the marine terminal and the near-dock rail yards. All intermodal cargo on the east waterway (Terminals 30 and 46) travels by truck.

The lead and tail tracks that connect to the SIG Yard extend along the east side of SR 99 from south of S. Spokane Street through the yard and north, crossing over Alaskan Way to the west side of Alaskan Way, adjacent to Terminal 46. These tracks support both arriving and departing trains as well as train building, in which segments of a train are put together (or taken apart).

This activity can block street crossings of the lead or tail tracks for long periods of time. A new S. Atlantic Street Overcrossing was opened in January 2014 that provides a grade-separated overpass for vehicles to bypass blockages of surface S. Atlantic Street. Existing conditions were evaluated for 2013 conditions and do not reflect this recent improvement; it is included in the evaluation of future conditions. Train arrivals, departures, and train building activities will continue to block the at-grade crossings located south of the SIG Yard at S. Hanford, Horton, Hinds and Spokane Streets.

Amtrak Maintenance Facility: Amtrak’s King Street Coach Yard including the Pacific Northwest headquarters and maintenance facility is located adjacent to the proposed site of Alternatives 2 and 3. The rail yard extends south from Edgar Martinez Drive S. to south of S. Walker Street, east to 3rd Avenue S., and across the rail spur line that serves the King Street Coach Yard. The site currently includes as many as 14 sets of active rail lines. The rail yard serves many functions including locomotive and passenger car maintenance, train washing, and staging / parking as well as significant employee and equipment movement across Holgate Street to the north and south portions of the yard. Along S. Holgate Street a total of 13 rail crossing exist with 9 being active crossings.

Traffic Volumes

Traffic counts throughout the SoDo study area generally show trucks dispersed among multiple streets during the weekday PM peak hour. Truck volumes on major arterial truck routes (i.e. S. Atlantic Street, 4th Avenue S., S. Spokane Street) tend to be greater than on local streets as many trucks access the regional freeway via their arterial connections. Roadways in the immediate vicinity of the project site that accommodate local and regional trucks include S. Atlantic Street, S. Holgate Street, 1st Avenue S., and S. Holgate Street. Truck percentages along these routes range from two to seven percent with the highest percentage of traffic along southbound 4th Avenue S. and the highest PM peak hour truck volumes along 1st Avenue S. based on existing traffic counts. As discussed later in this section, truck volumes can vary day-to-day and month-to-month based on activity at the Port of Seattle terminals.

A detailed summary of BNSF mainline rail traffic, including existing rail traffic observations, within the SoDo neighborhood was completed in October 2012 and was presented within the *Coal Traffic Impact Study* (Parametrix). Additional information was collected over a seven-day period in December 2013. Within SoDo, an average of 88 rail movements were observed per day at the BNSF mainline and train maintenance spur track at-grade rail crossings with trains travelling at average speeds of approximately six to eight mph. On average, the rail activity at the BNSF mainline rail crossings at S. Holgate Street, S. Lander Street, and S. Horton Street blocked each roadway an average of 2.5 minutes per closure. This equates to a total daily closure of 3.8 hours over a 24-hour period.

Truck and rail traffic generated by the Port varies by season and day-to-day. The peak season for import cargo usually occurs beginning in September and peaking in October. During these periods, the potential for having multiple ships in port simultaneously exists. Export cargo peaks are typically associated with agricultural exports from Eastern Washington with a peak season that lasts from mid-summer through late fall. Truck volumes fluctuate on a daily basis according to ship arrivals at the terminals and the sizes of those ships, or as a result of multiple ships in port.

Under normal operations, most of the truck trip activity occurs during the daytime operating hours between 7:30 AM and 5:00 PM. However, extended gate operations, either nighttime or early morning operations, can occur for larger ships if a ship is late in arriving due to inclement weather, or for large volumes of cargo dedicated to a few customers.

Truck traffic to and from Port of Seattle facilities within the SoDo study area is driven by the number of container units handled by the local terminals. A total of 7,230 one-way daily truck trips were generated on average per day by the Port of Seattle terminals based on available data from 2010 when 2.1 million TEUs were processed. In 2012, total tonnage was a little over 10 percent less than processed in 2010, to 1.87 million TEUs in 2012. Proportionally scaling 2010 truck volumes results in an estimate of 6,440 daily truck trips for 2012 conditions and data provided by the Port of Seattle suggest a total of 7,300 daily truck trips were generated.

Traffic Operations

Potential traffic operations impacts to the movement of freight and goods within the SoDo study area were evaluated based on intersection and corridor operations, and potential rail crossing impacts in the vicinity of the Proposed Project (Alternative 2).

Near the Proposed Project site, operations at the four intersections shown in Table 3.8-17 are highly utilized by truck traffic and are shown along with their overall intersection LOS and average delay for all vehicle types. Specific details regarding the LOS methodology are summarized in the Traffic Operations section.

Table 3.8-17
Stadium District Existing Weekday PM Peak Hour Intersection Operations
at Key Freight Intersections

Intersection	Non-Event LOS / delay	With-Event ¹ LOS / delay
1st Avenue S. / S. Atlantic Street	D / 34	C / 26
4th Avenue S. / Edgar Martinez Drive S.	C / 26	B / 18
1st Avenue S. / S. Holgate Street	B / 17	B / 15
4th Avenue S. / S. Holgate Street	C / 26	C / 24

1. Reflects counts taken for a Sounders FC game with attendance = 38,500

As shown in Table 3.8-17, all intersections are calculated to operate at LOS D or better under existing non-event and with-event conditions. The LOS reported represents an average delay for the intersection; some movements will operate at a lower level than reported for the overall average. Also, with the high concentrations of pedestrians during events, the analytical tools employed may not fully reflect the level of pedestrian impacts to intersection performance and additional delay may be incurred for right-turning vehicles. Depending on the specific event and attendance, 1st Avenue S. / S. Atlantic Street and 4th Avenue S. / Edgar Martinez Drive S. would experience high levels of pedestrian demands that could contribute to delays in excess of those reported. In addition, general reductions in traffic volumes in the area associated with pre-event conditions may relate to non-event traffic avoiding travel during known event days.

Three corridors within the SoDo study area are heavily utilized by freight truck traffic: S. Atlantic Street – Edgar Martinez Drive S., 1st Avenue S., and 4th Avenue S. Existing travel times along these corridors are summarized in Table 3.8-18 and specific details regarding the corridor performance methodology are summarized in the Traffic Operations section.

Table 3.8-18
Existing Weekday PM Peak Hour Travel Times Non-Event & With-Event Conditions
on Key Freight Corridors

Extents	Direction	Non-Event (m:ss ¹)	With-Event ² (m:ss)
1st Avenue S. from Railroad Way S. to S. Horton Street	NB	6:16	6:31
1st Avenue S. from S. Horton Street to Railroad Way S.	SB	6:49	6:50
4th Avenue S. from S. King Street to S Horton Street	NB	6:20	6:54
4th Avenue S. from S Horton Street to S. King Street	SB	6:54	6:57
S. Atlantic Street from 1st Avenue S. to I-90	EB	1:39	1:24
S. Atlantic Street from I-90 to 1st Avenue S.	WB	1:23	1:18

1. m:ss = minutes:seconds

2. Reflects counts taken for a Sounders FC game with attendance = 38,500

As shown in Table 3.8-18, travel times generally increase along the four routes with the addition of traffic from an event. It is noted that the level of change in travel time may not be intuitive as it related to an event with an approximate attendance of 38,500 people. A number of factors appear to contribute to these conditions:

- The observed event was Sounders FC soccer game and while no specific data relative to mode split or net vehicle demands is available, anecdotal evidence suggests a higher reliance on non-auto travel than occurs in relation to other Stadium District events of similar attendance.
- Repeated traffic counts for other events in the area also suggest minimal local street system impacts during weekday PM peak hour conditions.
- Local businesses and downtown motorists who are aware of a pending event adjust their travel behavior, either by time or mode, to avoid being caught in event-related congestion. Depending on the size of event, the adjusted background traffic appears to partially, if not substantially offset the added weekday PM peak hour traffic due to the event.

There are at-grade rail crossings throughout SoDo and the Duwamish area impacting arterial operations along S. Holgate Street and S. Lander Street with related secondary impacts to the 1st Avenue S. and 4th Avenue S. corridors. Vehicular queues from rail crossings along S. Holgate and S. Lander Streets between 1st and 4th Avenues S. often extend into 1st and 4th Avenues S. This issue along 1st and 4th Avenues S. is further compounded with through traffic being obstructed (or blocked) by the rail crossing queues, resulting in even longer queues and more congestion. Because of this, the effects of the rail crossings on S. Holgate Street and S. Lander Street on 1st Avenue S. and 4th Avenue S. were assessed using the VISSIM model. Existing rail crossing impacts using queue lengths on the adjacent arterials are summarized in Table 3.8-19 and described in further detail in the Traffic Operations section.

**Table 3.8-19
S. Holgate Street and S. Lander Street Rail Crossing Summary –
Existing PM Peak Hour**

	Scenario	Arterial Direction	Maximum Arterial Queue Length ¹
S. Holgate Street Crossing	Weekday PM Peak Hour Non-Event	NB ² 1st Ave S.	420 ft
		SB 1st Ave S.	350 ft
		NB 4th Ave S.	310 ft
		SB 4th Ave S.	390 ft
	Weekday PM Peak Hour With-Event ³	NB 1st Ave S.	270 ft
		SB 1st Ave S.	330 ft
		NB 4th Ave S.	380 ft
		SB 4th Ave S.	890 ft
S. Lander Street Crossing	Weekday PM Peak Hour Non-Event	NB 1st Ave S.	310 ft
		SB 1st Ave S.	430 ft
		NB 4th Ave S.	300 ft
		SB 4th Ave S.	400 ft
	Weekday PM Peak Hour With-Event	NB 1st Ave S.	620 ft
		SB 1st Ave S.	510 ft
		NB 4th Ave S.	300 ft
		SB 4th Ave S.	690 ft

1. The reported maximum queue length is an average of the maximum queue lengths recorded across 10 simulation runs and represents the greater of a turning movement towards the rail crossing or the throughout movement along the corridor. Queue lengths are rounded up to the nearest 10 feet and reflect an average gate down time of approximately 8.5 minutes.

2. NB = northbound, SB = southbound

3. Sounders FC game with attendance = 38,500

As shown in Table 3.8-19, rail crossing gates are activated approximately 8.5 minutes during the weekday PM peak hour:

- Queue lengths along 1st Avenue S. and 4th Avenue S. typically increase with the occurrence of the Sounders FC game

The northbound 1st Avenue S. queue at S. Holgate Street is shown to decrease and occurs as a result of increased upstream northbound congestion at 1st Avenue S. / S. Lander Street. When considered in the context of modest changes in LOS and travel times due to the same event, it illustrates the significance of gate closure on traffic operations.

Impacts of the No Action Alternative at Alternative 2 and 3 Site

Forecast conditions under the No Action alternative for freight and goods movement within the SoDo study are described in the following sections.

Transportation Network

Several planned projects were identified that may alter truck travel routes within the study area as summarized in the Street System section.

Traffic Volumes

Within the SoDo study area general freight movement volumes are anticipated to increase similarly to background conditions with the exception of Port of Seattle traffic that is directly linked to the number of container units processed. In general, the proportion of truck traffic along study area roadways were assumed equal to existing conditions with adjustments made to reflect forecast increases in Port of Seattle handling and the addition of event related vehicular trips that primarily consist of passenger car travel.

Under future conditions Port of Seattle terminals within the SoDo neighborhood will operate similarly to existing conditions but with an increased amount of processed cargo. The Port of Seattle anticipates increasing the number of shipping containers it processes to 3.5 million TEUs by 2030, which exceeds recent growth trends. The Port of Seattle has indicated that this increase will result in the need to expand the Port's operating hours beyond the typical operating hours of 7:30 AM and 5:00 PM currently in place today such that approximately 20 percent of the container volume is processed between 6:00 and 11:00 PM. For analyses of 2018 conditions, 2.41 million TEUs were forecast for Port of Seattle activity by interpolating between 2012 and 2030 processing rates. Overall growth in container processing is estimated at 29 percent by 2018 and 87 percent by 2030 based on Port of Seattle estimates, when compared with 2012 levels.

As a result of this increased activity, truck trips to and from Port of Seattle facilities would also increase. As previously described, a total of 7,300 one-way daily truck trips were generated on average per day by the Port of Seattle terminals in 2012. Information provided by the Port of Seattle indicates that Port facilities could generate up to 13,700 one-way daily truck trips by 2030. Anticipated changes to both freight and passenger rail activity within the study area are summarized in Table 3.8-20.

Note that the changes shown for passenger rail activity do not reflect the total number of rail crossings under existing and future conditions. The forecast passenger rail crossings reflect increases in scheduled train activity for which fares are paid. The proportionate increases in scheduled activity were also applied to passenger train switching activity. Freight rail crossings are forecast to increase consistent with increases in forecast Port of Seattle activity with forecast increases in coal train activity added. Analysis of rail activity is based on observed scheduled and unscheduled activity and was proportionally increased based on forecast increase in activity.

**Table 3.8-20
Anticipated Future Changes to Daily Rail Activity**

Operator	2013	2018	2030
SoundTransit ¹	20 scheduled train crossings	26 scheduled train crossings (+30 percent from 2013)	26 scheduled train crossings *estimated ² (+30 percent from 2013)
Amtrak Cascades ²	10 scheduled crossings	16 scheduled train crossings (+60 percent from 2013)	26 scheduled train crossings (+160 percent from 2013)
Freight Rail	70 train crossings ⁵	100 train crossings *estimated ⁶ (+43 percent from 2013)	149 train crossings *estimated ⁶ (+113 percent from 2013)

1. Current Sound Transit schedule (April 2013) and *2013 Service Implementation Plan* (Sound Transit, December 2012).
2. 2030 Sound Transit train crossings were assumed to increase similarly from 2018 to 2030 as from 2013 to 2018, resulting in two addition crossings.
3. Current Amtrak schedule, *Amtrak Cascades Mid-Range Plan* (WSDOT, December 2008), and *Long Range Plan for Amtrak Cascades* (WSDOT, February 2006).
4. Includes coal train activity.
5. Existing freight rail includes all observed freight rail activity including existing coal train activity.

Future freight rail accounts for general freight rail activity increases consistent with forecast Port of Seattle container processing and forecast increases in coal train activity

Traffic Operations

Intersection operations at the four intersections highly utilized by truck traffic near the Proposed Project site are shown in Table 3.8-21 for 2018 and 2030 conditions. Results shown are consistent with the analysis presented in the Traffic Operations section. Existing operations are also included for comparison.

As shown in Table 3.8-21, the 1st Avenue S. / S. Atlantic Street intersection is anticipated to operate at LOS F under 2018 non-event conditions. This doubling of delay is a result of general growth as well as the effects of shifted traffic due to the completion of the Alaskan Way Viaduct South Portal improvements and diversion of traffic from S. Holgate Street and S. Lander Street due to increased rail closure activity. Under Case S2 or S3 overall intersection operations are calculated to further worsen and remain at LOS F with the addition of event traffic. In addition, the 4th Avenue S. / Edgar Martinez Drive S. intersection is forecast to operate at LOS E under Case S1 and LOS F under both Case S2 and Case S3. The 4th Avenue S. / S. Holgate Street intersection is anticipated to worsen to LOS E under Case S3. 1st Avenue S. / S. Holgate Street is anticipated to remain at LOS D or better under all 2018 No Action conditions.

Under 2030 conditions, all four intersections would operate at LOS E or LOS F for all event scenarios with the exception of 1st Avenue S. / S. Holgate Street which would operate at LOS D under no event (Case S1) conditions.

**Table 3.8-21
Stadium District Weekday AM Peak Hour No Action Intersection Operations at
Key Freight Intersections**

	Intersection	Case S1 LOS / delay	Case S2 LOS / delay	Case S3 LOS / delay
2018	1st Avenue S. / S. Atlantic Street	F / 89 (D / 34) ¹	F / >180	F / >180
	4th Avenue S. / Edgar Martinez Drive S.	E / 73 (C / 26)	F / 89	F / 105
	1st Avenue S. / S. Holgate Street	C / 30 (B / 17)	D / 38	D / 42
	4th Avenue S. / S. Holgate Street	D / 42 (C / 26)	D / 55	E / 59
2030	1st Avenue S. / S. Atlantic Street	F / >180	F / >180	F / >180
	4th Avenue S. / Edgar Martinez Drive S.	F / >180	F / >180	F / >180
	1st Avenue S. / S. Holgate Street	D / 52	E / 78	F / 91
	4th Avenue S. / S. Holgate Street	F / 104	F / 162	F / 170

1. (x) - Existing condition non-event operations provided for comparison.

It is noted that all future estimates of event traffic volumes are simply additive to No Action conditions. While existing counts and analysis show modest impacts to traffic volumes and operations on event days, this additive approach likely overestimates future traffic and congestion related to events. However, it does provide a consistent basis for comparing alternatives. There is no reliable way to assess the amount of diverted non-event traffic likely to occur for any given event.

Table 3.8-22 summarizes the calculated weekday PM peak hour travel times along the key corridors utilized for freight and goods movement under 2018 conditions on the defined routes. Table 3.8-23 summarizes the calculated travel times under 2030 conditions. No Action results conditions are shown in parentheses and provided for comparison purposes.

**Table 3.8-22
Stadium District 2018 No Action Weekday PM Peak Hour Freight Corridor Travel Times**

Extents	Direction	Case S1 (m:ss ¹)	Case S2 (m:ss)	Case S3 (m:ss)
1st Avenue S from Horton Street to Railroad Way	NB	8:50 (6:16) ²	14:44	17:46
1st Avenue S from Railroad Way to Horton Street	SB	8:04 (6:49)	8:52	9:30
4th Avenue S from Horton Street to King Street	NB	8:29 (6:20)	10:48	11:42
4th Avenue S from King Street to Horton Street	SB	12:19 (6:54)	17:18	18:37
S Atlantic Street from 1st Avenue S to I-90	EB	2:02 (1:39)	2:40	3:03
S Atlantic Street from I-90 to 1st Avenue S	WB	2:22 (1:23)	7:54	10:39

1. m:ss = minutes:seconds

2. (x) - Existing travel times provided for comparison.

As shown in Table 3.8-22:

- Travel times for freight corridors under 2018 conditions would increase by as much as approximately 11 minutes to 12 minutes, depending on route, travel direction, and event case.
- Freight corridor travel times along 1st Avenue S. and 4th Avenue S. under 2018 conditions are forecasted to exceed 10 minutes with Case S1 and S2 traffic, and exceed 15 minutes for northbound 1st Avenue S. and southbound 4th Avenue S. with Case S3 traffic.
- Eastbound freight corridor travel times along S. Atlantic Street are expected to increase but less so than other routes. This direction of travel is opposite the inbound event flows, minimizing the increase in travel times. S. Atlantic Street is also subject to TCPs at Occidental Avenue S. and the Safeco Field parking garage. Event traffic control could increase S. Atlantic Street travel times beyond what is reported.

As described earlier, the actual impact due to event traffic is likely to be less than reflected herein since no assumed diversion or reduction in non-event traffic is assumed.

**Table 3.8-23
Stadium District 2030 No Action Weekday PM Peak Hour Freight Corridor Travel Times**

Extents	Direction	Case S1 (m:ss¹)	Case S2 (m:ss)	Case S3 (m:ss)
1st Avenue S from Horton Street to Railroad Way	NB	9:56 (6:16) ²	17:10	20:15
1st Avenue S from Railroad Way to Horton Street	SB	9:01 (6:49)	10:19	11:29
4th Avenue S from Horton Street to King Street	NB	13:13 (6:20)	18:07	19:28
4th Avenue S from King Street to Horton Street	SB	17:59 (6:54)	23:18	24:44
S Atlantic Street from 1st Avenue S to I-90	EB	8:27 (1:39)	9:35	10:15
S Atlantic Street from I-90 to 1st Avenue S	WB	3:15 (1:23)	11:37	14:36

1. m:ss = minutes:seconds

2. (x) - Existing non-event travel times provided for comparison.

As shown in Table 3.8-23:

- Under 2030 conditions freight corridor travel times are generally similar but worse than 2018 conditions. Increases range from approximately 2 minutes to 18 minutes when compared to existing conditions.
- Travel time changes result from small changes in forecast volumes at some study intersections and additional diversion from congested freeways as forecast in the Alaskan Way Viaduct Replacement study.

As described earlier, the actual impact due to event traffic is likely to be less than reflected herein since no assumed diversion or reduction in non-event traffic is assumed.

Rail activity assumed for future conditions was increased beyond existing conditions for both passenger and freight rail activity. Additional details are provided in the Traffic Operations section. Total crossing gate arm down times and queue lengths along 1st Avenue S. and 4th Avenues S. are summarized in Table 3.8-24. Maximum queue lengths are reported along 1st and 4th Avenues S. because rail crossing impacts along S. Holgate and S. Lander Streets cause queues to extend into the 1st and 4th Avenues S. intersections.

**Table 3.8-24
No Action S. Holgate Street and S. Lander Street Rail Crossing Impact Summary**

	Scenario	Gate Down Time (m:ss) ¹	Arterial Direction	Maximum Arterial Queue Length ²		
				Existing ³	2018	2030
S. Holgate Street Crossing	Weekday PM Peak Hour Case S1	Existing = 8:30 2018 = 20:30 2030 = 41:45	NB ⁴ 1st Ave S.	420	640	960
			SB 1st Ave S.	350	380	1,280
			NB 4th Ave S.	310	550	370
			SB 4th Ave S.	390	1,520	3,400
	Weekday PM Peak Hour Case S2	2018 = 20:30 2030 = 41:45	NB 1st Ave S.	420	1,300	1,120
			SB 1st Ave S.	350	440	900
			NB 4th Ave S.	310	620	950
	Weekday PM Peak Hour Case S3	2018 = 20:30 2030 = 41:45	SB 4th Ave S.	390	1,640	1,710
			NB 1st Ave S.	420	1,450	1,320
			SB 1st Ave S.	350	450	1,120
			NB 4th Ave S.	310	630	1,070
	S. Lander Street Crossing	Weekday PM Peak Hour Case S1	Existing = 8:30 2018 = 17:30 2030 = 44:00	SB 4th Ave S.	390	1,620
NB 1st Ave S.				310	460	1,150
SB 1st Ave S.				430	540	510
NB 4th Ave S.				300	370	330
Weekday PM Peak Hour Case S2		2018 = 17:30 2030 = 44:00	SB 4th Ave S.	460	670	1,190
			NB 1st Ave S.	310	870	550
			SB 1st Ave S.	430	580	700
			NB 4th Ave S.	300	420	470
Weekday PM Peak Hour Case S3		2018 = 17:30 2030 = 44:00	SB 4th Ave S.	460	740	490
			NB 1st Ave S.	310	720	730
			SB 1st Ave S.	430	570	740
			NB 4th Ave S.	300	430	470
			SB 4th Ave S.	460	650	510

1. Gate down times reported are approximate and may range +/- 1 minutes. Variance due to multiple seeds and VISSIM modeling methodology.
2. The reported maximum queue length is an average of the maximum queue lengths recorded across 10 simulation runs and represents the greater of a turning movement towards the rail crossing or the throughout movement along the corridor. Queue lengths are rounded up to the nearest 10 feet.
3. Representative of non-event case
4. NB = northbound, SB = southbound

As shown in Table 3.8-24:

- Rail crossing gates are activated approximately 17 to 20 minutes during the weekday PM peak hour in 2018 and 41 to 44 minutes in 2030.
- Queues generally increase with traffic growth under future conditions and/or the addition of event generated traffic. However, some are shown to decrease. Note that where this occurs is due to upstream congestion in the simulation model that is caused by increased traffic volumes or rail crossing closure time.

Impacts of the Proposed Project (Alternative 2) – Stadium District 20,000-Seat Arena

Major truck routes surrounding the site could be intermittently impacted by construction. A construction management plan would be developed to minimize any street closures or other impacts as a result of the Seattle Arena construction. This management plan would include use of manual flaggers and signs to help vehicle circulation. In addition, key stakeholders would be notified of any major roadway closures.

Forecast conditions for freight and goods movement within the SoDo study with a 20,000 attendee event at the Proposed Project site are described in the following sections.

Transportation Network

With the construction of the proposed Arena, the only change to the existing freight system assumed in the analysis is the vacation of Occidental Avenue S. between S. Massachusetts Street and S. Holgate Street. This change does not impact any of the major freight routes within the study area but would in divert local truck deliveries for businesses along Occidental Avenue S. north of S. Massachusetts Street and along S. Massachusetts Street east of 1st Avenue S.

Traffic Volumes

With the addition of event traffic to SoDo study area roadways, truck and rail traffic volumes would not be directly impacted except for local truck patterns impacted by the vacation of Occidental Avenue S. Truck and rail volumes would generally remain the same as No Action conditions for purposes of assessing the alternative generated impacts. Some degree of “event traffic avoidance” may occur similar to existing conditions.

Traffic Operations

Intersection operations at the four intersections highly utilized by truck traffic near the Proposed Project site are shown in Table 3.8-25 for 2018 and 2030 conditions.

As shown in Table 3.8-25, all intersections are anticipated to operate at LOS E or LOS F with the addition of Arena traffic to 2018 conditions under any analysis case with the exception of 1st Avenue S. / S. Holgate Street

**Table 3.8-25
Stadium District Alternative 2 Weekday PM Peak Hour Intersection Operations
at Key Freight Intersections**

	Intersection	Case S1 LOS / delay	Case S2 LOS / delay	Case S3 LOS / delay
2018	1st Avenue S. / S. Atlantic Street	F / 164 (F / 89) ¹	F / >180 (F / >180)	F / >180 (F / >180)
	4th Avenue S. / Edgar Martinez Drive S.	F / 95 (E / 73)	F / 115 (F / 89)	F / 132 (F / 105)
	1st Avenue S. / S. Holgate Street	D / 35 (C / 30)	D / 46 (D / 38)	D / 55 (D / 42)
	4th Avenue S. / S. Holgate Street/ S. Holgate Street	E / 57 (D / 42)	F / 84 (D / 55)	F / 93 (E / 59)
2030	1st Avenue S. / S. Atlantic Street	F / >180 (F / >180)	F / >180 (F / >180)	F / >180 (F / >180)
	4th Avenue S. / Edgar Martinez Drive S.	F / >180 (F / >180)	F / >180 (F / >180)	F / >180 (F / >180)
	1st Avenue S. / S. Holgate Street	E / 68 (D / 52)	F / 101 (E / 78)	F / 112 (F / 91)
	4th Avenue S. / S. Holgate Street/ S. Holgate Street	F / 164 (F / 104)	F / >180 (F / 162)	F / >180 (F / 170)

1. (x) - No Action operations provided for comparison.

Under 2030 conditions, all four intersections are estimated to operate at LOS E or LOS F with the addition of event traffic and are all worse than No Action conditions. With additional event traffic LOS values would remain the same as 2030 Arena-only conditions but delays would further increase when multiple events occur.

These increases in LOS / delay at key intersections under both 2018 and 2030 conditions would similarly increase delays for freight trucks travelling through these intersections. As shown, the results for both 2018 and 2030 conditions with only Arena event traffic are similar to and slightly better than No Action conditions with only a Mariners event.

As described earlier, all future event cases (Cases S1 to S3) likely overestimate actual demands and thus congestion during these periods since no reduction in non-event traffic was assumed.

- Freight corridor travel times increase with the addition of Arena event traffic with the exception of eastbound S. Atlantic Street. See Tables 2-40 and 2-41 in Appendix E. Changes in 2018 range from approximately 0.25 minutes to 5 minutes under Case S1, to 1.25 minutes to 7 minutes under Case S3. Under 2030 the range of increases is similar to 2018 conditions.
- In general, the direction of travel for each freight corridor travel time route that serves vehicles arriving for the Arena event (i.e. northbound 1st Avenue S.) experiences the

greatest travel time increase while the opposing direction experiences a lesser increase (i.e. southbound vs. northbound 1st Avenue S.).

- Some routes show a small improvement in freight corridor travel time as a result the signal timing optimization procedures, but in general travel time routes will increase as a result of Arena traffic.
- Travel times for freight corridor routes with only an Arena event are generally less than the No Action Case S2 (Mariners only) conditions. Travel times for specific routes and directions are calculated to see large increases with multiple concurrent events (i.e. northbound 1st Avenue S., eastbound S. Atlantic Street).
- The patterns of travel time changes resulting from an Arena event are similar between 2018 and 2030 conditions with 2030 travel times generally greater than 2018 conditions.

As described earlier, all future event cases (Cases S1 to S3) likely overestimate actual demands and thus congestion during these periods since no reduction in non-event traffic was assumed.

Rail activity assumed in the modeling is consistent with the level of rail activity identified for the No Action alternative. The traffic volumes in VISSIM were updated to reflect the forecast traffic volumes for the Alternative 2 event analysis cases. Total crossing gate arm down times and queue lengths along 1st and 4th Avenues S are summarized in Appendix E and are the same as assumed for the No Action conditions.

- Rail crossing gates are activated approximately 17 to 20 minutes during the weekday PM peak hour in 2018 and 41 to 44 minutes in 2030. See Table 2-42 in Appendix E.
- Queues generally increase with traffic growth under future conditions and/or the addition of event generated traffic. However, some are shown to decrease. Note that where this occurs is due to upstream congestion in the simulation model that is caused by increase traffic volumes or rail crossing closure time.

Impacts of Alternative 3 – Stadium District 18,000-Seat Arena

Major truck routes surrounding the site could be intermittently impacted by construction. A construction management plan would be developed to minimize any street closures or other impacts as a result of the arena construction. This management plan would include the use of manual flaggers and signs to help vehicle circulation. In addition, key stakeholders would be notified of any major roadway closures.

Alternative 3 includes the development of an 18,000-person capacity arena on the same site evaluated for Alternative 2. In general, impacts to freight and goods anticipated under Alternative 3 would be slightly less than reported for Alternative 2. Overall traffic volumes for

Alternative 3 are approximately one percent less during the weekday PM peak hour under both 2018 and 2030 conditions.

3.8.2.8 Parking

SMC parking requirements would be reviewed as part of the Master Use Permit application. The proposal includes approximately 100 parking spaces on-site for players, coaches, and staff. The remainder of the parking for attendees would be provided through shared parking agreements with existing parking facilities not associated with the Arena and/or through an Arena parking garage located south of Occidental on the South Warehouse site. This initial evaluation assumes parking would be provided through shared parking agreements. An evaluation of the potential South Warehouse parking is described in Section 3.8.2.12. The remainder of this discussion focuses on the impact of the Arena's parking demand on the existing and future parking supply in the study area.

Methodology

The following describes the general approach to the parking analysis:

- Establish the study area and appropriate time period for the evaluation
- Document existing parking for non-event conditions to provide an understanding of the underlying parking without an event
- Document existing parking with an event to provide an illustration of actual parking demand associated with observations during a Mariners game with over 20,000 attendees
- Examine effect of future "pipeline" development on parking supply and demand under the No Action Alternative
- Evaluate No Action conditions associated with the existing event venues (Safeco Field and the CenturyLink Field Event Center) to provide a basis for understanding the impact of the proposed Arena on multiple event conditions
- Add parking demand for the Arena to each of the defined No Action baseline event cases as well as account for displaced parking due to the Arena and compare with Arena parking demand to the No Action condition to identify impacts of Alternatives 2 and 3
- Identify mitigation strategies, where appropriate, to reduce the effect of the identified Alternative 2 and 3 impacts

Study Area

Because of the size of the nearby event venues, the study area for parking is larger than would otherwise be needed if the Arena were located independent of other large event sites. I-5

creates a physical barrier in the study area with little to no pedestrian connections from parking areas between the Stadium District site and parking areas east of I-5; therefore, the study area includes only the areas west of I-5 where there are viable pedestrian connections to the Arena site. The study area was further subdivided into primary and expanded study areas. The primary study area is considered within an approximate one-mile radius of the Stadium District site. It includes the neighborhoods of Pioneer Square, International District and SoDo, and extends from just north of Yesler Street to Spokane Street on the south. This area represents an approximate 5- to 20-minute walking distance for Seattle Arena event attendees.

An expanded study area was also evaluated considering the CBD. The evaluation of the expanded study area helps accommodate parking associated with larger multi-event cases at either CenturyLink Field or Safeco Field. The CBD is divided into three subareas – waterfront, financial, and retail to provide an understanding of the Arena impacts within the larger CBD.

Analysis Time Periods

Event arrival patterns suggest Arena arrivals would generally begin between two-and three-hours prior to the start. The 2012-2013 NBA, 2011-2013 NHL, and 2012 WNBA schedules indicate the typical start time for Arena sporting events is around 7:00 PM. To determine the parking analysis period, existing non-event and Arena hourly parking demands for weekday and weekend conditions between 4:00 and 8:00 PM were examined assuming a 7:00 PM game start. Based on the review of existing parking data, the quantified parking impact illustrations focus on weekday conditions at 7:00 PM (Game Start) and weekend conditions at 8:00 PM (One-Hour after Game Start). These periods encompass the peak parking demand for the study area. A more detailed evaluation of the analysis time periods for the parking impact evaluation is provided in Appendix E.

Parking Supply Assumptions

For the purposes of this analysis, a single parking supply for both weekday and weekend conditions is used to represent physical availability of parking that is generally open to or that could be made available to the public. The supply includes on-street and off-street parking spaces that are available to the general public and would potentially be available for Seattle Arena event parking. This publicly-available parking supply includes private off-street parking lots and garages that are restricted for employee and customer use, but were observed to be open for event parking during data collection. There is a potential that additional private parking spaces could be available for event parking. The parking supply represents conditions at game start on an event day for both weekday and weekend conditions. Parking supply varies by time of day and day of the week. Factors affecting parking supply include:

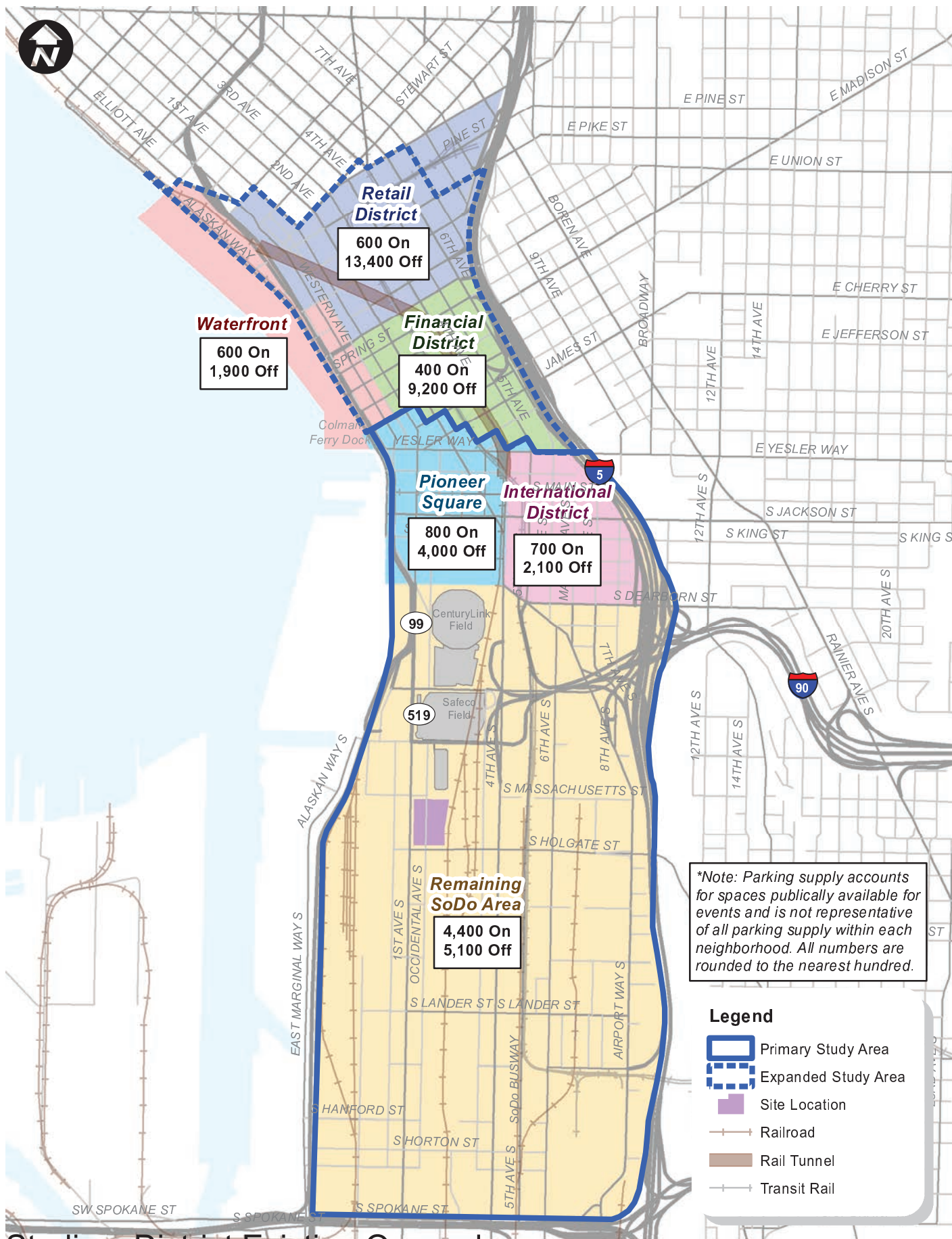
- **Time of Day and Day of Week.** Parking in the study area is operated differently depending on the day of the week and the time of day.

- On-street parking supply is impacted by time and loading zone restrictions. Parking within Pioneer Square, the International District, and CBD is generally two-hour paid parking Monday through Saturday. Pioneer Square and the Stadium District have time limited or paid parking is until 6:00 PM while the International District and CBD have paid parking until 8:00 PM. Near to the Stadium District Site, 1st Avenue S. parking has a one to two-hour time restriction and along S. Holgate Street there is no parking between 1st Avenue S. and 5th Avenue S., but east of 5th Avenue S. there is some unrestricted on-street parking.
- Many of the study area off-street parking garages close after the commute period (i.e., around 6:00 PM) on weekdays due to limited demand without an event in the Stadium District. These garages are often closed or open limited hours on the weekends.
- **Stadium District Event Conditions.**
 - During an event day, many of the off-street parking lots and garages extend hours of operation. In addition, there are private lots that would otherwise be closed to the public, which allow event parking including the Safeco Field parking garage.
 - The existing Stadium District has TCPs, which result in some on-street parking closures during an event¹³.
 - The availability of the CenturyLink and Safeco Field parking facilities for Arena events¹⁴.

Existing Supply: Parking supply is based on data collected by Transpo Group supplemented by data from the SDOT, the Mariners, and PSRC. Figure 3.8-18 illustrates the on-and off-street parking within the primary study area. There are approximately 17,000 parking spaces located within the primary study area and an additional 26,100 within the expanded study area for a total of 43,100 parking spaces. The primary study area has approximately 5,900 on-street and 11,100 off-street spaces while the expanded study area has approximately 1,600 on-street and 24,500 off-street spaces.

¹³ The Safeco Field TCP results in approximately 30 parking spaces closed. This was not specifically accounted for in the parking supply; however, there were a number of other conservative assumptions including no increase in parking supply as a result of pipeline development.

¹⁴ The initial Arena evaluation assumes use of the Safeco and Century Link parking facilities with consideration of parking conditions without these facilities provided later in the section.



Stadium District Existing On- and Off-Street Event Parking Supply

Seattle Arena

No Action Supply: The City provided information on future pipeline development that would likely be constructed and occupied by 2018. Key development projects considered in the parking forecasts include the North Lot (north of CenturyLink Field) and Home Plate (southwest corner of 1st Avenue S. and S. Atlantic Street) projects. Based on a review of pipeline projects, approximately 2,300 additional parking spaces will be developed with many potentially available for event parking. Even if all residential and retail parking were reserved, a substantial portion of the office parking would likely be available. However, to be conservative, no additional parking supply was assumed under the No Action Alternative.

Action Alternative Supply: Development on the Stadium District site would displace several businesses including approximately 500 event parking spaces located both on- and off-street. As discussed previously, with the development of the Arena, approximately 100 parking spaces would be developed on-site and parking spaces would be reserved at nearby parking facilities through shared parking agreements or by parking developed for the Arena. The evaluation focuses on the event arrival period; therefore, the approximately 100 parking spaces on-site are not considered in the parking supply since these would be filled prior to the event by coaches, players, and staff. Considering the loss in parking, the resulting parking supply would be approximately 16,500 parking spaces within the primary study area and 26,100 spaces in the expanded study area for a total of 42,600 spaces. This is 500 fewer parking spaces within the primary study area than the No Action Alternative.

The following sections describe the existing and 2018 parking demand for the primary and expanded study areas. No additional analysis is provided for the 2030 parking conditions.

Accurately forecasting long-term parking demand is difficult given the uncertainty of area wide development and economic drivers. In addition, changes to parking policies relate to TDM may continue to evolve. With the continued investments in transit (i.e., light rail, streetcar, etc.) by 2030, it is anticipated that there will be a continued mode shift from auto to transit. This will result in a lower overall parking demand. Given this, overall parking impacts for Cases S1, S2, and S3 may be less than described herein for 2030 depending on the amount and type of redevelopment that occurs.

Affected Environment

Parking demand is based on data collected by Transpo Group supplemented by data from the SDOT, the Mariners, and PSRC. To understand how an event in the Stadium District affects parking availability, parking demand was inventoried during a Mariners games on Thursday, April 11 and Saturday, April 13, 2013. The following describes the existing weekday and weekend parking demand within the primary and expanded study areas.

Weekday Occupancy

Appendix E provides details on weekday non-event and event parking occupancy within the primary and expanded study areas.

It becomes difficult to locate parking spaces within an area when occupancies are 85 to 90 percent and generally areas with occupancies at that level are considered “full.” Based on the existing supply and weekday demand:

- Non-event occupancies are generally low within both the primary and expanded study areas. Higher occupancy levels are found on-street especially in the International District and Pioneer Square neighborhoods as well as the retail area of the CBD where there are night activities such as restaurants and bars.
- During an event, overall occupancy increases within both the primary and expanded study areas with greater increases near Safeco Field within the primary study area.
- On-street parking becomes “full” within an event in both the International District and Pioneer Square neighborhoods.
- Field observations showed that on-and off-street facilities in the immediate vicinity of Safeco Field were full with a Mariners game. The analysis shows that there is additional parking within both the primary and expanded study areas; however, this parking is generally located in areas that are further from Safeco Field.

Weekend Occupancy

Appendix E provides details on weekend non-event and event parking occupancy within the primary and expanded study areas. The existing weekend parking demand analysis shows:

- Non-event occupancies for the weekend are similar to a weekday where occupancy levels are below 85 percent and higher occupancies are found on-street.
- During an event, overall occupancy increases within both the primary and expanded study areas with greater increases near Safeco Field within the primary study area.
- Field observations showed that on-and off-street facilities in the immediate vicinity of Safeco Field were full with a Mariners game. The analysis show that there is additional parking within both the primary and expanded study areas; however, this parking is generally located in areas that are further from Safeco Field.
- Although the weekend game attendance was slightly higher than the weekday, weekend event occupancies are generally lower than weekdays. The lower weekend occupancy is likely a result of a lower overall non-event parking demand on weekends.

Impacts of the No Action Alternative at Alternative 2 and 3 Site

The Affected Environment provides context related to on-and off-street parking supply; however, projecting specifically where someone would park is difficult because the location depends on a variety of factors such as duration of stay, proximity to use, cost of parking, etc. Given the uncertainty around specific parking behavior, the review of future conditions

considers the parking supply as a whole rather than separate consideration of on-and off-street parking.

Demand Forecasts

For purposes of this analysis and taking into account known development, the existing non-event parking demand was increased by 10 percent on the weekdays and five percent on the weekends for the overall study area. The majority of this increased demand was allocated to SoDo and the CBD where most of the pipeline projects would be located.

For the No Action Case S2 and S3, parking demand for the Mariners and Event Center was added to the non-event conditions. It was assumed that the arrival curve for these events would have 95 percent arrival by 7:00 PM and 100 percent by 8:00 PM (assuming a 7:00 PM event start). The distribution of parking among neighborhoods assumed 80 percent within the primary study area, which is closest to the venues and the remaining 20 percent within the CBD. The No Action parking demand Case S2 and S3 was determined by adding the Mariners and Event Center parking demand to the No Action Case S1 parking demand, simply a layering process, with no adjustments or reductions in non-event demand.

Weekday Occupancy

The analyses of weekday parking occupancy within the primary and expanded study areas show:

- No Action Case S1 occupancies in the primary study area are higher than existing conditions as a result of anticipated development primarily in the Pioneer Square and SoDo areas.
- For the No Action Case S2, representing a Mariners event totaling 40,500 attendees, parking utilization is substantially higher than observed for the Mariner game with approximately 20,000 attendees.
- Parking utilization in the International District and Pioneer Square neighborhoods would continue to increase with the single and dual event conditions.
- Overall primary study area occupancies are calculated to be approximately 60 to 85 percent for the event cases and the utilization of parking would continue to be concentrated around the event venues themselves.
- Parking occupancies for the CBD would be generally very low except for the Waterfront (65 to 80 percent), which is the most proximate area to the Stadium District.

Looking at the primary and expanded study area in combination, the overall parking occupancy of the potential supply would be approximately 20 percent for No Action Case S1, 40 percent

for Case S2, and 50 percent for Case S3 indicating parking is available; however, it may not be in preferred locations depending on where visitors are going.

Weekend Occupancy

The analyses of weekend occupancy for No Action Case S1, S2, and S3 parking occupancy within the primary and expanded study areas show:

- No Action Case S1 occupancies in the primary study area are similar to existing conditions with only slight increases as a result of the anticipated future development.
- For the No Action Case S2 condition, representing a Mariners event totaling 40,500 attendees, parking utilization is substantially higher than observed for the Mariner game with approximately 20,000 attendees.
- Compared to weekday, the weekend No Action Case S2 and S3 occupancies are lower within both the primary and expanded study areas as a result of lower non-event demands. The lower weekend non-event demands within the primary study area allows for more event-related parking to occur within this area.
- Parking utilization in the International District and Pioneer Square neighborhoods would continue to increase with the single and dual event conditions.
- Overall primary study area occupancies are calculated to be approximately 65 to 85 percent for the event cases and the utilization of parking would continue to be concentrated around the event venues themselves.
- Parking occupancies for the CBD would be lower than weekday conditions given the ability to accommodate more of the event parking demand within the primary study area.

Looking at the primary and expanded study area in combination, the overall parking occupancy of the potential supply would be approximately 15 percent for No Action Case S1, 40 percent for Case S2, and 50 percent for Case S3 indicating parking is available; however, parking may not be in preferred locations depending on where visitors are going.

Impacts of the Proposed Project (Alternative 2) – 20,000-Seat Arena

Alternative 2 is compared to the No Action Alternative to identify parking impacts of the Seattle Arena.

Parking impacts related to construction would be minimized by providing off-street parking, securing parking in near-by garages, as well as encouraging use of alternative modes. It is anticipated that parking impacts related to construction would be less than the 20,000-seat Seattle Arena, however during construction, the impacts would occur on a daily basis during the

two-year construction period. In addition, construction activities could result in the need to close on-street parking adjacent to the site. These closures would be coordinated with SDOT and appropriate notice and signs would be provided.

Arena Demand Forecasts

Alternative 2 parking demand represents an Arena event with an attendance of 20,000 people. Based on the arrival curve, 95 percent of the attendee arrivals occur by 7:00 PM and 100 percent by 8:00 PM. Similar to the No Action, 80 percent of the parking was assumed within the primary study area, which is closest to the venues and the remaining 20 percent within the expanded study area or CBD. For the multi-event scenarios (Cases S2 and S3), the parking demand of the combined events exceeds the parking supply within the primary study area; therefore, for these cases, it is assumed parking would occur within the closer neighborhoods until an approximately 90 percent utilization is reached and the remaining parking would occur within the CBD. The total Alternative 2 parking demand for each event case is determined by adding the Seattle Arena parking demand to the No Action Case S1, S2, and S3. A simple layering process was used with no adjustments or reductions in non-event demand.

Weekday Occupancy

The weekday No Action parking demand analysis shows:

- Arena parking demand could be fully accommodated within the primary study area under Case S1 (i.e., no other events at nearby venues).
- Event parking would spill into the expanded study area under multi-event conditions (Case S2 and S3).
- For the Arena plus Mariners and / or Event Center scenarios (Case S2 and S3), parking occupancies within the primary study area would be approximately 90 percent as compared to the No Action event cases, which would have occupancies of approximately 65 to 85 percent.

It is anticipated with any of the event cases parking closer to the Arena and / or other event venues would be more highly utilized. As the areas near the venues become full it would likely become more difficult to find parking. The primary study area would be full for multi-event Cases S2 and S3. There would be parking available within the CBD even with multiple events in the study area; however, in some cases this may be considered less desirable given the greater walking distance from the venue.

Weekend Occupancy

The weekend No Action parking demand analysis shows:

- Similar to weekday conditions, weekend Arena parking demand could be fully accommodated within the primary study area under Case S1 (i.e., no other events at nearby venues).
- Event parking would spill into the expanded study area under multi-event conditions (Case S2 and S3).
- For Alternative 2 Case S3, parking occupancies within the primary study area would be approximately 90 percent as compared to the No Action Case S3, which would have occupancies of approximately 65 to 85 percent.
- Given the lower overall weekend non-event parking demand within the expanded study, occupancies in this area are lower than the weekday.

It is anticipated with any of the event cases parking closer to the Arena and / or other event venues would be more highly utilized. As the areas near the venues become full, it would likely become more difficult to find parking. The primary study area would be full for multi-event cases (Case S2 and S3). There would be parking available within the CBD even with multiple events; however, in some cases this may be considered less desirable given the greater walking distance from the venue.

The proposed Arena would result in an increase in events within the Stadium District regardless of the event case or day of week. The resulting parking demand associated with the Arena could displace some observed SoDo overnight truck parking in publicly available space to other areas (likely south of the Stadium District), which may be consider less convenient locations.

Impacts of Safeco and CenturyLink Field Parking Restriction

The evaluation presented above assumes availability of the Safeco Field and CenturyLink parking facilities for Arena events. If shared parking agreements are not secured with these facilities, there is a potential that during an Arena only event (Case S1) parking may not be available at the Safeco Field and CenturyLink parking facilities. Without these parking facilities, there would be approximately 4,500 fewer parking spaces within the primary study area for a total parking supply of approximately 12,000 parking spaces in the primary study area.

A review of both weekday and weekend conditions shows that without the availability of the Safeco Field and CenturyLink parking facilities:

- Weekday and weekend occupancies in the primary study area would increase by approximately 15 to 25 percent with these parking facilities; however, levels would be less than 75 percent and not be considered full.
- Parking could continue to be accommodated in the primary study area; therefore, occupancies within the expanded study area would be similar with and without the Safeco and CenturyLink parking facilities.

Finding available parking in the vicinity of the Arena would likely become more difficult without the use of Safeco and CenturyLink parking facilities especially given that these make up over 25 percent of the parking in the primary study area and approximately 50 percent of the SoDo parking. With difficulty in finding parking, additional parking may occur in the expanded study area.

Impacts of Alternative 3 – Stadium District 18,000-Seat Arena

Parking impacts related to construction would be minimized by providing off-street parking, securing parking in near-by garages, as well as encouraging use of alternative modes. It is anticipated that parking impacts related to construction would be less than the 18,000-seat Seattle Arena. In addition, construction activities could result in the need to close on-street parking adjacent to the site. These closures would be coordinated with SDOT and appropriate notice and signs would be provided.

With 10 percent less seats, this would result in a 10 percent reduction in the overall parking demand as compared to Alternative 2. Given the lesser demand, overall transportation impacts for the Alternative 3 would be slightly less than those described for the Alternative 2 and the analysis of the Alternative 2 fully encompasses any transportation impacts that would occur as a result of developing Alternative 3.

3.8.2.9 Safety

Methodology

Collisions were reviewed at the study area intersections and at-grade rail crossings. Records of reported collisions were obtained from SDOT for the five-year period between January 1, 2007, and December 31, 2011. A summary of the total and average annual of reported accidents at each study intersection is provided in Attachment E-4, which is available from DPD upon request. The City of Seattle has adopted criteria for assigning high accident location status to signalized intersections with 10 or more reported collisions per year and unsignalized intersections with 5 or more reported collisions per year. Intersections designated as high accident locations are targeted for future safety improvements in an effort to reduce the occurrence of accidents.

Affected Environment

Fewer than 5 collisions per year were reported at each unsignalized study intersections and for the signalized locations only the 6th Avenue / James Street intersection had an average of more than 10 collisions per year. No fatalities were identified in the study area during the five-year period.

A review of the collisions at the 6th Avenue / James Street intersection shows the number of collisions per year has decreased over the 5-year period with 15 collisions in 2007 to 8 collisions in 2011. A majority of the collisions at this location involved left-turning vehicles along James

Street not granting right-of-way to vehicles traveling the opposite direction. These collisions are likely occurring as a result of the high traffic volume and the permitted left-turn phasing on the westbound approach James Street not yielding to oncoming eastbound traffic, which is typical of intersections with dual left-turn lanes with higher levels of turning traffic. The left turning collisions at this location could likely be reduced by providing protected left-turn phasing, which would be a trade-off with traffic operations, likely causing more delay that could increase other types of collisions such as rear-end.

The data were also reviewed for collisions involving pedestrians or bicyclists. Within the study area, 34 of the 64 study locations had collisions involving pedestrians and bicyclists. The only location that averaged more than one collision per year involving a pedestrian or bicyclists is the 5th Avenue S. / S. Jackson Street intersection, which has a much higher pedestrian demand than other locations in the study area. This intersection is located near the International District Station transit hub on the southwest corner of this intersection resulting in higher levels of pedestrian activity.

Collisions were also reviewed at the at-grade railroad crossings along S. Royal Brougham Way, S. Atlantic Street, S. Holgate Street, S. Lander Street, S. Hanford Street, S. Horton Street, and S. Spokane Street based on data provided by SDOT as well as the Federal Railroad Administration (FRA) database of accident reports. Vehicular traffic at these crossings is controlled by gates and non-motorized traffic is generally controlled through passive warning signs. Based on a review of *Pedestrian/Bicycle Warning Devices and Signs at Highway-Rail and Pathway-Rail Grade Crossings* (Illinois Center for Transportation, April 2013), implementation of control devices for non-motorized traffic should be evaluated on a case-by-case basis. There were 12 collisions in the 5-year time period related to trains at the at-grade crossings. These collisions occurred at the S. Atlantic Street, S. Royal Brougham Way, S. Hanford Street, S. Hinds Street, S. Holgate Street, and S. Royal Brougham Way crossings. A majority of the collisions resulted in property damage or injury. Implementation of active warning or gates for pedestrians could help prevent these types of safety issues. There was a pedestrian fatality in 2011 at the S. Holgate Street crossing between 3rd Avenue S. and Occidental Avenue S; however, the collision review shows there were extenuating circumstances and the fatality was not a result of the train track or roadway conditions.

Impacts of the No Action Alternative at Alternative 2 and 3 Site

As traffic volumes increase, the potential for traffic safety issues increases proportionately. The overall vehicular and non-motorized traffic in the area under 2018 and 2030 conditions are anticipated to be higher than occurs under existing conditions. There are changes in transportation infrastructure underway, and the effect of these changes on transportation safety is unknown. The projects are all designed to current standards of practice.

Impacts of the Proposed Project (Alternative 2) – Stadium District 20,000-Seat Arena

Alternative 2 construction would increase vehicular traffic within the study area, which could result in increased conflicts between vehicular, pedestrian, and bicycle traffic. It is anticipated that safety impacts related to construction would be less than the 20,000-seat Seattle Arena, however could occur more frequently during the two-year construction period.

As traffic volumes increase, the potential for traffic safety issues increases proportionately. Alternative 2 would increase both vehicular and non-motorized traffic within the study area. In the immediate vicinity of the site, there are several at-grade rail crossings along S. Holgate Street. Increased pedestrian activity at these locations as a result of travelling to and from the Seattle Arena could result in pedestrian safety issues. The *Pedestrian/Bicycle Warning Devices and Signs at Highway-Rail and Pathway-Rail Grade Crossings* (Illinois Center for Transportation, April 2013) notes that for at-grade crossing active warning devices are generally observed by users more often when paired with gates. This document also says that there is no standard procedure for determining control or warning devices an evaluation should be conducted on a case-by-case basis. The S. Holgate Street corridor has multiple at-grade rail crossings closely spaced in the immediate vicinity of the site and pedestrian gates may not be feasible or appropriate.

As described previously in the Pedestrian section, consideration could also be given to a grade separated pedestrian bridge that would be oriented east-west over the train tracks connecting the Arena to the S. Holgate Street / 3rd Avenue S. intersection or the closure of S. Holgate Street to pedestrians with events.

Impacts of Alternative 3 – Stadium District 18,000-Seat Arena

Alternative 3 construction would increase vehicular traffic within the study area, which could result in increased conflicts between vehicular, pedestrian, and bicycle traffic. It is anticipated that safety impacts related to construction would be less than the 18,000-seat arena.

Alternative 3 would have similar safety impacts as identified with Alternative 2; however, these impacts would be to a less extent since the traffic levels would be lower with the smaller venue.

3.8.2.10 Occidental Avenue South Street Vacation

An element of the Alternative 2 and Alternative 3 proposals includes the vacation of Occidental Avenue S. between S. Holgate Street and S. Massachusetts Street. The cumulative conditions with an arena event, inclusive of the street vacation, were accounted for in the analysis of Alternatives 2 and 3. This section provides a focused comparison of conditions intended to isolate the impacts of the vacation itself. It includes a comparison to developing the site under the current zoning; assuming no vacation of Occidental Avenue S. This additional development scenario is not considered an alternative for purposes of the EIS evaluations but has been included for purposes of assessing the impacts of the Occidental Avenue S. street vacation. This

section evaluates the proposed street vacation, independently, and in the context of the development proposal.

Context

Occidental Avenue S. is classified as an access street. It serves a variety of purposes, ranging from local access for adjacent business and events, staging for events at Safeco Field and CenturyLink Field, event parking, to a potential route bypass to 1st Avenue S. during periods of higher traffic congestion.

North. North of S. Massachusetts Street, Occidental Avenue S. serves as service access and parking for businesses on the west side (with primary frontages on 1st Avenue S.), and provides access to the Safeco Field parking garage, including surface parking to the immediate east side of the garage. This parking access is provided via S. Massachusetts Street, via its intersection with Occidental Avenue S., which also provides access to the Safeco Field parking garage, the surface parking to the east, as well as the service road and fire lane south and west of the Safeco Field garage. In addition, the plaza area adjacent to the Safeco Field parking garage serves as a staging area for Safeco Field events, parking for charter buses, overflow parking, and emergency evacuation. This portion of Occidental Avenue S. carries a weekday average of approximately 4,300 vehicles per day with a peak of 500 vehicles per hour during the AM peak hour.

Site Area. The area of Occidental Avenue S. to be vacated connects S. Holgate Street with S. Massachusetts Street. The street section serves on-street parking in some sections, as well as access to the parcels adjacent to the street to the east and west. In addition, it provides continuity of connection between S. Horton Street and S. Atlantic Street. This portion of Occidental Avenue S. carries a weekday average of approximately 3,700 vehicles per day with a peak of 460 vehicles per hour during the AM peak hour.

South. South of S. Holgate Street, Occidental Avenue S. provides access and parking to local commercial businesses with primary frontages on 1st Avenue S. to the immediate west, as well as to freight related warehouse business operations on the east side of Occidental Avenue S., immediately south of S. Holgate Street. It exists as a contiguous connection from S. Atlantic Street to S. Horton Street, a distance of over one mile. This portion of Occidental Avenue S. carries a weekday average of approximately 2,700 vehicles per day with a peak of 340 vehicles per hour during the AM peak hour.

Local Circulation Issues

The Mariners emphasized the importance of maintaining accessibility to the Safeco Field parking garage and surface parking lot, as well as the service road and fire lane, and noted the use of the plaza area between the parking structure and Occidental Avenue S. for bus staging.

- **Safeco Field Parking Garage – Access and Usage.** The parking garage is used daily by staff and vendors at the facility, with approximately 250 parking spaces identified for these uses. Another 50 spaces are leased to adjacent office properties, except during game days. Access to the garage is provided directly from S. Atlantic Street on the north, as well as on the south and east faces of the garage, which access the street system via S. Massachusetts Street and / or Occidental Avenue S.
- **Service Road / Surface Parking Lot.** This drive, which extends east via an extension of S. Massachusetts Street, provides direct southerly access to the parking garage. In addition, it connects service activity (trucks, food delivery, etc.) for Safeco Field with the local street system, connecting under S. Atlantic Street to Safeco Field itself from east of the parking garage. This connection also serves as the fire lane for Safeco Field.
- **Plaza and Adjacent Right-of-Way.** This section of the sidewalk and right-of-way is open space for pedestrians during most periods; during events at Safeco Field, as well as some CenturyLink Field events, it is used for charter bus staging and pick-up / drop-off, ADA assisted parking.

In addition to the issues raised by the Mariners, concern has been expressed that Occidental Avenue S. is used by freight haulers and other traffic as a bypass to congestion on 1st Avenue S. With a section of Occidental Avenue S. closed, there would be reduced ability to avoid primary arterial congestion.

Methodology

The evaluation of the street vacation on the local transportation network was conducted consistent with the methodology previously discussed in the document. Consistent with the scope of this EIS, the impacts of the proposed street vacation were evaluated for the following transportation elements:

- Trip Generation
- Public Transportation
- Pedestrians
- Bicycle
- Traffic Volumes

Traffic Operations (Intersection Operations, Local Circulation and Traffic Diversion)

- Freight and Goods
- Parking

- Safety

The future 2030 conditions were evaluated for two scenarios. First, the impact of the physical change in street connectivity is evaluated, independent of the proposed development or build-out under the current zoning. Second, the comparative impact of the two site development scenarios is summarized.

1. **Street Vacation Impact:** This scenario provides the most direct basis for understanding the singular effects of the vacation itself, assuming no changes in land use or development. The No Action 2030 conditions without and with a street vacation are compared.
2. **Comparison of Site Development Options:** This scenario compares the results of the analysis conducted for Alternative 2 Case S1, with the vacation of Occidental Avenue S., to the development of an approximately 810,000 sf commercial project on the project site, without the Occidental Avenue S. vacation, assuming build-out under current zoning.

Impacts of the Vacation

Table 3.8-26 provides a summary of the key transportation elements associated comparing the current proposal to future development that would be enabled assuming no Occidental Avenue S. street vacation. Figures 3.8-19, 20, and 21 illustrate the weekday PM, AM, and midday traffic volumes and LOS for the with and without vacation conditions.

**Table 3.8-26
Occidental Avenue S. Street Vacation Comparative Analysis**

	Street Vacation Impact	Comparison of Site Development Options
Trip Generation	Based on a development potential of 810,000 sf of commercial uses, the site weekday trip generation would be 795 net new trips during the AM peak hour, 102 net new trips during the midday peak hour, and 865 trips during the PM peak hour.	Alternative 2 Case S1 increases trip generation by approximately 1,100 to 1,300 trips during the weekday PM peak hour with a capacity level event as compared to development with an 810,000 sf commercial structure.
Public Transportation	A street vacation would result in minor impacts associated with diversion of traffic and moderate increases in peak hour congestion along the 1st Avenue S. corridor in the immediate site vicinity. Since 1st Avenue S is not a transit corridor, no impacts are anticipated	Increased demand for public transportation associated with the Arena as described in the Public Transportation section of this document. With development under current zoning, increases in transit demand and need to connect pedestrians to transit would occur. The primary route to transit is along the S. Holgate Street corridor, which would connect to transit service along 4th Avenue S. as well as to the Link Light Rail corridor. Impacts to transit service speed and

Table 3.8-26 (Continued)

	Street Vacation Impact	Comparison of Site Development Options
		<p>reliability would occur with the Arena on event days, at the magnitude and frequencies described in the Public Transportation section. With development under current zoning, overall traffic impacts would occur that would also impact transit speed and reliability. Impacts at 4th Avenue S. / S. Holgate Street would be similar to that of the Arena; impacts to the 1st Avenue S. corridor would be somewhat less due to the probable access configuration along the Occidental Avenue S. corridor (Note: No commercial project is proposed; access configuration was assumed for purposes of the analysis.)</p>
Pedestrians	<p>With the street vacation, pedestrians would divert from Occidental Avenue S. to either 1st Avenue S. or 4th Avenue S depending on the origin or destination of the trip. Pedestrian volumes were observed to be low along Occidental Avenue S., north of S Holgate with and without an event.</p>	<p>The Arena would result in concentrated, though comparatively infrequent, pedestrian demands during event ingress / egress; pedestrian demands associated with the development under current zoning would result in lower, more evenly distributed pedestrian demands occurring throughout the day, and especially during lunch breaks.</p> <p>In either case, additional pedestrian demands would contribute to increased use of local sidewalks, including S. Holgate Street. Impacts of Arena related pedestrian peak demands are documented in the Pedestrian section; the impacts of the development under current zoning would be less, but also contribute to existing issues with pedestrian accessibility crossing the railroad tracks to the east. Office pedestrians could orient eastward to connect to bus and / or Link Light Rail service for commuting.</p>
Bicycles	<p>Bicycle use of Occidental Avenue S. has been observed to be low; as a result its vacation in the proposed limits would not result in a significant adverse impact. It is acknowledged that, to the extent that bicycles travel on Occidental Avenue S., the vacation of this section would result in inconvenience and diversion, primarily to 1st Avenue S. between S. Holgate Street and S. Massachusetts Street.</p>	<p>With development under current zoning, no disruption in bicycle routing would occur; however, additional trip generation associated with the development would add to traffic on Occidental Avenue S. near the site, and potentially conflict with bicycle travel compared to current conditions.</p> <p>With the proposed Arena, the diversion of bicyclists due to the closure of Occidental Avenue S. would occur as described previously; added events and related traffic would increase the potential for conflict with bicycles throughout SoDo depending on the specific route traveled.</p>

Table 3.8-26 (Continued)

	Street Vacation Impact	Comparison of Site Development Options
<p>Traffic Volumes</p>	<p>Truck traffic currently creates westbound queues along S. Atlantic Street, which induces traffic destined for 1st Avenue S. to turn left onto Occidental Avenue S., then right onto S. Holgate Street, before turning south onto 1st Avenue S. The vacation of Occidental Avenue S. would result in this pattern being altered, with these vehicles turning west onto S. Massachusetts Street to access 1st Avenue S. instead of S. Holgate Street.</p> <p>Traffic volumes observed crossing S. Holgate Street were approximately 130 vehicles per hour during the weekday AM peak and 60 vehicles per hour during the weekday PM peak. These volumes are substantially less than the traffic turning to/from the west onto S. Holgate Street from Occidental Avenue S.</p>	<p>The difference between trip generation associated with development under the current zoning and Alternative 2 would result in the changes listed below in total traffic along links in the immediate vicinity of the Stadium District site. Note that traffic volume changes during AM and mid-day periods are largely a result of shifts due to the Occidental Avenue S. vacation; Arena generated traffic would be minimal during these conditions.</p> <p>1st Avenue S. from S. Holgate Street to S. Massachusetts Street:</p> <ul style="list-style-type: none"> ▪ +315 vph as a result of the Arena (PM peak hour) ▪ +370 vph as a result of the Arena project with the street vacation (AM peak hour) ▪ +110 vph as a result of the Arena (midday peak hour) <p>1st Avenue S. from S. Massachusetts Street to S. Atlantic Street:</p> <ul style="list-style-type: none"> ▪ +225 vph as a result of the Arena (PM peak hour) ▪ +180 vph as a result of the Arena (AM peak hour) ▪ +75 vph as a result of the Arena (midday peak hour) <p>Occidental Avenue S. from S. Massachusetts Street to S. Atlantic Street:</p> <ul style="list-style-type: none"> ▪ -620 vph as a result of the Arena (PM peak hour) ▪ -1,025 vph as a result of the Arena (AM peak hour) ▪ -260 vph as a result of the Arena (midday peak hour) <p>S. Atlantic Street east of Occidental Avenue S.:</p> <ul style="list-style-type: none"> ▪ +50 vph as a result of the Arena (PM peak hour - Note: Westbound traffic volumes would increase by approximately 310 vehicles due to the inbound orientation of weekday PM peak hour Arena traffic) ▪ -550 vph as a result of the Arena (AM peak hour) ▪ -95 vph as a result of the Arena (midday peak hour)

Table 3.8-26 (Continued)

	Street Vacation Impact	Comparison of Site Development Options
<p>Traffic Operations – Intersection Operation</p>	<p>The vacation of Occidental Avenue S. would divert traffic to 1st Avenue S. but the 1st Avenue S. / S. Holgate St. intersection would continue to operate at LOS D even with the increase traffic during the PM peak hour and would continue to operate at LOS C or better during the midday peak hour. During the AM peak hour the intersection would degrade from LOS C or better to LOS D with the shift in traffic.</p>	<p>The Arena (Alternative 2 Case S1) and street vacation would maintain intersection operations along 1st Avenue S. as compared to a 810,000 sf commercial development that could be allowed under the current zoning:</p> <p>1st Avenue S. / S. Atlantic Street: LOS F (PM and AM peak hours), LOS D (midday Peak hour)</p> <p>1st Avenue S. / S. Holgate Street: LOS E (PM peak hour), LOS D (AM peak hour), LOS C or better (midday peak hour)</p> <p>The Edgar Martinez Drive/Occidental Avenue S. intersection would operate at LOS F under all development and Occidental Avenue S. vacation scenarios with the exception of mid-day conditions with the vacation and arena development. Under these conditions the trips generated by the arena are low and background traffic volumes along Occidental Avenue S. are also low such that the intersection is forecast to operate at LOS B during mid-day conditions.</p> <p>Traffic volumes and operations east of the site, at 4th Avenue S. / S. Holgate Street would not materially change between the two build scenarios.</p> <p>As described in the traffic operations section, the more concentrated impacts associated with event traffic would occur less frequently than the everyday added congestion associated with site buildout under the current zoning.</p>
<p>Traffic Operations – Local Access and Traffic Diversion</p>	<p>Peak hour traffic volumes would be nominal and minimal impacts to circulation are identified, as described in relation to traffic volumes and operations.</p> <p>With the street vacation, the continuity of Occidental Avenue S. from S. Horton Street to S. Atlantic Street would be interrupted, disrupting a potential parallel route to 1st Avenue S. during periods of congestion. However, northbound and southbound through traffic volumes across S. Holgate Street are minor, and do not represent a substantial movement.</p> <p>Impacts to emergency vehicle access to the</p>	<p>The impact of eliminating the Occidental Avenue S. connection to S. Holgate Street could be mitigated by the Arena proposal to replace it with a north-south drive connecting S. Holgate Street with the extension of S. Massachusetts Street, which could provide access to the Safeco Field garage, surface parking, and service roadway. This new connection would be a private road; however, an agreement could be crafted to assure that the use of the drive would be available during all appropriate event and activity times for Safeco Field operations. Provision of this roadway coupled with the agreement for Safeco Field</p>

Table 3.8-26 (Continued)

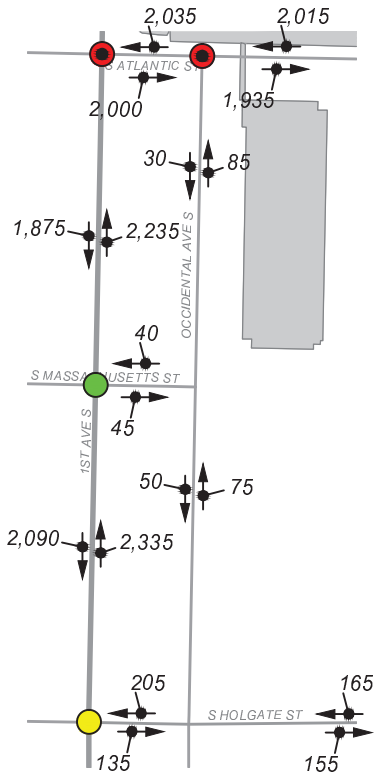
	Street Vacation Impact	Comparison of Site Development Options
	<p>south could occur if the street was vacated without providing a parallel replacement link to S. Holgate Street.</p>	<p>use would minimize impacts of the Occidental Avenue S. vacation on Safeco Field operations including deliveries, garage access, and emergency access/evacuation.</p> <p>Increased reliance on access to the Safeco Field garage, Occidental Avenue S. north of the Arena, and the businesses on the west side of Occidental Avenue S. would be enhanced by the proposed realignment of S. Massachusetts Street between 1st Avenue S. and Occidental Avenues S.</p> <p>The new private drive along the east edge of the Arena between the Safeco Field property and Holgate Streets could help support emergency vehicle access to the Safeco Field garage during event periods.</p> <p>With the Arena, which includes the development of a parallel private access drive between S. Holgate and Safeco Field property, and the realignment of S. Massachusetts Street from 1st to Occidental Avenues S., access to the section of Occidental Avenue S. north of S. Massachusetts Street, as well as the plaza adjacent to the right-of-way near the garage would be maintained.</p> <p>The realignment of S. Massachusetts Street also increases the space south of S. Massachusetts Street for pedestrian gatherings associated with the Arena, reducing the likelihood of spillover into the street that would otherwise conflict with traffic accessing Safeco Field garage, service roadway, or surface parking lot.</p>
<p>Freight and Goods</p>	<p>A limited number of trucks currently utilize Occidental Avenue S. for deliveries in the immediate site vicinity. Those trucks serving existing uses along this section of Occidental Avenue S. would be redirected to 1st Avenue S. Based on traffic counts during the weekday PM, AM, and midday peak hours and additional field observations, the amount of truck traffic varies from no trucks to up to 10 vehicles per hour along this section of Occidental Avenue S.</p> <p>The contiguous connection of Occidental Avenue S. between S. Atlantic Street and S. Horton Street would be interrupted by the</p>	<p>Site related truck traffic is likely to decrease except during pre / post-event conditions with the Arena; office development would require on-site loading docks and would receive deliveries throughout the day.</p> <p>Added congestion on event day would impact general area freight along with other traffic; building under no vacation would impact area-wide traffic and freight to a lesser degree, but at a higher frequency.</p>

Table 3.8-26 (Continued)

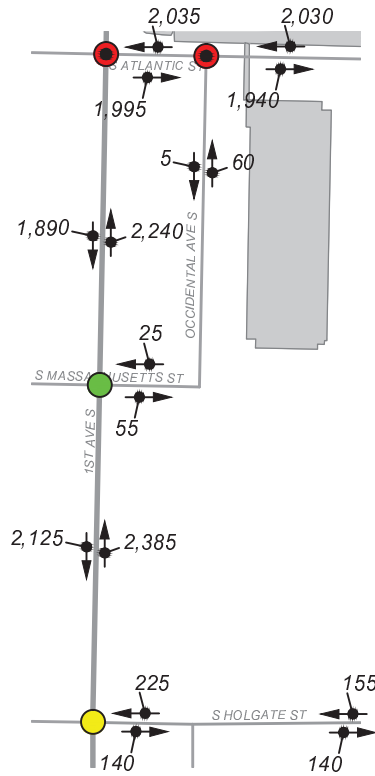
	Street Vacation Impact	Comparison of Site Development Options
	vacation. To the extent that a freight vehicle uses Occidental Avenue S. to bypass 1st Avenue S. congestion during peak or other periods, this route would be altered. Use of Occidental Avenue S. could occur at realigned S. Massachusetts Street, as well as between S. Holgate and S. Horton Streets.	
Parking	The elimination of this section of Occidental Avenue S. would result in the removal of on-street parking for this street segment. Based on the parking supply surveys and actual usage, approximately 60 spaces could be removed.	<p>With redevelopment under current zoning, the impact to on-street parking is not clear. It is likely that some amount of formal on-street parking would be provided along an improved curb. With new formal parking spaces and the development of commercial uses near street level, the likelihood of higher local parking utilization on an everyday weekday basis would occur.</p> <p>With the Arena, approximately 60 on-street parking spaces would also be removed</p>
Traffic Safety	Addition of pedestrians and bicycles to 1st Avenue S. for the Occidental Avenue S. street vacation could increase vehicle / pedestrian / bicycle conflicts. Sidewalk exists on 1st Avenue S.; thus, pedestrian safety would be unlikely to be noticeably impacted. Bicycles could be required to interact with 1st Avenue S. vehicular traffic, which has a higher level of activity as compared to Occidental Avenue S.; therefore, bicyclists would experience increased conflicts.	In either case, additional pedestrian demands would contribute to increased use of local sidewalk, including S. Holgate Street. Impacts of Arena related pedestrian peak demands are documented previously; the impacts of the development under current zoning would be less, but also contribute to existing issues with pedestrian accessibility crossing the railroad tracks to the east. Office pedestrians could orient eastward to connect to bus and / or Link light service for commuting.

No Build

No Build Without Occidental Vacation

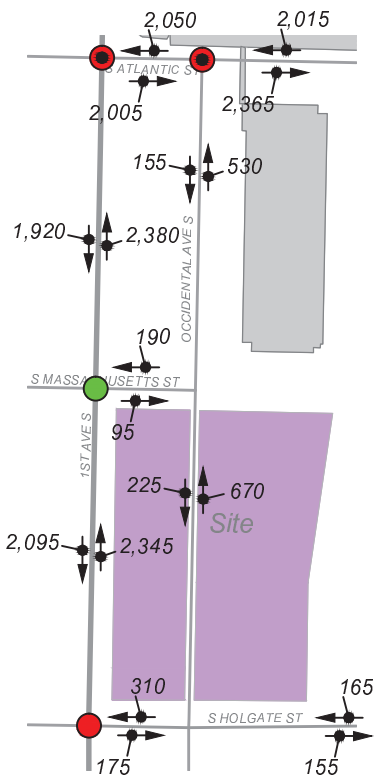


No Build With Occidental Vacation

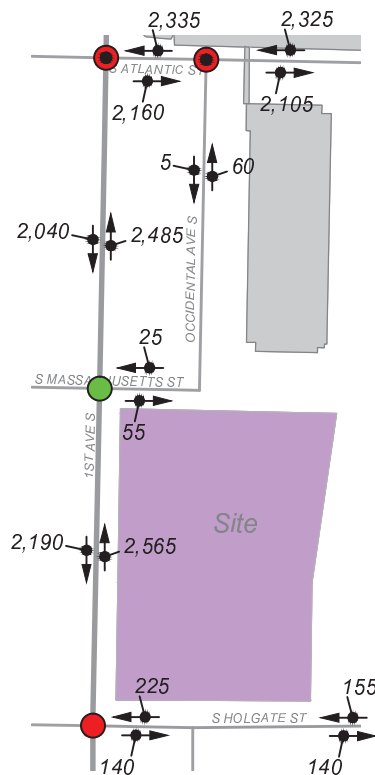


Build

Office Development Without Occidental Vacation



Alt 2 S1 With Occidental Vacation



NOT TO SCALE

LEGEND

- X = PM PEAK HOUR TRAFFIC VOLUMES
- = LOS A - C
- = LOS D
- = LOS E
- = LOS F

Occidental Avenue S. Street Vacation 2030 Weekday PM Peak LOS & Volumes

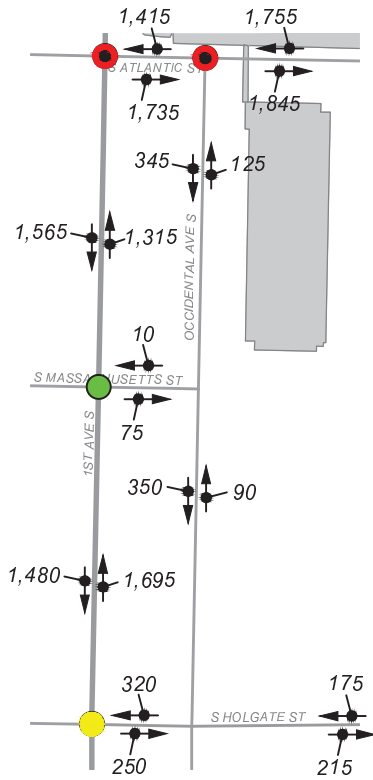
FIGURE 3.8-19



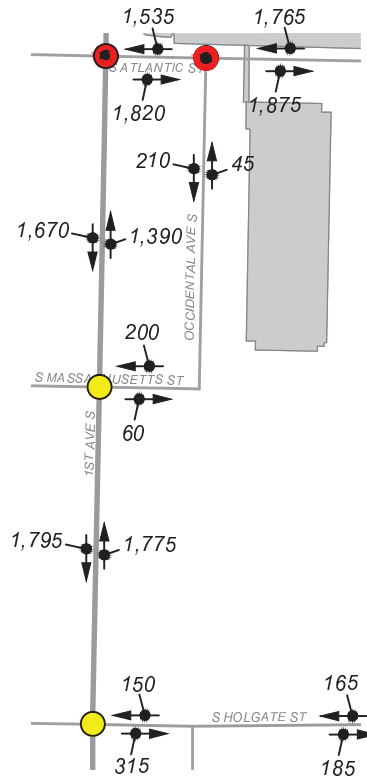
NOT TO SCALE

No Build

No Build Without Occidental Vacation

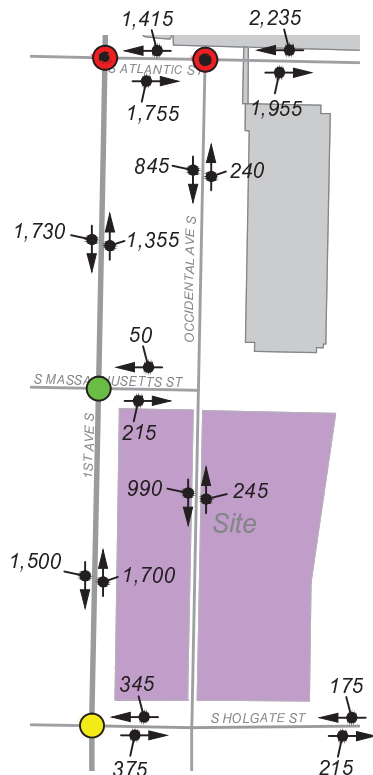


No Build With Occidental Vacation

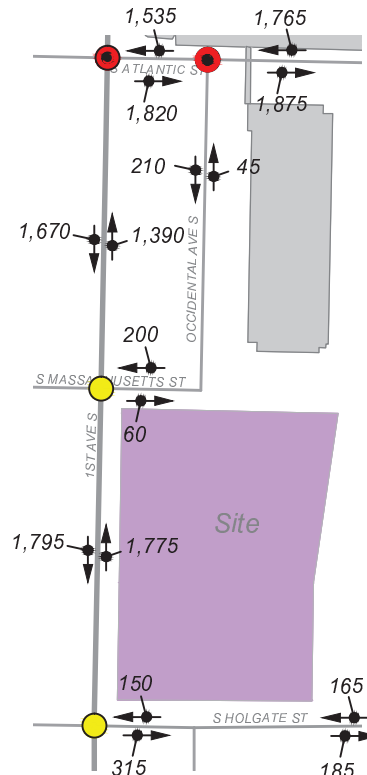


Build

Office Development Without Occidental Vacation



Alt 2 S1 With Occidental Vacation



LEGEND

X = AM PEAK HOUR TRAFFIC VOLUMES

● = AM PEAK HOUR LOS

- = LOS A - C
- = LOS D
- = LOS E
- = LOS F

Occidental Avenue S. Street Vacation Weekday AM 2030 LOS & Volumes

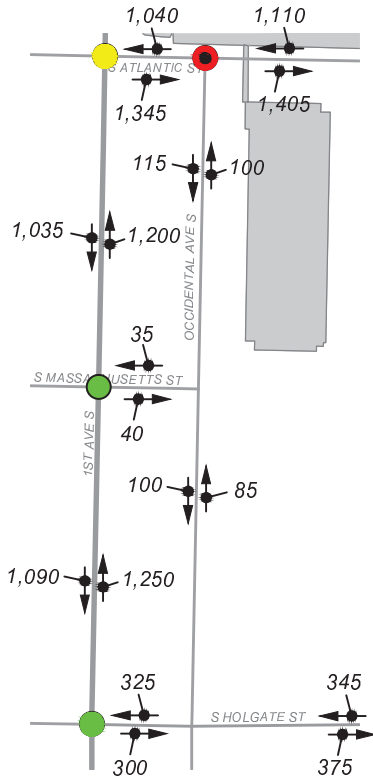
FIGURE 3.8-20



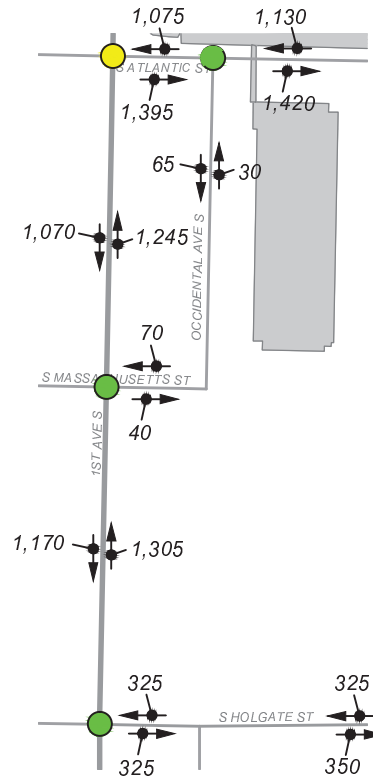
NOT TO SCALE

No Build

No Build Without Occidental Vacation

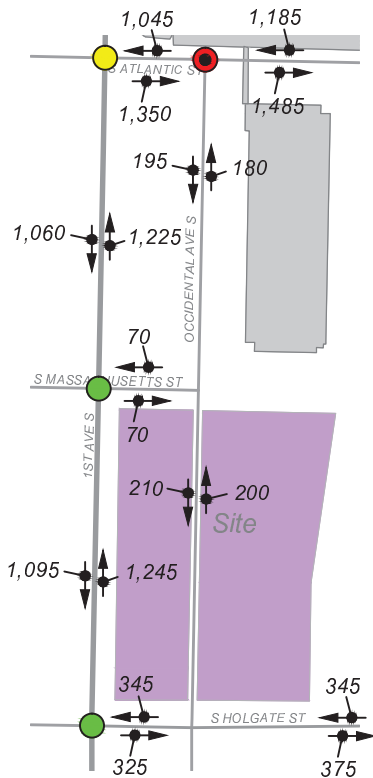


No Build With Occidental Vacation

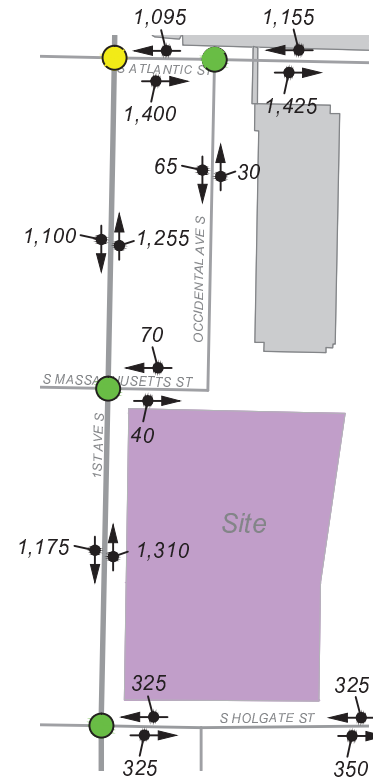


Build

Office Development Without Occidental Vacation



Alt 2 S1 With Occidental Vacation



LEGEND

X = MIDDAY PEAK HOUR TRAFFIC VOLUMES

● = MIDDAY PEAK HOUR LOS

- = LOS A - C
- = LOS D
- = LOS E
- = LOS F

Occidental Avenue S. Street Vacation Weekday Midday 2030 LOS & Volumes

FIGURE 3.8-21

3.8.2.11 Site Access

The proposed Arena would be located north of S. Holgate Street, south of S. Massachusetts Street, and east of 1st Avenue S. The following describes the access and circulation in the vicinity of the site for pedestrians, bicyclists, vehicles, taxi, charter buses, and drop-off/pick-up activity. Figure 3.8-22 illustrates the proposed site plan for the Arena. Alternatives 2 and 3 would have similar access and circulation plans.

Pedestrians

The main entrance to the Arena would be located at 1st Avenue S. and S. Massachusetts Street at the northwest corner of the building. There would be secondary entrances along the 1st Avenue S. frontage and at the southwest corner of the building at 1st Avenue S. and S. Holgate Street. S. Holgate Street would also have service entrances. Along the site frontage, the sidewalks would be widened to 24-feet along 1st Avenue S. and S. Holgate Street. A large pedestrian plaza would be provided along the S. Massachusetts Street frontage, immediately north of the main building entrance.

Bicycles

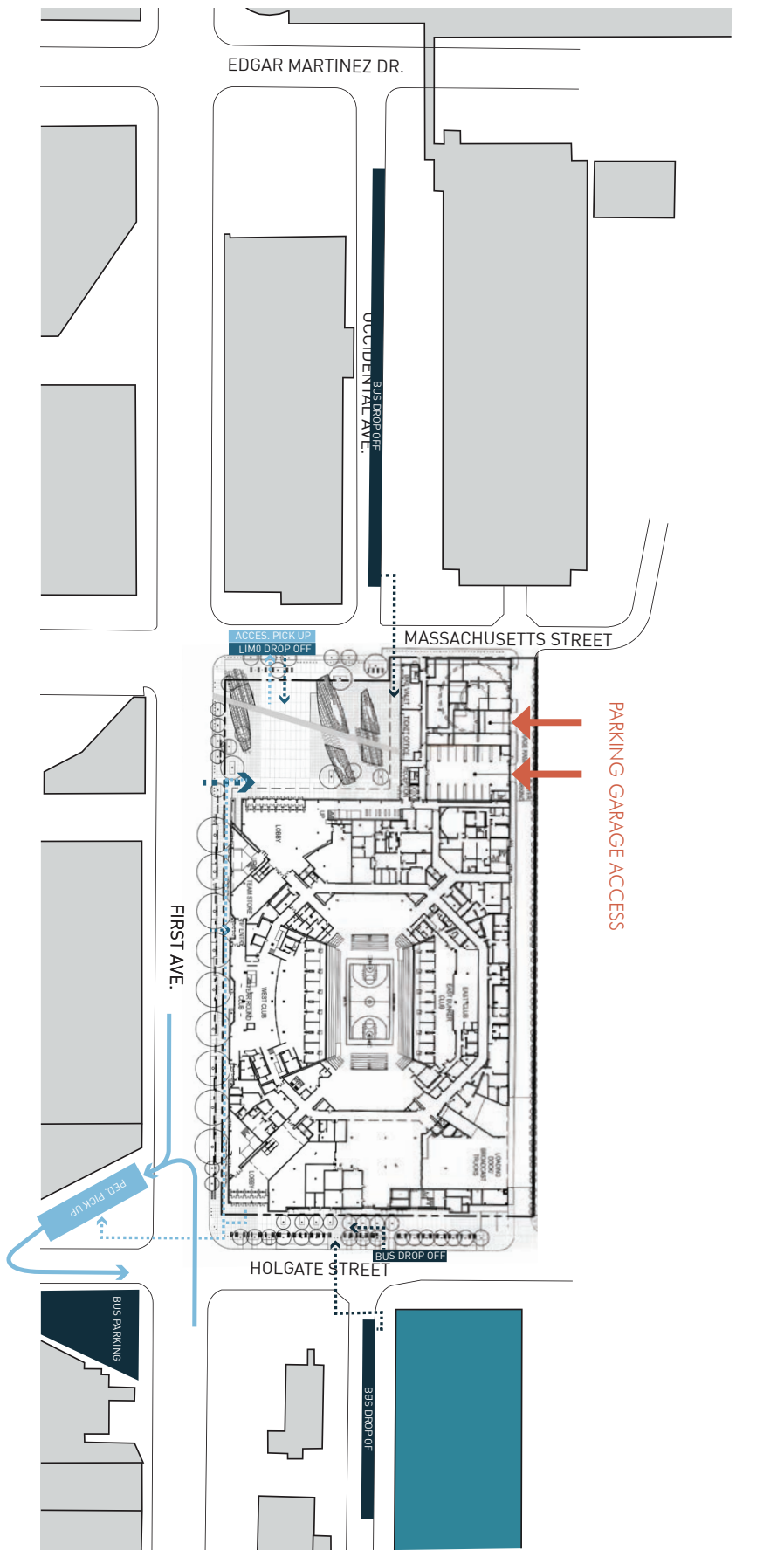
The main access for bicyclists to the Arena would be the S. Massachusetts Street entrance. A bicycle valet with 87 spaces would be provided for attendees using this mode. In addition, 48 bicycle parking spaces would be provided outside the Arena along the 1st Avenue S. street frontage.

Vehicles

On-site parking would be provided for players, coaches, and staff. This parking would be accessed along a private driveway/connection at S. Holgate Street. As described in the evaluation of parking, attendee parking would be provided through shared parking agreements with existing facilities or construction of a new parking garage south of the proposed Arena along S. Holgate Street at Occidental Avenue S. If a new parking garage is provided, it is likely that sidewalks would be improved along the south side of S. Holgate between 1st Avenue S. and the parking garage to facilitate access between the garage and the Arena.

Service and Deliveries

Delivery and service vehicles would also access the site via the private connection at S. Holgate Street. Through an easement, this private connection could also be used to facilitate access and deliveries to the Safeco Field garage.



Stadium District Proposed Arena Site Plan

Seattle Arena



FIGURE
3.8-22

Charter Bus

Drop-off/pick-up for Charter buses would primarily occur along Occidental Avenue S. north of S. Massachusetts similar to what is currently done for Safeco Field events. In the case of multiple events where the area north of the Arena is used by another venue, charter bus staging could be located on Occidental Avenue S. south of S. Holgate Street. If a parking facility is developed on the South Warehouse site, charter bus staging could be integral or adjacent to this garage.

Drop-off/Pick-up

There would be two drop-off/pick-up areas for limos, taxi, other private cars and smaller buses. Personal vehicle drop-off would occur along S. Massachusetts Street in front of the main entrance for those with disabilities and at the northwest corner of the 1st Avenue S./S. Holgate Street intersection for other pedestrians. If a garage is developed south of S. Holgate Street, drop-off could be accommodated along the Occidental Avenue S. frontage.

3.8.2.12 South Warehouse Garage Sensitivity Analysis

Although not included as an integral part of Alternative 2 or 3, an off-site parking garage could be provided to meet parking code requirements should a shared parking agreement not be reached with any existing garage operators to accommodate the code-required parking. This section summarizes the potential impacts associated with the construction of a 1,740 stall parking garage accessed from S. Holgate Street, Occidental Avenue S., and S. Walker Street. Potential impacts of the garage were evaluated within the vicinity of the Arena site to identify potential changes to previously presented analysis results. The analysis focuses on the primary transportation elements summarized throughout this document. This includes:

- Traffic volumes
- Pedestrian circulation patterns
- Intersection LOS at intersections within the Arena vicinity
- Freight and Goods
- Parking

The core methodology used to conduct the analysis of each element is consistent with that described previously in each of the respective sections. The analysis was conducted for forecast 2030 conditions based on the same trip generation used for both Alternative 2 Case S1 (Arena only) and Case S3 (Arena, Mariners, and CenturyLink events). The Safeco Field parking garage was assumed to be open and available in both Cases S1 and S3.

Table 3.8-27 provides a summary of the key transportation elements associated with the construction of an approximately 2,025-stall parking garage on Occidental Ave S South of S. Holgate Street.

**Table 3.8-27
Parking Garage Transportation Elements**

Transportation Element	2030 Alternative 2 With Addition of South Warehouse Garage
Vehicular Traffic Volumes	<p>Provision of a parking garage on the South Warehouse site would result in a shift in traffic accessing the site. The resulting impacts of this shift in traffic distribution include:</p> <ul style="list-style-type: none"> • For both Case S1 and S3, weekday PM peak hour traffic volumes would generally be similar to the Alternative 2 analysis presented previously with approximately 7 and 16 percent more vehicles westbound vehicles on S. Atlantic Street for Cases S1 and S3, respectively. Southbound on 1st Avenue S. between S. Holgate Street and S. Atlantic Street volumes would increase approximately 11 percent and 30 percent, respectively. • Peak hour activity associated with the garage loading is estimated to total 240 vehicles per hour (vph) under Case S1 and 665 vph under Case S3 during the weekday PM peak hour. • During post-event conditions, garage traffic is unlikely to use S. Holgate Street due to congestion on the roadway from rail crossing activity. Nearly all post-event traffic from the garage is likely to use S. Walker Street to access 1st Avenue S. and the wider roadway network.
Pedestrian Circulation	<p>The South Warehouse garage would double the amount of parking that occurs south of S. Holgate Street from approximately 10 percent to 20 percent. This would result in:</p> <ul style="list-style-type: none"> • Pedestrian volumes crossing S. Holgate Street at the Occidental Avenue S. and 1st Avenue S. intersections would increase. • There is an existing sidewalk with a width of 10-feet along the south side of S. Holgate Street between 1st Avenue S. and Occidental Avenue S. A review of post event pedestrians flows with the South Warehouse garage along the sidewalk shows severely restricted conditions without widening. At a minimum the sidewalk width would need to be increased to approximately 20-feet to accommodate the post event conditions. • To prevent pedestrians from crossing S. Holgate Street north-south at Occidental Avenue S., physical barriers on the north sidewalk could be considered, which would encourage patrons to use the designated crosswalk at 1st Avenue S.
Traffic Operations	<p>While there is a general shift to the south for traffic accessing the garage, overall intersection operations would be similar to the results previously presented without the garage. Locations where intersection levels of service would change include:</p> <ul style="list-style-type: none"> • Edgar Martinez Drive S. / I-90 off-ramp worsens from LOS B to LOS C under Case S1 • 1st Avenue S. / S. Massachusetts Street worsens from LOS A to LOS C under Case S3 • 1st Avenue S. / S. Holgate Street worsens from LOS E to LOS F under case S1 • 4th Avenue S. / S. Holgate Street worsens from LOS D to LOS E under case S1 • 4th Avenue S. / S. Lander Street improves from LOS D to LOS C under case S1

Table 3.8-27 (Continued)

Transportation Element	2030 Alternative 2 With Addition of South Warehouse Garage
	<ul style="list-style-type: none"> • Delays would increase at 1st Avenue S. / S. Atlantic Street and 1st Avenue S. / S. Holgate Street with both operating at LOS F due to either increased vehicular and / or pedestrian volumes. • Since much of the garage traffic would travel through 1st Avenue S./S. Walker Street, this unsignalized intersection would operate at LOS F with the garage. Under post-event conditions, intersection operations generally do not differ from without- garage conditions but the 1st Avenue S./S. Walker Street intersection would also operate at LOS F. The traffic control plans for the Arena would be adjusted to accommodate traffic shifts with garage users directed south on 1st Avenue S. via S. Walker Street.
Traffic Safety	<p>Safety impacts within the study area would remain similar to Alternative 2; however, changes would occur in the immediate vicinity of the South Warehouse garage including:</p> <ul style="list-style-type: none"> • Additional pedestrians would cross S. Holgate Street resulting in more potential conflicts with vehicular traffic. • As noted above, traffic control plans would be updated to minimize use of S. Holgate Street by vehicular traffic and direct vehicles via 1st Avenue S. and Walker Street.
Freight and Goods	<ul style="list-style-type: none"> • Occidental Avenue S. south of S. Holgate Street provides access to local businesses and would experience increased traffic volumes and delay. • Additional delay to freight movement along S. Atlantic Street and 1st Avenue S. would occur due to increases in intersection delay.
Parking	<ul style="list-style-type: none"> • The parking garage would increase the available parking supply and reduce parking demand in other locations such as Downtown, Pioneer Square, and the International District.

3.8.3 Seattle Center Area Alternatives – Alternatives 4 and 5

In the area of Seattle Center, the potential sites for the Seattle Arena are the existing KeyArena and Memorial Stadium. Seattle Center is one of the main performing arts and entertainment areas in the City of Seattle. There are “events” nearly every day throughout the year, from classes to performances to recreational sports, to larger events such as festivals and concerts. Larger events at Memorial Stadium currently have an attendance of approximately 5,000 people, while the average attendance at KeyArena is approximately 12,000 people. Figure 3.8-20 shows the Seattle Center study area. The study area was defined based on the primary travel patterns for traffic to and from the Seattle Center, as well as anticipated parking impacts. The transportation analysis includes an evaluation of approximately 50 study intersections as illustrated on Figure 3.8-23.

3.8.3.1 Street System

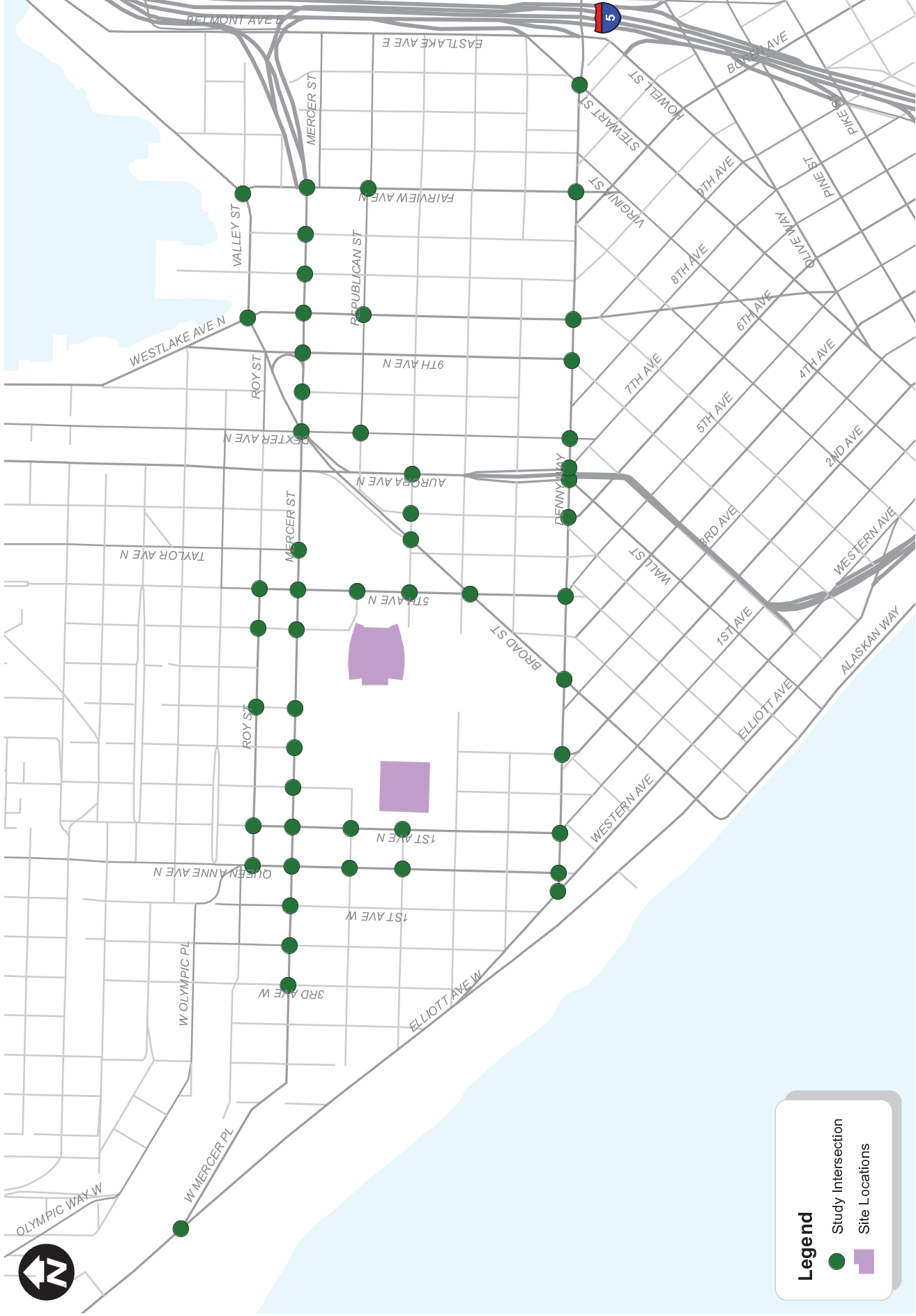
Methodology

The general approach to the evaluation of street system impacts included:

- Inventory of existing roadway infrastructure
- Identification of future transportation projects
- Evaluation of street system impacts considering Alternative 4 and four changes to the street network

Affected Environment

Regional access to the area is provided primarily via I-5 and SR 99 to the east. Table 3.8-28 summarizes the characteristics of major corridors within the study area, highlighting the roadway classification, speed limit, number of lanes, and general characterization of the non-motorized facilities. Roadways in the immediate vicinity of the Seattle Center consist mainly of principal arterials that are a combination of one- and two-way multi-lane streets with on-street parking and sidewalks. Signalized intersections are controlled with actuated traffic signals, which are generally coordinated with adjacent signals. Traffic on the minor approach of unsignalized intersections is controlled with stop signs. The primary arterial routes serving the area are Queen Anne Avenue N., 1st Avenue N. and 5th Avenue N. running north-south and Mercer Street and Denny Way running east-west.



Seattle Center Area Study Intersections

Seattle Arena



FIGURE 3.8-23

**Table 3.8-28
Seattle Center Area Existing Street System Summary**

Roadway	Arterial Classification	Posted Speed Limit	Number of Travel Lanes	Parking?	Sidewalks?	Bicycle Facilities?
Mercer St (West of Aurora Ave N.)	Principal Arterial	30 mph	4 lanes	Some Blocks	Free Flow	Most Blocks
Mercer St (East of Aurora Ave N.)	Principal Arterial	30 mph	5:00 to 7:00 lanes	Free Flow	Free Flow	No
W. Mercer Pl	Principal Arterial	30 mph	2 lanes	Free Flow	Some Blocks	No
W. Mercer St	Principal Arterial	30 mph	2 lanes	Free Flow	Free Flow	No
Roy St (West of 5th Ave N.)	Principal Arterial	30 mph	2 lanes	Most Blocks	Free Flow	Free Flow
Roy St (East of 5th Ave N.)	Access Street	30 mph	2 lanes	Free Flow	Free Flow	No
Denny Way	Principal Arterial	30 mph	4 to 5 lanes	No	Free Flow	No
Broad St	Principal Arterial	30 mph	4 to 5 lanes	No	Free Flow	No
1st Ave N.	Principal Arterial	30 mph	2 to 3 lanes	Most Blocks	Free Flow	Free Flow
Queen Anne Ave N.	Principal Arterial	30 mph	2 lanes	Most Blocks	Free Flow	Free Flow
Elliott Ave W.	Principal Arterial	35 mph	6 to 7 lanes	Most Blocks	Some Blocks	No
9th Ave N.	Principal Arterial	30 mph	2 lanes	Free Flow	Free Flow	Free Flow
Dexter Ave N.	Minor Arterial	30 mph	4 lanes	Free Flow	Free Flow	Free Flow
Westlake Ave N.	Principal Arterial	30 mph	4 lanes	Most Blocks	Free Flow	Most Blocks
Fairview Ave N.	Principal Arterial	30 mph	5 lanes	Most Blocks	Free Flow	No
Stewart St	Principal Arterial	30 mph	4 lanes	Some Blocks	Free Flow	Free Flow
Aurora Ave N.	Principal Arterial	40 mph	6 to 7 lanes	No	Most Blocks	No
5th Ave N.	Principal Arterial	30 mph	4 to 5 lanes	Most Blocks	Free Flow	No
Western Ave N.	Principal Arterial	35 mph	3 lanes	Most Blocks	Free Flow	No
Republican St	Minor Arterial	30 mph	2 lanes	Free Flow	Free Flow	No
Harrison St	Access Street	30 mph	NA	NA	Free Flow	Most Blocks
Valley St	Principal Arterial	30 mph	6 lanes	No	Free Flow	Free Flow

Figure 3.8-24 shows the street functional classifications for the study area. Unlike the Stadium District, the Seattle Center does not have event-related TCPs that change the use of intersections and roadways during events. There were TCPs for the Seattle Center area, when the Sonics NBA franchise played at the KeyArena, including manual traffic control at intersections and key garage exits, lane restrictions, etc. Currently, there are special event signal timing plans for the Mercer Street and Denny Way corridors to flush post-event traffic from the Seattle Center to I-5 and SR 99. This provides for faster egress than would otherwise occur with the surge in traffic after an event. It is noted that these were initiated at a time when Mercer Street was a four-lane one-way eastbound arterial connecting directly to I-5, and the KeyArena still accommodated the Sonics.

Several of the arterials within the Seattle Center area have freight designations. These designations include truck streets, heavy haul routes, and seaport and intermodal connectors. These routes are used by freight operators to access Port of Seattle facilities and the region. Those designations are discussed further in the Freight and Goods section of the report

Impacts of the No Action Alternative at Alternative 4 and 4 Sites

The study area is undergoing major transportation system changes. A review of local and regional capital improvement programs and long-range transportation plans was conducted to determine planned (funded and unfunded) transportation projects that would impact the study area. The review included, but was not limited to, transportation plans from WSDOT, City of Seattle, King County, ST, and the Port of Seattle. Table 3.8-29 provides a summary of key future transportation projects in the study area. In addition, the table provides an understanding of how these transportation projects were incorporated into the No Action Alternative evaluation. Many of the major street system projects impacting vehicular movements would be completed by 2018. Projects slated to be completed beyond 2018 are primarily related to the non-motorized and transit system and would a decrease in dependence on the auto mode, during both typical commuter periods, as well as for events in the Seattle Center.

See Appendix E for a more detailed discussion on how specific transportation project impact the study area. As shown in the table, many of the major projects within the study area are completed prior to 2018.

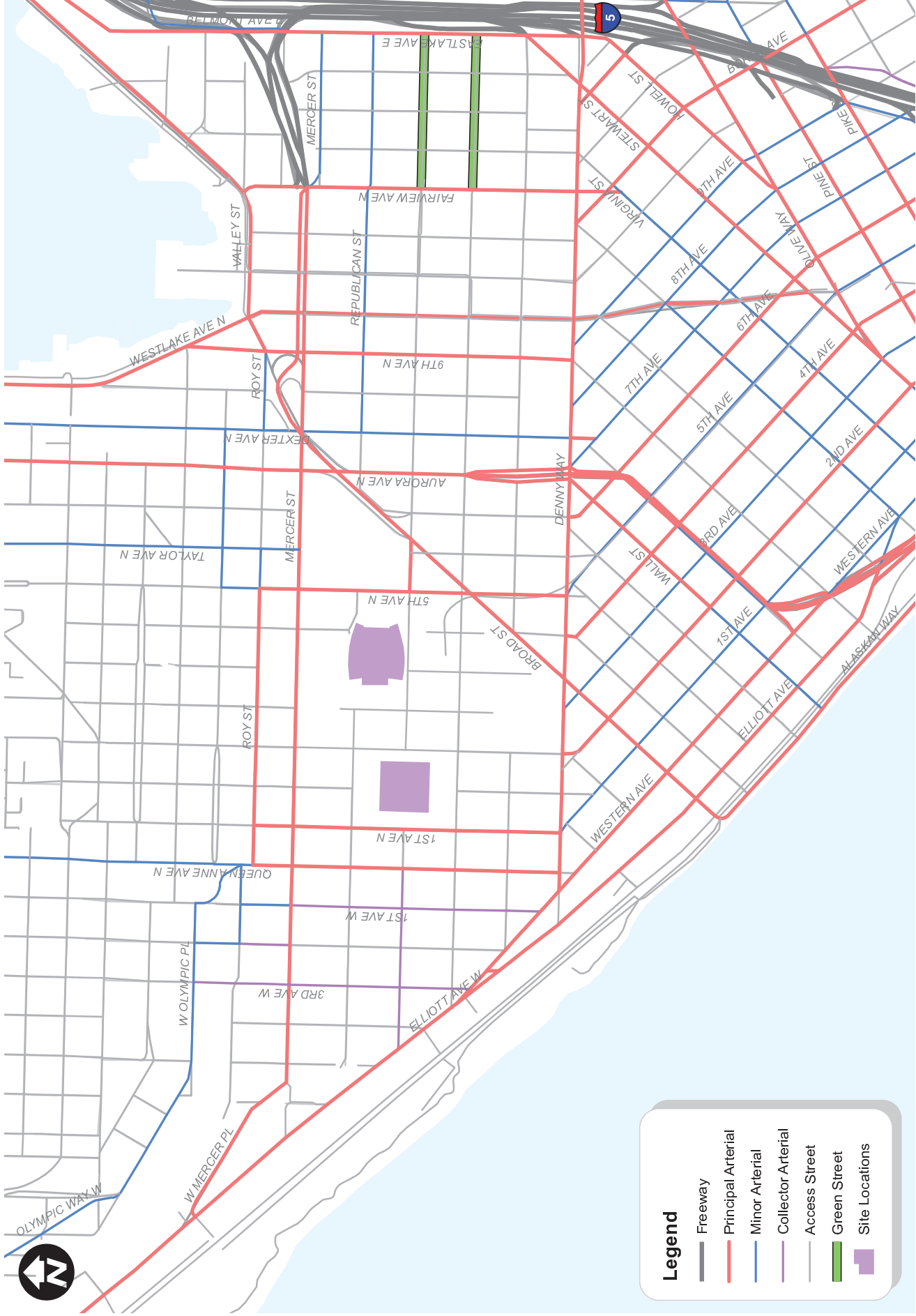


FIGURE 3.8-24

Seattle Center Area Street System

Seattle Arena



**Table 3.8-29
Seattle Center: Key Study Area Planned Transportation Projects**

Project Description	Responsible Agency	Expected Completion Date	Funded? ¹	Assumed in Analysis? ²		
				2018	2030	
Alaskan Way Viaduct Replacement: SR 99 viaduct replaced with a tunnel between S. Royal Brougham Way and Mercer Street.	WSDOT	TBD ³	Yes	✓	✓	
SR 520 Bridge Replacement: Construction of a new SR 520 floating bridge with 2 general purpose lanes and 1 HOV / transit lane per direction. Transit and non-motorized projects between SR 202 and I-5. The eastside and floating bridge segments are funded. The westside projects in the Montlake Interchange vicinity are not funded.	WSDOT	2017	Partial	✓	✓	
Mercer Corridor: Convert Mercer Street, Roy Street, and Valley Street to two-way operations and improve non-motorized access.	SDOT	2015	Yes	✓	✓	
First Hill Streetcar: Two-mile streetcar line serving Capitol Hill, First Hill and International District with connections to Link light rail, Sounder commuter rail and bus service.	SDOT	2015	Yes	✓	✓	
Link Light Rail: Extension of the regional light rail system. All segments are funded in ST2, but the year of completion may vary depending on revenue available to fund construction. The segments include:	Sound Transit	North—University District and Capitol Hill	2016	Yes	✓	✓
North—Northgate		2021	Yes		✓	
North—Lynnwood		2023	Yes		✓	
East—Bellevue and Redmond		2023	Yes		✓	
South—Extension to S. 200th Street		2016	Yes	✓	✓	
South—Extension to Kent-Des Moines Road		2023	Yes		✓	
King Street Station Multimodal Terminal: Improve station access including opening of the Grand Stairs to connect the upper Jackson plaza and King Street Station entrance and a new entrance on Jackson plaza. These connections will transform the station into a transportation hub with easy access to express buses, commuter trains and light rail service.	SDOT	2013	Yes	✓	✓	

Table 3.8-29 (Continued)
Seattle Center: Key Study Area Planned Transportation Projects

Project Description	Responsible Agency	Expected Completion Date	Funded? ¹	Assumed in Analysis? ²	
				2018	2030
Elliott Bay Seawall Replacement: Replacement of the existing seawall along the Seattle waterfront from S Washington Street to Broad Street.	SDOT	2019	Yes		✓
Waterfront Seattle: This project creates a continuous public waterfront between S. King Street and Bell Street and includes the design and construction of the new surface Alaskan Way and Elliott Way arterial streets.	SDOT	2014 and beyond	Partial	✓	✓
Southend Transit Pathway: This project creates a new transit corridor on Alaskan Way and Columbia Street	SDOT / King County Metro Transit	2017	Yes	✓	✓
Convention Place TOD: Expansion of the Washington State Convention Center to include a reconfiguration or relocation of transit access, layover and passenger amenities at Convention Place Station. The EIS is under way for this project.	King County Metro Transit / King County	Unknown	No		
Rapid Ride: Bus rapid transit service in 6 corridors (A through F) and the potential to expand into additional corridors in the future. Service has been initiated in 4 of the 6 corridors, and the E and F Lines are expected to start service in 2014.	King County Metro Transit	2014	Yes	✓	✓
Electric Trolleybus Fleet Replacement: Metro will replace its fleet of 159 trolleybus with modern low-floor vehicles providing more capacity on these routes	King County Metro Transit	2015	Yes	✓	✓
Industrial Way Direct Access Ramps: This project would provide a direct connection from I-5 to and from the south to the SoDo Busway	King County Metro Transit / WSDOT	Unknown	No		
Downtown Neighborhood Projects: Installation of pedestrian countdown signals and sidewalk repairs at the 1st Avenue S. intersections with S Main Street and S. King Street	SDOT	2013	Yes	✓	✓
S. Lander Street Grade Separation: This project grade separates S. Lander St. roadway and the BSNF mainline railroad tracks between 1st Avenue S. and 4th Avenue S.	SDOT	Unknown	No		

1. "Yes" means the project is fully funded for construction, "partial" means the project has some, but not complete funding for construction, and "no" means the project does not have any construction funding.
2. A check indicates that the project was assumed in the analysis related to the horizon year.
3. Due to construction delays, the timing of this is to be determined (TBD) per WSDOT's website March 30, 2015. The improvement was assumed in this analysis for both 2018 and 2030 conditions.

Impacts of Alternative 4 – KeyArena 20,000-Seat Arena

Construction impacts related to the street system would mostly occur on Mercer Street, Denny Way, and 1st Avenue N. adjacent to the site. Street closures and other disruptions to the street system would be minimized and scheduled during the off-peak periods to minimize impacts to the system.

Planned offsite improvements in the study area for 2018 and 2030 conditions are consistent with the No Action Alternative. No additional changes offsite or within the Seattle Center area street system have been identified as a result of Alternative 4. No plans for an Arena on the KeyArena site have been prepared.

Impacts of Alternative 5 – Memorial Stadium 20,000-Seat Arena

Construction impacts related to the street system would mostly occur on Mercer Street, Denny Way, and 5th Avenue N. adjacent to the site. Street closures and other disruptions to the street system would be minimized and scheduled during the off-peak periods to minimize impacts to the system.

Planned offsite improvements in the study area for 2018 and 2030 conditions are consistent with the No Action Alternative. No additional changes offsite or within the Seattle Center area street system have been identified as a result of Alternative 5. No plans for an arena on the Memorial Stadium site have been prepared.

3.8.3.2 Public Transportation

Methodology

The general approach to the evaluation of public transportation impacts included:

- Determination of existing transit passenger capacity during pre-and post-event periods for weekday and weekend events
- Identification of future 2018 and 2030 growth in ridership and change in capacity
- Consideration of event ridership associated with event cases for No Action and Alternatives 4 and 5
- Evaluation of capacity needed to support Alternatives 4 and 5
- Consideration of speed and reliability under existing and future conditions

The analysis focuses on weekday event conditions because transit ridership and motorized volumes are highest during this timeframe; this provides a conservative estimate of transit capacity and reliability impacts. The Seattle Center area transit capacity and ridership was developed in the same manner described for the Stadium District. See Appendix E for a detailed description of the methodology used for each mode of public transportation.

In Fall 2014, Seattle voters approved Proposition 1 to provide funding to maintain current transit service on existing routes in the City of Seattle. The measure came after King County Metro had announced that it would cut 180,000 service hours starting in February 2015.

Transit capacity and route assumptions were not revised to reflect Proposition 1 in this analysis. Proposition 1 affects only Seattle routes, which serve less than half of the event patrons who use transit; thus, the impact of the service change would be minimal. The added transit capacity is not anticipated to change the analysis results in the over capacity zones. Also, the specific schedule changes resulting from Proposition 1 have not yet been released.

Affected Environment

Regional public transit is provided by King County Metro Transit and the City of Seattle and offers a number of ways for people to access Seattle Center including bus, streetcar, and monorail transit as illustrated on Figure 3.8-25.

The capacity of these transit services to transport people to and from the Seattle Center varies by day (weekday or weekend service) and by the time of day (peak commuter period or evening services). This section summarizes the total passenger ridership and available passenger capacity to and from the Stadium District during a weekday evening for transit modes; this includes inbound to downtown Seattle transit service from 5:00 to 7:00 PM and outbound from downtown Seattle transit service from 9:00 to 11:00 PM.

Bus Transit

Bus transit for the Seattle Center area is concentrated along 1st Avenue, Queen Anne Avenue N., Mercer Street, Denny Way, 5th Avenue, Aurora Avenue N., and Dexter Avenue N. (see Figure 3.8-25). Bus service to the area is currently provided by King County Metro Transit.

The number of buses in service on routes through the Seattle Center area during the peak weekday afternoon commuter period is higher leaving the downtown Seattle core than entering. Also, the number of buses in service in the late evening is less than the weekday afternoon commuter period. Bus headways are shorter during peak weekday afternoon commuter periods (10 to 30 minutes) compared to late evening and weekend service (30 to 60 minutes).

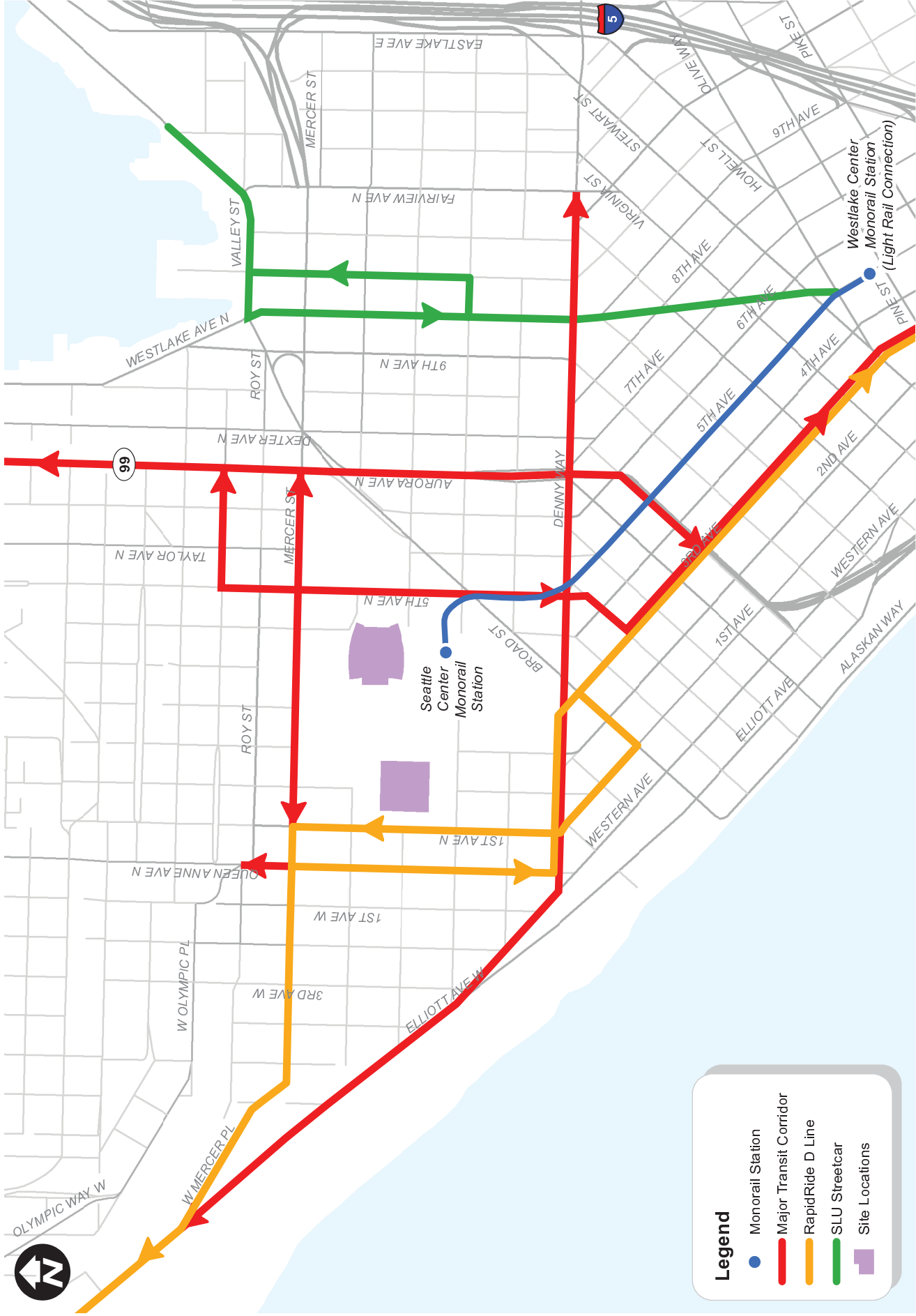


FIGURE 3.8-25

Seattle Center Area Transit Facilities and Corridors

Seattle Arena



Bus Ridership: Existing bus ridership was provided by King County Metro Transit for buses serving the Seattle Center area that travel to downtown Seattle from 5:00 to 7:00 PM and out of downtown Seattle from 9:00 to 11:00 PM. There is no ST service to Seattle Center area. The available bus service was grouped into six service zones or corridors consistent with the Stadium District analysis:

- Zone 1: Magnolia, Ballard and Fremont area of Seattle
- Zone 2: Along SR 99, I-5, and SR 520, and areas to the north and northeast
- Zone 3: Bellevue, Issaquah, and areas east along I-90 to the east
- Zone 4: Southeast Seattle, Tukwila, and Renton
- Zone 5: South on I-5, Federal Way, Burien, and areas to the south
- Zone 6: West Seattle

Bus transit provides almost double the passenger capacity for bringing people to an event from 5:00 to 7:00 PM compared to leaving an event from 9:00 to 11:00 PM. Also, the amount of bus passenger capacity varies to the different areas of King County; there is more bus service to Ballard / Fremont and along SR 99, I-5, and SR 520 compared to other service centers, for buses operating through the Seattle Center area. The occupancy rate for these buses, which is the total number of passengers on buses through the Seattle Center area divided by the total passenger capacity of those buses, is approximately 36 percent for both inbound (5:00 to 7:00 PM) and approximately 33 percent outbound (9:00 to 11:00 PM) service. This means that approximately 3,000 people were traveling to the Seattle Center area and 1,500 people were traveling away from the Seattle Center area to areas served by the selected King County Metro Transit routes. Also, the remaining capacity on all buses could accommodate approximately 5,350 passengers inbound and 3,150 outbound during these time frames. During peak commute periods and event days, specific buses and routes within the six zones experience higher ridership and overcrowding.

Weekday bus service (passenger capacity) is reduced by approximately 30 percent from 5:00 to 7:00 PM on weekends and approximately 10 percent from 9:00 to 11:00 PM. Based on King County Metro Transit ridership, the average number of passengers is approximately 30 percent less on weekends from 5:00 to 7:00 PM compared to weekdays and almost no change from 9:00 to 11:00 PM.

Speed and Reliability. On-time performance information was provided by King County Metro Transit for routes serving the Seattle Center area, which was used to determine the reliability of buses to meet schedules.

King County Metro Transit bus service to downtown Seattle from 5:00 to 7:00 PM was on-time approximately 75 percent of the time. Buses leaving downtown Seattle from 9:00 to 11:00 PM were on-time approximately 77 percent of the time. The travel time for buses (an indication of speed and reliability) would be similar to general purpose traffic because they operate in mixed

flow through the Seattle Center area. The traffic operations impact analysis of this report provides a detailed evaluation of four key routes within the Stadium District including Mercer Street, Denny Way, and 5th Avenue, which have bus service.

Other Service Information. The effects of Proposition 1, which was passed in Fall 2014 to fund current levels of King County Metro bus service in the City of Seattle through 2020, were not taken into account in this analysis for reasons mentioned at the beginning of this section.

ST provides additional bus service as necessary to accommodate passenger loads to special events. Prior to events, an assessment of extra service is determined based on ticket sales for the event. Historically, when the Sonics were playing at KeyArena, ST notes that they did not typically experience a notable ridership uptake because getting to KeyArena would involve a transfer.

South Lake Union Streetcar

The South Lake Union Streetcar provides service between South Lake Union and Westlake shopping center with five intermediate stops along Westlake Avenue and Terry Avenue N. in both directions. Stops are located within a 10-minute walk of the Seattle Center area; the closest stop is located at the intersection of Westlake Avenue and Thomas Street. Currently, the streetcar operates on 15-minute headways. The South Lake Union Streetcar operates from 6:00 AM to 9:00 PM Monday through Thursday, and 6:00 AM to 11:00 PM on Friday and Saturday. Sunday service is operated from 10:00 AM to 7:00 PM. With the existing service, streetcar service would not be available after events from Sunday to Thursday. Weekday streetcar service (passenger capacity) is reduced by approximately 20 percent from 5:00 to 7:00 PM on weekends and no change from 9:00 to 11:00 PM.

Streetcar transit provides a total capacity for approximately 1,120 passengers traveling inbound and outbound to the Seattle Center area (the Streetcar does not provide outbound service from Monday through Thursday). The City of Seattle provided a limited sampling of daily streetcar passenger observations summarized by stop; on average, the South Lake Union Streetcar carried 2,200 passengers. By applying the daily average load at stop closest the Seattle Center area; streetcars would be carrying approximately 165 passengers inbound and 80 passengers outbound from Westlake Center in downtown Seattle. This means the South Lake Union Streetcar has a remaining approximate passenger capacity of 1,235 inbound passengers and 1,040 outbound passengers. Because the average daily passenger load was used in this analysis, it is likely the passenger loads are higher from 5:00 to 7:00 PM and lower from 9:00 to 11:00 PM.

Monorail

The Seattle Center Monorail, which is owned by the City of Seattle, provides a non-stop connection between Westlake Center (near 5th Avenue and Pine Street) to Seattle Center. The Monorail operates on 10-minute headways from 7:30 AM to 9:00 PM Monday through Thursday, and from 7:30 AM to 11:00 PM on Friday. The Seattle Center Monorail also provides

a direct connection to light rail at Westlake Center. Weekend monorail service or passenger capacity from 5:00 to 7:00 PM is the same as weekday service.

Existing monorail ridership was provided by Seattle Monorail Services, the operator of the Seattle Center Monorail. Today, monorail transit provides a total capacity for approximately 2,400 passengers traveling inbound and outbound to Seattle Center. Monorail transit has approximately 240 passengers from Seattle Center to Westlake Center (inbound to downtown Seattle) from 5:00 to 7:00 PM and approximately 120 passengers to Seattle Center from 9:00 to 11:00 PM (Friday-only because service stops at 9:00 PM Monday through Thursday). This means the remaining capacity on monorail could accommodate approximately 2,160 passengers inbound and 2,280 outbound during these time frames.

Seattle Monorail Services noted that monorail ridership increases by approximately 150 to 200 people with events at KeyArena such as concerts and Sonics games. There is a slight increase in ridership of approximately 40 to 50 passengers with events at Safeco Field and CenturyLink Field.

Washington State Ferries Transit

WSF provides ferry service to Seattle at Colman Dock, located near Alaskan Way and Yesler Way. Colman Dock is approximately one and a half miles south of the Seattle Center area. Ferries to / from Seattle serve Bainbridge Island and Bremerton. The ferries have arrivals and departures scheduled throughout the day with headways of approximately 60 minutes for Bainbridge Island service and approximately 75 minutes for Bremerton service. Ferries serving both of these routes are some of the largest ferries in WSF's fleet, providing combined vehicle and passenger service. According to WSF's website, these ferries are capable of transporting 2,500 passengers per trip, in addition to vehicles. Weekend ferry service (passenger capacity) increases by approximately 10 percent over weekday ferry service.

WSF Colman Dock service provides a total capacity for approximately 7,300 passengers traveling inbound to the Seattle Center area from 5:00 to 7:00 PM and 9,800 passengers outbound from 9:00 to 11:00 PM.

An average inbound passenger load of approximately 210 passengers is estimated. During May 2012 service, ferries had an average load of approximately 640 passengers traveling outbound from 9:00 to 11:00 PM.

Impacts of the No Action Alternative at Alternative 4 and 5 Sites

This section describes the impacts of the No Action Alternative for analysis years 2018 and 2030. As compared to weekday, weekend service characteristics were assumed to be similar to existing conditions.

Year 2018

By 2018, the Alaskan Way Viaduct Replacement project is scheduled to be complete and would reconnect John Street, Thomas Street and Harrison Street, which were previously bisected by

SR 99. This improvement was not assumed to change ridership, but would provide alternative pedestrian connections to and from the South Lake Union Streetcar and bus transit routes to the Seattle Center. The new fleet of King County trolley buses are anticipated to reduce bus dwell times at bus stops, but were not assumed to impact passenger demand or capacity.

For all transit modes serving the Seattle Center, no change in passenger capacity (service levels) was assumed because of the uncertainty of transit funding.

Bus Transit: The number of bus riders was anticipated to increase by approximately two percent annually from 2013 to 2018. Headways were assumed to remain unchanged. King County Metro Transit Rapid Ride E-Line began service after this analysis was completed and has increased service in the study area. Bus transit passenger loads would increase by approximately 710 inbound and 545 southbound passengers for No Action Case K2/M2 compared to existing conditions. This includes transit riders for 12,000 patron events at KeyArena and 5,000 patron events at Memorial Stadium as well as background growth.

The total passenger loads for No Action Case K2/M2 could be accommodated with assumed bus service levels for all service zones. Buses do not operate directly from Seattle Center to I-90 in the evening and event attendees would be required to use other bus routes, monorail, or streetcar to transfer to bus service to the east in downtown Seattle. The remaining passenger capacity on these modes is sufficient to accommodate the approximately 290 event attendees connecting from Seattle Center to east side transit service in downtown Seattle. The number of event attendees required to transfer would be less for other No Action scenarios because there are less event attendees.

Because the No Action Case K2/M2 scenario has the highest assumed passenger demand, the No Action Case K1 (12,000 patrons) and Case M1 (5,000 patrons) could also be accommodated. Similar to existing conditions, some bus routes would experience higher levels of passenger ridership and potentially overcrowding. The travel time for buses (an indication of speed and reliability) would be similar to general purpose traffic because they operate in mixed flow through the Stadium District (not including the time it takes for buses to serve bus stops). Travel times under 2018 conditions increase from existing conditions and further increase with the addition of event traffic, compared to existing conditions.

Streetcar Transit: The number of people who would use streetcar transit was anticipated to increase by approximately two percent annually from year 2013 to year 2018. Headways were assumed to remain unchanged. Streetcar passenger loads would increase by approximately 230 inbound and 220 outbound passengers for the No Action Case K2/M2 compared to existing conditions. Because No Action Case K2/M2 has the highest assumed passenger demand and could be accommodated with existing streetcar service levels, No Action Case K1 and Case M1 could also be accommodated.

Monorail Transit: The number of people who would use the Seattle Monorail was anticipated to increase by approximately one percent annually from year 2013 to year 2018. Headways were assumed to remain unchanged. Monorail passenger loads would increase by

approximately 945 inbound and 940 outbound passengers for the No Action Case K2/M2 compared to existing conditions. Because Case K2/M2 has the highest assumed passenger demand and could be accommodated with existing monorail service levels, the No Action Case K1 and Case M1 with an event at either Memorial Stadium or KeyArena could also be accommodated.

Washington State Ferries: No change in the number of WSF vessels serving Colman Dock was assumed from the year 2013 to 2018. The number of walk-on passengers was anticipated to increase by approximately three percent annual from 2013 to 2018. In addition, approximately 340 inbound and 405 outbound passengers would use WSF service for part of their trip to events at Seattle Center for the No Action Case K2/M2. Event attendees would connect between Colman Dock and the Seattle Center area using bus, monorail, streetcar, and / or other services such as a taxi, walking, or bicycling. It is difficult to anticipate the impact of these event attendees on public transit. Many of them would already be in or around the Seattle area, having completed the ferry-leg of their trip in the morning for the commute into work. From 5:00 to 7:00 PM bus routes through downtown would experience an increase in passenger demand as some ferry riders use bus service to travel to an event at the Seattle Center area. Another 80 patrons were assumed to drive to connect to Seattle Center and complete part of their trip using WSF service.

Year 2030

For all transit modes serving the Seattle Center area, no change in passenger capacity (service levels) was assumed because of the uncertainty of transit funding.

Bus Transit: The number of people who would use bus service was anticipated to increase by approximately 2.1 percent annually to year 2030. Headways were assumed to remain unchanged. Bus transit passenger loads would increase by approximately 1,620 inbound and 980 outbound passengers for No Action Case K2/M2 compared to existing conditions. Because No Action Case K2/M2 has the highest assumed passenger demand and could be accommodated with existing bus service levels, No Action Case K1 and Case M1 could also be accommodated.

The No Action Case K2/M2 (assumes 12,000 patrons at KeyArena and another 5,000 patrons at Memorial Stadium) could be accommodated with assumed bus service levels for all service zones, except for:

- Inbound bus routes serving southeast Seattle and Renton areas (Zone 4): Bus passengers would use other bus and light rail service to downtown Seattle accessed via park-and-ride lots or local feeder bus service and transfer in downtown Seattle to bus, monorail, and / or streetcar services. This would impact approximately 65 passengers.

Streetcar Transit: The number of people who would use streetcar service was anticipated to increase by approximately two percent annually to year 2030. Headways were assumed to remain unchanged. Streetcar passenger loads would increase by approximately 450 inbound and 430 outbound passengers for the No Action Case K2/M2 compared to existing conditions.

The total passenger load for this scenario and the 2030 No Action Case K1 and Case M1, which would have few passengers, could be accommodated with assumed streetcar service levels.

Monorail Transit: The number of people who would use the Seattle Monorail was anticipated to increase by approximately one percent annually to year 2030. Headways were assumed to remain unchanged. Monorail passenger loads would increase by approximately 1,180 inbound passengers and 1,160 outbound passengers for the No Action Case K2/M2 compared to existing conditions. The total passenger load for this scenario and the 2030 No Action Case K1 and Case M1, which would have few passengers, could be accommodated with assumed monorail service levels.

Washington State Ferry Service: The number of people who would use ferry was anticipated to increase by approximately three percent annually to the year 2030. No change in the number of WSF vessels serving Colman Dock was assumed from the year 2018 to 2030. Approximately 370 inbound and 500 outbound passengers would use WSF service for part of their trip to events at Seattle Center for the No Action Case K2/M1 scenario. This scenario and the 2030 No Action Case K1 and Case M1, which would have fewer passengers, could be accommodated with assumed ferry service levels.

Event attendees would connect between Colman Dock and the Seattle Center area using bus, monorail, streetcar, and / or other services such as a taxi, walking, or bicycling. It is difficult to anticipate the impact of these event attendees on public transit on weekdays. Many of them would already be in or around the Seattle area, having completed the ferry-leg of their trip in the morning for the commute into work. From 5:00 to 7:00 PM bus routes through downtown would experience an increase in passenger demand as some ferry riders use bus service to travel to an event at Seattle Center. Another 25 patrons would drive to connect to Seattle Center and complete part of their trip using WSF service.

Impacts of Alternatives 4 and 5

Alternative 4 scenarios assume a 20,000-person event at the site of the existing KeyArena with a 5,000-person event at the existing Memorial Stadium. Alternative 5 scenarios assume a 20,000-person event at the site of the existing Memorial Stadium with a 12,000-person event at the existing KeyArena.

Alternative 4 would result in a small reduction in the number of event attendees using transit to travel to the Seattle Center area compared to Alternative 5. The operational and construction impacts would be similar to Alternative 5.

Construction of either Alternative 4 or Alternative 5 could result in some increase in ridership as a result of construction workers traveling to and from the site. It is anticipated that public transportation impacts related to construction would be less than a 20,000-person event at a new arena. In addition, construction related activities could impact nearby transit routes and stops as well as pedestrian accessibility to these facilities. A construction management plan could be prepared and impacts to transit could be coordinated with the transit agency in advance and appropriate relocation and signage provided.

Year 2018

The analysis assumes a fully-attended event, with approximately 2,320 event attendees arriving by bus, light rail (using another transit mode to connect to the Seattle Center area), streetcar, monorail, and ferry: eight percent arrive by transit and another four percent arrive by ferry. As discussed for the Stadium District site, it is anticipated that the passengers driving on the ferry to go to a new arena would be minimal given the estimated traffic congestion between the ferry dock and arena. The analysis assumed that approximately 90 percent of ferry riders would use transit to connect to a new arena.

Approximately 10 percent of event attendees using ferry would take their vehicle on the ferry and could arrive outside the analysis period such as during the morning commute period as they take ferry to work and then attend an Arena event in the evening. As such, they are included in the No Action condition for parking and are not additive to the impact of the project.

Transit service provided in the study area is assumed consistent with No Action conditions. Also, park-and-ride lots served by light rail to the Seattle Center area would experience increased use during events.

Bus Transit: It was estimated that approximately 17 percent of event attendees on transit would use existing bus service to a new arena. This would add approximately 390 bus passengers traveling to and from the Seattle Center area.

Alternative 5 (which assumes 20,000 event attendees at a new arena and 12,000 patrons at KeyArena) Case M2 could be accommodated with assumed bus service levels for all service zones.

Travel times increase with the addition of arena event traffic with a substantial increase of over 30 minutes along westbound Mercer Street.

Streetcar Transit: It was estimated that approximately 10 percent of event attendees on transit would use streetcar service to a new arena. This would add approximately 230 streetcar passengers traveling to and from the Seattle Center area on the South Lake Union streetcar for Case M2. This scenario and the 2018 Case M1 could be accommodated with assumed streetcar service levels.

Monorail Transit: It was estimated that approximately 42 percent of event attendees on transit would use monorail service to the arena. This would add approximately 980 monorail passengers traveling to and from the Seattle Center area for the Alternative 5 Case M2. This scenario and the 2018 Alternative 5 Case M1 could be accommodated with assumed monorail service levels.

Washington State Ferries: No change in the number of WSF vessels serving Colman Dock was assumed from the year 2013 to 2018. The number of walk-on passengers was anticipated to increase by approximately three percent annual from 2013 to 2018. Approximately 720 event

attendees would use WSF service for part of their trip to events at Seattle Center for the Alternative 5 Case M2 scenario; there is sufficient capacity to accommodate event attendees. Event attendees would connect between Colman Dock and the Seattle Center area using bus, monorail, streetcar, and / or other services such as a taxi, walking, or bicycling. It is difficult to anticipate the impact of these event attendees on public transit. Many of them would already be in or around the Seattle area, having completed the ferry-leg of their trip in the morning for the commute into work. From 5:00 to 7:00 PM bus routes through downtown would experience an increase in passenger demand as some ferry riders use bus service to travel to an event at Seattle Center.

Year 2030

Alternative 5 would construct a new 20,000-person arena near the Seattle Center. The analysis assumes a fully-attended event, with approximately 2,720 event attendees arriving by bus, light rail, streetcar, and ferry; 10 percent arriving by transit and another four percent arriving by ferry. Consistent with 2018 conditions, approximately 10 percent of event attendees using ferry would take their vehicle on the ferry and could arrive outside the analysis period such as during the morning commute period as they take ferry to work and then attend an Arena event in the evening. As such, they are included in the No Action condition for parking and are not additive to the impact of the project.

Transit service provided in the study area is assumed consistent with No Action conditions. Also, park-and-ride lots served by light rail to the Seattle Center area would experience increased use during events.

Bus Transit: It was estimated that approximately 13 percent of event attendees taking transit would take bus service to a new arena. This would add approximately 340 bus passengers traveling to and from the Seattle Center area.

Alternative 5 (which assumes 20,000 event attendees at a new arena and 12,000 patrons at KeyArena for Case M2) could be accommodated with assumed bus service levels for all service zones, except for:

- Inbound bus routes serving southeast Seattle and Renton areas (Zone 4): Bus passengers would use other bus and light rail service to downtown Seattle accessed via park-and-ride lots or local feeder bus service and transfer in downtown Seattle to bus, monorail, and / or streetcar services. This would impact approximately 90 passengers.

The number of event attendees required to transfer would be less for other event scenarios because there are less event attendees, but would have the same over capacity considerations except for I-5 and south. Travel times for 2030 are similar to 2018 conditions.

Streetcar Transit: It was estimated that approximately 16 percent of event attendees on transit would use streetcar service to a new arena. This would add approximately 440 streetcar passengers traveling to and from the Seattle Center area on the South Lake Union Streetcar for

Alternative 5 Case M2. This scenario and the 2030 Alternative 4 Case K1 could be accommodated with assumed streetcar service levels.

Monorail Transit: It was estimated that approximately 32 percent of event attendees on transit would use monorail service to a new arena. This would add approximately 650 monorail passengers traveling to and from Seattle Center for Alternative 5 Case M2. Alternative 5 Case M1 could also be accommodated with assumed monorail service levels.

Washington State Ferries: The number of people who would use ferry was anticipated to increase by approximately three percent annually to the year 2030. No change in the number of WSF vessels serving Colman Dock was assumed from the year 2018 to 2030. Approximately 720 event attendees would use WSF service for part of their trip to events at Seattle Center for the Alternative 5 Case M2 scenario. This scenario and 2030 Alternative 5 Case M1 could be accommodated with assumed WSF service levels. Event attendees would connect between Colman Dock and the Seattle Center area using bus, monorail, streetcar, and / or other services such as a taxi, walking, or bicycling. It is difficult to anticipate the impact of these event attendees on public transit. Many of them would already be in or around the Seattle area, having completed the ferry-leg of their trip in the morning for the commute into work. From 5:00 to 7:00 PM bus routes through downtown would experience an increase in passenger demand as some ferry riders use bus service to travel to an event at Seattle Center.

3.8.3.3 Pedestrians

Methodology

The pedestrian environment in the Seattle Center study area is significantly different than that described in the Stadium District. There is a well-connected gridded sidewalk network with multiple paths for pedestrians to take to and from the Seattle Center area. With the multitude of pedestrian paths in the study area capacity is not an issue, and performing a link evaluation does not provide an understanding of pedestrian impacts. Given the difference between the two study areas, a methodology tailored toward the Seattle Center study area was used to evaluate pedestrian impacts. The approach included:

- Inventory of existing pedestrian facilities
- Identification of existing gaps in connectivity
- Review of existing pedestrian volumes
- Determination of future plans related to pedestrian facilities and the potential shift in pedestrian travel patterns with new facilities
- Evaluation of pedestrian impacts considering change in volumes

Affected Environment

Figure 3.8-26 shows the pedestrian network in the study area and identifies both existing trails and gaps in the sidewalk network. Sidewalks are provided along nearly all roadways with few exceptions. There is a missing connection in the northwest portion of the study area along West Mercer Place as well as limited east-west connections across SR 99. A large amount of construction is occurring within the study area particularly in the South Lake Union area along Mercer Street.

The study area contains a gridded pedestrian network creating high connectivity between activities centers, businesses and parking; however, as noted above, connectivity from the Seattle Center east to east of SR 99 is limited. Off-street parking surrounds the Seattle Center area, with a large concentration of parking directly to the east (adjacent to Memorial Stadium) and southwest (near KeyArena). Sidewalks connect these parking lots to the Seattle Center area.

There are two off-street multi-use trail in the study area, the Elliot Bay Trail and Cheshiahud Lake Union Loop. The Elliott Bay Trail runs along the waterfront to the west of the study area; it extends between the Waterfront and SoDo neighborhood to the south and to Magnolia on the north. Pedestrians can access the trail at several crossings along Elliot Avenue W. The Cheshiahud Lake Union Trail connects the South Lake Union neighborhood with Gasworks Park and links a number of pocket parks that ring the Lake. Access to the Cheshiahud Trail is currently limited due to the lack of connections across SR 99.

Significant transportation improvement projects have been under construction in the study area for the past several years. Due to the continuing effects of ongoing construction, previous studies and historical data sources were utilized to understand existing pedestrian activity near the Seattle Center. Higher pedestrian volumes are seen along the principal arterials of Mercer Street, Denny Way, Queen Anne Avenue N., 1st Avenue N., and 5th Avenue N. The intersections with the highest pedestrian activity are Queen Anne Avenue N. / Mercer Street and 1st Avenue N. / Mercer Street. These high pedestrian volumes are reflective of the intersection proximity to the Seattle Center and commercial uses in the area.

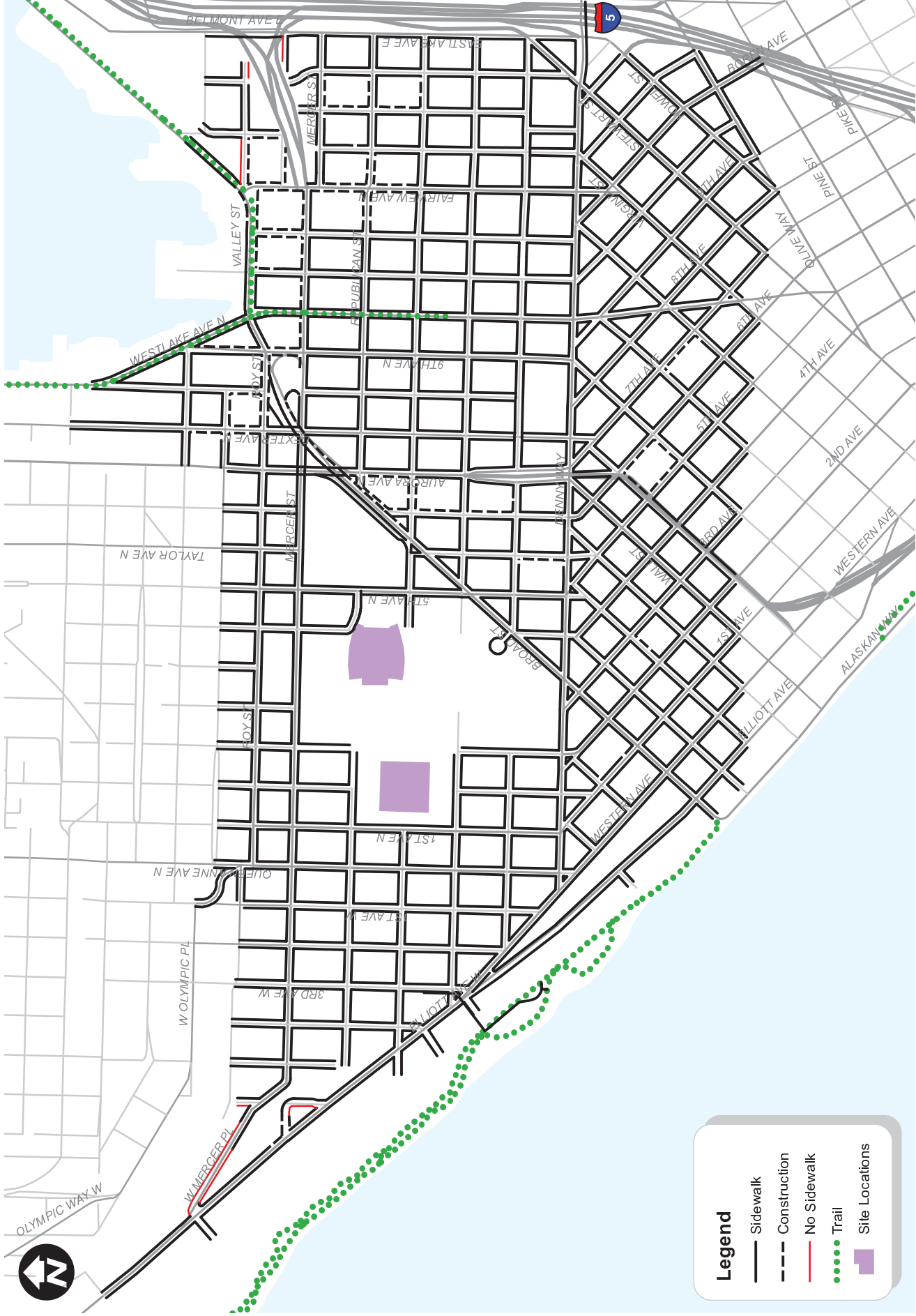


FIGURE 3.8-26

Seattle Center Area Pedestrian Facilities

Seattle Arena



Impacts of the No Action Alternative at Alternative 4 and 5 Sites

There are several area-wide transportation projects that will enhance the pedestrian system in the Seattle Center study area. In addition, planned development is anticipated to increase pedestrian demands. This section focuses on general pedestrian demands and shifting pedestrian orientations associated with new facilities and linkages.

2018 Conditions

The SR 99 North Portal and Mercer Corridor projects will result in enhanced pedestrian connectivity and infrastructure. The Mercer Corridor improvements are scheduled to be completed by 2015. Pedestrian improvements are also included on Roy and Valley Streets. The completion of these improvements will create a viable pedestrian linkage between the Seattle Center area and the South Lake Union Neighborhood as well as the South Lake Union Park and related trail connections.

In addition, the completion of the SR 99 North Portal will result in sidewalk connections across SR 99 at John, Harrison and Thomas Streets, effectively linking the Seattle Center area and the neighborhood surrounding the Bill and Melinda Gates Foundation Campus with the South Lake Union area.

Under No Action, changes in non-motorized demands are likely to occur as a result of ongoing redevelopment associated with neighborhoods surrounding the Seattle Center; however, no significant change in the Seattle Center area pedestrian activity is anticipated. There could be some increase in general pedestrian activity between the Seattle Center and points east, with the enhancements to the Mercer Corridor as well as connections across SR 99 described above. In addition, pedestrian activity would likely increase in South Lake Union and the Denny Triangle neighborhoods as a result of commercial or residential redevelopment. In general, increased pedestrian activity is considered a positive impact since with this activity a sense of pedestrian and personal safety results.

2030 Conditions

No additional major infrastructure projects are funded or planned that would directly affect Seattle Center area non-motorized transportation in 2030. While pedestrian travel is expected to grow between 2018 and 2030, no significant increases or jumps in activity are foreseen.

Overall, the No Action Alternative would not result in an adverse impact to non-motorized transportation for the Seattle Center area alternatives.

Impacts of Alternative 4 – KeyArena 20,000-Seat Arena

Alternative 4 construction would result in intermittent sidewalk and pedestrian facility closures along the frontage of the site. A construction management plan would be developed and adequate pedestrian circulation would be provided adjacent to the construction site through the use of temporary walkways, detours and signs.

Development of Alternative 4 would not result in any changes to the pedestrian facilities within the Seattle Center area. Consistent with the Stadium District, pedestrian levels associated with an event at an arena would be highest during the post-event egress. Currently, average attendance for the KeyArena is approximately 12,000 people. Alternative 4 would result in a net increase of 8,000 pedestrians for a total of 20,000 pedestrians associated with an arena event. As discussed previously, the existing and planned pedestrian network is well-connected and facilities will accommodate increased pedestrian demand levels. This type of pedestrian demand or higher is already accommodated at the Seattle Center with the several festivals held there each year.

Increases in pedestrian as well as vehicle demands on events days would increase the potential for conflicts between these two modes. Pedestrian impacts in 2018 and 2030 are anticipated to be similar.

Impacts of Alternative 5 – Memorial Stadium 20,000-Seat Arena

Alternative 5 construction would result in intermittent sidewalk and pedestrian facility closures along the frontage of the site. A construction management plan would be developed and alternate pedestrian circulation would be provided adjacent to the site through the use of temporary walkways, detours and signs.

Pedestrian impacts associated with Alternative 5 are anticipated to be consistent with those described for Alternative 4.

3.8.3.4 Bicycle

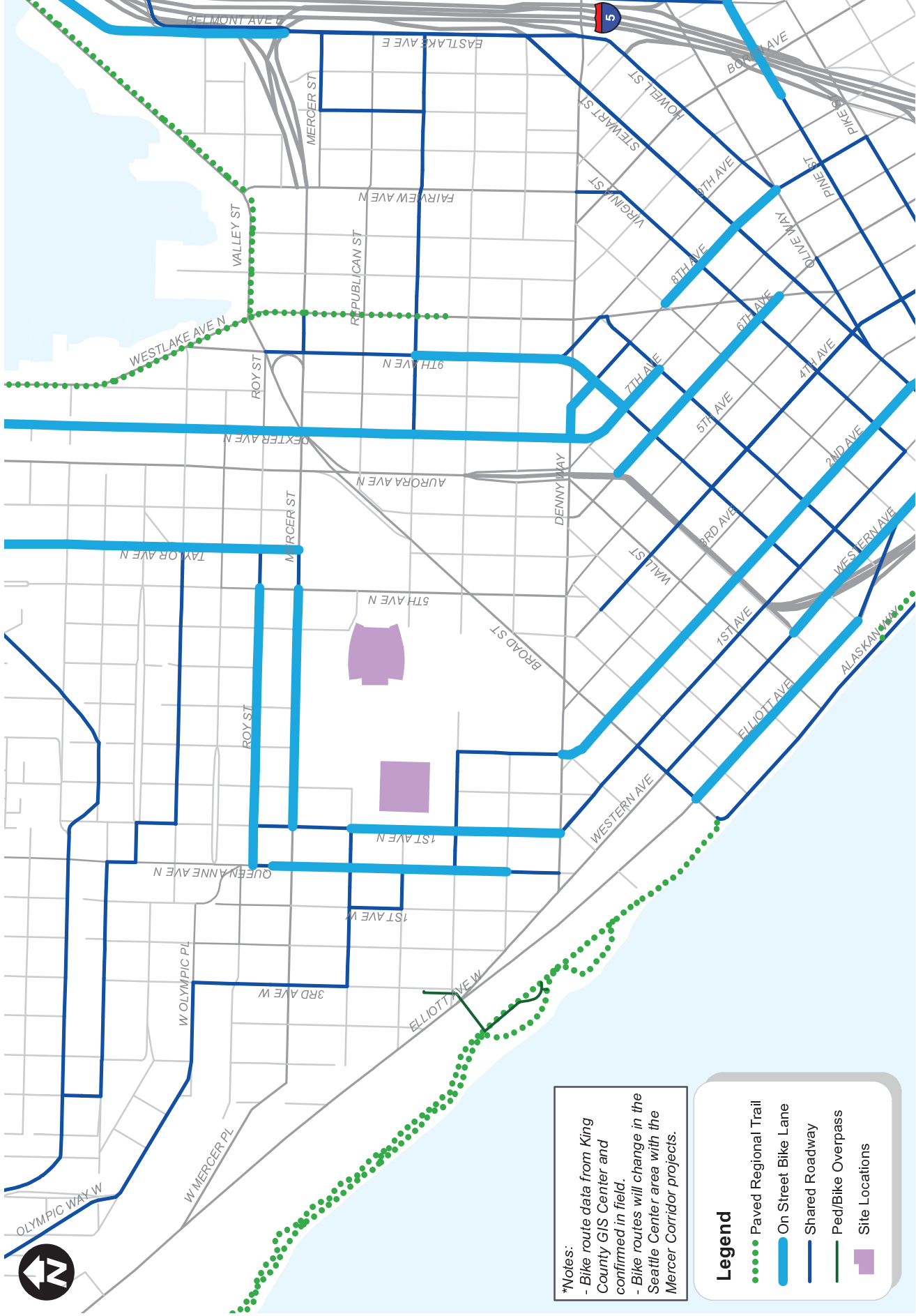
Methodology

The general approach to the evaluation of bicycle impacts included:

- Inventory of existing bicycle facilities
- Identification of future plans related to bicycle facilities
- Evaluation of bicycle impacts considering change in volumes

Affected Environment

Figure 3.8-27 illustrates the bicycle network within the study area. The facilities in the study area consist mostly of bike lanes and designated shared roadways. The roadways with bicycle facilities closest to the arena sites (at KeyArena and Memorial Stadium) are Queen Anne Avenue N. and 1st Avenue N. to the west, and Mercer Street and Roy Street to the north. All four of these streets have a mix of on-street bike lane and sharrows (i.e., marked shared bicycle within the vehicle travel lanes). In addition, portions of the arterial streets to the west and south of Seattle Center are designated routes for bicycles including 2nd Avenue N., Thomas Street, W. Harrison Street, W. Republican Street, and 3rd Avenue W.



***Notes:**
 - Bike route data from King County GIS Center and confirmed in field.
 - Bike routes will change in the Seattle Center area with the Mercer Corridor projects.

Legend

- Paved Regional Trail
- ▬ On Street Bike Lane
- ▬ Shared Roadway
- ▬ Ped/Bike Overpass
- Site Locations

Seattle Center Area Bicycle Facilities

Seattle Arena

FIGURE 3.8-27



As described in the Pedestrians section, there are off-street multi-use trails in the study area, including the Elliot Bay Trail, and Cheshiahud Lake Union Loop. The Elliot Bay Trail runs along the Waterfront to the west of the study area; it extends between the Waterfront and SoDo neighborhood to the south and to Magnolia on the north. Bicyclists can access the trail at several crossings along Elliot Avenue W. The Cheshiahud Lake Union Trail connects the South Lake Union neighborhood with Gasworks Park and link a number of pocket parks that ring the lake.

SDOT bicycle counts from January and July 2012 were reviewed to understand the level of bicycle traffic within the study area. The SDOT bicycle counts included three locations within the Seattle Center study area. Commuter peak hour bicycle volumes ranged from eight at the Mercer Street / Fairview Avenue N. intersection to 155 at the intersection of Dexter Avenue N. / Denny Way. The Mercer Street / 9th Avenue N. intersection saw 29 bicyclists during the commuter peak hour. The high counts along Dexter Avenue N. are consistent with this street's function as the primary bicycle route to downtown from the north. In addition, the combination of high traffic volumes coupled with construction activity along Mercer Street likely contributes to lower volumes at the Mercer Street / Fairview Avenue N. intersection. While the overall average number of peak hour cyclists in this data was much higher (nearly 50 percent) in the summer compared to winter counts, both Mercer Street intersections were marginally less in the summer than the winter counts, perhaps reflecting peak summer construction activity disrupting bicycle route choices in this area.

Impacts of the No Action Alternative at Alternative 4 and 5 Sites

Bicycle conditions for 2018 and 2030 No Action cases are described below.

2018 Conditions

Bicycle improvements planned and funded in the Seattle Center study area were reviewed. Ongoing projects associated with the Alaskan Way Viaduct North Portal, as well as the Mercer East and West projects will result in enhanced bicycle connectivity and infrastructure. The Mercer Corridor improvements are scheduled to be completed by 2015. Bicycle improvements are included on Roy and Valley Streets, as well as 5th Avenue N. The completion of these improvements will create a viable bicycle linkage between the Seattle Center area and the South Lake Union Neighborhood as well as the South Lake Union Park and related trail connections. In addition, the completion of the North Portal will result in sidewalk connections across SR 99 at John, Harrison and Thomas Streets, effectively linking the Seattle Center area and the neighborhood surrounding the Bill and Melinda Gates Foundation with the South Lake Union area.

Bicycle use is anticipated to continue to grow in Seattle as transportation congestion, and cost of parking increases. Under No Action, changes in bicycle demands are likely to occur as a result of ongoing redevelopment associated with neighborhoods surrounding the Seattle Center area and more direct connections between this area and South Lake Union and the Cheshiahud Lake Union Loop Trail. No significant change in bicycle traffic is forecasted resulting in an adverse impact.

2030 Conditions

There are no additional funded improvements for 2030 at this time; however, the City is going through a draft Bicycle Master Plan and the result of the planning process will be priorities for bicycle improvements.

Bicycle demand is expected to grow between 2018 and 2030; however, no significant increases in bicycle volumes are foreseen and no new adverse impacts to bicycle travel would occur.

In general, as traffic volumes increase in the study area due to future 2018 and 2030 growth, there is a potential for increased conflict between vehicles and bicyclists.

Impacts of Alternative 4 – KeyArena 20,000-Seat Arena

Construction of Alternative 4 may result in intermittent bicycle facility closures or rerouting along Mercer Street and 1st Avenue N. as well as within the Seattle Center area. A construction management plan would be developed and alternate bicycle circulation would be provided adjacent to the construction site through the use of temporary facilities, detours, and signs.

Alternative 4 is not anticipated to impact bicycle facilities within the study area. As described in the Affected Environment, bicycle volumes within the study area vary from one corridor to the next; however, Alternative 4 is anticipated to result in minimal increase in bicycle activity. Development of an arena would result in increased vehicular demands on event days within the study area, which would increase the potential conflicts between bicyclists and vehicles. Bicycle impacts in 2018 and 2030 are anticipated to be similar.

Impacts of Alternative 5 – Memorial Stadium 20,000-Seat Arena

Bicycle impacts associated with Alternative 5 are anticipated to be consistent with those described for Alternative 4.

3.8.3.5 Traffic Volumes

This section provides a summary of the existing and forecast traffic volumes at the study area intersections and presents the methodology used in developing traffic forecasts for the No Action (Alternative 1), Alternative 4, and Alternative 5 analyses.

Methodology

Study Area

A total of 53 intersections were addressed for the Seattle Center area alternatives. See Appendix E for locations. Study area intersections were defined considering existing conditions, impacts of future road improvements, and potential impacts of an arena.

Analysis Time Periods

Similar to the SoDo alternatives, the peak periods for the traffic analyses for the Seattle Center Area Alternatives were identified based on a review of existing traffic. To determine the

appropriate analysis period, City of Seattle 24-hour tube counts were reviewed to understand variations in traffic volumes throughout the week, specifically related to weekday and weekend trends.

Traffic volumes observed during the Saturday period ranged between about 80 and 110 percent of the weekday volumes. During a peak hour, volumes on a Sunday are the lightest and range between about 65 and 90 percent of the weekday PM peak hour. Based on this information, the analysis of event traffic occurring during the weekday or Saturday period represents the most appropriate basis for detailed traffic analysis through the Seattle Center area. Data related to Saturday conditions is inconclusive since half of roadway segments have Saturday traffic volumes that are approximately equal to the weekday traffic volumes. Therefore, given that traffic analysis relies on intersection turning movements, data was collected in March 2013 at key locations for Saturday.

Traffic volumes observed during the Saturday period ranged between 62 to 105 percent of the weekday volumes. Based on this information, the analysis of event traffic occurring during the weekday period represents the most appropriate basis for detailed traffic analysis through the Seattle Center area since the weekday traffic volumes are generally higher. Traffic volumes generally fluctuate day-to-day by up to five percent; therefore, the differences at 5th Avenue N. / Mercer Street are within the day-to-day changes in traffic volumes.

Within the Seattle Center study area, significant transportation improvement projects have been under construction for the past several years. Due to ongoing construction activities and impacts to traffic circulation and roadway capacities, existing traffic counts were not conducted within the defined study area. Instead previous traffic models and studies developed for the area were reviewed and utilized to develop estimated “existing” condition traffic volumes and are presented in detail in a later section. A more comprehensive discussion of these models is included in the Affected Environment section of this chapter.

Traffic Forecast Methodology – No Action Analyses

Future weekday PM peak hour vehicular traffic volumes were developed based on the following general approach:

- Traffic volume forecasts from the Final EIS’s for the Alaskan Way Viaduct Replacement Project (July 2011) were summarized for the overlapping study area intersections.
- Traffic forecasts at intersections not included in the Final EIS’s for the Alaskan Way Viaduct Replacement Project were estimated based on existing travel patterns and approach volumes for intersections previously reported in the EIS.
- Traffic forecasts for the No Action event cases were developed by adding traffic from either a 5,000 attendee event at Memorial Stadium, a 12,000 attendee event at KeyArena, or both events.

Traffic volumes developed for 2018 conditions were estimated by interpolating between 2015 and 2030 traffic volumes from the Alaskan Way Viaduct Replacement Project analysis.

Similar to the Stadium District, analysis cases are linked to each alternative (Cases K1 and K2 for the KeyArena site; Cases M1 and M2 for the Memorial Stadium site). As before Case 1 reflects single events and Case 2 reflects dual events. In the instance of a single event, Case K1 reflects the 12,000 attendee event at KeyArena and M1 reflects a 5,000-person event at Memorial Stadium. Case K2 and M2 reflect a dual event condition (referenced jointly as K2/M2 under No Action), and in the instance of the No Action alternative includes both the Memorial Stadium event added to an event at KeyArena.

Traffic forecasts for the three No Action cases were developed for the 2018 and 2030 horizon years. Based on this methodology, under 2018 conditions a 5,000 person event at Memorial Stadium is estimated to generate approximately 360 vehicular trips during the weekday PM peak hour and the 12,000 person event at the KeyArena would generate approximately 850 trips. As traffic congestion throughout the Puget Sound region increases, attendees of events in the Seattle Center area would be increasingly likely to use transportation modes other than passenger cars. For the 2030 conditions, the transit mode split was increased. This increase in transit usage results in a forecast of approximately 350 vehicular trips associated with a Memorial Stadium event in 2030 and 820 trips forecast for a KeyArena event.

Traffic Forecast Methodology – Arena Event Traffic

Traffic forecasts for the 2018 and 2030 horizon years were prepared for Alternative 4 and Alternative 5. Future weekday PM peak hour vehicular traffic volumes for the each alternative were developed by adding traffic from a new arena to the No Action volumes. Similar to the No Action discussion, traffic forecasts for multiple event cases are presented in this section. The Alternative 4 and Alternative 5 event cases are compared to the corresponding No Action event case to define the impacts of the Alternative.

Traffic associated with the arena attendees was forecast based on a 20,000 attendance level, mode splits, average vehicle occupancies, and arrival patterns tailored for the Seattle Center area venues. Forecast traffic volumes for the 2018 and 2030 horizon years for the multiple event cases were developed by adding the arena related to traffic to the No Action event cases.

For 2018 conditions, an NBA event is estimated to generate approximately 2,050 vehicular trips during the weekday PM peak period. As attendees increasingly choose travel modes other than passenger cars further into the future (2030), PM peak hour trip generation would reduce to approximately 1,975 vehicles per hour (vph).

Affected Environment

The following summarizes the existing traffic volumes in the study area.

Existing Weekday PM Peak Hour - Without Event

Within the Seattle Center study area, significant transportation improvement projects have been under construction for the past several years. Due to ongoing construction activities and impacts to traffic circulation and roadway capacities, existing traffic counts were not conducted within the defined study area. Instead previous traffic models and studies developed for the area were reviewed. These studies and the extents of the intersections used from each study are as follows:

- Existing 2010 traffic volumes for the Mercer West project
- Forecast 2010 traffic volumes for the Mercer East project (with two-way travel on Mercer Street)
- Existing 2010 traffic volumes from SDOT's Denny Way Signal optimization

The traffic volumes from each of these studies were then compared and balanced. The balanced 2010 weekday peak hour traffic volumes were then forecasted to 2013 conditions based on an annual growth rate of 1.5 percent per year consistent with studies completed in the South Lake Union area. The resulting 2013 estimated weekday PM peak hour traffic volumes are summarized below, with detailed estimated turning movement volumes provided in Attachment E-1 which is available from DPD upon request.

- Weekday PM peak hour traffic within the study area is concentrated along the Mercer Street, Denny Way, and Elliot Avenue W. corridors.
- Traffic volumes are greatest along Mercer Street in the vicinity of the ramps to and from I-5 and decrease further to the west. Mercer Street has over 1,000 vehicles during the peak hour along the Seattle Center frontage and over 5,000 vehicles near the I-5 / Fairview Avenue N. interchange.
- Denny Way has approximately 2,000 vehicles during the peak hour along Seattle Center frontage and approximately 1,700 vehicles near I-5. Elliot Avenue W. carries approximately 4,000 vehicles during the peak hour near W. Mercer Place.

Truck volumes on the primary streets that border the Seattle Center, including 1st Avenue S., Mercer Street, 5th Avenue N., Broad Street, and Denny Way are generally less than five percent during the weekday PM peak hour.

Impacts of the No Action Alternative to Alternative 4 and 5 Sites

Traffic forecasts for the three No Action event cases were developed for the 2018 and 2030 horizon years.

Based on the methodology used for event cases, under 2018 conditions the 5,000 person event at Memorial Stadium is estimated to generate approximately 300 vehicular trips during the

weekday PM peak hour and the 12,000-person event at Memorial Stadium would generate approximately 700 trips.

As traffic congestion throughout the Puget Sound region increases, attendees of events in the Seattle center would be increasingly likely to use transportation modes other than passenger cars. For the 2030 conditions, the transit mode split was increased. This increase in transit usage results in a forecast of approximately 275 vehicular trips associated with a 5,000-person event at Memorial Stadium in 2030 and 650 trips forecast for a 12,000-person event at the KeyArena.

2018 Traffic Volumes

2018 No Action Case K1 traffic volumes are estimated to increase by the following percentages over existing traffic volumes given the assumption of a 12,000-person event at KeyArena:

- Mercer Street, between 1st Avenue N. and 5th Avenue N. – 148 percent increase
- Denny Way, between 1st Avenue N. and 5th Avenue N. – 15 percent increase
- 1st Avenue N., south of Mercer Street – 20 percent increase
- 5th Avenue N., north of Denny Way – 29 percent increase

Given historical growth (approximately one to two percent annually) in background traffic, the primary contributing factor to the increase in traffic is the shifts due to the configuration of the bored tunnel and the lack of access to the Central Business District from within the tunnel.

2018 No Action Case M1 traffic volumes are estimated to increase by the following percentages over existing traffic volumes given the assumptions outlined above for the 5,000-person event at Memorial Stadium:

- Mercer Street, between 1st Avenue N. and 5th Avenue N. – 118 percent increase
- Denny Way, between 1st Avenue N. and 5th Avenue N. – 12 percent increase
- 1st Avenue N., south of Mercer Street – eight percent increase
- 5th Avenue N., north of Denny Way – 28 percent increase

2018 No Action Case K2/M2 traffic volumes are estimated to increase by the following percentages over existing traffic volumes given the assumptions outlined above for dual events at Memorial Stadium and KeyArena:

- Mercer Street, between 1st Avenue N. and 5th Avenue N. – 155 percent increase
- Denny Way, between 1st Avenue N. and 5th Avenue N. – 15 percent increase
- 1st Avenue N., south of Mercer Street – 21 percent increase

- 5th Avenue N., north of Denny Way – 38 percent increase

2030 Traffic Volumes

2030 No Action Case K1 traffic volumes are estimated to increase by the following percentages over existing traffic volumes given the assumptions outlined above for the 12,000-person event at KeyArena:

- Mercer Street, between 1st Avenue N. and 5th Avenue N. – 146 percent increase
- Denny Way, between 1st Avenue N. and 5th Avenue N. – 19 percent increase
- 1st Avenue N., south of Mercer Street – 18 percent increase
- 5th Avenue N., north of Denny Way – 48 percent increase

2030 No Action Case M1 traffic volumes are estimated to increase by the following percentages over existing traffic volumes given the assumptions outlined above for the 5,000-person event at Memorial Stadium:

- Mercer Street, between 1st Avenue N. and 5th Avenue N. – 117 percent increase
- Denny Way, between 1st Avenue N. and 5th Avenue N. – 16 percent increase
- 1st Avenue N., south of Mercer Street – 6 percent increase
- 5th Avenue N., north of Denny Way – 47 percent increase

2030 No Action Case K2/M2 are estimated to increase by the following percentages over existing traffic volumes given the assumptions outlined above for dual events at Memorial Stadium and KeyArena:

- Mercer Street, between 1st Avenue N. and 5th Avenue N. – 153 percent increase
- Denny Way, between 1st Avenue N. and 5th Avenue N. – 19 percent increase
- 1st Avenue N., south of Mercer Street – 18 percent increase
- 5th Avenue N., north of Denny Way – 57 percent increase

Impacts of Alternative 4 – KeyArena 20,000-Seat Arena

Alternative 4 would result in an increase in traffic volumes due to workers traveling to and from the site, delivery of material, and truck hauling. It is anticipated that the increase in traffic volumes would be less than generated by a 20,000-seat event at the arena, however it would occur on a daily basis during the two-year construction period.

2018 Traffic Volumes

Traffic volumes along key corridors under 2018 conditions for No Action Cases K1 and K2, including detailed turning movement volumes for each scenario, are provided in Appendix E.

Table 3.8-30 summarizes the total traffic volumes at several locations within the arena vicinity under Alternative 4 Cases K1 and K2. This table includes locations with a greater proportion of regional traffic (i.e. Mercer Street east of Terry Avenue N. accessing I-5) and locations near the Seattle Center (i.e. Mercer Street east of 3rd Avenue N.) and shows the percent increase in traffic volumes compared to 2018 No Action conditions.

**Table 3.8-30
2018 Alternative 4 Weekday PM Peak Hour Traffic Volumes Comparison**

Location	Case K1		Case K2	
	No Action	Alternative 4	No Action	Alternative 4
Mercer Street east of Terry Avenue N.	5,765	6,645 (+15%) ¹	5,975	6,855 (+15%)
Denny Way west of Stewart Street	2,575	2,590 (+1%)	2,600	2,615 (+1%)
Western Avenue northwest of Denny Way	3,270	3,285 (+1%)	3,270	3,285 (+1%)
Mercer Street east of 3rd Avenue N.	2,910	3,405 (+17%)	2,995	3,490 (+17%)
Queen Anne Avenue N. south of Mercer Street	1,300	1,555 (+20%)	1,345	1,600 (+19%)
1st Avenue N. south of Mercer Street	1,075	1,085 (+1%)	1,080	1,090 (+1%)
5th Avenue N. south of Mercer Street	1,890	2,280 (+21%)	2,025	2,415 (+19%)

1. Percent increase from No Action conditions.

The assignment of arena event related traffic reflects the overall distribution of parking in the area as well as the travel patterns accessing the Seattle Center area. Comparing No Action Case K1 to Alternative 4 Case K1, roadway volumes increase between 1 and 21 percent within the arena vicinity under either 2018 or 2030. The percent increase is influenced by the level of background traffic, as well as the level of event traffic. As a result, proportional increases under the Case K2 multiple event scenario are slightly less than Case K1, although the total projected volumes increase.

2030 Traffic Volumes

Traffic volumes along key corridors under 2030 conditions for No Action Cases K1 and K2, including detailed turning movement volumes for each scenario, are provided in Appendix E.

Table 3.8-31 summarizes the total traffic volumes within the arena vicinity and shows the percent increase in traffic volumes compared to 2030 No Action Case K2 conditions.

**Table 3.8-31
2030 Weekday PM Peak Hour Alternative 4 Traffic Volumes Comparison**

Location	Case K1		Case K2	
	No Action	Alternative 4	No Action	Alternative 4
Mercer Street east of Terry Avenue N.	5,785	6,630 (+15%) ¹	5,990	6,835 (+14%)
Denny Way west of Stewart Street	2,575	2,590 (+1%)	2,600	2,615 (+1%)
Western Avenue northwest of Denny Way	3,530	3,550 (+1%)	3,530	3,550 (+1%)
Mercer Street east of 3rd Avenue N.	2,885	3,360 (+16%)	2,970	3,445 (+16%)
Queen Anne Avenue N. south of Mercer Street	1,395	1,645 (+18%)	1,435	1,685 (+17%)
1st Avenue N. south of Mercer Street	1,055	1,065 (+1%)	1,060	1,070 (+1%)
5th Avenue N. south of Mercer Street	2,175	2,550 (+17%)	2,305	2,680 (+16%)

1. Percent increase from No action conditions.

As shown in Table 3.8-31, roadway volumes increase between 1 and 18 percent within the arena vicinity as a result of the addition of arena traffic under either cases K1 and K2. The percent increase is influenced by the level of background traffic, as well as the level of event traffic. As a result, proportional increases under the Case K2 multiple even scenario are slightly less than for Case K1, although the project volumes increase.

Impacts of Alternative 5 – Memorial Stadium 20,000-Seat Arena

Alternative 5 would result in an increase in traffic volumes due to workers traveling to and from the site, delivery of material, and truck hauling. It is anticipated that the increase in traffic volumes would be less than generated by a 20,000-seat event at the arena, however it would occur on a daily basis during the two-year construction period.

2018 Traffic Volumes

Traffic volumes along key corridors under 2018 conditions, including detailed turning movement volumes for each scenario, are provided in Appendix E.

Table 3.8-32 summarizes the total traffic volumes within the arena vicinity and shows the percent increase in traffic volumes compared to 2018 No Action conditions for Cases M1 and M2.

The assignment of arena event related traffic reflects the overall distribution of parking in the area as well as the travel patterns accessing the Seattle Center area. Comparing No Action Case M1 to Alternative 4 Case M1, roadway volumes increase between 5 and 24 percent within the

arena vicinity under either 2018 or 2030. The percent increase is influenced by the level of background traffic, as well as the level of event traffic. As a result, proportional increases under the Case M2 multiple even scenario are slightly less than for Case M1, the single event scenario.

Table 3.8-32
2018 Alternative 5 Weekday PM Peak Hour Traffic Volumes Comparison

Location	Case M1		Case M2	
	No Action	Alternative 5	No Action	Alternative 5
Mercer Street east of Terry Avenue N.	5,430	6,585 (+21%) ¹	5,975	7,130 (+19%)
Denny Way west of Stewart Street	2,535	2,590 (+2%)	2,600	2,655 (+2%)
Western Avenue northwest of Denny Way	3,260	3,280 (+1%)	3,270	3,290 (+1%)
Mercer Street east of 3rd Avenue N.	2,565	3,275 (+28%)	2,995	3,705 (+24%)
Queen Anne Avenue N. south of Mercer Street	1,090	1,460 (+34%)	1,345	1,715 (+28%)
1st Avenue N. south of Mercer Street	965	1,010 (+5%)	1,080	1,125 (+4%)
5th Avenue N. south of Mercer Street	1,880	2,335 (+24%)	2,025	2,480 (+22%)

1. Percent increase from No Action conditions.

When compared to the growth identified for the Alternative 4 cases, growth under Alternative 5 is greater. This increase is due to the increase growth in attendees with an arena event at either site. At the KeyArena site the anticipated growth increases from 12,000 attendees to 20,000 attendees for an increase of 8,000 attendees. At Memorial Stadium event attendance would increase from 5,000 to 20,000 for an increase of 15,000 attendees.

2030 Traffic Volumes

Traffic volumes along key corridors under 2030 conditions for No Action Cases K1 and K2, including detailed turning movement volumes for each scenario, are provided in Appendix E.

Table 3.8-33 summarizes the total traffic volumes within the arena vicinity and shows the percent increase in traffic volumes compared to 2030 No Action conditions for Cases M1 and M2.

Table 3.8-33
2030 Alternative 5 Weekday PM Peak Hour Traffic Volumes Comparison

Location	Case M1		Case M2	
	No Action	Alternative 5	No Action	Alternative 5
Mercer Street east of Terry Avenue N.	5,460	6,495 (+19%) ¹	5,990	7,025 (+17%)
Denny Way west of Stewart Street	2,535	2,585 (+2%)	2,600	2,650 (+2%)
Western Avenue northwest of Denny Way	3,525	3,545 (+1%)	3,530	3,550 (+1%)

Table 3.8-33 (Continued)

Location	Case M1		Case M2	
	No Action	Alternative 5	No Action	Alternative 5
Mercer Street east of 3rd Avenue N.	2,555	3,185 (+25%)	2,970	3,600 (+21%)
Queen Anne Avenue N. south of Mercer Street	1,190	1,525 (+28%)	1,435	1,770 (+23%)
1st Avenue N. south of Mercer Street	950	990 (+4%)	1,060	1,100 (+4%)
5th Avenue N. south of Mercer Street	2,165	2,575 (+19%)	2,305	2,715 (+18%)

1. Percent increase from No action conditions.

As shown in Table 3.8-33, roadway volumes increase between one and 28 percent within the arena vicinity as a result of the addition of arena traffic under either cases M1 and M2. The percent increase is influenced by the level of background traffic, as well as the level of event traffic. As a result, increases under the Case M2 multiple even scenario are slightly less than for Case M1, the single event scenario.

As explained for 2018 Alternative 5 traffic volumes, growth under Alternative 5 is greater than growth identified for Alternative 4. This proportional increase is due to the increase growth in attendees with an arena event at either site.

Transportation Concurrency

The transportation concurrency analysis indicates that with traffic generated by the project, the screenlines would have v/c ratios that are less than the City level of service threshold and thus, the conditions would meet concurrency requirements.

3.8.3.6 Traffic Operations

This section evaluates the impacts of the project with respect to traffic operations within the defined Seattle Center study area. The traffic operations analysis included a review of three primary areas. This includes an analysis of the intersection levels of service, corridor performance measured through an assessment of travel times, and regional impacts as identified through a review of mainline I-5 and I-90 travel speeds and ramp terminal LOS. See Appendix E for further detail regarding the methodology applied to each of the three analyses.

Methodology

Intersection Level of Service: At signalized and all-way stop-controlled intersections, LOS is measured in average delay per vehicle for all vehicles at the intersection. At two-way stop-sign-controlled intersections, LOS is reported for the worst operating approach of the intersection. Traffic operations for an intersection can be described alphabetically with a range of LOS values (LOS A through F), with LOS A indicating free-flowing traffic and LOS F indicating extreme congestion and long vehicle delays. Intersection levels of service incorporate several intersection characteristics including signal timing, signal phasing, intersection channelization, traffic volumes, and pedestrian volumes. Description of Level of Service is provided in Appendix E. The City of Seattle’s Comprehensive Plan does not define a LOS standard for

individual intersections; however, the City generally recognizes LOS E and F as poor operations for signalized locations and LOS F for unsignalized locations. Given the event-related nature of this analysis, and variant frequencies and intensities, traditional intersection LOS standards would not be appropriate as the sole measure of impact on traffic operations.

Corridor Performance: See Appendix E for a description of the methodology used to evaluate effects on traffic operations. Three primary routes were analyzed:

- **Route 1** focuses on east-west travel along W. Mercer Street between 3rd Avenue W. and Fairview Avenue.
- **Route 2** focuses on an east-west route along Denny Way between Queen Anne Avenue and Stewart Street.
- **Route 3** includes north-south travel along 5th Avenue N. between Denny Way and W. Mercer Street.

Travel times were calculated consistent with HCM methodologies defined for the analysis of arterial systems, consistent with the analysis of Stadium District travel routes associated with the evaluation of Alternatives 2 and 3. This analysis utilized the approach delay for each study intersection along these four routes and a free-flow mid-block travel speed applied to the distance between each study intersection. The mid-block speed is estimated following the Bureau of Public Roads methodology.¹⁵

Freeway / Regional Access Analysis: The analysis of regional access to the Seattle Center study area focused on both mainline performance considering corridor travel speeds as well as the LOS at the ramp intersections with the surface arterials. The analysis included a review of southbound I-5 between NE 145th and SR 520 and westbound I-90 between Rainier Avenue and I-5. Information prepared by the King County expert review panel in 2012 for the potential Arena was included in this analysis. This information highlights historical congestion patterns along the I-5 and I-90 corridors under event conditions. Ramp intersections also evaluated as part of the intersection LOS are highlighted in this section. The analysis of the ramp intersections is consistent with the LOS methodology previously described.

Affected Environment

The following sections summarize existing traffic operations within the Seattle Center study area.

Intersection Operations

As part of the intersection operations analysis, signal timing and phasing information was obtained from either the Seattle Department of Transportation (SDOT) or collected in the field. Lane geometrics and traffic control were confirmed in the field and are summarized for each study area intersection in Attachment E-2 which is available from DPD upon request. The

¹⁵ NCHRP Report 387

number of intersections operating at LOS C or better, LOS D, LOS E, or LOS F, are summarized in Figure 3.8-28. Detailed LOS summary tables and worksheets for each scenario are included in Attachment E-3 which is available from DPD upon request. All study intersections operate at LOS D or better under existing conditions with the exception of the nine intersections that operate at LOS E or LOS F.

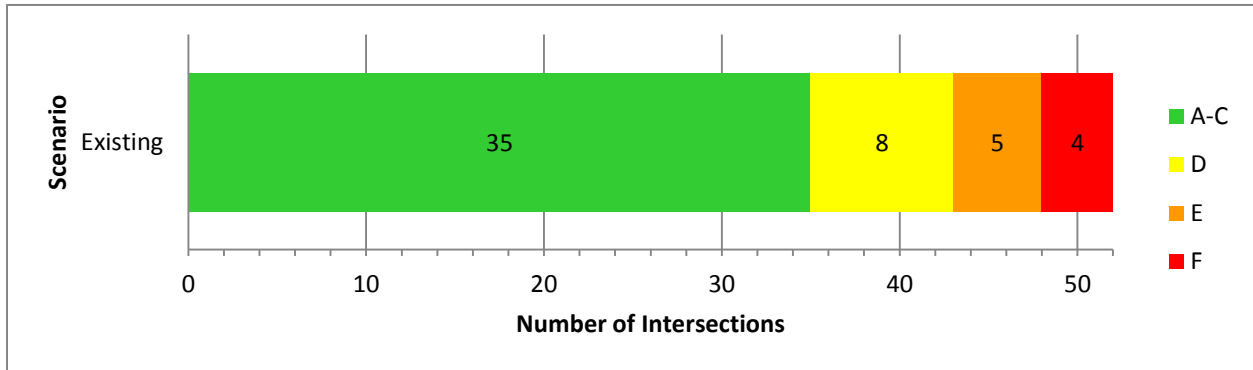


Figure 3.8-28

Existing Seattle Center Intersection LOS Comparison

Corridor Travel Times

Table 3.8-34 summarizes the estimated existing travel times on the various routes for weekday PM peak hour conditions.

Table 3.8-34
Seattle Center Existing Corridor Travel Times

Route	Extents	Direction	Without Event (m:ss) ¹
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	8:59
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	8:32
2	Denny Way from Queen Anne Avenue to Stewart Street	EB	6:18
	Denny Way from Stewart Street to Queen Anne Avenue	WB	6:54
3	5th Avenue N. from Denny Way to W. Mercer Street	NB	2:55
	5th Avenue N. from W. Mercer Street to Denny Way	SB	2:40

1. m:ss = minutes: seconds

As shown in Table 3.8-34, travel times in both travel directions on each route are similar in each direction. Several intersections along the travel time routes are shown to have left-turn queue lengths that exceed allowable storage, but occur along arterials that have multiple through lanes. As a result, vehicles potentially blocked by these queues are anticipated to utilize the other through lanes, minimizing the impact on the overall intersection capacity.

Regional Access Analysis

Primary freeway corridors that provide regional access to the Seattle Center site include I-5, I-90, SR 520, and SR 99. The PM peak commute period for these corridors occurs between 3:00 and 7:00 PM. The existing volumes and congestion for the freeway corridors are described previously in Section 3.8.2.6 Traffic Operations for the Stadium District Alternatives.

The traffic signals or intersections at the ramp terminals operate as a constraint as traffic exits the freeway to access the Seattle Center area. The overall intersection capacity and off-ramp approach of two arterial intersections at the I-5 ramp terminals were reviewed to determine existing off-ramp constraints. The analysis was completed for existing conditions.

The study intersections include Mercer Street / Fairview Avenue and Denny Way / Stewart Street. Although Denny Way / Stewart Street does not operate as the actual southbound I-5 off-ramp at Eastlake Avenue / Stewart Street, southwest-bound traffic at Denny Way / Stewart Street has been observed to back up into the Eastlake Avenue / Stewart Street and is the source of off-ramp congestions. Both intersections operate with a LOS E or better during normal peak operations and during an event, an acceptable LOS level in the City of Seattle. LOS and delay per vehicle is shown in Table 3.8-35.

**Table 3.8-35
Seattle Center Area Existing Weekday PM Peak Hour Ramp Termini Intersection Operations –
Existing Conditions, PM Peak Hour**

Ramp Terminal Intersection	Overall LOS / Delay	Off-Ramp LOS / Delay
Mercer Street / Fairview Avenue	E / 67	E / 61
Denny Way / Stewart Street	C / 28	D / 36

The peak flow of traffic occurs as event patrons arrive for (5:00 to 7:00 PM) and leave (9:00 to 11:00 PM) and event. The peak or worst operating time period occurs during the evening commute when trips not related to events are also operating at their peak. The weekday PM peak hour represents the combined peak activity associated with a new arena and peak activity related to the PM peak commute. When traffic exits the Seattle Center in the later evening (9:00 to 11:00 PM), other traffic volumes on the system have decreased.

Impacts of the No Action Alternative at Alternative 4 and 5 Sites

The following sections summarize the results of the traffic operations analysis conducted for the No Action alternative for the Seattle Center study area. This analysis reflects the forecast traffic volumes and roadway improvements anticipated to be completed by the 2018 and 2030 horizon years. Consistent with the analysis of the Affected Environment, this section presents the results of the intersection LOS analysis, corridor performance, and an analysis of regional access to the Seattle Center area.

Intersection Operations

LOS results for 2018 and 2030 non-event peak hour conditions, with a 12,000 attendee event at KeyArena (Case K1), a 5,000 attendee event at Memorial Stadium (Case M1), and both events concurrently (Case K2/M2), are included in Appendix E.

A summary of the No Action LOS for all study area intersections was prepared and compared to existing conditions as summarized in Figure 3.8-29 for 2018 conditions, and Figure 3.8-30 for 2030 conditions.

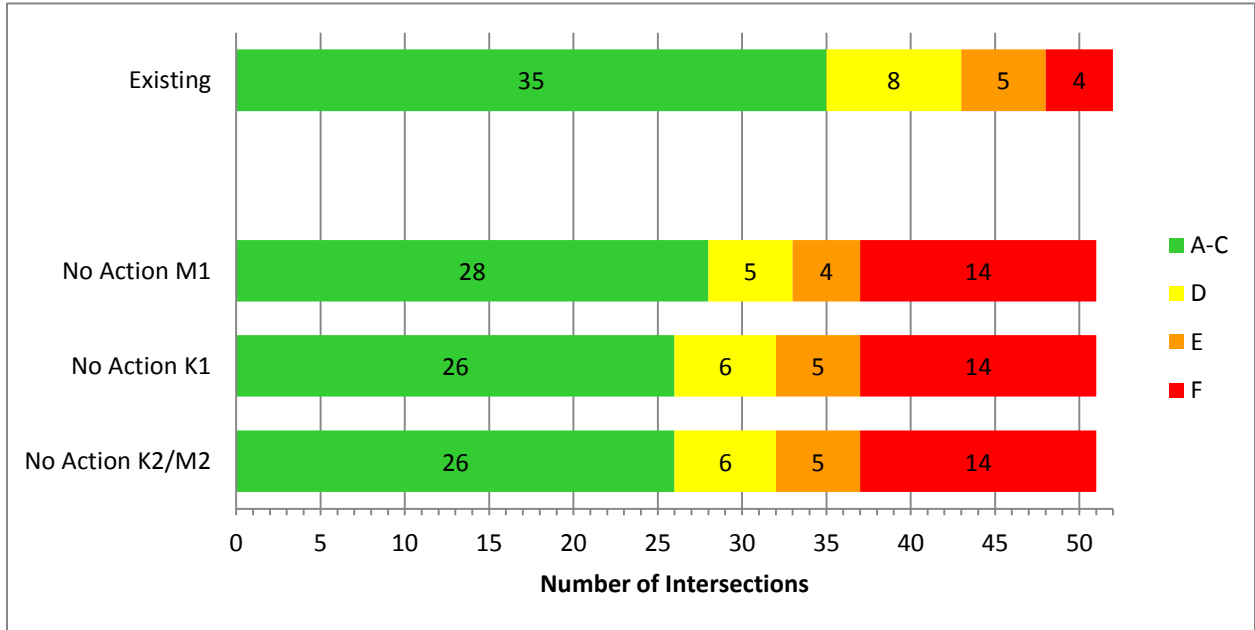


Figure 3.8-29

Seattle Center Area 2018 No Action LOS Comparison

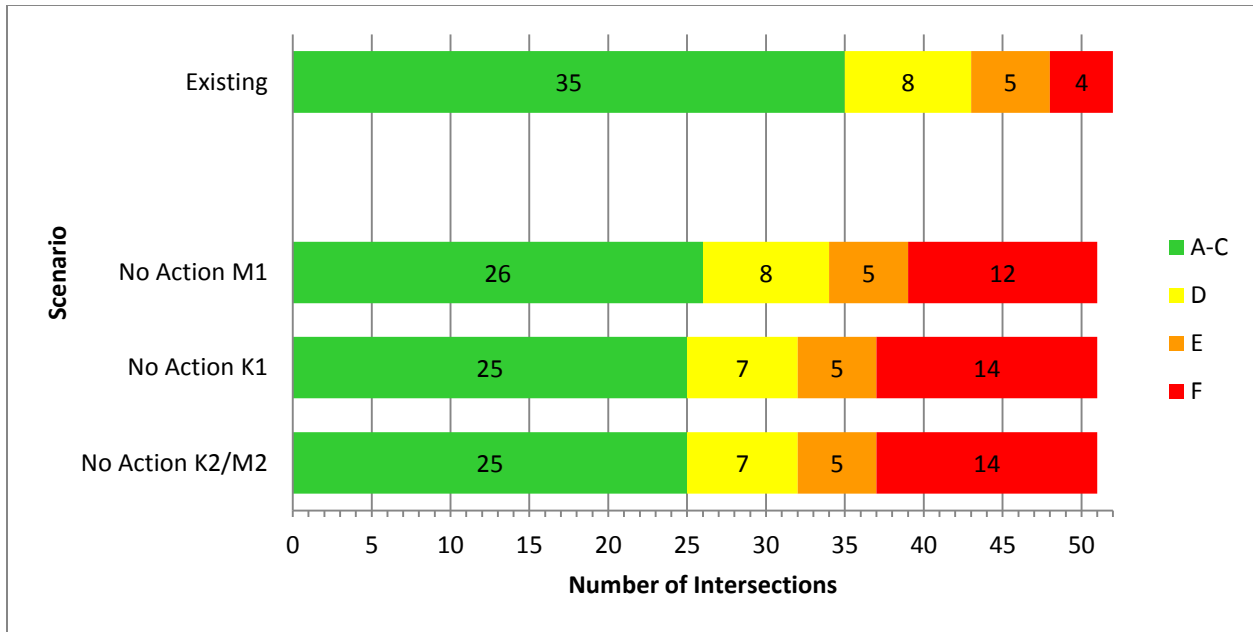


Figure 3.8-30

Seattle Center Area 2030 No Action LOS Comparison

As summarized in these figures:

- Increased traffic volumes and changes in travel patterns result in a greater number of intersections operating at LOS E/F under both 2018 and 2030 conditions.
- The greater attendance level of an event under Case K1 and K2/M2 results in one additional intersection operating at LOS E under 2018 conditions as compared to Case M1 and two additional operating at LOS F for 2030 conditions.

Of the intersections shown to operate at LOS E or LOS F under 2018 No Action conditions (Cases K1, M1, and K2/M2), three are located within the vicinity of the Seattle Center area:

- Warren Avenue N. / Mercer Street
- 5th Avenue N. / Mercer Street
- 5th Avenue N. / Denny Way

All three of these intersections would operate at the same LOS regardless of event Case.

Under 2030 No Action conditions (Cases K1, M1, and K2/M2), up to four intersections would operate at LOS E or LOS F within the vicinity of the Seattle Center area:

- Warren Avenue N. / Mercer Street
- 5th Avenue N. corridor / Mercer Street

- 5th Avenue N. / Denny Way
- 1st Avenue N. / Denny Way

Four of these intersections would operate at the same LOS regardless of event case under 2030 conditions, with the 5th Avenue N. / Mercer Street intersection degrading from LOS E (for Cases K1 and M1) to LOS F under Case K2/M2.

As discussed for the Stadium District alternatives, the methodology adds event traffic to non-event PM peak hour conditions with no regard for capacity constraints. Congestion often results in modified travel behavior for non-event traffic. As a result, the cumulative conditions with an event in all cases likely overstate future congestion levels during the PM peak hour.

Corridor Travel Times

Table 3.8-36 summarizes the calculated travel times under 2018 conditions on the various routes for weekday PM peak hour under non-event and with event conditions. Table 3.8-38 summarizes the estimated travel times under 2030 conditions. Existing non-event conditions are also provided for comparison purposes.

**Table 3.8-36
Seattle Center Area 2018 Weekday PM Peak Hour No Action Corridor Travel Times**

Route	Extents	Direction	Case M1 (m:ss¹)	Case K1 (m:ss)	Case M2/K2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	17:40 (8:59) ²	19:30	21:09
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	10:01 (8:32)	12:37	14:47
2	Denny Way from Queen Anne Avenue to Stewart Street	EB	15:14 (6:18)	16:48	17:30
	Denny Way from Stewart Street to Queen Anne Avenue	WB	12:04 (6:54)	12:42	13:06
3	5th Avenue N. from Denny Way to W Mercer Street	NB	5:04 (2:55)	5:16	5:25
	5th Avenue N. from W. Mercer Street to Denny Way	SB	3:00 (2:40)	3:02	3:04

1. m:ss = minutes:seconds

2. Existing non-event travel times provided for comparison.

As shown in Table 3.8-36:

- Calculated travel times under 2018 conditions increase from existing conditions and further increase with the addition of event traffic, under some cases approximately tripling.

- Travel times under 2018 conditions along routes #1 and #2 which are calculated to exceed 10 minutes with the addition of event traffic, with the addition of event traffic resulting in travel times of approximately 20 minutes or greater for eastbound route #1.
- Travel times along route #3 are calculated to increase to a lesser degree than the other routes. This route is along a north-south roadway that does not provide any direct connect to regional facilities under future conditions and as a result would serve less event traffic than route #1 and #2 corridors.

Results noted above likely overstate the future conditions as no diversion of background traffic was assumed in the analysis of event Cases S2 and S3.

**Table 3.8-37
Seattle Center Area 2030 No Action Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case M1 (m:ss ¹)	Case K1 (m:ss)	Case M2/K2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	18:37 (8:59) ²	21:04	22:38
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	8:28 (8:32)	10:58	13:06
2	Denny Way from Queen Anne Avenue to Stewart Street	EB	19:46 (6:18)	21:37	22:24
	Denny Way from Stewart Street to Queen Anne Avenue	WB	13:00 (6:54)	13:58	14:36
3	5th Avenue N. from Denny Way to W. Mercer Street	NB	5:18 (2:55)	5:26	5:35
	5th Avenue N. from W. Mercer Street to Denny Way	SB	3:09 (2:40)	3:11	3:14

1. m:ss = minutes:seconds

2. Existing non-event travel times provided for comparison.

As shown in Table 3.8-37:

- Under 2030 conditions travel times are generally similar to 2018 conditions. Some travel time routes increase while others decrease under 2030 conditions.
- Travel time changes result from small differences in forecast volumes at some study intersections.
- Similar to 2018 conditions, travel times along route #3 are calculated to only slightly increase since this route does not provide any direct connect to regional facilities under future conditions and would serve less event traffic than route #1 and #2 corridors.

As previously discussed, the event case methodology likely overstates future travel times and congestion due to events.

Regional Access Analysis

The primary corridors serving the downtown area are I-5 and I-90. Today during the late afternoon commute, these freeways are congested for approximately two to three hours. As traffic demand increases by 2018 and 2030, the hours of congestion or “peak spreading” would lengthen or transit ridership may increase. However because the corridors are “at capacity” today, traffic volumes served would not increase during the peak period of 4:00 to 6:00 PM.

The analysis was conducted for the PM peak hour for the Year 2018 and the Year 2030, with and without an event at the existing stadiums. The expected operations of the study intersections are shown in Table 3.8-38.

The analysis was completed for conditions with:

- An event with 12,000-person attendance at KeyArena (Case K1)
- An event with 5,000-person attendance at Memorial Stadium (Case M1)
- An event with 5,000-person attendance at Memorial Stadium plus 12,000 person attendance at KeyArena (Case K2/M2).

LOS and delay per vehicle for the overall ramp intersection terminals in the Seattle Center study area are shown in Table 3.8-38 for 2018 and 2030 conditions.

**Table 3.8-38
Seattle Center Area No Action Weekday PM Peak Hour Ramp Terminal
Intersection Operations**

Ramp Terminal Intersection	Scenario	2018		2030	
		Overall LOS / Delay	Off-Ramp LOS / Delay	Overall LOS / Delay	Off-Ramp LOS / Delay
Mercer Street / Fairview Avenue	Case K1	F / >180	E / >76	F / >180	F / 100
	Case M1	F / >180	F / >79	F / >180	F / 106
	Case M2/K2	F / >180	F / >75	F / >180	F / 97
Denny Way / Stewart Street	Case K1	F / 158	F / >180	F / 164	F / 167
	Case M1	F / 153	F / >180	F / 160	F / 167
	Case M2/K2	F / 162	F / >180	F / 168	F / 169

Under both 2018 and 2030 conditions during the PM peak hour off-ramp intersections are calculated to operate at LOS F at both Denny Way and Mercer Street. I-5 off-ramp approaches operate at LOS F for all cases and analysis years. Long overall intersection delays encountered

by drivers are calculated for 2030 conditions at both intersections, and also would occur for the intersection approach from I-5.

Impacts of Alternative 4 – KeyArena 20,000-Seat Arena

As described for traffic volumes, construction impacts related to traffic operations would occur as a result of increased traffic levels. To minimize impacts to operations, a construction management plan would be developed and could include scheduling the most intensive construction activities such that they are spread out over time and prohibiting material deliveries from leaving or entering the area during AM and PM peak hours when feasible.

The following sections summarize the results of the traffic operation analysis conducted for Alternative 4. This analysis reflects the addition of traffic with a 20,000 attendee event at KeyArena (Case K1), and the further addition of a 5,000 attendee event at Memorial Stadium (Case K2). Consistent with the analysis of the Affected Environment, this section presents the results of the intersection LOS analysis, corridor performance, and an analysis of regional access to the Seattle Center area. Methodologies used in the evaluation of the Proposed Project (Alternative 2) conditions are consistent with those described previously in this chapter.

The No Action traffic forecasts and operations analyses used in establishing the impacts of the project utilized a layering effect of event-related traffic volumes without applying any diversions in background traffic volumes. Based on a review of the non-event and event volume comparisons discussed previously in this report, this approach likely overstates the cumulative and incremental impact of the project.

Intersection Operations

LOS results for 2018 and 2030 peak hour conditions with the arena event at KeyArena (Case K1) and with the addition of the further addition of a 5,000-person event at Memorial Stadium (Case K2) are included in Appendix E.

A summary of the Alternative 4 LOS for all study area intersections was prepared and compared No Action conditions as summarized in Figure 3.8-31 for 2018 conditions, and Figure 3.8-32 for 2030 conditions.

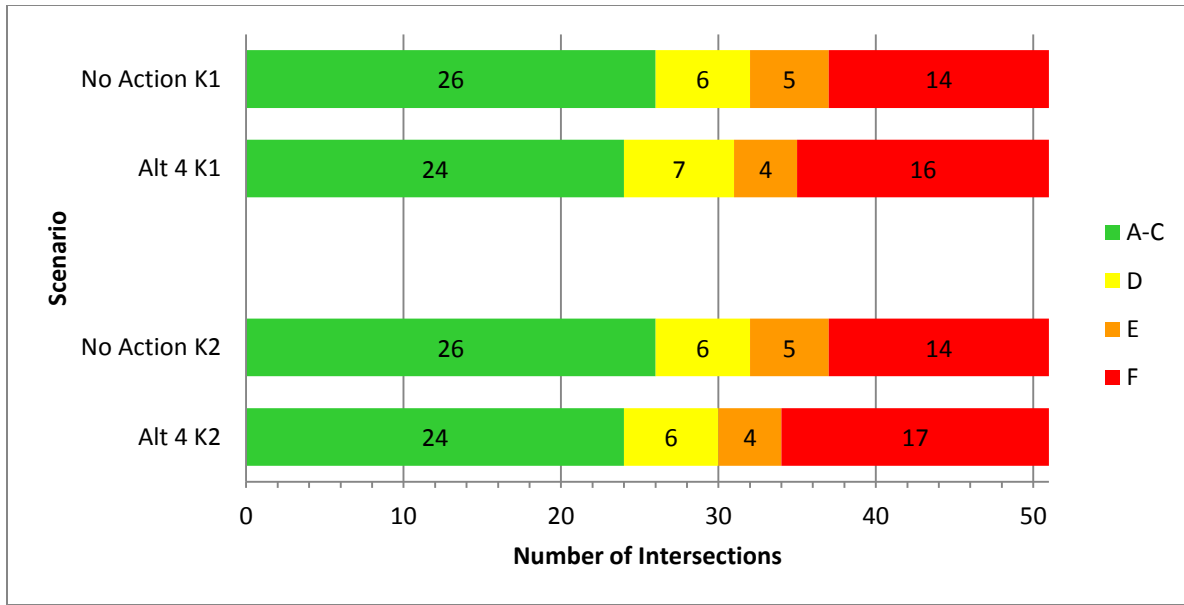


Figure 3.8-31

Seattle Center Area 2018 Alternative 4 Intersection LOS Comparison

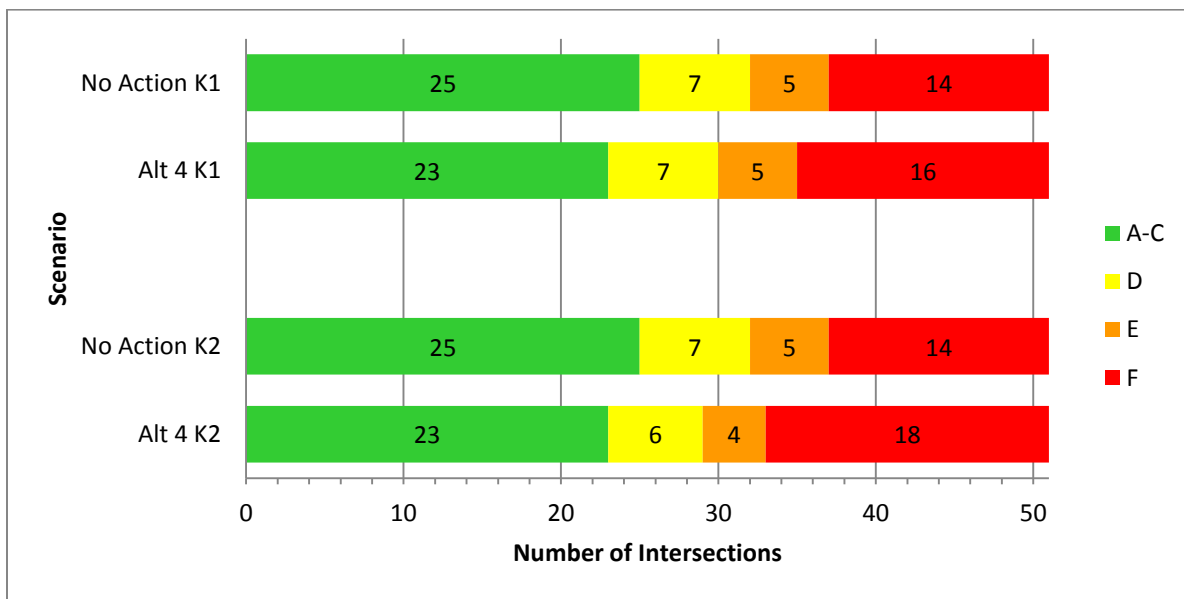


Figure 3.8-32

Seattle Center Area 2030 Alternative 4 Intersection LOS Comparison

As shown:

- Throughout the wider study area, the addition of arena event trips would result in one additional intersection operating at a calculated LOS E/F under 2018 Case K1 and two additional intersections under Case K2.

- Under 2030 conditions two additional intersections would operate at LOS E/F under Alternative 4 Case K1 and three additional intersections would operate at LOS E/F under the multiple event case (Alternative 4 Case K2).

Table 3.8-39 summarizes the intersections that operate at LOS E or LOS F with the addition of arena event traffic under 2018 conditions. Results for 2030 conditions are summarized in Table 3.8-40.

**Table 3.8-39
2018 Alternative 4 Weekday PM Peak Hour Intersections at LOS E or LOS F**

Roadway	Case K1		Case K2	
	No Action	Alternative 4	No Action	Alternative 4
Elliott Avenue W. / W. Mercer Pl	F	F	F	F
Queen Anne Avenue N. / Roy Street	F	F	F	F
Broad Street / Valley Street	F	F	F	F
1st Avenue W. / W. Mercer Street	E	E	E	E
Mercer Street / Queen Anne Avenue N.	F	F	F	F
Mercer Street / Warren Avenue N.	F	F	F	F
3rd Avenue N. / Mercer Street	C	F	C	F
5th Avenue N. / Mercer Street	F	F	F	F
Mercer Street / Taylor Avenue N.	C	D	C	E
Dexter Avenue N. / Mercer Street	F	F	F	F
9th Avenue N. / Mercer Street	F	F	F	F
Mercer Street / Westlake Avenue N.	F	F	F	F
Mercer Street / Terry Avenue N.	E	E	E	F
Fairview Avenue N. / Mercer Street	F	F	F	F
5th Avenue N. / Broad Street	E	E	E	E
5th Avenue N. / Denny Way	E	F	E	F
Aurora Avenue N. / Denny Way	E	E	E	E
Denny Way / Dexter Avenue	F	F	F	F
Denny Way / Westlake Avenue	F	F	F	F
Denny Way / Fairview Avenue	F	F	F	F
Denny Way / Stewart Street	F	F	F	F

**Table 3.8-40
2030 Alternative 4 Weekday PM Peak Hour Intersections at LOS E or LOS F**

Roadway	Case K1		Case K2	
	No Action	Alternative 4	No Action	Alternative 4
Elliott Avenue W. / W. Mercer Pl	F	F	F	F
Queen Anne Avenue N. / Roy Street	F	F	F	F
Broad Street / Valley Street	E	E	E	E
1st Avenue W. / W. Mercer Street	E	E	E	E
Mercer Street / Queen Anne Avenue N.	F	F	F	F
1st Avenue N. / Mercer Street	D	E	D	E
Mercer Street / Warren Avenue N.	F	F	F	F
3rd Avenue N. / Mercer Street	D	F	D	F
5th Avenue N. / Mercer Street	F	F	F	F
Dexter Avenue N. / Mercer Street	F	F	F	F
9th Avenue N. / Mercer Street	F	F	F	F
Mercer Street / Westlake Avenue N.	F	F	F	F
Mercer Street / Terry Avenue N.	E	E	E	F
Fairview Avenue N. / Mercer Street	F	F	F	F
5th Avenue N. / Broad Street	E	E	E	F
1st Avenue / Denny Way	D	D	D	E
5th Avenue N. / Denny Way	E	F	E	F
Aurora Avenue N. / Denny Way	F	F	F	F
Denny Way / Dexter Avenue	F	F	F	F
Denny Way / Westlake Avenue	F	F	F	F
Denny Way / Fairview Avenue	F	F	F	F
Denny Way / Stewart Street	F	F	F	F

Corridor Travel Times

Table 3.8-41 summarizes the calculated weekday PM peak hour travel times under 2018 conditions on the defined routes. Table 3.8-42 summarizes the calculated travel times under 2030 conditions. No Action results conditions are shown in parentheses and provided for comparison purposes.

**Table 3.8-41
2018 Alternative 4 Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case K1 (m:ss)¹	Case K2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	23:14 (19:30) ²	24:31 (21:09)
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	27:02 (12:37)	31:05 (14:47)
2	Denny Way from Queen Anne Avenue to Stewart Street	EB	17:23 (16:48)	17:44 (17:30)
	Denny Way from Stewart Street to Queen Anne Avenue	WB	15:24 (12:42)	16:00 (13:06)
3	5th Avenue N. from Denny Way to W. Mercer Street	NB	6:13 (5:16)	6:24 (5:25)
	5th Avenue N. from W. Mercer Street to Denny Way	SB	3:40 (3:02)	4:02 (3:04)

1. m:ss = minutes:seconds

2. No Action travel times provided for comparison.

As shown in Table 3.8-41 and Table 3.8-42:

- Travel times under both 2018 and 2030 conditions are calculated to increase with the addition of arena event traffic. In particular, westbound Mercer Street increases substantially to over 30 minutes with the addition of arena traffic due to the majority of traffic (approximately 70 percent) travelling to the Seattle Center area utilizing the Mercer Street corridor.
- It is noted that No Action and all future estimates of event traffic volumes are simply additive to No Action conditions. This additive approach likely overestimates future traffic and congestion related to events. However, it does provide a consistent basis for comparing alternatives. There is no reliable way to assess the amount of diverted non-event traffic likely to occur for any given event.

**Table 3.8-42
2030 Alternative 4 Weekday PM Peak Corridor Travel Times**

Route	Extents	Direction	Case K1 (m:ss¹)	Case K2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	24:11 (21:04) ²	25:29 (22:38)
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	25:20 (10:58)	29:09 (13:06)
2	Denny Way from Queen Anne Avenue to Stewart Street	EB	22:24 (21:37)	23:10 (22:24)
	Denny Way from Stewart Street to Queen Anne Avenue	WB	17:55 (13:58)	18:48 (14:36)
3	5th Avenue N. from Denny Way to W. Mercer Street	NB	6:19 (5:26)	6:27 (5:35)
	5th Avenue N. from W. Mercer Street to Denny Way	SB	3:46 (3:11)	4:07 (3:14)

1. m:ss = minutes:seconds

2. No Action travel times provided for comparison.

Regional Access Analysis

Traffic would access the new arena in the Seattle Center area via I-5, SR 99, and local arterials. It is estimated up to 20 percent of the trips that would access a new arena would come from the north via I-5 and 55 percent via I-5 from the south. The other 25 percent of the trips would access the area via local arterials and SR 99.

For an event only at the new arena, up to an additional 1,550 vph would enter the city via I-5 to reach a new arena. This is a 6 to 15 percent increase in trips compared to a typical evening commute on any one of those corridors. Table 3.8-43 shows the typical traffic volumes for a weekday and the anticipated increase in traffic with a new arena for each of the event cases.

The typical weekday traffic flow values shown in Table 3.8-43 are existing volumes but represent anticipated traffic volumes in year 2018. Traffic demand (or volume of vehicles that want to use these corridors) typically increase as redevelopment occurs over time. However because the corridors are at or near capacity, additional traffic is not served during the peak hour of congestion. Therefore today's traffic volume served through these areas during the peak of congestion would be similar in future years unless capacity was increased for I-5.

Table 3.8-43 also focuses on the directions and locations of I-5 that would experience the greatest increase in trips from an arena event. During the PM peak hour, the majority of the trips (about 94 percent) associated with a new arena are inbound trips (or trips heading to a new arena).

**Table 3.8-43
2018 Alternative 4 Weekday PM Peak Hour Increase in Traffic on Freeway Corridors**

Location	Typical Weekday PM Peak Hour Traffic (vph)	Increase in traffic with Arena (vph / % compared to typical weekday traffic)	
		Case K1	Case K2
I-5 Southbound (north of Mercer)	6,700 vph	400 vph / 6%	450 vph / 7%
I-5 Northbound (south of Olive)	6,800 vph	1,050 vph / 15%	1,250 vph / 18%

The I-5 and I-90 corridors experience congestion today during the PM peak commute. Today, events at the downtown arenas results in an increase in travel time approaching the city center. The PM peak travel times (on days with events in 2012) increased by up to eight minutes on southbound I-5 between NE 145th and I-90 and up to four minutes on I-90 between I-405 and Rainer Avenue S. It is anticipated with a new arena with capacity for 20,000 spectators, PM peak travel times would be similarly affected for a typical event day.

For an event only at the new arena, up to an additional 1,500 vph would enter the city via I-5 to reach the new arena in the year 2030. This is slightly less than the year 2018 condition as it's assumed more people would use transit to access this area. This is a result of Link light rail extensions and other transit improvements that will provide event attendees more options. Increases in traffic and effect to regional travel times on the I-5 and I-90 freeways would be similar in the year 2030 as experienced in the year 2018.

Regional or freeway access to the Seattle Center area is constrained by signals at the terminal of the off-ramps. Overall intersection and off-ramp approach operations of two arterial intersections at the I-5 ramp termini were reviewed. The analysis was conducted for the weekday PM peak hour for 2018 and 2030 horizon years, under Case K1 and K2 and summarized in Table 3.8-44.

**Table 3.8-44
Alternative 4 Weekday PM Peak Hour Ramp Terminal Intersection Operations**

Intersection	Scenario	2018		2030	
		Overall LOS / Delay	Off-Ramp LOS / Delay	Overall LOS / Delay	Off-Ramp LOS / Delay
Mercer Street / Fairview Avenue	Case K1	F / >180	F / 103	F / >180	F / 102
	Case K2	F / >180	F / 122	F / >180	F / 113
Denny Way / Stewart Street	Case K1	F / 160	F / >180	F / 166	F / 169
	Case K2	F / 163	F / >180	F / 169	F / 169

Under both 2018 and 2030 conditions during the PM peak hour off-ramp conditions operate at LOS E/F at both Denny Way and Mercer Street and are similar to No Action conditions.

The further addition of event traffic would add to the already poor off-ramp terminal operations that are forecast to occur under No Action conditions.

In addition to the traffic operations impacts outlined above, the increases in event traffic volumes related to an arena would have an impact on emergency vehicle access and circulation to the KeyArena site as well as through the area. This may require emergency response vehicles to use on-board flashing lights and sirens to navigate through the congestion and reduce delays. In addition, during periods of heavy congestion, manual traffic control may be necessary to facilitate the passage of emergency vehicles.

Post-Event Traffic Operations

At the end of a sporting event at the Seattle Center attendees typically depart the venue in a highly concentrated flow that can affect traffic operations within the vicinity of the venue. Post-event traffic counts for sporting event in the SoDo area¹⁶ indicate that the peak 15 minutes near the end of an event can range between 30 to 40 percent of the total hourly flow that includes this peak with traffic volumes greatest travelling away from the venue.

As a result of this surge, professional sporting events in Seattle typically implement a Traffic Control Plan (TCP) to aid in the dispersion of event attendees to the transportation network. A TCP helps to alleviate this outbound surge in event attendees. However, post-event surge traffic volumes are usually less than the peak 15-minute period during a non-event peak evening commute period. As a result, the analysis of the peak evening commute period represents a worst-case condition.

Impacts of Alternative 5 – Memorial Stadium 20,000-Seat Arena

As described for traffic volumes, construction impacts related to traffic operations would occur as a result of increased traffic levels. To minimize impacts to operations, a construction management plan would be developed and could include scheduling the most intensive construction activities such that they are spread out over time and prohibiting material deliveries from leaving or entering the area during AM and PM peak hours when feasible.

The following sections summarize the results of the traffic operations analysis conducted for Alternative 5. This analysis reflects the addition of traffic with a 20,000 attendee event at Memorial Stadium (Case M1), and the further addition of a 12,000 attendee event at KeyArena (Case M2). Consistent with the analysis of the Affected Environment, this section presents the results of the intersection LOS analysis, corridor performance, and an analysis of regional access to the Seattle Center area. Methodologies used in the evaluation of the Proposed Project (Alternative 2) conditions are consistent with those described previously in this chapter.

¹⁶ Seattle Mariners, April 11, 2013

Intersection Operations

A summary of the Alternative 5 LOS for all study area intersections was prepared and compared to No Action conditions as summarized in Figure 3.8-33 for 2018 conditions, and Figure 3.8-34 for 2030 conditions.

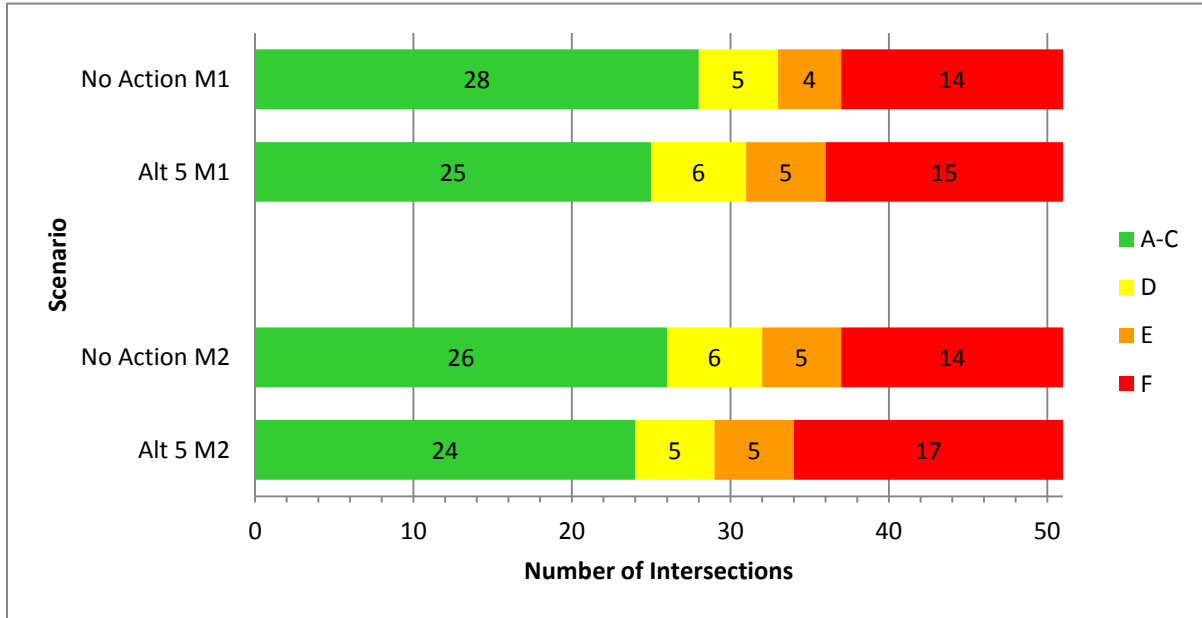


Figure 3.8-33

Seattle Center 2018 Alternative 5 Intersection LOS Comparison

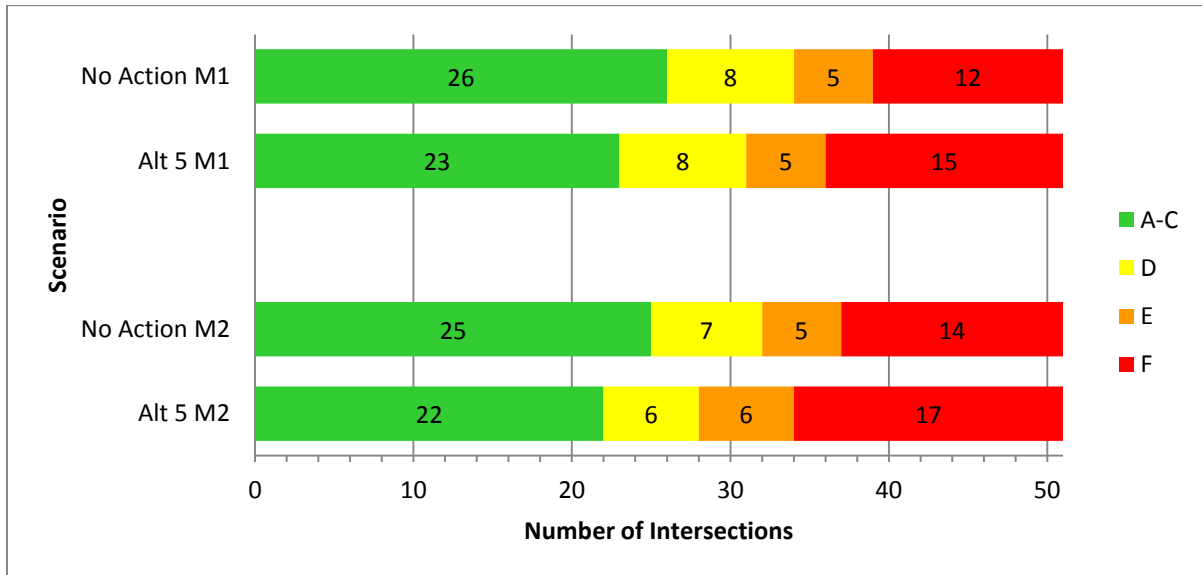


Figure 3.8-34

Seattle Center 2030 Alternative 5 Intersection LOS Comparison

As shown:

- Throughout the wider study area, the addition of arena event trips would result in two additional intersections operating at a calculated LOS E/F under 2018 Case M1 and three additional intersections under Case M2.
- Under 2030 conditions three additional intersections would operate at LOS F for Alternative 5 Case M1 and four additional intersections would operate at LOS E/F for Alternative 5 Case M2.

Table 3.2-45 summarizes the intersections that operate at LOS E or LOS F with the addition of arena event traffic under 2018 conditions. Results for 2030 conditions are summarized in Table 3.8-46. Note that some intersections would only operate at LOS E or LOS F under the multiple event scenario (Case M2).

**Table 3.8-45
2018 Alternative 5 Weekday PM Peak Hour Intersections at LOS E or LOS F**

Roadway	Case M1		Case M2	
	No Action	Alternative 5	No Action	Alternative 5
Elliott Avenue W. / W. Mercer Pl	F	F	F	F
Queen Anne Avenue N. / Roy Street	F	F	F	F
Broad Street / Valley Street	F	F	F	F
1st Avenue W. / W. Mercer Street	E	E	E	E
Mercer Street / Queen Anne Avenue N.	F	F	F	F
1st Avenue N. / Mercer Street	C	D	D	E
Mercer Street / Warren Avenue N.	F	F	F	F
3rd Avenue N. / Mercer Street	B	E	C	F
5th Avenue N. / Mercer Street	F	F	F	F
Mercer Street / Taylor Avenue N.	C	D	C	E
Dexter Avenue N. / Mercer Street	F	F	F	F
9th Avenue N. / Mercer Street	F	F	F	F
Mercer Street / Westlake Avenue N.	F	F	F	F
Mercer Street / Terry Avenue N.	D	E	E	F
Fairview Avenue N. / Mercer Street	F	F	F	F
5th Avenue N. / Broad Street	E	E	E	E
5th Avenue N. / Denny Way	E	F	E	F
Aurora Avenue N. / Denny Way	E	E	E	E
Denny Way / Dexter Avenue	F	F	F	F
Denny Way / Westlake Avenue	F	F	F	F
Denny Way / Fairview Avenue	F	F	F	F
Denny Way / Stewart Street	F	F	F	F

**Table 3.8-46
2030 Alternative 5 Weekday PM Peak Hour Intersections at LOS E or LOS F**

Roadway	Case M1		Case M2	
	No Action	Alternative 5	No Action	Alternative 5
Elliott Avenue W. / W. Mercer Pl	F	F	F	F
Queen Anne Avenue N. / Roy Street	F	F	F	F
Broad Street / Valley Street	E	E	E	E
1st Avenue W. / W. Mercer Street	D	E	E	E
Mercer Street / Queen Anne Avenue N.	F	F	F	F
1st Avenue N. / Mercer Street	D	D	D	E
Mercer Street / Warren Avenue N.	F	F	F	F
3rd Avenue N. / Mercer Street	C	E	D	F
5th Avenue N. / Mercer Street	E	F	F	F
Mercer Street / Taylor Avenue N.	C	C	C	E
Dexter Avenue N. / Mercer Street	F	F	F	F
9th Avenue N. / Mercer Street	E	F	F	F
Mercer Street / Westlake Avenue N.	F	F	F	F
Mercer Street / Terry Avenue N.	D	E	E	F
Fairview Avenue N. / Mercer Street	F	F	F	F
5th Avenue N. / Broad Street	E	E	E	E
1st Avenue / Denny Way	D	D	D	E
5th Avenue N. / Denny Way	E	F	E	F
Aurora Avenue N. / Denny Way	F	F	F	F
Denny Way / Dexter Avenue	F	F	F	F
Denny Way / Westlake Avenue	F	F	F	F
Denny Way / Fairview Avenue	F	F	F	F
Denny Way / Stewart Street	F	F	F	F

Corridor Travel Times

Table 3.8-47 summarizes the calculated weekday PM peak hour travel times under 2018 conditions on the defined routes. Table 3.8-48 summarizes the calculated travel times under 2030 conditions. No Action results conditions are shown in parentheses and provided for comparison purposes.

**Table 3.8-47
2018 Alternative 5 Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case M1 (m:ss) ¹	Case M2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	22:47 (17:40) ²	26:37 (21:09)
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	25:40 (10:01)	37:33 (14:47)
2	Denny Way from Queen Anne Avenue to Stewart Street	EB	16:57 (15:14)	19:17 (17:30)
	Denny Way from Stewart Street to Queen Anne Avenue	WB	15:21 (12:04)	17:00 (13:06)
3	5th Avenue N. from Denny Way to W. Mercer Street	NB	6:20 (5:04)	6:44 (5:25)
	5th Avenue N. from W. Mercer Street to Denny Way	SB	3:22 (3:00)	3:51 (3:04)

1. m:ss = minutes:seconds
2. No Action travel times provided for comparison.

**Table 3.8-48
2030 Alternative 5 PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case M1 (m:ss ¹)	Case M2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	23:21 (18:37) ²	27:11 (22:38)
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	22:26 (8:28)	33:18 (13:06)
2	Denny Way from Queen Anne Avenue to Stewart Street	EB	21:55 (19:46)	24:26 (22:24)
	Denny Way from Stewart Street to Queen Anne Avenue	WB	17:29 (13:00)	19:40 (14:36)
3	5th Avenue N. from Denny Way to W Mercer Street	NB	6:19 (5:18)	6:38 (5:35)
	5th Avenue N. from W. Mercer Street to Denny Way	SB	3:28 (3:09)	3:52 (3:14)

1. m:ss = minutes:seconds
2. No Action travel times provided for comparison.

As shown in Table 3.8-47 and Table 3.8-48:

- Travel times under both 2018 and 2030 conditions are calculated to increase with the addition of arena event traffic. In particular, westbound Mercer Street increases substantially to over 30 minutes with the addition of arena traffic due to the majority of

traffic (approximately 70 percent) travelling to the Seattle Center area utilizing the Mercer Street corridor.

- It is noted that No Action and all future estimates of event traffic volumes are simply additive to No Action conditions. While existing counts and analysis show modest impacts to traffic volumes and operations on event days, this additive approach likely overestimates future traffic and congestion related to events. However, it does provide a consistent basis for comparing alternatives. There is no reliable way to assess the amount of diverted non-event traffic likely to occur for any given event.

Regional Access Analysis

Traffic would access the new arena in the Seattle Center area via I-5, SR 99, and local arterials. It is estimated up to 20 percent of the trips that would access a new arena would come from the north via I-5 and 55 percent via I-5 from the south. The other 25 percent of the trips would access the area via local arterials and SR 99.

For an event only at the new arena, up to an additional 1,550 vph would enter the city via I-5 to reach the Seattle Center area. This is a 6 to 15 percent increase in trips compared to a typical evening commute on any one of those corridors. Table 3.8-49 shows the typical traffic volumes for a weekday and the anticipated increase in traffic with a new arena, and also with the combined with other events.

The typical weekday traffic flow values shown in Table 3.8-49 are existing volumes but represent anticipated traffic volumes in year 2018. Traffic demand (or volume of vehicles that want to use these corridors) increase as land use changes. However because the corridors are at or near capacity, additional traffic is not served during the peak hour of congestion. Therefore today’s traffic volume served through these areas during the peak of congestion would be similar in future years unless capacity was increased for I-5.

Table 3.8-49 also focuses on the directions and locations of I-5 that would experience the greatest increase in trips from an arena event. During the PM peak hour, the majority of the trips (about 94 percent) associated with a new arena are inbound trips (or trips heading to a new arena).

**Table 3.8-49
2018 Alternative 5 Weekday PM Peak Hour Increase in Traffic on Freeway Corridors**

Location	Typical Weekday PM Peak Hour Traffic (vph)	Increase in traffic with Arena (vph / % compared to typical weekday traffic)	
		Case M1	Case M2
I-5 Southbound (north of Mercer)	6,700 vph	400 vph / 6%	550 vph / 8%
I-5 Northbound (south of Olive)	6,800 vph	1,100 vph / 15%	1,450 vph / 21%

The I-5 and I-90 corridors experience congestion today during the PM peak commute. Today, events at the downtown arenas results in an increase in travel time approaching the city center. The PM peak travel times (on days with events in 2012) increased by up to eight minutes on southbound I-5 between NE 145th and I-90 and up to four minutes on I-90 between I-405 and Rainer Avenue S. It is anticipated with a new arena with capacity for 20,000 spectators, PM peak travel times would be similarly affected for a typical event day with an event only at the new arena (Case M1).

For an event only at the new arena, up to an additional 1,400 vph would enter the city via I-5 to reach the new arena in the year 2030. This is slightly less than the year 2018 condition as it's assumed more people would use transit to access this area. This is a result of Link light rail extensions and other transit improvements that will provide event attendees more options. Increases in traffic and effect to regional travel times on the I-5 and I-90 freeways would be similar in the year 2030 as experienced in the year 2018.

Regional or freeway access to the Seattle Center area is constrained by signals at the terminal of the off-ramps. Overall intersection and off-ramp approach operations of two arterial intersections at the I-5 ramp termini were reviewed. The analysis was conducted for the weekday PM peak hour for 2018 and 2030 horizon years, under Case M1 and M2.

Under both 2018 and 2030 conditions during the PM peak hour off-ramp conditions operate at LOS E/F at both Denny Way and Mercer Street and are similar to No Action conditions. The further addition of event traffic would add to the already poor off-ramp terminal operations that are forecast to occur under No Action conditions.

In addition to the traffic operations impacts outlined above, the increases in event traffic volumes related to an arena would have an impact on emergency vehicle access and circulation to the Memorial Stadium site as well as through the area. This may require emergency response vehicles to use on-board flashing lights and sirens to navigate through the congestion and reduce delays. In addition, during periods of heavy congestion, manual traffic control may be necessary to facilitate the passage of emergency vehicles.

Post-Event Traffic Operations

At the end of a sporting event at the Seattle Center attendees typically depart the venue in a highly concentrated flow that can affect traffic operations within the vicinity of the venue. Post-event traffic counts for sporting event in the SoDo area¹⁷ indicate that the peak 15 minutes near the end of an event can range between 30 to 40 percent of the total hourly flow that includes this peak with traffic volumes greatest travelling away from the venue.

As a result of this surge, professional sporting events in Seattle typically implement a Traffic Control Plan (TCP) to aid in the dispersion of event attendees to the transportation network. A TCP helps to alleviate this outbound surge in event attendees. However, post-event surge

¹⁷ Seattle Mariners, April 11, 2013

traffic volumes are usually less than the peak 15-minute period during a non-event peak evening commute period. As a result, the analysis of the peak evening commute period represents a worst-case condition.

3.8.3.7 Freight and Goods Movement

This section describes the existing, No Action, and magnitude of future impacts associated with the development alternatives on the movement of freight and goods within the Seattle Center area.

Methodology

The impacts of the alternatives on freight and goods movements are evaluated based on the effect of the added magnitude and frequency of additional event traffic on freight activity. Thus changes in specific intersection and arterial performance at locations along identified truck routes are evaluated.

Affected Environment

Transportation Network

Within the Seattle Center area, the City has designated several roadways as Major Truck Routes and Seaport Highway Connectors. See Figure 3.8-35. Several roadways are designated as truck facilities. Trucks with over-legal loads utilize Mercer Street and Broad Street to access the waterfront and the CBD. These routes maintain a 20' by 20' design envelope.

Two classes of truck facility are identified:

- Major Truck Routes and Seaport Highway Connector
 - Elliott Avenue W. north of Broad Street
 - Broad Street south of Mercer Street
 - Aurora Avenue N.
 - Western Avenue from Elliott Avenue W. to Denny Way
 - Denny Way from Western Avenue to Broad Street
 - Mercer Street from Dexter Avenue N. and Broad Street to Fairview Avenue N.
- Major Truck Routes only
 - Western Avenue south of Denny Way
 - Broad Street north of Mercer Street
 - 9th Avenue N. north of Mercer Street

- Westlake Avenue N. north of Mercer Street
- Fairview Avenue N. north of Mercer Street
- Valley Street between Westlake Avenue N. and Fairview Avenue N.
- Elliott Avenue south of Broad Street

Traffic Volumes

Due to ongoing construction along the Mercer Street corridor, current traffic counts were not conducted, as the data would not be indicative of stable conditions. Historical traffic counts¹⁸ along the corridor showed that truck volumes over a 16-hour period totaled 450 semi-trucks utilizing the I-5 ramps, 100 semi-trucks along Broad Street and 50 trucks were noted to use Westlake Avenue. The Synchro traffic models obtained from the City included heavy vehicles percentages of two percent. Future analyses conducted for this evaluation utilized the same assumptions.

Traffic Operations

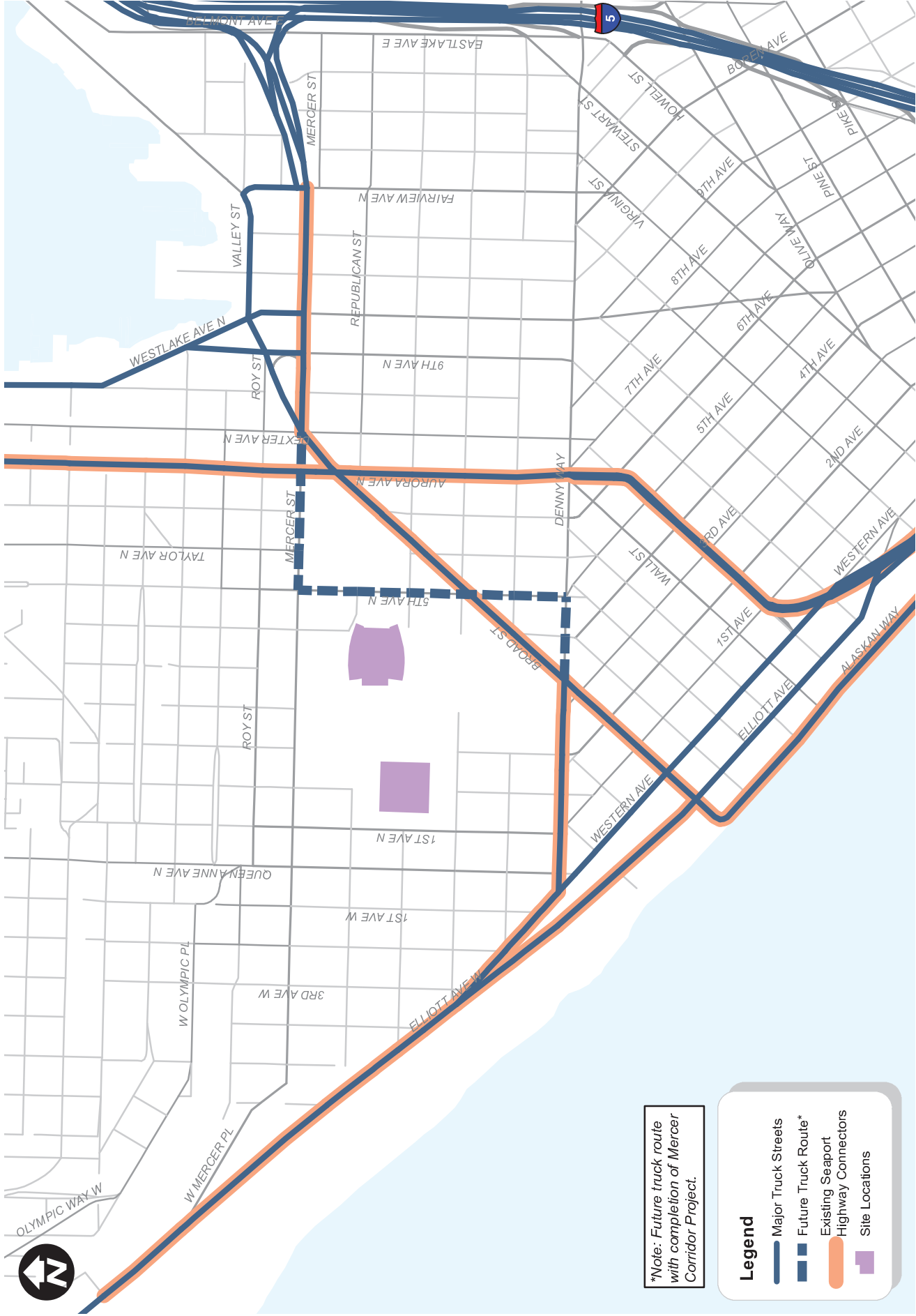
Individual intersection and corridor operations have a significant impact on the efficiency and cost associated with the movement of freight and goods. This section highlights the traffic operations along the key corridors utilized by freight, as designated by the City of Seattle. This analysis focuses mainly on the Mercer Street corridor as that is the primary connection to the area from the regional system.

The analysis of existing conditions reflects the completion of the east section of the Mercer Street corridor. The results of the intersection analysis identified three of the seven intersections east of and including the Dexter Avenue N. intersection that are “currently”¹⁹ operating at LOS E/F during the weekday PM peak hour. Truck traffic utilizing Mercer Street to access Elliot Avenue or Western will incur delay at these intersections commensurate with the delay experienced by all traffic. Likewise, corridor level impacts would experience similar delay and travel time impacts. It is noted that large trucks may experience additional delays during periods of extreme congestion as trucks require more clear space to enter and clear an intersection.

The travel time corridors identified for this review included Mercer Street from 3rd Avenue W. to Fairview Avenue N. This corridor was identified based on its designation as a Major Truck Street as well as its functionality with respect to access to the Seattle Center Area alternative sites. Existing travel times for this section of Mercer Street were calculated at approximately 9 minutes in the eastbound direction and 8.5 minutes in the westbound direction.

¹⁸ Mercer Corridor Improvements Project Transportation Discipline Report, November 2006.

¹⁹ Assumes completion of the east portion of the West Mercer Improvement Project



**Note: Future truck route with completion of Mercer Corridor Project.*

Legend

- Major Truck Streets
- Future Truck Route*
- Existing Seaport Highway Connectors
- Site Locations

Seattle Center Area Freight Facilities

Seattle Arena

FIGURE 3.8-35

Impacts of the No Action Alternative at Alternative 4 and 5 Sites

Forecast conditions under the No Action alternative for freight and goods movement within the Seattle Center area are described in the following sections. With the changes in roadway infrastructure future discussions focus primarily on the Mercer Street corridor, due to its regional access and future east-west linkages and future impacts of the development alternatives.

Transportation Network

Several planned projects were identified that will affect truck travel within the study area. These include:

- **Alaskan Way Viaduct Replacement – North Portal:** This portion of the project provides connections to the transportation system in the Seattle Center area. This includes the following connections:
 - **Tunnel Access at Republican Street and 6th Avenue N.:** Access to SR 99 will be provided via new ramps at Republican Street. The northbound off-ramp traffic will exit to the east toward Dexter Avenue N. and the southbound traffic will merge onto SR 99 via a reconfigured 6th Avenue N. between Harrison Street and Mercer Street west of SR 99. The new 6th Avenue N. roadway will have one to two lanes in each direction and a traffic signal at the SR 99 ramp intersection.
 - **New Street Connections to Aurora Avenue N. (SR 99):** John Street, Thomas Street, and Harrison Street will connect to Aurora Avenue N. Thomas Street will have bike lanes between Dexter Avenue N and 5th Avenue N. Aurora Avenue N. will have two travel lanes in each direction, an additional transit-only lane, and turn pockets between Denny Way and Harrison Street. The Denny Way intersections with John Street, Thomas Street, and Harrison Street will be signalized.
- **Mercer Corridor:** This project includes the conversion of two-way traffic flows along Mercer Street between I-5 and Elliott Avenue W. The main purpose is to improve the east-west connection in the area by turning Mercer Street into a two-way corridor and improving access for pedestrians and bicyclists. The project is separated into two phases: Mercer East and Mercer West. The impact to the study area of each phase is:
 - **Mercer East:** This portion of the project is located between Fairview Avenue N. and Dexter Avenue N. It provides two-way operations along both Mercer Street and Valley Street. The portion along Mercer Street is complete and has three travel lanes in each direction and sidewalks on both sides. Two new traffic signals are provided along Mercer Street at the Terry Avenue NE and Boren Avenue N. intersections. Valley Street is currently under construction and will have one lane in each direction with bicycle and pedestrian improvements. The project is scheduled to be completed by summer of 2013.

- **Mercer West:** The portion stretches from Dexter Avenue N. to 5th Avenue W. Mercer Street will have three travel lanes in each direction between Dexter Avenue N. and Aurora Avenue N., two lanes in each direction between 5th Avenue N. and 2nd Avenue N., and one lane in each direction between 2nd Avenue N. and 5th Avenue W. Roy Street will also be converted to have two-way operations with one lane of travel lane in each direction. Pedestrian and bicycle improvements will be provided along both Mercer Street and Roy Street, including bike lanes in both directions along Roy Street between 5th Avenue N. and Queen Anne Avenue N., a bike path on the north side of Mercer Street near the Aurora Avenue underpass, and new and / or improved sidewalks along the project corridor. In addition, with completion of the project Broad Street will be removed and the major truck street / seaport highway connector will shift to 5th Avenue N between Denny Way and Mercer Street and Mercer Street from 5th Avenue N to I-5. This project is scheduled to be complete by mid-2015 and will connect to improvements made in the area related to the Alaskan Way Viaduct Replacement Project.

Traffic Volumes

2018 traffic volumes along the Mercer Street corridor are forecast to nominally increase over the existing estimates by less than one percent during the weekday PM peak hour conditions. Traffic forecasts for the year 2030 are approximately two percent greater than the 2018 forecasts. Truck percentages assumed in the future No Action analyses were two percent for all approaches to each intersection. Based on the application of a two percent truck factor, traffic volumes along Mercer Street would total 100 trucks per weekday PM peak hour. Given the estimates of 450 trucks counted at the I-5 off-ramp in a 16-hour period, the assumption of two percent should be considered conservative as it totals approximately 25 percent of the total truck volume. It is unlikely that 25 percent of the observed truck volumes would occur during the 1-hour PM peak hour time period. In fact, many truck drivers specifically avoid travel during these periods given the difficulty of travel.

Along Broad Street the 2018 and 2030 forecasts reflect negligible growth over the existing traffic volumes. This is due primarily due to the reconfiguration of Broad Street and the elimination of the direct connection to W. Mercer Street. Trucks exiting I-5 at W. Mercer Street will still be able to access Broad Street, but utilize the 5th Avenue N. connection to do so.

Traffic Operations

Since the 2030 analysis presented in the Traffic Operations section represents the worst operating condition, this analysis reports operations for 2030 conditions only. The analysis indicates that in the future (2030) five of the seven intersections are forecast to operate at LOS E/F along W. Mercer Street from Dexter Avenue N. to I-5. Truck traffic utilizing Mercer Street to access Elliot Avenue or Western Avenue will incur delay at key intersections increasing travel times through the corridor overall.

The travel time analysis conducted for the W. Mercer Street corridor showed 2030 travel times of 18.5 minutes in the westbound direction and 8.5 in the eastbound direction. This represents no noticeable change in the eastbound direction and increase of approximately 9.5 minutes in the westbound direction as compared to the “existing” conditions. This change is likely due to several factors including development within the South Lake Union neighborhood, planned changes to the roadway including the two-way Mercer Street improvement projects and Alaskan Way North Portal improvements, changes in travel patterns, and varying growth in traffic volumes along the length of the corridor.

Impacts of Alternative 4 – KeyArena 20,000-Seat Arena

Major truck routes surrounding the site could be intermittently impacted by construction. A construction management plan would be developed to minimize any street closures or other impacts as a result of the arena construction. This management plan would use of manual flaggers and signs to provide vehicle circulation. In addition, key stakeholders would be notified of any major roadway closures. Forecast conditions in the Seattle Center area were evaluated for Alternative 4.

Transportation Network

No modifications to the transportation system that would impact freight and goods movements are identified as part of this Alternative.

Traffic Volumes

Traffic volume forecasts were developed for Alternative 4 for both K1 and K2. A comparison of the future volumes for the No Action Alternative and Alternative 4 are summarized in Table 3.8-50. As shown in this table, along W. Mercer Street, east of Terry Avenue, weekday PM peak hour traffic volumes are anticipated to increase by approximately 15 percent under either event case. This increase in traffic is representative of the incremental impact assuming an existing (12,000 attendance) event at the KeyArena. The No Action Case K1 includes the 12,000 attendance event and the No Action Case K2 includes 12,000 attendance at the KeyArena and 5,000 at Memorial Stadium.

**Table 3.8-50
2030 Alternative 4 Weekday PM Peak Hour Traffic Volumes Comparison**

Location	Case K1		Case K2	
	No Action	Alternative 4	No Action	Alternative 4
Mercer Street east of Terry Avenue N.	5,785	6,645 (+15%) ¹	5,990	6,835 (+14%)

Traffic Operations

Intersections along the W. Mercer Street corridor as well as the performance of the corridor itself were reviewed to determine the potential impact on the movement of freight and goods through the corridor. As previously summarized and discussed in the traffic operations section, by 2030 five of the seven intersections along Mercer Street are projected to operate at LOS E/F

under Alternative 4. This is compared to five intersections forecasted to operate at LOS E/F in either of the No Action event cases.

2030 PM peak hour travel times for the W. Mercer Street corridor were reviewed for the Alternative 4 event cases. The results of the analyses are summarized in Table 3.8-51.

**Table 3.8-51
2030 Alternative 4 Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case K1 (m:ss ¹)	Case K2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	24:11 (21:04) ²	25:29 (22:38)
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	25:20 (10:58)	29:09 (13:06)

1. m:ss = minutes:seconds

2. No Action travel times provided for comparison.

It is noted that No Action and all future estimates of event traffic volumes are simply additive to No Action conditions. While existing counts and analyses show modest impacts to traffic volumes and operations on event days, this additive approach likely overestimates future traffic and congestion related to events. However, it does provide a consistent basis for comparing alternatives.

Impacts of Alternative 5 – Memorial Stadium 20,000-Seat Arena

Major truck routes surrounding the site could be intermittently impacted by construction. A construction management plan would be developed to minimize any street closures or other impacts as a result of the arena construction. This management plan would use of manual flaggers and signs to provide vehicle circulation. In addition, key stakeholders would be notified of any major roadway closures. Forecast conditions in the Seattle Center area were evaluated for Alternative 5.

Transportation Network

No modifications to the transportation system that would impact freight and goods movements are identified as part of this Alternative.

Traffic Volumes

Traffic volume forecasts were developed for Alternative 5 for both M1 and M2. A comparison of the future volumes for the No Action and Alternative 5 are summarized in Table 3.8-52. As shown in this table, along Mercer Street, east of Terry Avenue, weekday PM peak hour traffic volumes are anticipated to increase by approximately 17 to 19 percent during under either event case. This increase in traffic is representative of the incremental impact assuming an existing (5,000 attendance) event at Memorial Stadium. The No Action Case M1 includes the 5,000 attendance event and No Action Case M2 includes 5,000 attendance at the Memorial Stadium and 12,000 at KeyArena.

Table 3.8-52
2030 Alternative 5 Weekday PM Peak Hour Traffic Volumes Comparison

Location	Case M1		Case M2	
	No Action	Alternative 5	No Action	Alternative 5
Mercer Street east of Terry Avenue N.	5,460	6,495 (+19%) ¹	5,990	7,025 (+17%)

Traffic Operations

Intersections along the Mercer Street corridor as well as the performance of the corridor itself were reviewed to determine the potential impact on the movement of freight and goods through the corridor. As previously summarized and discussed in the traffic operations section, by 2030 five of the seven intersections along Mercer Street are projected to operate at LOS E/F under Alternative 5. This is compared to five intersections forecasted to operate at LOS E/F in either of the No Action event cases.

2030 PM peak hour travel times for the Mercer Street corridor were reviewed for the Alternative 5 event cases. The results of the analyses are summarized in Table 3.8-53.

Table 3.8-53
2030 Alternative 5 Weekday PM Peak Hour Travel Times

Route	Extents	Direction	Case M1 (m:ss ¹)	Case M2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	24:11 (21:04) ²	25:29 (22:38)
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	25:20 (10:58)	29:09 (13:06)

1. m:ss = minutes:seconds

No Action travel times provided for comparison.

3.8.3.8 Parking

SMC parking requirements would be reviewed as part of the Master Use Permit application. This analysis assumes that no new attendee parking²⁰ would be built as part of Alternatives 4 and 5. The remainder of this discussion focusses on the impact of arena parking demand on the existing and future parking supply in the study area.

Methodology

The following describes the general approach to the parking analysis:

- Establish the study area and appropriate time period for the evaluation
- Document existing parking conditions to provide an understanding of the underlying parking demands

²⁰ ArenaCo is currently proposing approximately 100 on-site parking spaces for players and arena staff at the Stadium District site.

- Examine effect of future “pipeline” development on parking supply and demand under the No Action Alternative
- Evaluate No Action conditions associated with the existing large event venues (KeyArena and Memorial Stadium) to provide a basis for understanding the impact of the arena on multiple large event conditions
- Add parking demand for the arena to each of the defined No Action baseline event cases and compare arena parking demand to the No Action condition to identify impacts of Alternatives 4 and 5
- Identify mitigation strategies, where appropriate, to reduce the effect of the identified Alternative 4 and 5 impacts

The balance of this methodology section describes the study area for the parking analysis, how the Seattle Center area parking patterns were used to determine the analysis time periods, and parking supply assumptions. Parking demand assumptions specific to existing and future conditions are described in the individual Affected Environment, No Action, and Alternatives 4 and 5 sections.

Study Area

Similar to the Stadium District sites, a primary and expanded study area were evaluated, with the expanded study area reflecting potential parking supply opportunities in the case of larger attendance events. The Seattle Center primary study area is reflective of approximately the same walking distance as assumed for the Stadium District primary study area.

SR 99 currently creates a barrier in the study area, effectively separating South Lake Union from the Seattle Center area for pedestrians. Future improvements in the study area will provide connections across SR 99 allowing for better access between the Seattle Center area and South Lake Union, which will increase the available parking supply. North of the Seattle Center, steep uphill grades north of Roy Street make parking and accessing the Seattle Center area more difficult; the area is generally restricted to those with residential permits. The primary study area considers parking between I-5, Elliott Avenue W., Roy Street/Valley Street, and Downtown. It includes the neighborhoods of Uptown and Uptown Triangle, Belltown, SLU, and Denny Triangle.

An expanded study area was also evaluated considering the CBD consistent with the Stadium District study area. The evaluation of the expanded study area provides a basis for understanding how parking for larger events may be accommodated by parking available at greater distances from the venues.

Analysis Time Periods

Event arrival patterns suggest Arena arrivals would generally begin between two-and three-hours prior to the start. The 2012-2013 NBA, 2011-2013 NHL, and 2012 WNBA schedules indicate the typical start time for Arena sporting events is around 7:00 PM. To determine the

parking analysis period, existing non-event and Arena hourly parking demands for weekday and weekend conditions between 4:00 and 8:00 PM were examined assuming a 7:00 PM game start. Based on the review of existing parking data, the quantified parking impact illustrations focus on weekday conditions at 7:00 PM (Game Start) and Weekend conditions at 8:00 PM (One-Hour after Game Start). These periods encompass the peak parking demand for the study area. A more detailed evaluation of the analysis time periods for the parking impact evaluation is provided in Appendix E.

Parking Supply Assumptions

For the purposes of this analysis, a single parking supply for both weekday and weekend conditions is used to represent physical availability of parking that is generally open to or that could be made available to the public. These include on-street and off-street parking spaces that are available to the general public and would be available for arena event parking. Different from the Stadium District, the Seattle Center study areas generally do not have private customer, employee, or residential parking that would be available for arena events so there appears to be little practical potential that additional private parking spaces would become available.

Like the Stadium District, parking supply varies by time of day and day of the week. On-street parking supply is impacted by time and loading zone restrictions. There are wide variety of time restrictions that apply Monday through Saturday and a mix of both paid and unpaid on-street parking spaces within the study area. For example, Uptown and Belltown have on-street paid parking until 8:00 PM with a four-hour time limit. Uptown Triangle has a 10-hour time limit until 6:00 PM for paid parking areas and a two-hour time limit until 6:00 PM outside the paid areas.

See Appendix E for a description of the existing supply, and assumptions made for the No Action Alternative.

Affected Environment

Parking demand is based on data collected by Transpo Group supplemented by data from the SDOT and PSRC. Different from the Stadium District, no specific event-day parking demand was collected since events (i.e., performance, recreational sports, etc.) occur at the Seattle Center area on a daily basis. The following describes the existing weekday and weekend parking demand within the primary and expanded study areas.

Weekday Occupancy

It becomes difficult to locate parking spaces within an area when occupancies are 85 to 90 percent and generally areas with occupancies at that level are considered “full.” The analysis shows:

- Within the primary study area, on-street parking is more utilized than off-street parking; however, at these occupancy levels, parking utilization would not be considered full for either location.

- The expanded study area parking utilization is similar to the primary study area with on-street parking more utilized than off-street, but with availability both on-and off-street.
- Field observations showed that immediately proximate to restaurant and retail uses within both the primary and expanded study area on-street parking is difficult to locate.

Weekend Occupancy

An analysis of weekend parking occupancy within the primary and expanded study areas shows:

- Weekend evening activity within the primary study area is considerably higher than weekday evenings especially in the Uptown neighborhood, which is most proximate to restaurants and the Mercer Street arts corridor and in Belltown, which has many restaurants and bars located within the neighborhood.
- On-street parking utilization within Uptown is 85 percent, which is an indicator that drivers have difficulty locating this type of parking without excess circulation.
- Consistent with weekday conditions, field observations showed that immediately proximate to restaurant and retail uses within both the primary and expanded study area on-street parking is more difficult to locate.

Impacts of the No Action Alternative at Alternative 4 and 5 Sites

The No Action conditions provides for a basis for comparing impacts of the proposal related to on-and off-street parking supply. However, projecting specifically where someone would park is difficult because the location depends on a variety of factors such as duration of stay, proximity to use, cost of parking, etc. Given this, the review of future conditions considers the parking supply as a whole rather than separate consideration of on- and off-street parking.

Demand Forecasts

The City provided information on future pipeline development that would likely be constructed and occupied by 2018. Based on the pipeline developments identified in the study area, evening parking demand increases are anticipated to be small compared to the added supply. As a conservative estimate of background parking and consistent with the Stadium District evaluation, the existing parking demand was increased by 10 percent on the weekday and five percent on the weekend for the overall study area. Parking demand in specific neighborhoods within the primary and expanded study areas reflect higher increases for Denny Triangle and South Lake Union where most of the pipeline development would occur.

For the No Action Case K1, K2, M1, and M2, parking demand for the KeyArena and Memorial Stadium was added to the background conditions. It was assumed that there was a 7:00 PM start time for events at these venues and that the arrival curve would be consistent with that described for Alternatives 2 and 3, with 95 percent arrival by 7:00 PM and 100 percent by 8:00 PM. The distribution of parking among neighborhoods assumed 80 percent within the primary study area, which is closest to the venues and the remaining 20 percent within the expanded

study area. The No Action event case parking demand was determined by adding the KeyArena and Memorial Stadium parking demand to the background parking demand with no adjustments or reductions in non-event demand. As described in relation to traffic operations this likely results in an overestimate of actual future demands, but reflects a conservative approach.

Weekday Occupancy

Figures illustrating weekday No Action Cases K1, M1, and K2/M2 parking occupancy within the primary and expanded study areas are provided in Appendix E. Case K2 and M2 are the same relative to the No Action.

The parking analysis shows:

- The No Action occupancy for each of the cases are higher than existing conditions both in the primary and expanded studies areas due to the assumed increases in parking demand caused by anticipated development as well as demand associated with events at KeyArena and Memorial Stadium.
- A comparison of case K1 and M1 shows that utilization is about 13 to 14 percent less in neighborhoods nearest the two sites (Uptown and Uptown Triangle) with No Action Case M1 given the smaller event (i.e., 5,000 attendees) at Memorial Stadium as compared to KeyArena (i.e., 12,000 attendees).
- For single and dual events, Case K1, M1, or M2/K2, all of the anticipated parking demand could be fully accommodated within the primary study area.
- Overall the total primary study area occupancies are calculated to be approximately 39 to 47 percent for the No Action event cases, which would allow for some additional parking.

It is likely that attendees of events at KeyArena or Memorial Stadium would desire to park close to the venues. Based on the review of existing conditions, on-street parking would likely be difficult to find close to the venues; however, off-street parking is more readily accessible and the Seattle Center area has several large garages in close proximity of both venues.

Weekend Occupancy

Figures illustrating weekend No Action Cases K1, M1, and K2/M2 parking occupancy within the primary and expanded study areas are provided in Appendix E.

The parking analysis shows:

- As described in existing conditions, in neighborhoods closest to the venues weekend utilization is generally higher in the primary study area as compared to weekday. Given the higher baseline, the No Action event cases have occupancies up to approximately 85 percent in the Uptown neighborhood.

- For single and dual events, Case K1, M1, or M2/K2, all of the anticipated parking demand could be fully accommodated within the primary study area.
- The primary study area total occupancy would be approximately 43 to 51 percent for No Action event cases indicating approximately 49 to 57 percent of the spaces would be available for arena use.
- The results indicate that there would be limited reliance on the expanded study area to accommodate parking even in multi-event cases.

As discussed previously, attendees of events at KeyArena or Memorial Stadium would likely desire to parking close to the venues. Based on the review of existing conditions, on-street parking would likely be difficult to find close to the venues; however, off-street parking is more readily accessible and the Seattle Center area has several large garages in close proximity of both venues.

Impacts of Alternative 4 – KeyArena 20,000-Seat Arena

Parking impacts related to construction would be minimized by providing off-street parking, securing parking in near-by garages, as well as encouraging use of alternative modes. It is anticipated that parking impacts related to construction would be less than the 20,000-seat arena. In addition, construction activities could result in the need to close on-street parking adjacent to the site. These closures would be coordinated with SDOT and appropriate notice and signs would be provided.

Alternative 4 is compared to the No Action Alternative to identify parking impacts of an arena development on the KeyArena site. No additional parking supply is proposed as part of the development of an arena at this location. Should an arena go forward at this location, code-required parking would have to be satisfied either through added supply or parking agreements.

Arena Demand Forecasts

Alternative 4 parking demand represents an arena event with an attendance of 20,000 people, which represents a net increase of 8,000 attendees as it relates to the KeyArena site. The arrivals patterns are consistent with the Stadium District site and the event arrival curve presented in Appendix E. With a 7:00 PM game start, 95 percent of the attendee arrivals occur by 7:00 PM and 100 percent by 8:00 PM. Similar to the No Action, 80 percent of the parking was assumed within the primary study area, which is closest to the venues and the remaining 20 percent within the expanded study area or CBD. The total Alternative 4 parking demand for each event case is determine by adding the arena parking demand to the No Action Case K1 and K2. A simple layering process was used with no adjustments or reductions in non-event demand, as described earlier.

Weekday Occupancy

The parking analysis shows:

- Alternative 4 Case K1, with a new arena only, would result in an almost 30 percent increase in parking occupancy within the primary study area.
- For a multi-event scenario, Alternative 4 Case K2, the primary study area would reach 55 percent occupancy, an increase of almost 10 percent in parking occupancy compared to No Action.
- Although the overall primary study area would be 55 percent for Alternative 4 Case K2, the Uptown neighborhoods closest to the venue would begin to fill up with occupancies of approximately 80 percent. SLU and Denny Triangle within the primary study area would have ample parking to accommodate arena parking.

Weekend Occupancy

The parking analysis shows:

- The primary study area parking occupancy would reach approximately 55 percent occupancy with Alternative 4 Case K1 and 60 percent with Alternative 4 Case K2, an increase of almost 10 percent in parking occupancy compared to No Action on the weekend.
- Although the overall primary study area would be 55 to 60 percent, the Uptown neighborhoods closest to the venue would be highly utilized and for Alternative 4 Case K2 this area would become full with occupancies of 85 to 90 percent. Finding parking would become more difficult in these areas. SLU and Denny Triangle within the primary study area would have ample parking to accommodate arena parking.

Impacts of Alternative 5 – Memorial Stadium 20,000-Seat Arena

Parking impacts related to construction would be minimized by providing off-street parking, securing parking in near-by garages, as well as encouraging use of alternative modes. It is anticipated that parking impacts related to construction would be less than the 20,000-seat arena. In addition, construction activities could result in the need to close on-street parking adjacent to the site. These closures would be coordinated with SDOT and appropriate notice and signs would be provided.

Alternative 5 is compared to the No Action Alternative to identify parking impacts of an arena development on the Memorial Stadium site. Similar to Alternative 4, no additional parking supply is proposed as part of the defined alternative. It is noted that the adopted Seattle Center Master Plan calls for 1,300 spaces to be developed under a new transportation center at the Memorial Stadium site. The compatibility of a new arena with underground parking and transportation would require further analysis. For purposes of this review, no new parking is assumed.

Arena Demand Forecasts

Parking demand forecasts for the arena are consistent with Alternative 4. Alternative 5 parking demand represents a net increase of 5,000 attendees as it relates to the Memorial Stadium site.

Weekday Occupancy

The parking analysis shows:

- For a multi-event scenario, Alternative 5 Case M2, the primary study area would reach 60 percent occupancy, an increase of almost 15 percent in parking occupancy compared to No Action.
- Although the overall primary study area would be 60 percent for Alternative 5 Case M2, the Uptown neighborhoods closest to the venue would be more highly utilized and would become full with an 89 percent occupancy. Finding parking would become more difficult in these areas. SLU and Denny Triangle within the primary study area would have ample parking to accommodate arena parking.

Weekend Occupancy

The parking analysis shows:

- With the arena only on weekends, the primary study area would reach 56 percent occupancy for Alternative 5 Case M1 and 64 percent for Alternative 5 Case M2, an increase of almost 15 percent in parking occupancy compared to No Action.
- During the multi-event scenario on the weekend, the closest parking within the primary study area would reach 90 percent; however, SLU and Denny Triangle have ample parking to accommodate arena parking demand and it is anticipated parking supply would increase in the future with development.

3.8.3.9 Safety

Methodology

Collisions were reviewed at the study area intersections. Records of reported collisions were obtained from SDOT for the five-year period between January 1, 2007, and December 31, 2011. A summary of the total and average annual reported accidents at each study intersection is provided in Attachment E-4, which is available from DPD upon request. The City of Seattle has adopted criteria for assigning high accident location status to signalized intersections with 10 or more reported collisions per year and unsignalized intersections with five or more reported collisions per year. Intersections designated as high accident locations are targeted for future safety improvements in an effort to reduce the occurrence of accidents.

Affected Environment

Fewer than 10 collisions per year were reported at each signalized study intersections and for the unsignalized locations only the Mercer Street / Taylor Avenue intersection had an average of more than five collisions per year. No fatalities were identified in the study area for the five-year period.

A review of the collisions at the Mercer Street / Taylor Avenue intersection shows that roughly one-third of the collisions involved left-turning vehicles and in most of those cases, vehicles were improperly turning. There were four collisions with pedestrians, all of which involved the vehicle not granting right-of-way to the pedestrian. The Mercer West project would signalize this location in the future, which would likely minimize left-turning collisions and improve the overall safety for pedestrian and vehicular traffic at the intersection.

The data was reviewed for locations with collisions involving pedestrians or bicyclists. Of the 52 study intersections reviewed, 35 locations had collisions involving pedestrians and bicyclists over the 5-year study period. All locations with pedestrian or bicycle accidents experience less than two accidents per year. The corridors within the study area are undergoing significant pedestrian and bicycle safety improvements as part of the major transportation infrastructure projects. Elements related to pedestrian and bicyclists include signalized crossings, wider path / sidewalk, new bicycle facilities, etc. along Mercer Street and other nearby corridors. It is anticipated with these improvements conflicts between vehicular and pedestrian / bicycle traffic would be reduced and overall non-motorized safety could improve.

Impacts of the No Action Alternative at Alternative 4 and 5 Sites

As traffic volumes increase, the potential for traffic safety issues increases proportionately. The overall vehicular and non-motorized traffic in the area under 2018 and 2030 conditions are anticipated to be higher than occur under existing conditions; however, there are changes in transportation infrastructure underway and the impact of these changes on transportation safety is unknown. The projects are all designed to current standards of practice.

Impacts of Alternative 4 – KeyArena 20,000-Seat Arena

Alternative 4 construction would increase vehicular traffic within the study area, which could result in increased conflicts between vehicular, pedestrian, and bicycle traffic. It is anticipated that safety impacts related to construction would be less than the 20,000-seat arena.

As noted above, as traffic volumes increase, the potential for traffic safety issues increases proportionately. Alternative 4 would increase both vehicular and non-motorized traffic within the study area, which could potentially increase conflicts between vehicular and non-motorized traffic resulting in the potential for increase safety issues.

Impacts of Alternative 5 – Memorial Stadium 20,000-Seat Arena

Alternative 5 construction would increase vehicular traffic within the study area, which could result in increased conflicts between vehicular, pedestrian, and bicycle traffic. It is anticipated that safety impacts related to construction would be less than the 20,000-seat arena.

Safety impacts associated with Alternative 5 would be similar to those described for Alternative 4.

3.8.4 Mitigation Measures

The analysis preceding this section identified transportation impacts associated with the development of an 18,000 to 20,000 seat multi-purpose arena at either the Stadium District in SoDo or in the Seattle Center area. Potential mitigation measures to address the impacts for each element of the transportation environment (traffic volumes, traffic operations, parking, pedestrians, etc.) are strategically grouped them by type of mitigation.

Mitigation measures have been identified for both construction and operation. There are generally two types of mitigation measures discussed: (1) physical improvements; and (2) programmatic improvements to be identified as part of the Transportation Management Plan (TMP).

3.8.4.1 Construction Management Plan (CMP)

To mitigate potential construction-related impacts, ArenaCo shall develop a CMP in conjunction with site-specific development. This plan would be coordinated with the DPD Noise Abatement Officer and SDOT, and must be submitted and approved prior to issuance of a building permit. The plan would include, but not be limited to, the following elements:

- **Central Construction Coordination Office.** During construction, the construction manager shall maintain coordination with the existing venues and the Port of Seattle to advise them of major phases of construction that may create constraints or disruption along roads and sidewalks in the immediate vicinity of the Arena.
- **Construction Hours and Sensitive Receivers** – Identify demolition and construction activities within permissible construction hours.
- **Construction Noise Requirements** – Include the requirement that all demolition and construction activities shall conform to the Noise Ordinance, except as approved through the variance process.
- **Construction Milestones** – Include a description of the various phases of demolition and construction, including a description of noise and traffic generators, and anticipated construction hours for each phase.

- **Construction Noise Management** – Identify and list techniques and measures to minimize or prevent demolition and construction noise including: timing restrictions, noise reduction construction technologies, process modifications.
- **Construction Parking Management** – Identify areas for construction worker parking. As part of the agreement with the Arena, the general contractor would develop a construction worker parking program, so available public off-street and on-street parking is not adversely impacted by the influx of this large temporary population of workers. This would involve remote parking with a shuttle service, use of parking and loading areas in vacant buildings, or other means of providing construction worker parking without impacting existing on- and off-street public parking.
- **Construction Traffic/Street and Sidewalk Closures** – As part of the Arena construction, the construction manager would be required to identify anticipated street closures, the timing for street closures, and the detour routes and signing plan to guide drivers, bicyclists, and pedestrians around these restrictions. The CMP shall identify potential sidewalk, transit stop, and bicycle lane closures or rerouting, and shall consider the need for construction truck traffic to avoid peak traffic periods (e.g., 6-9 AM, 3-6 PM). This proposal would be reviewed and coordinated with SDOT, the Port of Seattle, and others nearby venues through the Maintenance of Traffic Task Force (MOTTF).
- **Off-site Construction Coordination.** The Transportation Coordinator would regularly attend and / or be informed by the Maintenance of Traffic Task Force (MOTTF) relating to utility and road projects that would potentially impact Arena and other event access in the immediate area as well as more regional transportation projects like the SR 520 and Mercer Corridor projects that shift traffic patterns and may impact access to the Arena.
- **Priority Truck Routing and Loading.** Develop demolition, earthwork excavating, concrete and other truck routing plans and submit those plans for approval through SDOT for site-specific development. The Arena general contractor would specify priority truck routes and loading areas as part of a coordinated Construction Traffic Control Plan. This plan would be reviewed by SDOT and coordinated with other venue transportation managers and the Port of Seattle to ensure that there would be minimal conflicts with existing and scheduled operations.

The following elements shall be included in the CMP if applicable.

- Schedule the most intensive construction activities such that they are spread out over time and prohibit material deliveries from leaving or entering the area during AM and PM peak hours when feasible.
- Schedule street closures and other disruptions to the street system during off-peak periods, unless approved for other hours by SDOT to minimize impacts to the system.

- Provide safe pedestrian and bicycle circulation adjacent to the construction site through the use of temporary facilities, detours, and signs.
- If construction activities cause the need to close on-street parking adjacent to the site, coordinate such closures with SDOT and obtain appropriate street use permits.

3.8.4.2 Operation

Physical Capacity and Safety Improvements for Alternatives 2 and 3

Physical improvements are specific elements that have been identified to enhance the transportation infrastructure in a manner that directly or indirectly reduces the impact of the Arena, or reduces the negative consequences of project or cumulative conditions associated with the Arena.

Required Mitigation or Mitigation Included in Project Proposal for Alternatives 2 and 3

The following mitigation measures have been proposed by the applicant or have been identified to be required of the applicant as a condition of MUP approval:

- **S. Massachusetts Street Realignment.** As part of the Proposed Action, S. Massachusetts Street between Occidental and 1st Avenues S. would be realigned to the north to improve the direct alignment of the street with the section immediately east of Occidental Avenue S. This would enhance accessibility to the Safeco Field garage and service road. In addition, it would allow the pedestrian plaza at the north side of the Arena to be generous in size and limit the potential for pedestrian spillover onto S. Massachusetts Street, avoiding the potential for conflict with S. Massachusetts Street traffic. This realignment would also improve the alignment of this segment of S. Massachusetts Street with the segment west of 1st Avenue S.
- **North-South On-Site Connection.** As part of the Proposed Action, a north-south connection parallel to the proposed vacated Occidental Avenue S. would link S. Holgate Street with the extension of S. Massachusetts Street, along the east side of the property. This link could serve as direct ingress and egress to the Safeco Field garage, as well as replace the connection to the south for emergency and service vehicles to the Safeco Field garage, surface parking, and service and emergency road.
- **Signal System Upgrades.** ArenaCo would be required to make a pro-rata contribution to projects such as the ITS Next Generation project list. The results of the transportation analysis suggest that there is an underlying need for area-wide improvements focusing on achieving a higher efficiency from the existing signal system as well as providing additional east/west connectivity in light of the increase in future rail activity.
- **Traffic Control Equipment Upgrades.** ArenaCo would work with SDOT to upgrade the traffic control equipment at signalized intersections in the Stadium District to increase its reliability through improving communications with the SDOT traffic control center and by utilizing current Adaptive Traffic Control technology. These improvements are more than simply optimizing traffic signals but give signals the flexibility to respond to

unanticipated surges, interruptions, and / or shift in traffic flows due to collisions, road construction projects and / or variation in tenant access patterns.

- **Lander Street Pro-rata Contributions.** ArenaCo would be required to make a pro-rata contribution to the future grade separation of Lander Street. This has been identified based on existing and future deficiencies noted in the analysis. Further pressure would be put on the east/west capacity of the system and increases potential for vehicle/rail safety conflicts due to increases in the north/south rail activity and resulting decrease in capacity of the at-grade street crossings.
- **Pedestrian Improvements.** Implementation of the following pedestrian improvements would contribute to increased safety and / or improved connectivity between the Arena and pedestrian connections to transit and / or offsite parking areas.
 - The north-south crossing of S. Atlantic Street at Occidental Avenue S. would be improved by:
 - Providing manual traffic control at the north-south crossing, and / or,
 - Developing a more-permanent improvement such as adding a staircase to the south side of S. Atlantic Street connecting to 3rd Avenue S.
 - To improve the connectivity and safety of the east-west pedestrian connection between the Arena site and 4th Avenue S., ArenaCo would be required to develop or implement one of the following:
 - Construction of a pedestrian bridge from the Arena along S. Holgate Street to the east spanning such that it clears the easternmost railroad tracks. This would reduce the need for surface management pedestrian traffic control measures before or after events. The pedestrian bridge should directly connect to the Arena with a pathway wide enough to assure free flow of pedestrians during ingress and egress conditions.
 - Alternatively, the applicant may provide operating shuttles or jitneys that follow a fixed route on a fixed headway that link the Washington State Ferry terminal, Link Light Rail and Transit Stations to / from the Arena. The intent of these jitneys and / or shuttles would be to provide an incentive for walk-on ferry passengers, transit users and persons parking in more remote offsite parking spaces. A specific shuttle plan would be developed as part of the TMP. The shuttle option would be coupled with pedestrian lighting and sidewalk improvements along 1st Avenue S. from S. Holgate Street to S. Lander Street, and along S. Lander Street between 1st Avenue S. and 4th Avenue S.
- **At-Grade Way-Finding System.** In coordination with other Stadium District stakeholders, ArenaCo could be required to contribute to development of a way-finding

system to guide pedestrians and cyclists to the various venues in the Stadium District. To the extent possible this system will link with and through the Pioneer Square, International District, and SoDo.

Required Mitigation Measures for Alternatives 4 and 5

There are no proposals to construct an arena at either site of Alternative 4 or 5. The following measure has been identified as a condition of MUP approval if an application is submitted for Alternative 4 or 5:

- **Traffic Control Equipment Upgrade.** The applicant would work with SDOT to upgrade traffic control equipment at signalized intersections in the Seattle Center area to increase its reliability through improving communications with the SDOT traffic control center and by utilizing current Adaptive Traffic Control technology.

Potential Mitigation Measures for Alternatives 2 and 3

These mitigation measures have been identified for consideration by DPD and SDOT:

- **Directional (Dynamic/Static) Event Signage.** Directional signage between the freeway and other limited access facilities could be revised to incorporate the Arena. For Alternatives 2 and 3, this would complement the existing signage that currently exists for CenturyLink Field and Safeco Field.
- **Parking Guidance Signage.** The Arena could participate with the City of Seattle in implementing a parking guidance system that provides direction and information regarding parking availability to those drivers who do not pre-purchase parking. This system could notify drivers as to the location and number of spaces available in public and event garages in the Stadium District area, reducing excess and erroneous circulation. This system will be similar to the downtown parking guidance system.
- **SDOT Traffic Control Center Improvements.** The Arena could contribute to improvements to the SDOT Traffic Control Center. The improved Center would serve not only the Arena, but the other event venues and the surrounding neighborhood. The Traffic Control Center will have the ability to provide video feeds of information from WSDOT and SDOT traffic cameras and allow for posting of current conditions relating to congestion, parking, and traffic incidents that could help drivers' decision-making as they travel to an event at the Arena, Safeco Field, and/or CenturyLink Field, for Alternatives 2 and 3. For maximum effectiveness, this Center should be staffed during major events and the staff should be involved in coordinating the on-ground activities of event traffic control personnel. Additional intelligent transportation system (ITS) equipment such as CCTV cameras could be installed in coordination with the Arena at key locations in the Stadium District or Seattle Center area to better inform traffic management center (TMC) staff on current conditions to effectively manage traffic flows.

- **Pedestrian Scale Street Lighting.** Consider upgrading street lighting to enhance safety for pedestrians in several areas where there are preexisting low light levels. The following locations have been identified as needing improvement or upgrades:
 - 1st Avenue S. from S. Royal Brougham Way to S. Massachusetts (west side)
 - 1st Avenue S. from S. Holgate Street to S. Walker Street (west side)
 - 1st Avenue S. from S. Holgate Street to S. Stacy Street (east side)
 - 1st Avenue S. from S. Holgate Street to S. Lander Street (both sides)
 - S. Lander Street from 4th Avenue S. to the SoDo Busway (both sides)
 - Edgar Martinez Drive S. from S. Occidental Street to 3rd Avenue S. (south side)
 - 3rd Avenue S. from Edgar Martinez Drive S. to S. Royal Brougham Way (east side)
 - 3rd Avenue S. from S. Atlantic Street to S. Holgate Street (both sides)
 - 4th Avenue S. from S. Royal Brougham Way to S. Holgate Street (both sides)
 - S. Royal Brougham Way from 3rd Avenue S. to the SoDo Busway (both sides)
- **Bicycle Route Improvements.** The Arena could participate in marketing and upgrading the bike route system and prioritize bike lanes in the immediate vicinity of the site.

Potential Mitigation Measures for Alternatives 4 and 5

These mitigation measures have been identified for consideration by DPD and SDOT: If an arena were built at the site of Alternative 4 or 5.

Directional (Dynamic/Static) Event Signage. Directional signage between the freeway and other limited access facilities could be revised to incorporate an arena. For Alternatives 4 and 5, it would further integrate with the Seattle Center signage.

Parking Guidance Signage. The Arena could participate with the City of Seattle in implementing a parking guidance system that provides direction and information regarding parking availability to those drivers who do not pre-purchase parking. This system could notify drivers as to the location and number of spaces available in public and event garages in the Seattle Center area, reducing excess and erroneous circulation. This system will be similar to the downtown parking guidance system.

SDOT Traffic Control Center Improvements. The Arena could contribute to improvements to the SDOT Traffic Control Center. The improved Center would serve not only the Arena, but the other event venues and the surrounding neighborhood. The Traffic Control Center will have the ability to provide video feeds of information from WSDOT and SDOT traffic cameras and allow for posting of current conditions relating to congestion, parking, and traffic incidents that could

help drivers' decision-making as they travel to an event at the Seattle Center area attractions for Alternatives 4 and 5. For maximum effectiveness, this Center should be staffed during major events and the staff should be involved in coordinating the on-ground activities of event traffic control personnel. Additional intelligent transportation system (ITS) equipment such as CCTV cameras could be installed in coordination with the Arena at key locations in the Stadium District or Seattle Center area to better inform traffic management center (TMC) staff on current conditions to effectively manage traffic flows.

Programmatic Measures/Transportation Management Plan Applicable to All Action Alternatives

Programmatic measures would be delivered in the form of a comprehensive plan, referred to as a Transportation Management Plan (TMP). A TMP would be required as a condition of approval of a new arena at any location and would be developed in concert with SDOT and other stakeholders. The TMP would include a range of programmatic strategies and actions, summarized within this section.

The finalized TMP would provide greater detail regarding how each measure is tailored to influence the travel and parking habits of each major tenant. For Alternatives 2 and 3, like other Stadium District TMPs, the Arena TMP would be reviewed annually by the City of Seattle Parking and Access Review Committee (PARC) and modified to respond to changed conditions.

To ensure the effectiveness of the mitigation including the TMP, performance measures or goals are proposed as a measure of compliance and achievement (see Table 3.8-54). SDOT has suggested that these goals should be more consistent with TMP goals for other more traditional land use projects in the city by focusing on SOV reduction and transit mode split. In the case of a special event facility, the primary goal is to reduce the number of vehicles. Private vehicle reduction (reduction in traffic volume and parking demand) can be accomplished by encouraging all forms of public and private high occupancy transportation including regular service transit, park-and-ride transit, light link rail, charter bus, and ferry service as well as walking and cycling. While SOV reduction is important, it is equally important to encourage HOVs. Thus, a goal addressing average vehicle occupancy (AVO) addresses both SOV reduction and HOV increases.

The traffic forecast was based on non-automobile mode split and average vehicle occupancy that are reflective of the performance of the special event venues in the Stadium District and Seattle Center.

To ensure consistency with other existing venues, an initial goal consistent with 2018 assumptions is appropriate with progressive increase in non-automobile mode split and Average Vehicle Occupancy (AVO). Thus, goals for measuring the effectiveness of the TMP could include the following:

**Table 3.8-54
Transportation Management Program Goals**

	Years 1-4 after Opening	Year 5-9 after Opening	Year 10 after Opening
Non-Automobile Mode Split	18%	20%	22%
Average Vehicle Occupancy	2.4 persons per vehicle	2.4 persons per vehicle	2.5 persons per vehicle

The six primary categories of the TMP include the following:

- Event Management
- Public Information and Marketing
- Traffic and Parking Demand Reduction
- Management of Vehicle and Parking Demand
- Traffic Management Plan
- Implementation and Monitoring

Event Management

This program group concentrates on event and facility management measures to: 1) eliminate and/or reduce event conflicts by ensuring coordination with other event facilities and neighbors; 2) ensure consistent and responsive implementation of the Transportation Program; and 3) provide the public and attendees with information on choices to avoid conflicts, take advantage of transportation and parking opportunities to reduce delay and frustration, and take advantage of opportunities that complement the event experience and minimize impact on the surrounding neighborhoods and business operations.

The most effective strategy for reducing the magnitude of traffic and parking impacts is to minimize the frequency of simultaneous or closely schedule time specific events.

- **Event Transportation Coordinator (ETC).** The Arena Manager would identify a staff person to coordinate and manage the Transportation Management Program (TMP) and Arena scheduling such that multiple event days with attendance in excess of an identified threshold are minimized or eliminated. This could be done in the context of an updated Event Scheduling Agreement with the Arena as an added party to the existing group (see Event Scheduling Protocol and Management described below). The ETC would represent the Arena on the Parking and Access Review Committee (PARC) and will coordinate with the City of Seattle, Port of Seattle, King County Metro Transit and other affected public and private transportation operators in the area on event schedules and implementation of the TMP. On an event day,

implementation and monitoring of the TMP would be one of their primary functions prior to and following the event.

- **Event Access Guide.** ArenaCo would develop an event access guide to list alternatives to driving, preferred parking areas and other designated Arena parking areas that offer carpool incentives, neighborhood dinner/parking promotions, and other programs and resources to assist ticket purchasers with options for traveling to and from the area. This event guide will be integrated on the Arena webpage and on the webpages of the primary seasonal tenants.
- **Event Scheduling Protocol and Management.** Considering the existing and proposed event venues, their potential effect on each other and cumulative traffic and parking, and the effect of event traffic on localized freight movements, the City could work with the venues to establish a protocol for scheduling to minimize the conflict with events among the three major Stadium District venues. This protocol would strive to work with major tenants and franchises to minimize the occurrence of simultaneous and closely scheduled major events. When two or more time specific events with the combined forecasted attendance (not ticket sales) of over 58,000 persons appears to be scheduled, the protocol would identify a basic approach for resolving apparent conflicts. The separation of event start and end times could vary dependent on projected attendance levels, time of day, and the host facilities.

The Port of Seattle could be a part of this protocol or a parallel process to work with Stadium District event facilities to advise them when container ship loading/unloading requires double shifting, so events and TMP activities can be adjusted to accommodate priority truck routes and/or time windows.

- **Port of Seattle Protocols.** The Port of Seattle has expressed concern around increased levels of interference with freight access to and from the Port on days with events, especially when event days coincide with extended gate operations. Consistent with the event scheduling agreement or as part of MOTTF, ArenaCo, the City, the Port and other event stakeholders could work to identify protocols that can be implemented when notice of extended gate operations is provided. Such protocols could involve schedule adjustments, freight routing designations, event traffic routing, or other measures specifically tailored to support minimizing event traffic impacts on Port operations. Effective implementation of such a measure will require consistent engagement by all parties, including the Port of Seattle, in the event scheduling/management discussions.

Public Information and Marketing

The single most effective suite of strategies for managing traffic and parking impacts for special events involves effectively communicating expectations and alternative transportation opportunities so event attendees have realistic expectations and make rational choices to avoid anticipated conflicts:

- **Public Information Coordinator.** The Public Relations coordinator for the Arena or their representative would include in their job responsibilities the development, coordination and distribution of transportation and parking information and advisory services. Information regarding events and community activities could be exchanged and incorporated in these media notices. The webpage may be an effective medium for ensuring timely and accurate updates.

A major role of this staff person would be to ensure that non-event attendees are aware of an upcoming event. While not reflected in the traffic forecast (to ensure a worst case analysis condition for disclosure of potential impacts), experience at existing event venues have found that background volumes decline when there is a major weekday evening event. The decline in background traffic volumes reflect drivers who make a slight shift in their work or daily commute pattern or schedule, use another mode of travel, or telecommute for all or a portion of the day. These shifts can reduce the background traffic volume by 10 to 20 percent, which results in smaller delays and/or reduced duration of congesting at forced flow intersections.

In addition, joint marketing programs targeted at event attendees could be pursued with transportation service providers like Washington State Ferries, Sound Transit, Link Light Rail and King County Metro Transit. This could include broadcast and print promotions by both the Arena and the service providers.

- **Survey and Market Research.** In order to better understand travel behavior of arena visitors, six months to 1-year after opening, ArenaCo would be required to conduct market research of the greater Seattle area to identify statistically reliable information on likely event goers (Basketball and NHL game attenders, concerts, family shows, etc.) in order to determine trip origin, how attenders plan to travel to and from the stadium, and how this decision might differ by event type and for weekday vs weekend events. The survey should also include questions that help to understand which factors and incentives might be effective in encouraging public transportation or other travel options. This information should be used to update the TMP document to ensure that TMP elements directly address the impacts of this facility. The information would also be used to inform the types of strategies that should be required for dual/triple events.
- **Static Electronic Media.** ArenaCo would develop a webpage incorporating a transportation access guide as well as significant partnerships with community businesses and associations so the surrounding neighbors gain, to the degree desired, some of the benefits of additional Arena attendee activity. This transportation guide would be coordinated with the primary franchises and tenants.
- **Dynamic Electronic Media.** ArenaCo could use social media such as Twitter, Facebook and mass email broadcasts to alert guests of travel options and more particularly of incidents and real-time congestion and/or safety issues. This could include information about event day traffic conditions and regional traffic constraints (e.g. Alaska Way/Viaduct construction closures and significant incidents).

- **Arena Call Center.** ArenaCo could establish a call center with a central phone number specifically for transportation and parking information and referral.
- **Broadcast Advisory.** ArenaCo could coordinate with the broadcast team for each major franchise to actively promote alternative modes of travel in advance of games and major events and to provide real-time information within four-hours prior to an event. Real-time information could be coordinated with the ETC and video feeds from WSDOT and SDOT traffic control centers. Such advisory services could be coupled with other advertising and promotion through broadcasting contracts.
- **Event Access App (Application).** ArenaCo could develop a cellular phone application that provides event goers with a menu of features ranging from information and links to alternate transportation modes to real-time information regarding congested routes and alternative access. In addition, it would be desirable to link this application with a parking guidance system so those who drive can make more strategic decisions about the route they take before arriving in the immediate vicinity of the Arena. Information regarding parking pricing, comparisons against alternate modes, notification of street closures or restrictions, and other traffic related real-time features could be incorporated in this application.
- **Cross-Marketing with Area Businesses:** In order to spread the arrival and departure rates of fans traveling to and from the arena, ArenaCo could explore opportunities to cross-market events with local businesses (restaurants, bars) to encourage event attendees to arrive in the area before an event and/or stay in the area longer following an event.

Traffic and Parking Demand Reduction.

The programs in this group encourage non-automobile modes of travel including Sound Transit and King County Metro Transit, charter bus, rail (Sounder Commuter Rail, Link Light Rail and Amtrak), waterborne, and non-motorized modes or where possible increase average vehicle occupancy. These programs are intended to reduce the size and intensity of the arrival and departure experience.

The following programs are intended to reduce reliance on use of SOVs.

Transit

- **Premium Transit Service.** ArenaCo would coordinate with King County Metro Transit and Sound Transit (ST) to identify express bus service that connects Park-and-Ride lots in Northgate, South Kirkland, Eastgate and Federal Way with off-loading in the vicinity of the Arena. The intent would be to use under-capacity return routes at the end of the commuter peak. ArenaCo would work with King County Metro Transit on staging return coaches after events similar to the operation that currently exists after Sounders FC matches. Coaches can be staged on Occidental Avenue north of the Arena or south of Holgate Street.

- **Shuttles.** ArenaCo could consider operating shuttles or jitneys that follow a fixed route on a fixed headway that link the Washington State Ferry terminal, Link Light Rail and Transit Stations to/from the Arena. The intent of these jitneys and/or shuttles would be to provide an incentive for walk-on ferry passengers, transit users and persons parking in more remote offsite parking spaces. It is recommended that one stop be at the King Street Station Multimodal Hub. The King Street Station Multimodal Hub was designated in the 2003 Center City Access Study along with Westlake and Colman Dock. The three hubs are key elements of the Center City transportation system that function as both destinations and transfer points for a variety of transportation users. The King Street Station Multimodal Hub includes Historic King Street Station serving both inner-city rail, intra-city bus and commuter rail; the International District Station serving light rail and local bus service; major surface transit stops; and the future terminus of the First Hill Streetcar. The area is also heavily used by pedestrians, cyclists, general traffic and freight.
- **Subsidize Transit Fares.** ArenaCo could work with King County Metro Transit, Sound Transit, and Washington State Ferries, to offer attendees a discount to regular fares to encourage use of these travel modes.
- **Charter Bus/Meal/Ticket Packages.** ArenaCo could work with preformed groups and restaurants to develop packages that involve meals, event admission, and bus transportation for events at the Arena.
- **Add Cars to Link Light Rail Trains.** To increase the capacity of regularly scheduled Link Light Rail prior to and following Arena events, the train's capacity could be expanded from two to four cars. This would reduce crowding on the cars and make light rail a more attractive option for event attendees. As Link Light Rail extends north and east, this service could reduce/supplement park and ride buses.
- **Additional Link Light Rail Trains on Pocket Track.** For larger events, to the extent that multiple events cannot be avoided, or if the demand for Link Light Rail appears to exceed current forecasts, additional capacity could be provided by staging an additional train on a pocket track to provide the extra capacity.

Rail, Waterborne, and Bicycle

- **Rail/Lodging/Ticket Packages.** Similar to the charter bus packages, ArenaCo could work with out-of-town travel companies and businesses to develop rail/lodging/meal packages with tickets to events.
- **Facilitate Washington State Ferry Use.** ArenaCo could work with Washington State Ferries to promote use of ferries from Bremerton and Bainbridge. The Arena could explore the feasibility of operating a shuttle between the ferry terminal and the Arena during winter months and could coordinate with pedicab operators.

- **Facilitate Passenger Ferry Service.** ArenaCo could work with King County to extend passenger service to and from West Seattle on major event days to provide return service after events.
- **Bicycle Racks.** The design for the Arena incorporates bicycle racks as part of the site design, and includes a provision of a bicycle valet. If warranted by need, portable bike racks could be added for events where the attendee demographic warrants additional bike storage similar to the way CenturyLink Field operates during Sounders matches.

Average Vehicle Occupancy

- **Priority Disabled/Taxi/Limousine Loading.** ArenaCo would identify location(s) for limousine/taxi/passenger drop-off and pick-up. The location would be coordinated with SDOT to ensure adequate loading and queuing space while minimizing on-street congestion.
- **Higher Vehicle Occupancy Incentives.** ArenaCo could coordinate with private and public parking operators to develop rates to encourage the use of high occupancy vehicles.
- **HOV Incentives:** The Public Information and Marketing section would state that broadcast, printed materials and electronic media are intended to discourage driving to events, except for carpools/vanpools and would emphasize the ease of arriving and leaving the Arena by transit for the different types of events. High occupancy vehicle (3+) promotions could be offered, such as reserved parking at reduced rates in parking facilities located close to the arena.

Management of Vehicle and Parking Demand.

Programs included in this group focus on parking and traffic management options to direct and control the traffic flows for those who drive to the Arena. These measures are intended to manage local vehicle and non-motorized traffic congestion to enhance safety and minimize delay on event days by efficiently directing drivers to available transportation and parking facilities.

Off-Street Parking

- **Participation in the e-Park Program.** If the new garage is built, it would be included in the City's e-Park program.
- **Establish Parking Agreements.** ArenaCo could establish shared use agreements for available parking. In addition, the reservoirs of shared parking could be distributed around the Arena as widely as possible in order to dilute traffic flows and minimize the concentration of traffic volume entering and leaving before and after events.
- **Parking for Event Staff.** ArenaCo could identify parking opportunities for event staff in areas that do not compete with event attendee parking.

- **Off-street parking reservation.** The TMP could include a centrally coordinated event parking program that would allow fans to reserve and pre-purchase parking passes at facilities convenient to their origin point to minimize driver circulation on the surrounding area of those who make a choice to drive.
- **Pre-Sell Reserved Arena Parking.** Parking could be presold and incorporated as part of ticket packages. The purpose in pre-selling parking is to be clear to attendees that Arena parking, particularly parking that is directly adjacent to the Arena, is sold out so non-season ticket holders do not attempt to drive in the immediate vicinity of the Arena to find parking. This coupled with assigned offsite parking, a parking guidance system, and other dynamic electronic media tools could guide attendees away from streets directly adjacent to the Arena and thus contribute to a net reduction in congestion.

Traffic Management Plan

- **Traffic Control Plan:** To supplement the traffic signal and control upgrades, such as ITS and adaptive signal control, additional staffing at key locations is anticipated. ArenaCo would work with SDOT and SPD to develop an event day traffic control plan that will include a temporary signing plan and a police post plan for pre and post event conditions. Traffic control would be provided for pedestrians, private vehicles and charter/shuttle transit. These plans would be similar to those already employed by Safeco and Century Link Fields in the SODO area. The plan would correspond to graduated attendance levels. Table 3.8-55 provides a general framework for the estimated number of police/traffic control personnel associated with each level. These are generally the same number of officers and traffic control personnel used for Safeco Field for similar attendance levels but actual location of personnel would shift south with a higher staffing levels along Holgate Street.

**Table 3.8-55
General Traffic Control Plan Levels**

Attendance Level	Police Personnel
<10,000	20
10,000 – 15,000	25
>15,000	32

The temporary traffic control plan would involve selected intersections in the area generally bounded by Royal Brougham Way to Walker Street and Utah to 4th Avenues. The temporary traffic control plan would involve temporary signs, cones and other portable traffic control devices at selected intersections in the area generally bounded by Royal Brougham Way to Walker Street and Utah to 4th Avenues. This temporary traffic control plan would likely be implemented for all Arena events, regardless the attendance. ArenaCo, like other event managers, would fund temporary traffic control.

The traffic control plan for Alternate 4 or 5 would be much more limited and would correspond to similarly sized events at the existing facilities.

- **Post-Opening Traffic Study:** In addition to the Survey and Market Research described above, ArenaCo would conduct a post-opening traffic study six-months to 1 year after opening in order to evaluate traffic conditions, assess the effects of arena-generated traffic on area intersections, and adjust the required TMP elements.
- **Vehicle Wayfinding :** To limit unnecessary circulation around the arena prior to and after events, ArenaCo could work with the City of Seattle and WSDOT to install vehicular wayfinding signage at key locations, including freeway and freeways ramps. The signage will likely be located along major routes to the arena to direct drivers to preferred pathways to available parking areas.

Implementation and Monitoring.

These programs are targeted to achieve 1) continuous improvement of the operational management of the Transportation Management Program (TMP), 2) development of metrics to measure and report the effectiveness of TMP implementation, and 3) exchange of information with neighboring event centers and business operations to avoid conflict:

- **Parking and Access Review Committee (PARC).** The Arena Transportation Manager would become actively engaged as a member of PARC to help integrate the Arena as part of existing Stadium District activity and event management. The annual TMP would be reviewed by PARC as are TMPs associated with other Stadium District venues.
- **Traffic Operations Group.** During the initial years of operation and as major tenants/franchises become tenants in the Arena, the Transportation Manager could periodically assemble Seattle Police Department (SPD), SDOT, parking managers, King County Metro Transit, and any others involved in event day traffic control and parking to debrief on the effectiveness and problems associated with event related traffic management. This group would then make adjustments in a coordinated fashion to ensure that signing, signalization and timing, electronic media, and manual traffic control were all coordinated.
- **Periodic Program Review and Survey.** To evaluate the performance of the Arena Traffic Management Program, a set of metrics could be established to evaluate the performance of major single and multiple event traffic conditions. Surveys during these periods measuring the effectiveness of the traffic control plans could be recorded and reported to PARC annually.

3.8.5 Secondary and Cumulative Impacts

3.8.5.1 Alternatives 2 and 3

There are no identified secondary or cumulative impacts associated with the modifications to the street system associated with Alternative 2 or 3, including the vacation of Occidental Avenue S. As noted the impacts associated with the rerouting of traffic currently using

Occidental Avenue S. are addressed in the analysis of the primary impacts. No secondary or cumulative impacts to vehicular safety have been identified.

The effective implementation of transportation demand reduction strategies through a Transportation Management Program would result in increases in demands on other transportation modes and systems, including pedestrians, transit, and bicycles.

There could be secondary and cumulative impacts to non-event transit users due to additional passengers using transit or park-and-ride lots to attend events at the Proposed Project (Alternative 2) or Alternative 3. Non-event transit users may find transit more crowded, fewer parking spaces at remote lots, and longer commute times during game days.

As light rail service in the region is expanded, transit service providers are anticipated to redeploy service to avoid duplication of transit service. It is unclear how transit service providers would redeploy service, but it is likely to impact event attendees traveling to stadium events.

Major capital projects, such as Waterfront Seattle and the Southend Transit Pathways study, will change how transit connects through and to downtown Seattle. These projects will bring some bus transit stop locations closer to the Proposed Project (Alternative 2) or Alternative 3, resulting in a cumulative benefit to encourage event attendees to use transit for traveling to events.

There would be direct impacts to vehicular operations caused by an increase in traffic volumes and congestion for the No Action Alternative by 2018 and 2030. These impacts would be increased on game days. Secondary and cumulative impacts to traffic operations along other routes could occur if motorists choose to reroute to avoid congestion at specific intersections.

There would be direct impacts to the movement of freight and goods caused by an increase in traffic volumes and congestion for the No Action Alternative by 2018 and 2030. These impacts would be increased on game days. Secondary and cumulative impacts to other motorists could occur by truck drivers choosing to reroute to avoid congestion at specific intersections.

Changes in Port of Seattle operations could change the amount of heavy trucks on some routes through the Stadium District, especially if service hours are extended later in the day and into the evening. This could add delay and congestion on arterial streets and intersections in the project vicinity, and add delay to some surface transit routes in SoDo.

Short term parking restrictions may be implemented to support event related activities as a result of traffic control plans, or other efforts to balance traffic, transit, freight and goods movement, and parking demands. In general, the impacts identified for the proposed Arena without other concurrent events are similar in magnitude and slightly less than for a Mariners event. However, the addition of the proposed Arena would increase the number of days in the SoDo neighborhood where an event occurs and could add cumulatively to a reduction of

parking availability in the SoDo neighborhood. There could also be a cumulative reduction in on-street parking as a result of potential intersection or roadway improvements.

3.8.5.2 Alternatives 4 and 5

A 1st Avenue streetcar currently being considered as part of the Center City Transit Study would provide another way for event attendees, especially those using ferry services, to connect to Seattle Center. This would reduce the number of people using bus, monorail, and South Lake Union Streetcar transit services.

The effective implementation of transportation demand reduction strategies through a Transportation Management Program would result in increases in demands on other transportation modes and systems, including pedestrians, transit, and bicycles.

Similar to secondary and cumulative impacts for Alternatives 2 and 3, there would be direct impacts to the movement of freight and goods caused by an increase in traffic volumes and congestion for the No Action Alternative by 2018 and 2030. These impacts would be increased on game days. Secondary and cumulative impacts to other motorists could occur by truck drivers choosing to reroute to avoid congestion at specific intersections.

Short term parking restrictions may be implemented to support event related activities as a result of traffic control plans, or other efforts to balance traffic, transit, freight and goods movement, and parking demands.

3.8.6 Significant Unavoidable Adverse Impacts

3.8.6.1 Alternatives 2 and 3

No significant unavoidable adverse impacts to the street system, to public transportation, to pedestrian or to bicycle facilities from Alternatives 2 or 3 are expected.

Peak hour traffic volumes would increase substantially over current levels under No Action conditions and the order of magnitude of change in traffic volumes associated with the Arena for any event case falls within the range of current event experience. There would be an increase in traffic volumes during peak conditions on event days, which would occur more frequently with the Arena. A number of measures have been identified to reduce the level of increase in traffic volumes, including demand reduction, and management of vehicles to orient them to the most appropriate route.

Several additional intersections are forecast to operate at LOS E or LOS F under the No Action alternative and with additional traffic due to events at the Arena. On event days, delays would be expected to increase as a result of Arena event traffic and some of these increases may be significant. These conditions would impact freight activity to the extent identified in the impact analysis.

As described in the impact analysis, the increase in event days anticipated with the Arena (especially the increase in high attendance event days) would result in the increased frequency

of parking impacts. This results in greater competition for parking with other area stakeholders, including commercial businesses in neighborhoods such as SoDo, Pioneer Square, and the International District.

Increased frequency of events together with the proximity of the Arena to the S. Holgate Street rail crossings would increase the potential for conflict between pedestrians and rail, east of the site. If a pedestrian overpass were constructed, this issue would be largely eliminated. With at-grade improvements together with increased manual control of pedestrians at crossings, the potential would be reduced but not eliminated.

The vacation of Occidental Avenue for the block between S. Holgate and Massachusetts Streets would result in the permanent interruption of a parallel route to 1st Avenue South from S. Horton Street to S. Atlantic Street. The operation of the intersection at S. Holgate Street at 1st Avenue S. would degrade to LOS F on event days with a capacity event in the Arena; the range of mitigation offered could reduce the level of impact at this location, depending on the effectiveness of the range of public information, traffic routing and management, and final location of any potential new parking facilities.

3.8.6.2 Alternatives 4 and 5

No significant unavoidable adverse impacts to the street system, to public transportation, to pedestrian or to bicycle facilities, or to safety from Alternatives 4 or 5 are expected.

Several additional intersections are forecast to operate at LOS E or LOS F, in No Action and with additional traffic due to events at an arena located in or near Seattle Center. On event days, delays would be expected to increase as a result of arena event traffic. These conditions would impact freight activity to the extent identified in the impact analysis.

Peak hour traffic volumes would increase substantially over current levels under No Action conditions and the order of magnitude of change in traffic volumes associated with an arena for any event case falls within the range of current event experience. There would be an increase in traffic volumes during peak conditions on event days, which would occur more frequently with an arena. A number of measures have been identified to reduce the level of increase in traffic volumes, including demand reduction, and management of vehicles to orient them to the most appropriate route.

The increase in event days anticipated with an arena would result in increased frequency of parking impacts resulting in competition for parking throughout the primary, and, on occasion, the extended study area.

3.9 Public Services and Utilities

3.9.1 Stadium District Alternatives – Alternatives 2 and 3

3.9.1.1 Fire

Affected Environment

The study area for the fire and police service analysis includes the area immediately surrounding the site of both the Proposed Project (Alternative 2) and Alternative 3 site.

Fire protection services to the Stadium District site are provided by the City of Seattle (City) Fire Department. The Seattle Fire Department provides firefighting, building inspections, fire code enforcement, tactical rescues and public education throughout the City from 33 fire stations and Medic One Headquarters at Harborview Medical Center. Headquarters for the department are at 301 2nd Avenue S. Fire Station 10 is within approximately one mile north of the Stadium District site at 400 S. Washington Street. Also within a mile south of the Stadium District site, Fire Station 14 is located at 3224 4th Avenue S. The Medic One Headquarters at Harborview Medical Center and Fire Station 5 are within 1.5 miles of the site of the Proposed Project (Alternative 2) and Alternative 3. Table 3.9-1 provides information on Fire Department personnel and apparatus as reported in 2010 and 2012. The number of uniformed personnel and Emergency Medical Team (EMT) certified staff were approximately 4 percent lower in 2012 than in 2010 (981 staff in 2012 as compared to 1,020 in 2010), however the numbers of other staff and apparatus remained similar or the same.

The Seattle Fire Department (SFD) maintains an overall average first-arrival response time to fire, rescue and hazardous materials calls of 4.15 minutes in 2012. The average response time to basic life support was 3.74 minutes and advanced life support was 3.67 minutes. The response time may be influenced by station location and design, and staffing levels, as well as local rules and procedures for response. SFD serves a population of 608,660 (U.S. Census 2010) in an area of 83.9 square miles. The location of a fire station is not the only factor in determining if that station will respond to an alarm. The Seattle 9-1-1 Dispatch Center determines which fire stations and other emergency units respond depending on the location and nature of the call (e.g., fire, medical emergency) and the availability of resources (Seattle Fire Department 2013).

The Special Events Section of the Seattle Fire Marshal's Office issues temporary permits and establishes conditions to ensure public safety at large public gatherings including fairs, concerts, sporting events, and festivals. They also inspect and issue permits related to trade shows and other high-profile events.

Table 3.9-1

Citywide Seattle Fire Department Personnel and Apparatus (2010 - 2012)

Seattle Fire Department Personnel Profile	2010	2012
Uniformed Personnel	1,020	981
On-Duty Strength	208	207
Department Chiefs	35	38
Emergency Medical Team (EMT) Certified	1,020	981
Paramedics	74	76
Non-Uniformed (Civilian) Personnel	87	84
Seattle Fire Department Apparatus Profile (2010)		
Fire Stations (includes Medic One HQ at Harborview)	34	34
Engines (includes one on-duty Fire Boat)	33	33
Ladder Trucks	12	12
Aid Units (Basic Life Support)	4	4
Medic Units (Advanced Life Support)	7	7
Air Trucks	2	2
Fire Boats	4	4
Hose Wagons	2	2

The SFD has floor plans and layout maps of Safeco Field and CenturyLink Field and Event Center, KeyArena, and Memorial Stadium. The SFD would follow standard procedures in the event of a large-scale emergency (e.g., earthquake). The SFD has mutual aid agreements with adjacent jurisdictions to provide additional resources as needed.

Each of the existing sports facilities has an emergency response and evacuation plan that is reviewed by the SFD.

Impacts of the No Action Alternative at Alternative 2 and 3 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternatives 2 and 3 for a new Arena. There would be no direct effects to fire services. The existing mix of aging warehouses could pose an increasing risk of fire and possible exposure to hazardous materials if a fire were to occur due to the nature of uses and age of the buildings in the study area. Increased background traffic levels and increased rail traffic could increase fire and police response times.

Impacts Alternatives 2 and 3

During construction, the possibility of injuries could increase the number of medical aid responses. Also, it is possible that response time to the site of the Proposed Project (Alternative 2) and Alternative 3 would increase, primarily as a result of more restricted site access and the presence of construction materials.

The Proposed Project (Alternative 2) or Alternative 3 would replace the existing demand for Fire Department personnel or equipment to serve the existing warehouses, with a new demand to serve an Arena. An Arena would provide required fire and life safety systems. These systems would be installed according to current Fire Code standards and would be properly maintained and inspected throughout the life of the facility. Any hazardous materials would be stored and

handled in accordance with Fire Code requirements. According to the Fire Department, the Department's experience with the provision of service to a variety of events throughout the City would allow them to effectively serve the Proposed Project (Alternative 2) or Alternative 3 during simultaneous events at CenturyLink Field and CenturyLink Field Event Center, and Safeco Field, although adverse impacts to response times could occur with two simultaneous large events at the sports facilities.

It is expected that a slight increase in calls for service to the Project Area would occur as a result of an increased number of people using the site. It is not anticipated that this increase would measurably affect fire service to the site. As with the No Action Alternative, an increase in background traffic, increased rail traffic, and increased traffic associated with the Arena could increase fire and police response times.

3.9.1.2 Police

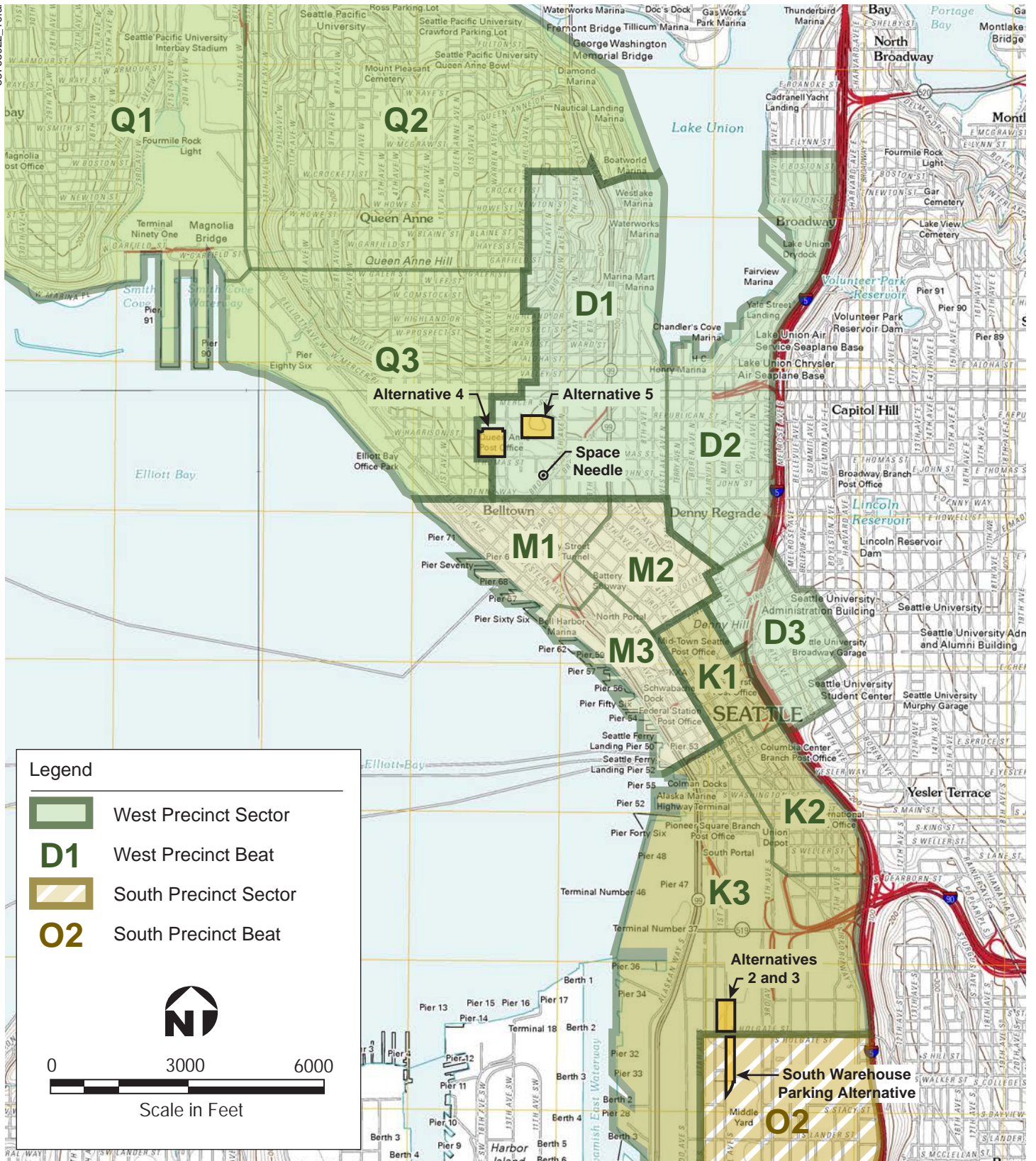
Affected Environment

Police protection at the existing stadiums (Safeco Field and CenturyLink Field) is provided by the City of Seattle Police Department (SPD). Seattle is divided into five geographic areas; within those areas are the five precincts or police stations: North, East, South, West and Southwest. Precinct boundaries were determined through consideration of neighborhood boundaries, geographic and other natural boundaries. Each precinct contains smaller geographic areas called Sectors. There are 17 sectors total in the city. Each of these Sectors is divided into between three smaller sections called Beats. These are the areas that individual patrol officers are assigned responsibility for.

The SPD West Precinct serves the neighborhoods of Downtown Business District, Waterfront, International District, Pioneer Square, Belltown, Queen Anne, West Edge, South Downtown (SoDo), Westlake, Eastlake, Seattle Center, Denny Triangle, Magnolia, and South Lake Union (SLU). The West Precinct is located at 810 Virginia Street, approximately two miles from the Stadium District and the site of the Proposed Project (Alternative 2) and Alternative 3. The site is within SPD King Sector Beat 3 (Figure 3.9-1).

SPD West Precinct Sectors and Beats

Response times are faster when the workload is low but exceeded 7 minutes in 2008 during the busiest times of the week when 9-1-1 call volume is high (SPD 2013a). In mid-2012, SPD reported City-wide average response times of 6.8 minutes against a goal of 7 minutes (SPD 2013c).



Source: USGS 7.5-minute topographic quadrangles, Seattle North, Seattle South, Duwamish Head, and Shilshole Bay, Washington, 2011

Figure 3.9-1

Seattle Police Department West Precinct Sectors and Beats

The West Precinct provides a full range of emergency-response and public safety services to prevent crime and enforce the law in a manner that makes residents and visitors feel safe and be safe in their homes, schools, businesses, and neighborhoods. Precinct personnel also respond to situations they view while patrolling the streets of Seattle, as well as work on solutions to long-standing neighborhood concerns and needs through the Community Policing and Anti-Crime Teams. In addition to the SPD providing law enforcement and public safety in the area, existing venues support their own security within their facilities.

The SPD deploys additional parking enforcement officers working overtime before, during and after regular major events at CenturyLink Field and Event Center and Safeco Field, and for temporary construction-related street or traffic changes.

Typically, the SPD’s staffing level for stadium events focuses on traffic control. Staffing levels depend on the estimated crowd size. The department’s standard levels of staffing are 24 for crowds of 10,000 to 18,000; 31 officers for crowds of 18,000 to 25,000; 44 officers for crowds of 25,000 to 40,000; 51 officers for crowds of more than 50,000 with personnel at their posts three hours before an event. The typical assignment includes three to four supervising officers and three to four parking enforcement officers, with the remaining officers assigned to traffic and security duties. As attendance increases, additional officers may be needed.

The SPD has found that staffing resources required for a small (10,000 attendance) event to the large event (50,000 or more attendance) range from 250 to 450 hours at a cost of \$10,000 to \$18,000 per event. Playoff game events would require a higher hour total and could cost as much as \$25,000 or more per event.

Despite the perceived need to increase demand for police protection due to sporting event attendee behavior, as the City has grown and developed over the last 25 years, reported major crimes have shown a steady downward trend, including in the stadium district (West Precinct, King Sector, Beat 3). The decline was continuous from 1988 to 2000. Table 3.9-2 and Figure 3.9-2 provide crime statistics for 2008 through 2012. The lowest year for reported major crimes was 2012 when the major crime rate reported was 62 percent lower than the rate reported in 1988. (SPD - Major Crimes a 25 Year Review)

**Table 3.9-2
Monthly Average Crime West Precinct King Sector Beat 3 2008-2014
(Alternatives 2 and 3)**

	2008	2009	2010	2011	2012	2014
Homicide	0	0	0	0	0	2
Rape	1	0	0	0	0	3
Robbery	5	6	3	2	3	54
Assault	6	6	5	5	5	257
Larceny-Theft	76	79	58	51	51	748
Motor Vehicle Theft	7	6	5	5	3	42
Burglary	6	6	5	3	4	78

A review of the Seattle Police Department’s 2014 Precinct Crime Statistics indicates that number of crimes in the West Precinct King Sector Beat 3 were increased over 2012. For the entire year of 2014, there were 2 homicides, 3 rapes, 54 robberies, 257 assaults, 748 larceny-thefts, 42 motor vehicle thefts, and 78 burglaries¹. On a monthly average basis, the number of crimes were up as much as 50 percent depending on the crime type.

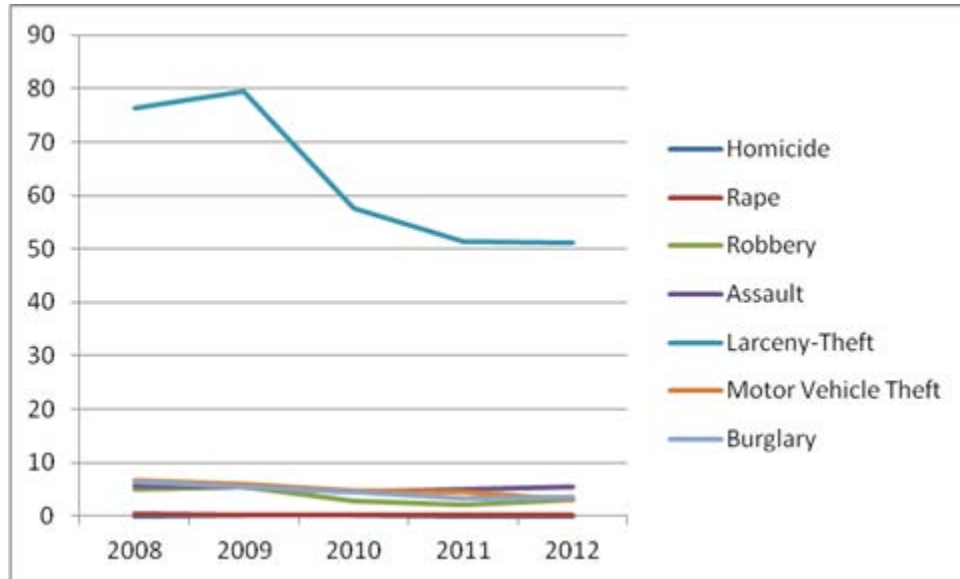


Figure 3.9-2

Monthly Average Crime West Precinct Beat King 3: 2008-2012

Impacts of the No Action Alternative at Alternative 2 and 3 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternatives 2 and 3 for a new arena. There would be no direct effects to public police services.

Impacts of Alternatives 2 and 3

During construction, emergency response time to the site may increase. Non-emergency response times could also increase primarily due to temporary street changes, construction vehicles, and equipment. Public services would be affected by increased traffic congestion and delays on the primary roads affected by construction and on roads around the construction area. The increased congestions and delays would have a direct effect on emergency vehicle access to and through the construction area.

As with other sporting events, the SPD could need parking enforcement officers working overtime to staff the Proposed Project (Alternative 2) or Alternative 3 before, during, and after major events since parking will be provided offsite in either existing private lots or a new parking garage on the South Warehouse site south of Holgate Street, and on the streets surrounding the Arena.

¹ <http://www.seattle.gov/police/crime/stats.htm>

A slight increase in offenses would be expected due to increased number of visitors to the area. Offenses that could increase include robbery, aggravated assault, theft, auto theft, misdemeanor theft, assaults, urinating in public, disturbance, and public drinking. Operation of the Proposed Project (Alternative 2) or Alternative 3 would not have any effect on existing mutual aid agreements.

NBA Guidelines for Arena Security

In 2005, the National Basketball Association (NBA) issued to all teams a revised set of Arena Guidelines, which included policies dealing with the deployment of security personnel, alcohol sales, and a new Fan Code of Conduct.

The Arena Guidelines were prepared in consultation with NBA teams and arena operators, crowd management and security experts, law enforcement officials, members of the concessions industry and representatives of TEAM (Techniques for Effective Alcohol Management).

The NBA Fan Code of Conduct, which sets forth expected standards of decorum for all fans attending NBA games, will be posted prominently in all NBA arenas, and public address announcements concerning some of its key elements will be made during each NBA game. Guests who fail to adhere to these standards will be subject to ejection and revocation of season tickets.

The guidelines also set forth minimum standards regarding the serving of alcohol, including the provision that alcohol be served only until the start of the 4th quarter, restrictions on the size (24 ounces) and number (2) of alcoholic beverages sold per individual customer, the training of arena personnel in effective alcohol management, and the maintenance of designated driver programs in each NBA Arena.

A few key points of the Fan Code of Conduct are:

- Guests will enjoy the basketball experience free from disruptive behavior, including foul or abusive language or obscene gestures.
- Guests will consume alcoholic beverages in a responsible manner. Intervention with an impaired, intoxicated or underage guest will be handled in a prompt and safe manner.
- Guests will not engage in fighting, throwing objects or attempting to enter the court, and those who engage in any of these actions will immediately be ejected from the game.
- Guests will comply with requests from arena staff regarding arena operations and emergency response procedures.

The Fan Code of Conduct states:

Arena staff has been trained to intervene where necessary to help ensure that the above expectations are met, and guests are encouraged to report any inappropriate behavior to the nearest usher, security guard or guest services staff member. Guests who choose not to adhere to these provisions will be subject to ejection without refund and revocation of season tickets and may also be in violation of city ordinances resulting in possible arrest and prosecution (NBA.com 2013).

3.9.1.3 Parks or Other Recreation

Affected Environment

There are no existing formal recreational opportunities in the vicinity of Alternatives 2 and 3; the closest City of Seattle Park is the East Duwamish Greenbelt Park, located approximately 0.7 miles to the east, east of Interstate 5 (I-5).

There are two primary entertainment uses to the north of Alternatives 2 and 3: CenturyLink Field, home to the Seahawks football team and Sounders Football Club; and Safeco Field, home of the Seattle Mariners. For a discussion of these two facilities, see Section 3.6 Land Use.

Impacts of the No Action Alternative at Alternative 2 and 3 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternatives 2 and 3 for a new arena. There would be no direct effects to parks or other recreation.

Impacts of Alternatives 2 and 3

As there are no recreational facilities in the vicinity of Alternatives 2 and 3, impacts to parks or formal recreational opportunities would not occur.

3.9.1.4 Natural Gas (Puget Sound Energy)

Affected Environment

Existing gas facilities in the vicinity of the site include a gas main in Occidental Avenue S., extending through the length of the project site, and a gas main in 1st Avenue S. near the northwest corner of the project site at the S. Massachusetts Street intersection.

Impacts of the No Action Alternative at Alternative 2 and 3 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternatives 2 and 3 for a new arena. There would be no direct effects to natural gas utilities.

Impacts of Alternatives 2 and 3

Per a telephone conversation with the gas utility representative for south downtown, Ken Elvsaas of Puget Sound Energy (Infrasource), the gas line in Occidental could likely be capped and abandoned without rerouting or providing additional gas piping. Mr. Elvsaas mentioned that the most practical future gas service to an Arena would be near the northwest corner of the site; however the project could also connect to the gas line in Occidental just north of the project site. Per discussion with Puget Sound Energy, it is anticipated that the gas utility has more than adequate serving capacity in the project vicinity and it is unlikely that any upgrades would be required in the public right-of-way.

3.9.1.5 Electrical Infrastructure (Seattle City Light)

Affected Environment

Existing feeder and distribution electrical facilities are located within the public right-of-way on S. Massachusetts Street, 1st Avenue S., S. Holgate Street and Occidental Avenue S. Distribution facilities are 26-kV overhead lines, and include those running along Occidental Avenue S. through the project site.

Impacts of the No Action Alternative at Alternative 2 and 3 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternatives 2 and 3 for a new arena. There would be no direct effects to electrical utilities.

Impacts of Alternatives 2 and 3

Per the January 29, 2013, meeting with Seattle City Light, temporary and permanent electrical service can be provided to Arena development to meet the preliminary design loads and voltages. Permanent electrical loads for a new Arena are estimated to be 5 MVA, which is approximately the same as the load for Safeco Field. It is anticipated that the 26-kV overhead lines located on the streets bordering the site will be undergrounded prior to excavation and building construction. The overhead lines running along Occidental Avenue S. would be relocated prior to the start of construction on the Arena site.

It is anticipated that the construction contractor would likely require two 122A - 480Y/277 volt temporary services, one from the north and one from the south, for building construction. These services could be fed by pole-mounted transformer banks.

For permanent service, the project designers have discussed installing a redundant service to the building electrical room at the northeast corner of the site with Seattle City Light. Per January 29, 2013, Seattle City Light meeting minutes, the two 26-kV service lines would originate from terminal poles located on the north side of S. Massachusetts Street and the west side of 1st Avenue S. (near the intersection with S. Massachusetts Street). The schedule of service from the west side of 1st Avenue would need to be coordinated with the SR99 tunnel

project as the line currently serves the tunnel boring machine. Once the tunnel boring is completed, the wires could be tapped for the redundant Arena service.

During 2015, project designers discussed three options with the Seattle Design Commission for rerouting the existing 26-kV overhead lines that exist along S. Massachusetts Street: placing the lines underground, replacing the lines above ground, or a combination of underground and above ground.

The project designers will submit a service application to Seattle City Light in addition to the utility clearance exhibit that they submitted in February, 2013.

Seattle City Light is proposing to construct a new electrical substation in South Lake Union, referred to as the Denny Substation. The proposed electrical distribution system improvements would be installed along numerous streets in the South Lake Union neighborhood. A new 230-kV transmission line would need to be constructed between the existing Massachusetts Substation in the SoDo area and the new Denny Substation. The new 230-kV line would extend from the Denny Substation, through downtown Seattle to S Massachusetts Street, and then west along S. Massachusetts Street at the north end of the Seattle Arena site into the existing Massachusetts Substation located at Utah Avenue S. and S. Massachusetts Street. The estimated timing for construction of the transmission line to the Massachusetts Substation is 2018 – 2020.

The Arena team is also working with Seattle City Light on options for both underground and overhead relocations of existing 115-kV transmission lines that are currently aligned over the north portion of the Arena site. In addition to the existing transmission lines, SCL is planning a second 115-kV circuit along S. Massachusetts as part of their Denny Substation project (2018-2020). The relocation alternatives include both existing and proposed transmission lines.

3.9.1.6 Solid Waste

Affected Environment

Solid waste generated in the vicinity of the Stadium District site is collected by the current City contracted waste disposal company, and transported to the transfer station in South Seattle, then hauled to the disposal company's landfill site. Source-separated recyclables (aluminum cans and bottles) are normally picked up by private recycling companies.

Construction and demolition (C&D) materials account for 28 percent of all waste disposed in Seattle. Seattle has recently adopted new recycling requirements for construction and demolition materials through landfill disposal bans, facility certification and waste diversion reporting toward achieving City Council-adopted a goal for recycling 70 percent of construction waste by 2020. The City's Green Building programs also often require salvaging and recycling a large percentage of the construction waste generated by construction activities. To reach this goal, Seattle Public Utilities will:

- Roll out landfill disposal bans on readily recyclable C&D materials

- Certify the recycling levels at recycling facilities which receive and process C&D materials from Seattle jobs
- Require building permit holders for each new construction, remodeling and demolition to file a waste diversion report to show compliance with the disposal bans (City of Seattle Ordinance 124076, Phased Landfill Bans 2012-2016)

Impacts of No Action at Alternative 2 and 3 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternatives 2 and 3 for a new arena. There would be no direct effects to solid waste.

Impacts of Alternatives 2 and 3

Impact from the Proposed Project (Alternative 2) or Alternative 3 construction includes collection and disposal of construction materials from the site while under construction, and the future need for the separation and collection of solid waste and recyclable materials from the new facility. Volumes are within the capacity of the existing solid waste collection and processing facilities and no adverse impacts from the collection of additional solid waste is anticipated.

3.9.1.7 Telecommunications

Affected Environment

Communication services in the project vicinity are currently provided by CenturyLink, with overhead facilities located on 1st Avenue S. and Occidental Avenue S. Comcast and other fiber optic companies are also located in the general vicinity of the development and could provide services to the site if requested.

Impacts of the No Action Alternative at Alternative 2 and 3 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternatives 2 and 3 for a new arena. There would be no direct effects to telecommunication utilities.

Impacts of Alternatives 2 and 3

Communication system requirements of a new Arena will include both conventional telephone and high-speed internet services. Some existing overhead facilities on Occidental Avenue S. are within the new development site boundary and will require relocation. In addition, specific needs of an Arena may require additional facilities and capabilities that are not currently available at the site location. Any additional services or facilities that are required by a new Arena will be supplied by private telecommunications providers through existing or new facilities constructed to serve the development.

3.9.1.8 Mitigation Measures Applicable to Alternatives 2 and 3

Fire

Construction

The Proposed Project (Alternative 2) or Alternative 3 would require coordination with the SFD to develop a plan for emergency vehicle access to and from the Project Area during construction.

Operation

All Build Alternatives would require the establishment of an emergency evacuation plan. Emergency evacuation plans provide procedures in the event of an emergency: e.g., guests should follow evacuation plan instructions given via the public address announcer, seating hosts, uniformed security, police and medical personnel. If an emergency requires evacuation, exit directions will be given over the public address system and scoreboards. During emergencies, elevators and escalators are not to be used. All guests will be directed to exit using the stairs or ramps.

Intelligent traffic signal controls at signalized intersections could be used as a partial mitigation measure for the effects on response times for fire and emergency medical services, particularly during construction. If intelligent traffic signals cannot adequately mitigate the effects on emergency response, additional staff, apparatus, and facilities may be necessary.

The Proposed Project (Alternative 2) or Alternative 3 would not result in significant impacts on fire service; therefore, no other mitigation measures would be necessary.

Police

The project developer would be responsible for maintaining security at construction and staging areas during construction. Traffic mobility during construction in heavily traveled areas could be most affected, especially during peak hours. During events, high-volume traffic and pedestrian areas could require additional police support services to direct and control traffic and pedestrian movements.

Parks or Other Recreation

Impacts to recreation are not anticipated under Alternatives 2 and 3, therefore mitigation measures are not proposed.

Natural Gas (Puget Sound Energy)

There are no adverse impacts on the existing gas facilities, other than the abandonment of a portion of the existing gas main in Occidental Avenue S., and no mitigation is proposed for the project because the abandonment will not require construction of any additional gas piping.

Electrical, Infrastructure (Seattle City Light)

Mitigation for the relocation of the overhead 26-kV overhead lines would include undergrounding of these facilities adjacent to the Project Site and relocating of the overhead lines located within the project site on Occidental Avenue S. No other adverse impacts are anticipated for the electrical system facilities in the vicinity of the Arena development site.

Solid Waste

There are no identified adverse impacts to the solid waste collection system due to the construction of the Arena development and no mitigation measures are proposed. The developer and contractors will comply with the new requirements for construction, demolition, and recycling defined by City of Seattle Ordinance 124076.

Recyclable and yard waste is banned from Seattle's garbage. Businesses are required to arrange for their own recycling and composting (yard waste) services. The City provides multiple resources to assist businesses in managing their recycling needs (Seattle Public Utilities 2013).

Telecommunications

There are no identified adverse impacts to the existing telecommunications systems serving the site vicinity, and no mitigation measures are proposed.

3.9.1.9 Secondary and Cumulative Impacts

Fire

All Build Alternatives

Construction of either Alternatives 2 or 3 in the Stadium District could cause some minor delays in fire service response to the project area during construction. Such delays are typical for any major construction activity in and around downtown Seattle. As part of a Construction Management Plan (CMP), the project developer would work with the SFD to ensure that adequate access to the area is available during construction.

Alternatives 2 and 3

A major long-term construction project, the Alaska Way Viaduct replacement, is in the vicinity of the site of Alternatives 2 and 3. Construction and events at the Proposed Project (Alternative 2) or Alternative 3, events at nearby facilities, and the viaduct replacement project would modify the transportation network in and around downtown, but are not expected to result in significant adverse operational effects on the provision of public services. Depending on the route used, some public service providers would experience increased traffic-related delay. Others would experience less traffic-related delay.

Police

All Build Alternatives

There are major long-term construction projects in the vicinity of all build alternatives. In combination with the construction or operation of any of the build alternatives with events at nearby facilities, any ongoing construction projects the transportation network in and around downtown would be modified. Increased congestion may have operational effects on the provision of public services. Depending on the route used, some public service providers would experience increased traffic-related delay.

The need for additional police support services could be addressed by providing additional permanent or temporary law enforcement officers and / or stations.

Alternatives 2 and 3

Over the long term, the demand for police protection service in the vicinity of the Proposed Project (Alternative 2) or Alternative 3 could increase as a result of the cumulative effect of the proposal and other anticipated development projects in the Stadium District and larger SoDo area. Yet, as the city has grown and developed over the last 25 years, reported major crimes have shown a steady downward trend. The decline was continuous from 1988 to 2000. The lowest year for reported major crimes was 2012 when the major crime rate reported was 62 percent lower than the rate reported in 1988 (SPD 2013b).

Parks or Other Recreation

Construction of an Arena in Seattle would add another venue for spectator sports, providing an additional recreational opportunity for sports fans, or concert attendees.

Utilities

The construction of a new 750,000 square-foot spectator sports facility in Seattle at any of the potential locations would cumulatively add to the need for additional sources of natural gas, electricity, telecommunications, and solid waste pickup and handling. The needs for this type of facility would be similar to any large new facility and potential growth in Seattle is part of the forecasting in the load plans for each utility.

3.9.1.10 Significant Unavoidable Adverse Impacts

There are no significant unavoidable adverse impacts related to the development of a new spectator sports facility in Seattle.

3.9.2 Alternative 4 – KeyArena 20,000-Seat Arena

3.9.2.1 Fire

Affected Environment

The study area for the fire service analysis includes the area immediately surrounding the KeyArena site (Alternative 4) and Seattle Center.

Fire protection services to the Alternative 4 site would be provided by the SFD. The closest fire station is Fire Station 8, approximately one mile north of Seattle Center at 110 Lee Street. In addition, Fire Station 2 is located at 2320 4th Avenue within a mile south of Alternatives 4 and 5. Medic One Headquarters at Harborview Medical Center and Fire Stations 5 and 10 are within 2 miles of Alternatives 4 and 5. (See Table 3.9-1 and Section 3.9.1.1 for the discussion of Seattle-wide capacity information for the Seattle Fire Department).

Impacts of the No Action Alternative at Alternative 4 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 4 for a new arena. There would be no direct effects to fire services.

Impacts of Alternative 4

The impacts to Fire services from Alternative 4 would be the same as identified for Alternatives 2 and 3 in Section 3.9.1.1.

3.9.2.2 Police

Affected Environment

See Section 3.9.1.2 for a discussion of the Affected Environment which covers West Precinct. All alternatives are located within the West Precinct.

SPD's bicycle-mounted police patrol Seattle Center. The Armory has an office for police use, however it is not staffed except for major Seattle Center events.

Despite the perceived need to increase demand for police protection due to sporting event attendee behavior, as the City has grown and developed over the last 25 years, reported major crimes have shown a steady downward trend, with the exception of burglary, including in the vicinity of KeyArena (West Precinct, David Sector, Beat 1). The decline was continuous from 1988 to 2000. The lowest year for reported major crimes in the City of Seattle was 2012 when the major crime rate reported was 62 percent lower than the rate reported in 1988 (SPD 2013b). Table 3.9-3 and Figure 3.9-3 provide crime totals for 2008 through 2012 for the West Precinct David Sector Beat 1 in which the sites of Alternative 4 and 5 are located. 2014 data is also provided on Table 3.9-3.

**Table 3.9-3
Crime Totals per Year West Precinct David Sector Beat 1 – 2008-2014
(Alternatives 4 and 5)**

	2008	2009	2010	2011	2012	2014
Homicide	1	0	0	0	0	0
Rape	4	4	4	2	4	3
Robbery	20	41	16	19	32	11
Assault	35	30	45	37	27	115
Larceny-Theft	978	1186	698	689	607	714
Motor Vehicle Theft	81	65	70	87	81	90
Burglary	134	104	129	109	181	157

A review of the Seattle Police Department’s 2014 Precinct Crime Statistics indicates that number of crimes in the West Precinct David Sector Beat 1 were similar or lower to 2012 levels for homicide, rape, robbery, and burglaries, and increased over 2012 for assault, larceny-thefts, and motor vehicle thefts. For the entire year of 2014, there were 0 homicides, 3 rapes, 11 robberies, 115 assaults, 714 larceny-thefts, 90 motor vehicle thefts, and 157 burglaries. (<http://www.seattle.gov/police/crime/stats.htm>)

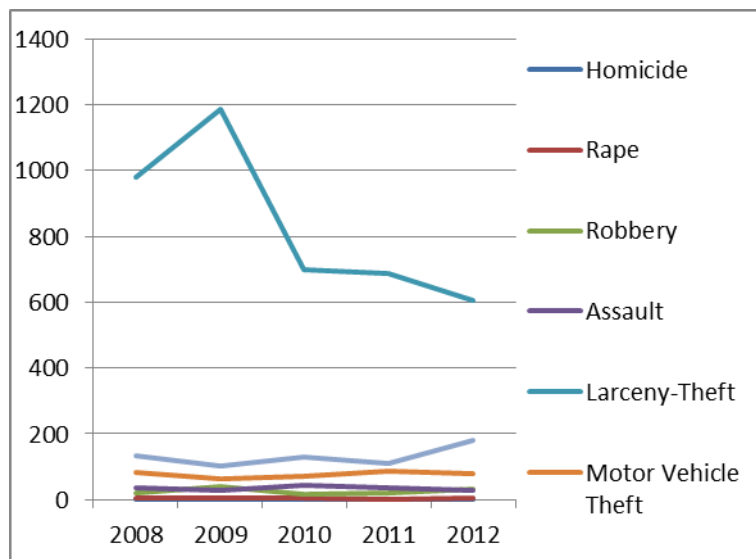


Figure 3.9-3

Monthly Average Crime West Precinct David Sector Beat 1: 2008-2012

Impacts of the No Action Alternative at Alternative 4 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternatives 4 for a new arena. There would be no direct effects to public police services.

Impacts of Alternative 4

The impacts to Police services from Alternative 4 would be the same as identified for Alternatives 2 and 3 in Section 3.9.2.2.

3.9.2.3 Parks or Other Recreation

Affected Environment

The Alternative 4 – KeyArena site contains one public recreation area, the Seattle Center Skatepark, which has a surface area of 10,000 square feet with state-of-the-art skating elements, located south of KeyArena.

In addition to the Skatepark described above, there are several City of Seattle Parks in the vicinity of Seattle Center, including: Tilikum Place Park, Denny Park and Playfields, Myrtle Edwards Park, Ward Springs Park, Counterbalance Park, and Kinnear Place (See Figure 3.9-4).

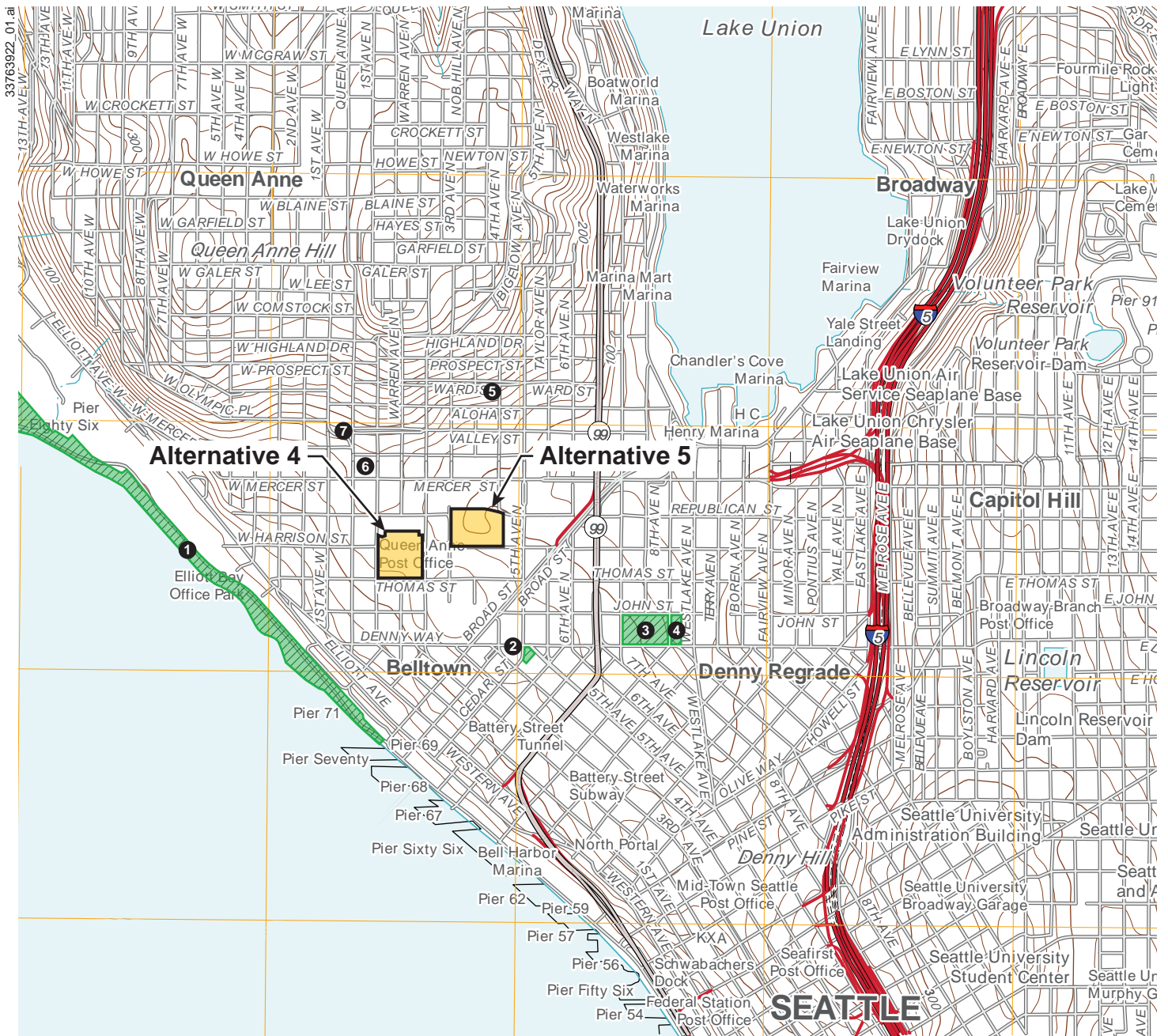
Impacts of the No Action Alternative at Alternative 4 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 4 for a new arena. There would be no direct effects to parks or other recreation.

Impacts of Alternative 4

Construction of an arena at the KeyArena site may necessitate the removal of the Seattle Center Skatepark and other features located south of KeyArena.

According to the City of Seattle Parks and Recreation Department website, there are four skate parks in the following parks: Ballard Commons Park, Dahl Playfield, Jefferson Park, and Woodland Park; there are no other existing skate parks near downtown Seattle. The City of Seattle completed a Citywide Skatepark Plan in 2007 identifying locations for possible new skate spots (neighborhood skate facilities from 1,500-10,000 square feet) and skate dots (small skate elements up to 1,500 square feet that can be integrated into existing parks). Potential locations in the general vicinity of the Seattle Center Skatepark include Myrtle Edwards Park, Magnolia Playfield, Miller Playfield, and Gas Works Park (City of Seattle 2007). If the Seattle Center Skatepark were to be removed, it would displace current users who would be required to find another location to recreate – likely outside of the downtown Seattle area.



Source: USGS 7.5-minute topographic quadrangles, Seattle North and Seattle South, Washington, 2011

Legend



Park

- ① Myrtle Edwards Park
- ② Tilikum Place Park
- ③ Denny Park
- ④ Denny Playfields
- ⑤ Ward Springs
- ⑥ Counterbalance Park
- ⑦ Kinnear Park



Scale in Feet

Figure 3.9-4

Parks in the Vicinity of Alternative 4 and Alternative 5

Job No. 33763922

3.9.2.4 Natural Gas (Puget Sound Energy)

Affected Environment

The existing KeyArena site is served from gas mains located within the street rights of way of 1st Ave N. and Thomas St.

Impacts of the No Action Alternative at Alternative 4 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternatives 4 for a new arena. There would be no direct effects to natural gas services.

Impacts of Alternative 4

Per the March 18, 2013, telephone conversation with the gas utility representative for lower Queen Anne, Kevin Haibeck of Puget Sound Energy, it is anticipated that the gas utility has adequate serving capacity in the project vicinity and it is unlikely that any upgrades would be required within the public right-of-way.

3.9.2.5 Electrical, Infrastructure (Seattle City Light)

Affected Environment

The existing KeyArena site is served by underground 13.8 KV electrical distribution lines located south of the site within Thomas Street. It is anticipated that the new arena development will also be served from this location. The historical loads for the KeyArena electrical service range from a low of 1.3 MVA in 2010 to a high of 1.9 MVA in 1999. The existing service is sized for a maximum load of 7.5 MVA, and the estimated load for the new arena is approximately 5 MVA, which is well within the existing service capacity.

Impacts of the No Action Alternative at Alternative 4 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternatives 4 for a new arena. There would be no direct effects to electrical services.

Impacts of Alternative 4

Per the March 15, 2013, meeting with Seattle City Light, temporary and permanent electrical service could be provided to the arena development to meet the preliminary design loads and voltages.

It is anticipated that the contractor would likely require two 122A - 480Y/277 volt temporary services for building construction. These services could be fed by the existing transformer serving the site.

For permanent service, a redundant service to the building electrical room has been discussed with Seattle City Light. There is a separate distribution line located on Mercer Street that could

provide the redundant electrical service, but this would require that the service from the new site be extended across Seattle Center to connect to the redundant power source.

A service application would need to be submitted to Seattle City Light for any connections to the electrical systems for the new development.

3.9.2.6 Solid Waste

Affected Environment

Solid waste generated in the vicinity of the KeyArena is collected by the current City-contracted waste disposal company, and transported to the transfer station in South Seattle, then hauled to the disposal company's landfill site. Source-separated recyclables (aluminum cans and bottles) are normally picked up by private recycling companies.

Construction and demolition waste generated in the site development area is picked up by the current City-contracted waste disposal company and transported similar to other solid waste.

Impacts of the No Action Alternative at Alternative 4 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 4 for a new arena. There would be no direct effects to solid waste services.

Impacts of Alternative 4

Impacts from arena construction would include collection and disposal of construction materials from the site while under construction, and the future need for the separation and collection of solid waste and recyclable materials from the new facility. Volumes are anticipated to be within the capacity of the existing solid waste collection and processing facilities.

3.9.2.7 Telecommunications

Affected Environment

Communication services in the project vicinity are currently provided by CenturyLink, with underground facilities located on 1st Avenue N. and Thomas Street.

Impacts of the No Action Alternative at Alternative 4 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 4 for a new arena. There would be no direct effects to telecommunications.

Impacts of Alternative 4

Communication system requirements of a new arena would include both conventional telephone and high-speed internet services. In addition, specific needs of the arena may require additional facilities and capabilities that are not currently available at the site location.

3.9.2.8 Mitigation Measures Applicable to Alternative 4

Fire

See Section 3.9.1.8 Mitigation Measures Applicable to Both Alternatives 2 and 3. These mitigation measures would also apply to Alternative 4.

Police

See Section 3.9.1.8 Mitigation Measures Applicable to Both Alternatives 2 and 3. These mitigation measures would also apply to Alternative 4.

Parks or Other Recreation

Mitigation may need to be provided for the removal and relocation of the Seattle Center Skatepark if Alternative 4 were implemented. The City would likely convene the Skate Park Advisory Committee to provide guidance to any potential relocation of the skatepark similar to the process followed in 2007 to determine the skatepark's last relocation.

Natural Gas (Puget Sound Energy)

There are no identified adverse impacts on the existing gas facilities and no mitigation is proposed for the project.

Electrical, Infrastructure (Seattle City Light)

No identified adverse impacts are anticipated for the electrical system facilities in the vicinity of the arena development site, and no mitigation is proposed.

Solid Waste

There are no identified adverse impacts to the solid waste collection system due to the construction of the arena development, and no mitigation is proposed.

Telecommunications

There are no identified adverse impacts to the existing telecommunications systems serving the site vicinity, and no mitigation is proposed.

3.9.3 Alternative 5 – Memorial Stadium 20,000-Seat Arena

3.9.3.1 Fire

Affected Environment

The study area for the fire service analysis includes the area immediately surrounding the Alternative 5 site (Memorial Stadium) and Seattle Center.

Fire protection services to Alternative 5 would be provided by SFD. The closest fire station is Fire Station 8, within approximately one mile north of Seattle Center at 110 Lee Street. Fire Station 8 is currently under construction, and it temporarily located at 1431 2nd Avenue North. In addition, Fire Station 2 is located at 2320 4th Avenue within a mile south of Alternatives 4 and 5. Medic One Headquarters at Harborview Medical Center and Fire Stations 5 and 10 are within 2 miles of the Memorial Stadium site. (See Table 3.9-1 and Section 3.9.1.1 for the discussion of Seattle-wide capacity information for SFD).

Impacts of the No Action Alternative at Alternative 5 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 5 for a new arena. There would be no direct effects to fire services.

Impacts of Alternative 5

The impacts to Fire services from Alternative 5 would be the same as identified for Alternatives 2 and 3 in Section 3.9.1.1.

3.9.3.2 Police

Affected Environment

See Section 3.9.1.2 for a discussion of the Affected Environment which covers West Precinct. West Precinct covers all alternatives.

Impacts of the No Action Alternative at Alternative 5 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 5 for a new arena. There would be no direct effects to police services.

Impacts of Alternative 5

The impacts to Police services from Alternative 5 would be the same as described above for Alternative 4. See Section 3.9.2.2.

3.9.3.3 Parks and Other Recreation

Affected Environment

The Memorial Stadium site is approximately 6.2 acres, seats approximately 12,000 people, and accommodates activities of a traditional athletic nature, primarily football and soccer games. Memorial Stadium hosts both school use and community events. The attendance per school use event is reported to be as high as 3,000 to 5,000, and average attendance to community events is well under 1,000 (Source: Seattle School District). Annual use of the stadium as reported by the Seattle School District is (1) School Use - 1,250 hours per year, athletic practices, high school / middle school games, and all-city band practice; and (2) Community Use - 2,510 hours per year, the majority of which is adult private sports league usage. The stadium is

also used for several Seattle Public School high school commencement ceremonies in June. Memorial Stadium is no longer a venue for the Bumbershoot Festival.

Seattle School District programs have priority for use of Memorial Stadium. After the school program has been established and its needs are met, other groups or individuals may rent the facility on a first come, first served basis. Memorial Stadium is not included in the interagency facility use agreement between the District and the Seattle Parks Department or any other public agency.

Impacts of the No Action Alternative at Alternative 5 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 5 for a new arena. There would be no direct effects to parks or other recreation.

Impacts of Alternative 5

If an arena were to be built at Memorial Stadium, the Seattle School District would need to find a new location for athletic practices, high school / middle school games, and all-city band practice. It is assumed that various other school district facilities may need to accommodate the additional events.

Adult users of the field for soccer and football would also be required to find alternative locations. The adult leagues using Memorial Stadium have several alternate field locations for use (for example, the Greater Seattle Soccer League uses over 70 fields). Existing playfields in the more immediate vicinity may not have the capacity to accommodate additional use; however the other locations, not as convenient for current users, may be found in other surrounding neighborhoods.

3.9.3.4 Natural Gas (Puget Sound Energy)

Affected Environment

The existing Memorial Stadium site is served from gas mains within the street rights of way on 5th Ave N. and Mercer St.

Impacts of the No Action Alternative at Alternative 5 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 5 for a new arena. There would be no direct effects to natural gas services.

Impacts of Alternative 5

It is anticipated that the gas utility has adequate serving capacity in the project vicinity and it is unlikely that any upgrades would be required in the public right-of-way (March 18, 2013, Kevin Haibeck, Puget Sound Energy).

3.9.3.5 Electrical, Infrastructure (Seattle City Light)

Affected Environment

The existing Memorial Stadium site is served by underground 13.8 KV electrical distribution lines located east of the site within 5th Avenue N. It is anticipated that the new arena development will also be served from this location. The historical loads for the Memorial Stadium electrical service are lower than the estimated load for the new arena, which is approximately 5 MVA. Seattle City Light has determined that the existing system is more than adequate for the additional loads estimated for an arena (March 15, 2013, meeting with Alan Hall, Seattle City Light).

Impacts of the No Action Alternative at Alternative 5 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 5 for a new arena. There would be no direct effects to electrical services.

Impacts of Alternative 5

Temporary and permanent electrical service can be provided to an arena development to meet the preliminary design loads and voltages. It is anticipated that the contractor would likely require two 122A - 480Y/277 volt temporary services for building construction. These services could be fed from the existing source on 5th Avenue N.

For permanent service, a redundant service to the building electrical room has been discussed with Seattle City Light. There is a separate distribution line located on Mercer Street that could provide the redundant electrical service, but this would require that the service from the new site be extended across Seattle Center to connect to the redundant power source.

A service application would need to be submitted to Seattle City Light for any connections to the electrical systems for the new development (March 15, 2013, Seattle City Light).

3.9.3.6 Solid Waste

Affected Environment

Solid waste generated in the vicinity of the site is collected by the current City-contracted waste disposal company, and transported to the transfer station in South Seattle, then hauled to the disposal company's landfill site. Source-separated recyclables (aluminum cans and bottles) are normally picked up by private recycling companies.

Construction and demolition waste generated in the site development area is picked up by the current City contracted waste disposal company and transported similar to other solid waste.

Impacts of the No Action Alternative at Alternative 5 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 5 for a new arena. There would be no direct effects to solid waste services.

Impacts of Alternative 5

Impact from the a new arena would include collection and disposal of construction materials from the site while under construction, and the future need for the separation and collection of solid waste and recyclable materials from the new facility. Volumes are anticipated to be within the capacity of the existing solid waste collection and processing facilities.

3.9.3.7 Telecommunications

Affected Environment

Communication services in the project vicinity are currently provided by CenturyLink, with underground facilities located on 5th Avenue N. and Mercer Street.

Impacts of the No Action Alternative at Alternative 5 Site

Under the No Action Alternative, there would be no demolition and construction at the site of Alternative 5 for a new arena. There would be no direct effects to telecommunications.

Impacts of Alternative 5

Communication system requirements of a new arena would include both conventional telephone and high-speed internet services. In addition, specific needs of the arena may require additional facilities and capabilities that are not currently available at the site location.

3.9.3.8 Mitigation Measures Applicable to Alternative 5

Fire

See Section 3.9.1.8 Mitigation Measures Applicable to Both Alternatives 2 and 3. These mitigation measures apply to Alternative 5.

Police

See Section 3.9.1.8 Mitigation Measures Applicable to Both Alternatives 2 and 3. These mitigation measures apply to Alternative 5.

Parks or Other Recreation

Advance notice of the closure of Memorial Stadium and construction schedules should be provided to adult soccer and football leagues currently using Memorial Stadium to assist in future scheduling of games.

Natural Gas (Puget Sound Energy)

There are no identified adverse impacts on the existing gas facilities and no mitigation is proposed for the project.

Electrical, Infrastructure (Seattle City Light)

No identified adverse impacts are anticipated for the electrical system facilities in the vicinity of the arena development site, and no mitigation is proposed.

Solid Waste

There are no identified adverse impacts to the solid waste collection system due to the construction of a new arena.

Telecommunications

There are no identified adverse impacts to the existing telecommunications systems serving the site vicinity. Any additional services or facilities that are required by a new arena will be supplied by private telecommunications providers through existing or new facilities constructed to serve the development.

3.9.3.9 Secondary and Cumulative Impacts

Fire

Construction of either Alternatives 4 or 5 could cause some minor delays in fire service response to the Seattle Center area during construction. Such delays are typical for any major construction activity in and around downtown Seattle. As part of a Construction Management Plan, the project developer would work with the SFD to ensure that adequate access to the area is available during construction.

Two major long-term construction projects, the north portal of the Alaska Way Viaduct replacement and the Mercer Corridor Project, are in the vicinity of the Alternatives 4 and 5. In combination with construction of either Alternative 4 or 5 with events at nearby facilities, the viaduct replacement, and Mercer Corridor projects would modify the transportation network in and around downtown. Increased congestion may have operational effects on the provision of public services. Depending on the route used, some public service providers may experience increased traffic-related delay.

Police

All Build Alternatives

There are major long-term construction projects in the vicinity of all build alternatives. In combination with the construction or operation of any of the build alternatives with events at nearby facilities, and ongoing construction projects the transportation network in and around

downtown would be modified. Increased congestion may have operational effects on the provision of public services. Depending on the route used, some public service providers would experience increased traffic-related delay.

The need for additional police support services could be addressed by providing additional permanent or temporary law enforcement officers and / or stations.

Parks or Other Recreation

Construction of an arena in Seattle would add another venue for spectator sports, providing an additional recreational opportunity for sports fans, or concert attendees.

Utilities

The construction of a new 750,000 square foot spectator sports facility in Seattle at any of the potential locations would cumulatively add to the need for additional sources of natural gas, electricity, telecommunications, and solid waste pickup and handling. The needs for this type of facility would be similar to any large new facility and potential growth in Seattle is part of the forecasting in the load plans for each utility.

3.9.3.10 Significant Unavoidable Adverse Impacts

There are no significant unavoidable adverse impacts related to the development of a new spectator sports facility in Seattle.

3.10 Regulatory Framework

Seattle's State Environmental Policy Act (SEPA) ordinance requires an Environmental Impact Statement (EIS) to include, "when appropriate, a summary of existing plans (for example: land use and shoreline plans) and zoning regulations applicable to the proposal, and how the proposal is consistent and inconsistent with them" SMC 25.05.440, SMC 25.05.444 (discuss project's "relationship to existing land use plans..."). This section of the EIS provides that summary and consistency analysis. Unlike potential impacts to the physical environment discussed in other sections of this EIS, this section summarizes the extent to which the alternatives are consistent with zoning regulations and plans.

3.10.1 Stadium District Alternatives - Alternatives 2 and 3

3.10.1.1 Zoning

The site of the Proposed Project (Alternative 2) and Alternative 3 is located within the Stadium Transition Area Overlay zoning district, and the underlying zoning is Industrial-Commercial, 85 foot height limit (IC-85). Spectator sports facilities are permitted outright in the zone. Spectator sports facilities are not subject to the building height limit and other development standards of the underlying zone. See Figure 3.10-1 Stadium Transition Area Overlay District and Area Zoning.

The applicant has proposed to use either existing off-site parking or to build new off-site parking on the South Warehouse Site south of Holgate Street. Per SMC 23.74.008, footnote 1: "Parking required for a spectator sports facility or exhibition hall is allowed and shall be permitted to be used for general parking purposes or shared with another such facility to meet its required parking."

The Proposed Project (Alternative 2) is going through design review, and consistency with Land Use Code development standards will be reviewed as part of the review of the Master Use Permit (MUP) application.

As described above, this EIS summarizes the Project's consistency with zoning regulations, including the fact that a spectator sports facility is a land use that is permitted outright in the Stadium Transition Area Overlay District. As such, the City Council's previous planning decision to allow that use in the zone, which was made when the City Council enacted the Overlay District zone, is a fundamental land use planning decision. State law, RCW 36.70B.030, prohibits the City of Seattle (City) from re-examining that planning decision in the context of project review.

This EIS does not re-examine whether spectator sport facilities should be an allowed use in the zone.



Source: Google Earth Pro

Figure 3.10-1 Stadium Transition Overlay District and Area Zoning

3.10.1.2 City of Seattle Comprehensive Plan

The City's Comprehensive Plan provides general policy guidance in the formulation of the City's development regulations, and generally does not apply to the regulation of specific project proposals. Comprehensive Plan, p. xi. In the event of a conflict between development regulations and the Comprehensive Plan, the development regulations control. Although consistency with the Comprehensive Plan is not a zoning standard for review of a proposed spectator sports facility, one Comprehensive Plan policy, GD-P20, addresses the development of such facilities:

***GD-P20** Seek to integrate stadium and stadium-related uses into the Duwamish Manufacturing/Industrial Center by creating an overlay district limited to the area near the stadiums that discourages encroachment on nearby industrial uses, creates a pedestrian connection from the stadiums north to downtown, and creates a streetscape compatible with Pioneer Square.*

The City adopted the Stadium Transition Area Overlay zoning district to implement that policy. As its name indicates, the purpose of the zone is to accommodate spectator sports facilities within the Duwamish Manufacturing / Industrial Center. Although the Comprehensive Plan contains other policies that pertain to regulations for industrial areas generally and to activity of the Port of Seattle, those policies have no application to the Proposed Project (Alternative 2) or to Alternative 3 in light of the creation of the Stadium Transition Area Overlay zoning district which specifically allows stadiums to be located within the stadium district.

Discussion: If the City and County decide to participate in the proposed Arena project, the Memorandum of Understanding between the City of Seattle, King County and the proponent (October 8, 2013) calls for a study of land use mechanisms to maximize the economic viability of the Manufacturing / Industrial Center, and civic vitality of the Stadium Transition Area Overlay District. These efforts will be coordinated with the transportation planning efforts and investments related to the SODO Transportation Infrastructure Fund.

3.10.1.3 Street Vacation Policies

Alternatives 2 and 3 include the proposed street vacation of Occidental Avenue S. between S. Massachusetts Street and S. Holgate Street. A decision whether to vacate a city street is a legislative decision of the Seattle City Council. When deciding whether to vacate a street, the Council considers the City's Street Vacation Policies (Resolution 31142). Those policies provide three criteria for reviewing street vacation requests:

1. **Public Trust Function:** First, the City will consider the impact of the proposed vacation upon the circulation, access, utilities, light, air, open space and views provided by the right-of-way. These are defined by these policies as the public trust function of the right-of-way and are given primary importance in evaluating vacation proposals. The policies require mitigation of adverse effects upon these public trust functions. What constitutes adequate mitigation will be determined ultimately by the City Council.

2. Land Use Impacts: Secondly, the City will consider potential land use impacts of the proposed vacation. Potential development involving the vacated right-of-way is reviewed for consistency with City land use policies.
3. Public Benefits: The Council will consider the adequacy of the benefits that may result from the proposed vacation. The proposed action should provide a long-term benefit for the general public.

Discussion: Improvements for pedestrian movement are anticipated as conditions of the street vacation. The following measures would limit impacts to pedestrian movement and be consistent with the requirements of the Stadium Transition Area Overlay District intent and purpose (SMC Section 23.74):

- According to the Early Design Guidance for Seattle Arena (March 5, 2013), the Proposed Project (Alternative 2) and Alternative 3 would provide an enhanced streetscape with widened sidewalks. Public plaza and landscape / pedestrian furnishing zones of the Proposed Project (Alternative 2) and Alternative 3 would assist separating pedestrians from traffic providing for clear pedestrian areas along the industrial transition at 1st Avenue S. and S. Holgate Street.¹
- The Proposed Project (Alternative 2) and Alternative 3 would meet the development standards for principal pedestrian entrances as described in the Stadium Transition Area Overlay Zone:
 - A principal pedestrian entrance to a structure having a facade along 1st Avenue S. or Occidental Avenue S. shall be located on 1st Avenue S. or Occidental Avenue S., respectively. If the structure has facades along both 1st Avenue S. and Occidental Avenue S., a principal pedestrian entrance is required only on 1st Avenue S. (SMC Section 23.74.010.C.5).

The Proposed Project (Alternative 2) and Alternative 3 are consistent with these criteria.

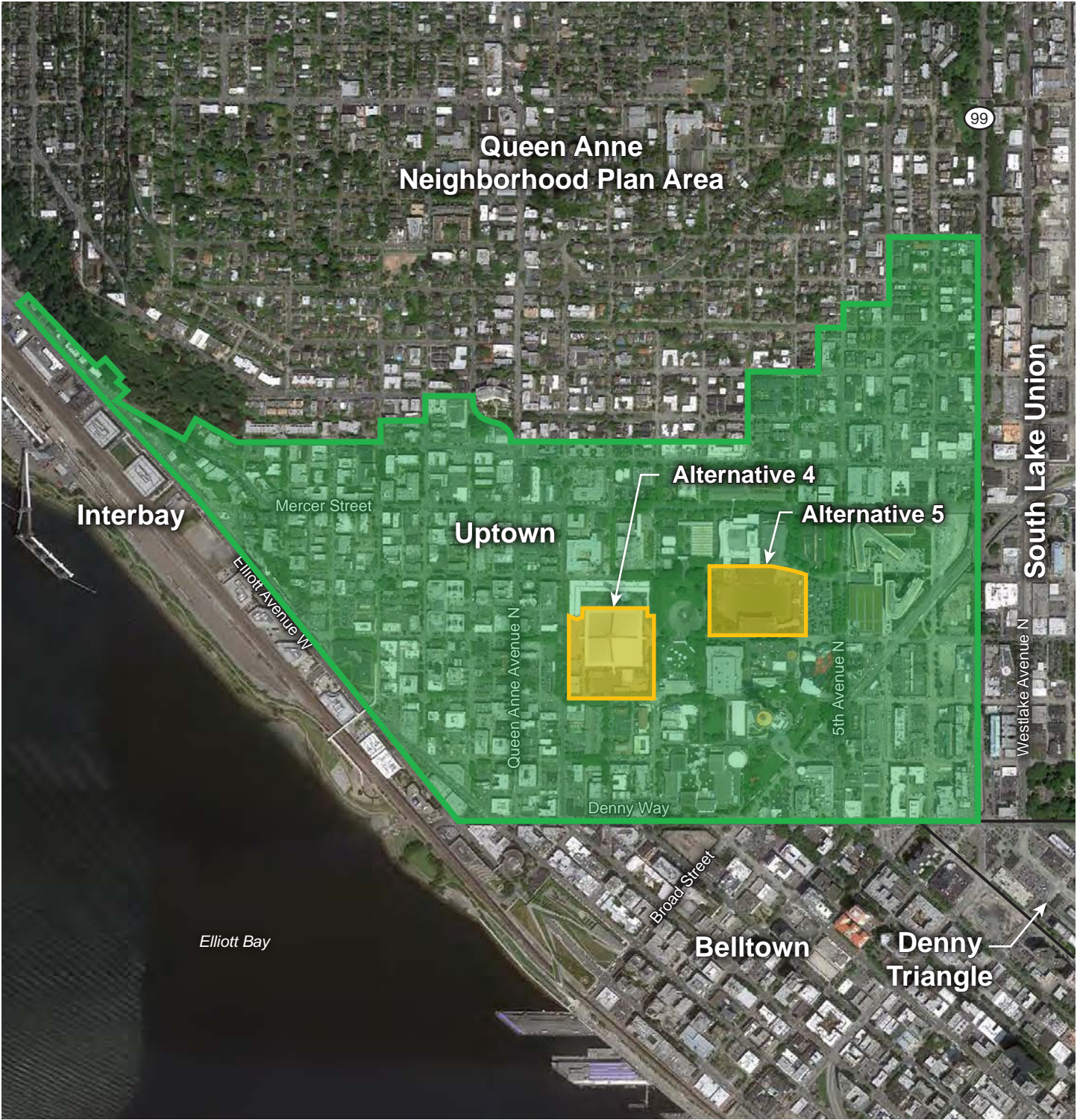
3.10.2 Alternative 4 – KeyArena 20,000-Seat Arena

The sites of Alternatives 4 and 5 are both located in the Uptown Urban Center. See Figure 3.10-2 Uptown Urban Center.

3.10.2.1 Zoning

The Seattle Center is zoned Neighborhood Commercial 3 with an 85-foot height limit (NC 3-85). Spectator sports facilities are permitted outright in NC3 (SMC 23.47A004).

¹ Downtown Design Review Board Recommendation, March 5, 2013.



Source: Google Earth Pro

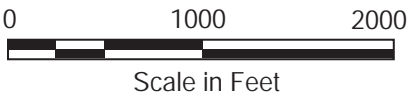


Figure 3.10-2
Uptown Urban Center
Alternative 4 and Alternative 5

According to the Early Design Guidance for Seattle Arena (March 5, 2013), the Proposed Project (Alternative 2) suggests a building “up to 125 feet in height.” If the same structure were to be placed on the site of the existing KeyArena, the height would be inconsistent with the zoning height limit.

The height of the existing KeyArena is 145 feet from the inside floor to the intersection of the roof trusses. However, its above-ground height is 70 feet because part of the building is located below grade. If a new arena were constructed at the KeyArena site, it could also comply with the height limit if part of the building is located below grade.

3.10.2.2 Comprehensive Plan

The City’s Comprehensive Plan provides general policy guidance in the formulation of the City’s development regulations, and generally does not apply to the regulation of specific project proposals (Comprehensive Plan p. xi). In the event of a conflict between development regulations and the Comprehensive Plan, the development regulations control. Because the NC-3 zoning allows spectator sports facilities, there are no Comprehensive Plan policies that directly apply to the location of such facilities within that zone.

3.10.2.3 Consistency with Seattle Center Century 21 Master Plan

The Seattle Center Century 21 Master Plan was adopted by the Seattle City Council in August 2008. The plan is intended to be used to chart the direction for Seattle Center’s growth over a 20-year period.

The Century 21 Master Plan description for the KeyArena (pages 28 and 29) includes:

- *KeyArena is a major revenue generator supporting Seattle Center’s operational expenses.*
- *While its major tenant, the Seattle Sonics, will no longer play at KeyArena, KeyArena will continue to be the premiere venue in Seattle for touring concerts and family shows. It can also be a fantastic home court for basketball teams, include the Seattle Storm and / or Seattle University.*
- *The KeyArena Subcommittee, in their 2005 report, identified a minimum level of improvements to enhance the building’s performance systems and expand its range of events. These are needed to ensure that KeyArena maintains its competitive edge among similar local venues and expands into new lines of business in the future. The KeyArena Subcommittee report outlines a redevelopment plan to meet current NBA arena standards as part of an effort to attract a new NBA franchise for the citizens of Seattle.*

Redevelopment of the KeyArena site is described in the Century 21 Master Plan to be potentially phased through public-private partnerships (page 31):

- *Like Center House and Memorial Stadium, the area encircling KeyArena is ripe for public-private partnerships. Here at the campus' perimeter, opportunities exist to provide new retail, residential, and restaurant developments that could generate ongoing revenues for Seattle Center and stimulate neighborhood business development with an emphasis on music, sports, art and culture. Redevelopment of the site will likely be complex, as there are many integrated parts and uses, and may need to be implemented over multiple phases with funds from a mix of public and private sources.*

The *Century 21 Design and Planning Principles* are integral to the Master Plan and begin on page 34 of the Century 21 Master Plan. The *Century 21 Planning and Design Principles* developed to guide the Master Planning of the Seattle Center include:

- Long-term investments should enhance the Center's ability to meet its mission, bringing people together to share communal artistic, civic and cultural expressions.
- The design of Seattle Center should foster opportunities to gather people together.
- The mix of activities and amenities should be inviting to the diversity of Seattle Center users.
- Seattle Center should strive to enliven the campus throughout the hours of the day and the days of the year, balancing out the peaks and valleys of programs and activities.
- Development should invigorate and update the campus to appeal to the next generation of users, yet changes should honor the campus' historic character.

Locating a new arena on the Seattle Center campus would be consistent with the *Design and Planning Principles* of the Seattle Center Century 21 Master Plan in the following ways:

- A new arena would represent a long-term investment that would enhance the Center's ability to meet its mission of bringing people together through a diverse set of activities and events.
- A new arena would represent a positive opportunity to embrace new professional sports teams and significant private investment.
- Bringing the Super Sonics back to Seattle and attracting an NHL Hockey franchise would add to the region's considerable sports and arts culture and could attract more visitors to the area during the winter basketball and hockey season helping to balance out the peaks and valleys of programs and activities.
- Arena operations could provide a boost in tourism during the winter sports season.
- New development on the KeyArena site would invigorate and update the campus, adding to the appeal to the next generation of users.

3.10.3 Alternative 5 – Memorial Stadium 20,000-Seat Arena

3.10.3.1 Zoning

The Memorial Stadium site is designated Neighborhood Commercial 3 with an 85-foot height limit (NC 3-85). Spectator sports facilities are permitted outright within the zone. According to the Early Design Guidance for Seattle Arena (March 5, 2013), the Proposed Project (Alternative 2) suggests a building “up to 125 feet in height.” If the same structure were to be placed on the site of the existing Memorial Stadium, a 125-foot building height would be inconsistent with the zoned height limit.

3.10.3.2 Comprehensive Plan Designation

The City’s *Future Land Use Map*, which is part of the Comprehensive Plan, designates the site of Alternative 5 as “Urban Center” and “Commercial / Mixed Use Areas.” The discussion of consistency with the Comprehensive Plan for the Memorial Stadium site is the same as described above for the KeyArena site (Alternative 4) and is in Section 3.10.2.2.

3.10.3.3 Consistency with Seattle Center Century 21 Master Plan

The Seattle Center Master Plan envisions the demolition and replacement of the existing Memorial Stadium with a new outdoor facility capable of being used for both spectator athletic events (including high school football), and as an outdoor concert venue actively contributing to the vibrancy of Seattle Center every day of the year (pages 25 – 27 of the Master Plan). The playing field would be realigned in a north-south direction and used to host football and soccer practices and games during the spring and fall with seating for 5,000 attendees. During the summer months, including Memorial Day and Labor Day weekends, Seattle Center would convert the facility into an amphitheater for outdoor concerts, festival performances and other activities. Seating would be increased to 12,000 seats. For festivals, the expanded International Fountain lawn area to the west is envisioned to be able to seat up to 20,000.

Redevelopment of the Memorial Stadium site is also envisioned in the Century 21 Master Plan as a means of expanding and enlivening the existing International Fountain lawn by almost four acres. Today the space sits empty most days. The expanded International Lawn would sit as a green lid over a new combined 1,300 space underground parking garage, loading and maintenance facility and multi-modal transportation hub – all with direct access to the center of the campus.

Alternative 5 would replace that proposed use of the site with an indoor spectator sports facility and the specific site location would be inconsistent with the Century 21 Master Plan description as it is currently adopted, however the use would be consistent with the Design Guidelines and Principles for the same reasons as stated for Alternative 4 in Section 3.10.2.3.

3.11 Economics

3.11.1 Introduction

The City of Seattle and King County retained Pro Forma Advisors to evaluate the economic impact and fiscal benefits of an 18,000-seat arena in the Stadium District area of Seattle, Washington (Scenario A). The review also included three alternative scenarios including a 20,000-seat Stadium District option (Scenario B), a new 18,000-seat arena replacing KeyArena (Scenario C) and an 18,000-seat arena at the current location of Memorial Stadium (Scenario D).

Pro Forma evaluated:

1. The arena and team operation projections that will be used to pay the City and County annual rent and additional rent, if necessary
2. Fiscal impacts, or tax benefits from construction and on-going operation of the arena, that accrue to the City of Seattle and King County. The majority of this fiscal benefit will be used to pay the public financing of the arena, but some fiscal benefits will accrue to the City and County's general funds.
3. Economic impacts generated by the proposed arena's onsite and offsite direct impacts (i.e. arena jobs, output, and earnings), which spur a series of subsequent indirect impacts (new output, earnings and employment generated because of purchases of industries that supply goods and services to the arena and arena visitors) and induced activities (new output, earnings and employment generated as a result of household purchases by employees).

In 2015, the transportation analysis in the FEIS was updated to integrate additional variables and to modify initial assumptions. The revisions included changes to transit mode split percentages, parallel route reallocations due to possible reduced capacity from forecasted increases in train activity and related street blockages, and updated parking assumptions. These modifications changed the calculated operation at intersections throughout the study area and, as a result, Pro Forma Advisors' Port transportation activity cost impacts changed. The results of the updated transportation analysis reduced the estimated annual costs resulting from port truck delays but increased the estimated annual costs associated with non-port truck delays.

The *Economic Impact Analysis* report is included as Appendix F to this DEIS. The following is a brief summary of the conclusions. Please see the complete report for details.

3.11.2 Summary of Economic Effects

The Economic Impact Analysis concludes that the proposed Seattle Arena will have a total net positive economic benefit of \$230 to \$286 million to the King County economy (inclusive of the

City of Seattle impacts) and \$188 to \$236 million to the City of Seattle economy on an annual basis.

The analysis includes an estimate of Port and industrial business impacts, and concludes that there would be a loss of \$0.21-0.23 million (\$210,000-\$230,000) per year within Seattle, and up to \$0.23 million (\$230,000) per year within King County inclusive of Seattle. This loss is included within the net positive economic benefit numbers of the previous paragraph.

3.11.2.1 Construction

Construction of an 18,000-seat arena on any of the sites would generate one-time economic and fiscal benefits to the region. The economic activity from direct spending and re-spending is estimated at \$480 million within Seattle, with an additional \$53 million in King County outside of Seattle (total of \$533 million within King County including Seattle). Arena construction would support approximately 3,200 jobs and \$266 million in earnings within Seattle, with an additional 370 jobs and \$23 million in King County outside of Seattle (total of 3,570 jobs and \$289 million in King County including Seattle).

3.11.2.2 Operation

The gross regional economic activity associated with operating an 18,000-seat arena in the Stadium District area of Seattle would annually generate approximately \$260 million in economic activity in Seattle with an additional \$53 million in King County outside of Seattle (\$313 million total in King County including Seattle). The total regional annual economic impact generated would be approximately 2,045 jobs and \$103 million in earnings in Seattle. The totals for King County including Seattle would be 2,473 jobs and \$130 million in earnings.

The fiscal benefits from taxes generated from the operations of the arena are projected at \$7.9 million annually to the City of Seattle with an additional \$0.6 million to King County. The majority of the fiscal benefit would be available to service any public financing debt for the arena. Additional monies necessary to cover related debt service will come from arena rent payments and, as necessary, income generated from operating the arena.

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Section 5 - Glossary

Air emissions. Gas emitted into the air from industrial and chemical processes, such as ozone, carbon monoxide, nitrogen oxide, nitrogen dioxide, sulfur dioxide and others.

Air pollutant. Any substance in air that could, in high enough concentration, harm humans, other animals, vegetation or material. Pollutants may include almost any natural or artificial composition of airborne matter capable of being airborne. They may be in the form of solid particles, liquid droplets, gases or a combination thereof. Generally, they fall into two main groups: 1) those emitted directly from identifiable sources; and 2) those produced in the air by interaction between two or more primary pollutants, or by reaction with normal atmospheric constituents, with or without photoactivation. Exclusive of pollen, fog and dust, which are of natural origin, about 100 contaminants have been identified and fall into the following categories: solids, sulfur compounds, volatile organic chemicals, nitrogen compounds, oxygen compounds, halogen compounds, radioactive compounds, and odors.

Air quality standards. The level of pollutants prescribed by regulations that may not be exceeded during a given time in a defined area.

A-weight. A standard frequency weighting to stimulate the response of the human ear.

Congestion. A condition characterized by unstable traffic flows that prohibit movement on a transportation facility at optimal legal speeds. Recurring congestion is caused by constant excess volume compared with capacity. Nonrecurring congestion is caused by unusual or unpredictable events such as traffic accidents.

Cumulative effect. The effects on the environment that result from the incremental consequences of an action when added to other past, present and reasonably foreseeable future actions.

Emission. Pollution discharged into the atmosphere from smokestacks, other vents and surface areas of commercial or industrial facilities, and from residential and mobile sources.

Environmental impact statement (EIS). A document that identifies and analyzes, in detail, environmental impacts of a proposed action. As a tool for decision-making, the EIS describes positive and negative effects, and lists alternatives for an undertaking.

Grade. The natural surface contour of a lot. Grade can be modified by minor adjustments to the surface of the lot in preparation for construction.

Greenhouse gases. Greenhouse gases (GHGs) are the gases present in the earth's atmosphere which warm near-surface global temperatures through the greenhouse effect. The principal greenhouse gases are carbon dioxide, NO_x, methane, and three groups of high-warming potential gases—hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Height. Measurement from grade.

Impervious surface. Surface through which water cannot percolate.

Leq. Equivalent sound level. The level of a constant sound which, in a given time period, has the same energy as does in a time-varying sound.

Level of service (LOS). A gauge for evaluating system performance for roadways, non-motorized and other transportation modes. For example, roadway measures of level of service often assign criteria based on volume-to-capacity ratios.

Mitigation measures. Actions taken to reduce adverse effects on the environment, usually implemented under the State Environmental Policy Act.

MUP. Master Use Permit. The document issued to a project applicant, recording all land use decisions made by the DPD on a master use application. The term excludes construction permits and land use approvals granted by the City Council, by citizen boards or by the state.

National Ambient Air Quality Standards (NAAQS). Standards established by the US Environmental Protection Agency that apply to outside air quality throughout the country.

Nitrogen oxide. A gas formed by combustion under high temperature and high pressure in an internal combustion engine. Changes in nitrogen dioxide in the ambient air contributes to photochemical smog.

Non-attainment area. Area that does not meet one or more of the National Ambient Air Quality Standards for the criteria pollutants designated in the Clean Air Act.

State Environmental Policy Act (SEPA). State legislation passed in 1974, which establishes an environmental review process for all development projects and major planning studies prior to taking any action on these projects. SEPA permits early coordination to identify and mitigate any significant issues or impacts that may result from a project or study.

SOV. Single Occupant Vehicle means a motor vehicle occupied by one (1) person, excluding motorcycles.

Transportation Management Program (TMP). A required set of measures to reduce a project building's demand on transportation infrastructure. These measures typically seek to discourage commuting via single-occupant vehicle and encourage alternative commute modes. TMPs must be approved by DPD, SDOT, and the owner of the project building as a condition of the project building's Master Use Permit.

Section 6 - Final EIS Distribution List

6.1 State Agencies

Department of Community Development Historic Preservation Office
Department of Ecology, Environmental Review Section
Department of Transportation (WSDOT)

6.2 Regional Agencies

Port of Seattle
Puget Sound Clean Air Agency
Puget Sound Regional Council
Sound Transit

6.3 Local Agencies

King County Attorney
King County Department of Transportation/Metro Transit

City of Seattle

City Attorney, Attn: Mr. Robert Tobin
Department of Planning and Development, Attn: Mr. John Shaw
Department of Neighborhoods, Landmarks Preservation Board, Attn: Ms. Karen Gordon,
Seattle Historic Preservation Officer
Fire Department
Parks Department
Police Department
Seattle Center, Attn: Ms. Jill Crary
Seattle Public Utilities, Environmental Review Section
Seattle Department of Transportation

6.4 Libraries

Seattle Public Library – Central Library
Seattle Public Library – Douglass Truth Branch
Seattle Public Library – International District/Chinatown Branch

6.5 Newspapers

Seattle Daily Journal of Commerce
Seattle Times

Appendix A

**Process for Identifying and Screening
Locations for Comparative Environmental
Analysis**

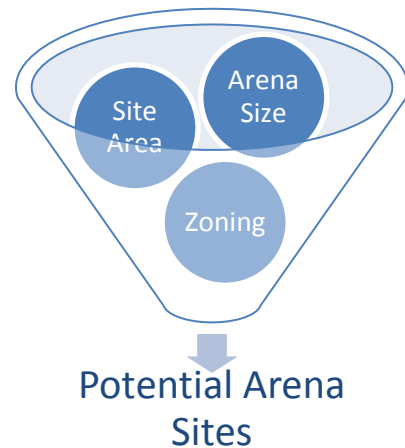
Process for Identifying and Screening Locations for Comparative Environmental Analysis

The following criteria were used to identify potential sites within the City of Seattle where spectator sports arenas might be located, to enable a comparison of potential adverse impacts from those locations with the potential impacts of the proposed ArenaCo facility in the Stadium District south of downtown Seattle (SoDo). No proposal to build an arena exists other than ArenaCo’s proposal to build the facility in SoDo.

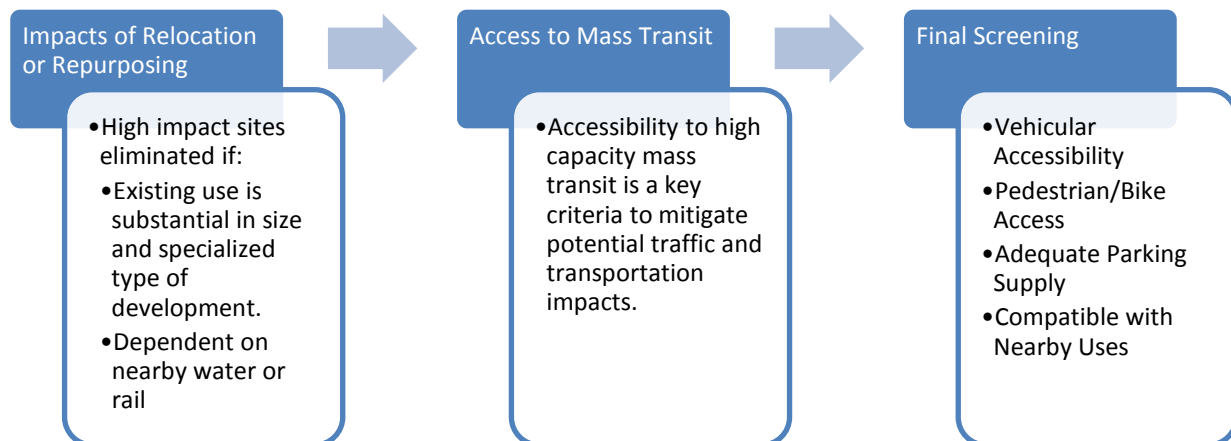
Initial Identification and Screening of Sites

Using the criteria for parcel size, property configuration and zoning, potential sites were identified through a GIS search.

- **Site Area:** minimum of 6 acres on a generally rectangular site, with no dimension less than 400’.
- **Adequate Facility Size:** Site must accommodate a joint NBA / NHL facility: approximately 750,000 SF, 18,000 to 20,000-seat state-of-the art spectator sports arena; a minimum floor plate of 200’ by 85’ to allow for NHL regulation-sized ice surface with spectator stands.
- **Zoning:** Existing zoning at the site must allow a spectator sports facility. Existing zoning development standards for the site, such as height limits must accommodate the facility.



Next steps Potential sites were then screened for suitability as an arena location through a three-stage process:



The Final Screening revealed the *four alternatives* considered in the DEIS. The results of the screening process are discussed below.

A. IDENTIFICATION OF POTENTIAL SITES

Using the initial identification criteria (site area, adequate facility size, and appropriate zoning), 21 sites were identified through a GIS search for parcel size, property configuration and zoning. The 21 sites are shown on Figure 1 on the following page and are listed on Table 1 from north to south.


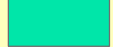
**Table 1
Initial Site Identification**

Site	Acreage	Current Use
Northgate Shopping Center	38 acres	Retail Shopping Center
Northwest Hospital	11 acres	Medical Clinic
King County Transit (Northgate)	8 acres	Transit Center and Parking
Gateway Muirland	7 acres	Office
Fred Meyer Stores	13 acres	Retail
Port of Seattle Salmon Bay	27 acres	Marina, Office and Retail
BNSF (north of Dravus Street)	71 acres	Railway and Rail Yard
Port of Seattle Interbay	31 acres	Port use
BNSF Interbay	20 acres	Railway and Rail Yard
State of Washington	21 acres	Washington National Guard Facility
Port of Seattle South Interbay	7 acres	Port use
Immunex Corporation	39 acres	Office
Port of Seattle	24 acres	Port use – grain terminal
Seattle Public Schools	9 acres	Memorial Stadium
Iris Holdings LLC	10 acres	Bill & Melinda Gates Foundation
City of Seattle/Seattle Center	47 acres	Seattle Center, including KeyArena
Pacific Science Center	7 acres	Pacific Science Center
First & Goal Inc	28 acres	Century Link Field
Washington St Major League	13 acres	Safeco Field
Stadium District 1700 – 1st Avenue South	7 acres	Warehouse
Rainier Electronics LLC	13 acres	Lowe’s Home Improvement Store

Seattle Arena Site Parcel Query

Individual parcels or contiguous parcels in common ownership in City of Seattle with following parameters:

- Minimum 6 acres in size
 - Able to accommodate 400' x 600' rectangle
 - With at least 125' height limit
 - In one or more of following zones: NC3, C1, C2, SM, DOC1, DOC2, DMC, DRC, DMR, PSM, IDM, DH1, DH2, PMM, IB, IC, IG1 (excluding the Duwamish M/I Center), IG2 (excluding the Duwamish M/I Center).
 - All parcels located in the Stadium Transition Overlay District
- * this site for an arena would be contingent on a potential rezone to increase the height

-  Stadium Transition Overlay District
-  Sites meeting specified criteria

0 0.175 0.35 0.7 Miles



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B. INITIAL SCREENING OF IDENTIFIED SITES FOR RELOCATION OR REPURPOSING IMPACTS

The 21 sites were then screened using the following criteria:

- **Minimal Relocation or Repurposing Impacts:** The site should be available for acquisition and establishing the spectator sports facility without the need for substantial, permanent relocation of existing business or residents, and without the need to find replacement sites to fulfill the otherwise intended purpose of the property.

Table 2
Potential Relocation or Repurposing Impacts

Site	Current Use	Relocation or Repurposing Impacts of Conversion to Arena
Northgate Shopping Center	Retail Shopping Center	High Impact
Northwest Hospital	Medical Clinic	Low to Moderate Impact
King County Transit (Northgate)	Transit Center and Parking	High Impact
Gateway Muirland	Office	Low to Moderate Impact
Fred Meyer Stores	Retail	Low to Moderate Impact
Port of Seattle Salmon Bay	Marina, Office and Retail	High Impact
BNSF (north of Dravus Street)	Railway and Rail Yard	High Impact
Port of Seattle Interbay	Port use	High Impact
BNSF Interbay	Railway and Rail Yard	High Impact
State of Washington	Washington National Guard Facility	Low to Moderate Impact
Port of Seattle South Interbay	Port use	High Impact
Immunex Corporation	Office	High Impact
Port of Seattle	Port use – grain terminal	High Impact
Seattle Public Schools	Memorial Stadium	Low to Moderate Impact
Iris Holdings LLC	Bill & Melinda Gates Foundation	High Impact
City of Seattle/Seattle Center	Seattle Center, including KeyArena	Low to Moderate Impact
Pacific Science Center	Pacific Science Center	High Impact
First & Goal Inc	Century Link Field	High Impact
Washington St Major League	Safeco Field	High Impact
Stadium District 1700 – 1 st Avenue South	Warehouse	Low Impact
Rainier Electronics LLC	Lowe’s Home Improvement Store	Low to Moderate Impact

The impact of relocation or repurposing of a site to construct a Spectator Sports Arena was considered “high” if the existing development was substantial in size and specialized type of development (Northgate Shopping Center, King County Northgate Transit Center, the Bill & Melinda Gates Foundation, Immunex, Pacific Science Center, Century Link Field and Safeco Field), a water-dependent or water-related use that needs the attributes of its existing waterfront property (Port of Seattle properties), properties that are related to the existing railroad line location (BNSF properties). Thirteen of the sites were found to have a “high” impact from relocation or repurposing and were eliminated from further consideration as an alternative site.

C. SECOND SCREENING OF IDENTIFIED SITES FOR ACCESS TO MASS TRANSIT

Accessibility to high capacity mass transit is a key criteria to mitigate potential traffic and transportation impacts. The eight sites remaining from the initial screening were then screened using the following criteria:

- **Access to Mass Transit:** The site should be within 15-minute walking distance of high capacity transit.

**Table 3
Third Screening of Remaining Six Alternative Sites for Access to Mass Transit**

Site	Is Site Location Within 15 Minutes Walking Distance of High Capacity Transit?
Northwest Hospital	No; There is transit access to the King County Northgate Transit Center, however access is dependent upon SDOT proceeding with plan to construct pedestrian bridge across freeway to connect to Transit Center
Gateway Muirland Inc	Yes; There is transit access to the King County Northgate Transit Center, however bus transit access is limited in capacity and hours of service and may not be able to serve the expected transit ridership of the Arena. Access to high capacity transit would not be available until light rail extension is built to Northgate (service to begin in 2021)
Fred Meyer Stores	No
State of Washington	No
Seattle Public Schools Memorial Stadium	Yes, transit, Monorail and Street Car
City of Seattle/Seattle Center KeyArena	Yes, transit, Monorail and Street Car
Stadium District 1700 – 1st Avenue South	Yes, transit, Link light rail and Sounder commuter rail
Rainier Electronics LLC	Yes, approximately ¼ mile from the Sound Transit Mt. Baker Station

Two sites (Fred Meyer Stores and State of Washington) were eliminated because neither site is served, or planned to be served, by high capacity mass transit.

The Arena year of opening is planned for 2016. The two sites near Northgate (Northwest Hospital clinic site on the west side of I-5, and Gateway Muirland office complex south of the King County Transit Center) are currently served by bus transit to the King County Northwest Transit Center. Bus transit access is limited in capacity and hours of service and may not be able to serve the expected transit ridership of the Arena.

The two Northgate-area sites (Northwest Hospital and Gateway Muirland Inc.) would not be served by high capacity mass transit until Sound Transit completes the Northgate Link Extension. Sound Transit updated its schedule in January 2013 and anticipates 2021 as the year of opening for the Northgate Link. The Northgate Link Extension would stop at the Northgate Transit Center on the east side of I-5. Access to the Northwest Hospital site on the west side of I-5 would be dependent upon SDOT proceeding with a plan to construct a pedestrian bridge across I-5 to connect to the Transit Center. Due to the potential lack of direct connection to the Transit Center, the Northwest Hospital site was removed from consideration.

D. SCREENING OF REMAINING SITES FOR ACCESS, PARKING SUPPLY, AND LAND USE COMPATIBILITY

The five sites remaining after the prior screening were the Gateway Muirland site south of the Northgate Transit Center, Seattle Public Schools Memorial Stadium, the Seattle Center KeyArena, the applicant’s Stadium District Site at 1700 – 1st Avenue S., and the Rainier Electronics LLC site at 2700 Rainier Avenue South which is currently occupied by a Lowe’s Home Improvement store. These five sites were then evaluated against the following four criteria:

- **Vehicular Accessibility:** The site should be served by major arterials connecting directly to the highway and interstate system.
- **Pedestrian and Bicycle Access:** The site should be located in an area that can accommodate large volumes of pedestrians and non-motorized access.
- **Adequate Parking Supply:** The site should be within 15 minute walking distance of a substantial reservoir of parking opportunities.
- **Compatibility with Nearby Uses:** The site should be located in an area where a spectator sports facility would be compatible both in use and in height/bulk/scale with neighboring uses.

**Table 4
Final Screening of Remaining Four Sites**

Site	Vehicle Accessibility?	Pedestrian and Bicycle Accessibility?	Adequate Parking Supply?	Land Use Compatibility?
Gateway Muirland Inc	Yes	Yes	No	No
Seattle Public Schools Memorial Stadium Site	Yes	Yes	Yes	Yes
City of Seattle/Seattle Center KeyArena Site	Yes	Yes	Yes	Yes
Stadium District Site	Yes	Yes	Yes	Yes
Rainier Electronics LLC	Yes	Marginal	No	No

Three of the sites (Seattle Public Schools Memorial Stadium site, Seattle Center KeyArena Site, and the Stadium District site in SoDo) have been found to meet the final four screening criteria. The Gateway Muirland site south of the Northgate Transit Center and the Rainier Electronics Site (Lowe’s) were found to not meet all four criteria as described below.

The Gateway Muirland site contains 7 acres. Development of the site for an arena would consume most of the property and would eliminate the parking that exists at the site. There is no available parking supply in the nearby (walkable) vicinity or land on which parking could be established without displacing other land uses. The northern boundary of the site is NE 100th Street; 3rd Avenue NE abuts the site on the east. The site is zoned NC3-85 and currently occupied by an approximately four-story office building over one level of parking garage. Property immediately abutting the site to the south is zoned NC3-65, and the property across 3rd Avenue NE to the east is zoned NC3-85. Properties to the south and east are zoned LR3, SF 7200 and SF 5000, and the arena use was viewed as incompatible with the residential uses to the south and east. The lack of available land on site for parking, coupled with the close proximity of residentially-zoned properties, were reasons for eliminating this site.

The Rainer Electronics site, currently occupied by Lowe's, is located between Rainer Avenue South and Martin Luther King Jr. Way South. The northern boundary is South Bayview Street and the southern boundary is South McClellan Street. The southern portion of the site is zoned C2-65 (SS-MC) and the northern portion is zoned NC3-65 (SS-MC). Properties to the east across Martin Luther King Jr. Way South are zoned LR3 and SF 5000. Properties to the north, south, and west are zoned for 65 foot height limits (C2-65 to the north, NC3P-65 to the south, and NC3P-65 and NC3-65 to the west on the other side of Rainier Avenue South).

The site is served by light rail, with the Mt. Baker station located approximately ¼- mile to the south. The site has access to I-90 via Rainier Avenue South and access to I-5 via the South Columbian Way exit, leading to South Alaska Street, and then to Martin Luther King Jr. Way South.

The site was deemed "marginal" against the criteria for pedestrian and bicycle access. That criteria is that the site should be located in an area that can accommodate large volumes of pedestrians and non-motorized access. The sidewalks leading to the Mt. Baker Light Rail Station and bicycle access would require improvements to adequately serve large volumes.

The third criteria is whether the site is within 15-minute walking distance of a substantial reservoir of parking opportunities. The site is not located in an area with substantial reservoirs of parking, and surface parking is prohibited adjacent to principal pedestrian streets in pedestrian-designated zones. The only parking areas are those belonging to and used by the commercial businesses along Rainier Avenue South.

The fourth criteria is to be located in an area where a spectator sports facility would be compatible both in use and in height/bulk/scale with neighboring uses. Indoor sports and recreation facilities are permitted in both the NC-3 and C2 zones, however the heights are limited to 65 feet. The Seattle Arena is proposed to be approximately 120 feet tall, a height that would be approximately twice the heights allowed in the immediately surrounding NC3 and C2 zoning, and approximately four times the heights allowed in the SF5000 and LR3 zones. The City Council is currently considering a proposal to increase the height limit on the Lowe's site and adjacent some properties along Martin Luther King Jr. Way South to 120 feet. If that were to occur the proposed height of the arena would be compatible.

The height/bulk/scale of the Arena was deemed incompatible with existing zoning heights and proximity to nearby residential uses.

E. ALTERNATIVES TO BE EVALUATED IN THE ENVIRONMENTAL IMPACT STATEMENT

The EIS will include an evaluation of the following alternatives:

- **Alternative 1 – No Action Alternative**
- **Alternative 2 – Proposed Action – Stadium District 20,000-Seat Arena:** state-of-the-art 20,000-seat spectator sports arena to be located at 1700 – 1st Avenue S.
- **Alternative 3 – Stadium District 18,000-Seat Arena:** state-of-the-art 18,000-seat spectator sports arena to be located at 1700 – 1st Avenue S.

- **Alternative 4 – KeyArena 20,000-Seat Arena:** demolish the KeyArena at Seattle Center and replace it with a state-of-the-art 20,000-seat spectator sports arena
- **Alternative 5 – Memorial Stadium 20,000-Seat Arena:** demolish the Seattle School District’s Memorial Stadium and replace it with a state-of-the-art 20,000-seat spectator sports arena

Appendix B

Geotechnical Report

Geotechnical Subsurface Conditions

In 2013, Hart Crowser collected geotechnical information for the site as part of site design work. The following is a summary of their findings and interpretation of the subsurface conditions for the proposed Stadium District site.

Interpretation of Subsurface Conditions

Hart Crowser's interpretation of the subsurface conditions is based on materials encountered in their explorations, laboratory testing of soil samples, and field observations. Hart Crowser advanced borings HC-1 and HC-2 to depths of 156.5 and 155.0 feet, respectively. They installed VWPs at depths of 20 and 70 feet in HC-1 and a depth of 20 feet in HC-2. They also advanced two CPTs; HCPT-1 and HCPT-2, to depths of 117.13 and 135.01 feet, respectively.

Hart Crowser also collected and reviewed historical borings in the vicinity of the project from the Washington Department of Natural Resources Subsurface Geology Information System (WADNR 2013). The locations of the explorations are provided on "Site and Exploration Figure 2". Details of the conditions observed at the exploration locations are shown on the boring logs included as Figure A-2, pages 1-4 and should be referred to for specific information. Results of the laboratory tests for this study are presented following the boring logs.

Regional Subsurface Conditions

The Seattle Arena site is located on the filled-in tidelands of Elliot Bay (Figure 1). The fill includes soil from the Seattle regrade projects and may include wood and sawdust debris from the numerous timber and sawing operations that occupied the former tidelands. The tideland soils include interbedded layers of coarse-grained alluvial and fine-grained estuarine deposits. The tideland deposits are typically underlain by beach and/or glacial outwash and glacial till deposits. Locally, the coarse-grained glacial deposits are underlain by fine-grain grain glacio-marine or glacio-lacustrine deposits.

Figure 2 is a view from the tideflats toward Beacon Hill and First Hill circa 1904.

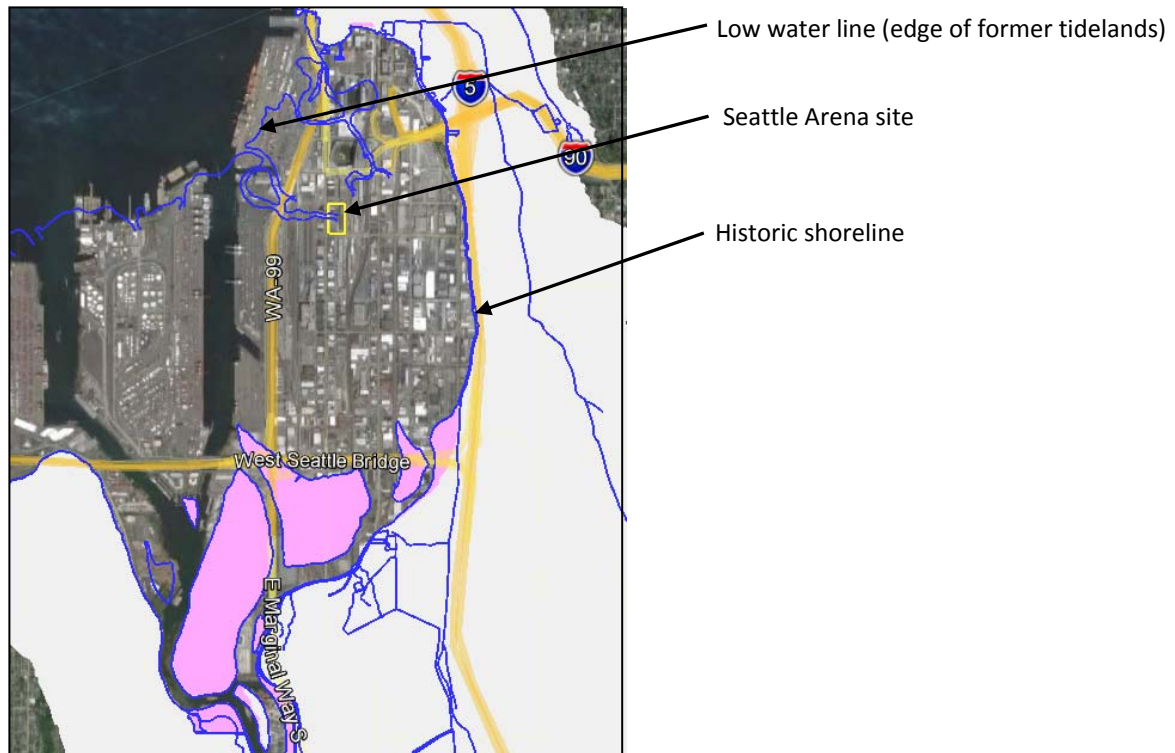


Figure 1. Historic shoreline of Elliot Bay and Seattle Arena Site.



Figure 2. Beacon Hill and First Hill from tideflats, Seattle, Ca. 1904 (exact location unknown)

Local Soil Conditions

Explorations encountered four general soil units presented starting at the ground surface:

Unit 1. Soil Unit 1 is Fill and typically consists of very loose to medium dense, sand, silt and gravel. Wood debris and abandoned timber piles are common in this unit.

Unit 2. Soil Unit 2 is generally characterized as interbedded alluvial and estuarine deposits. Alluvial deposits typically consist of very loose to medium dense sand to silty sand. Estuarine deposits typically consist of very soft to stiff silt to very sandy silt but may locally include lean to fat clay.

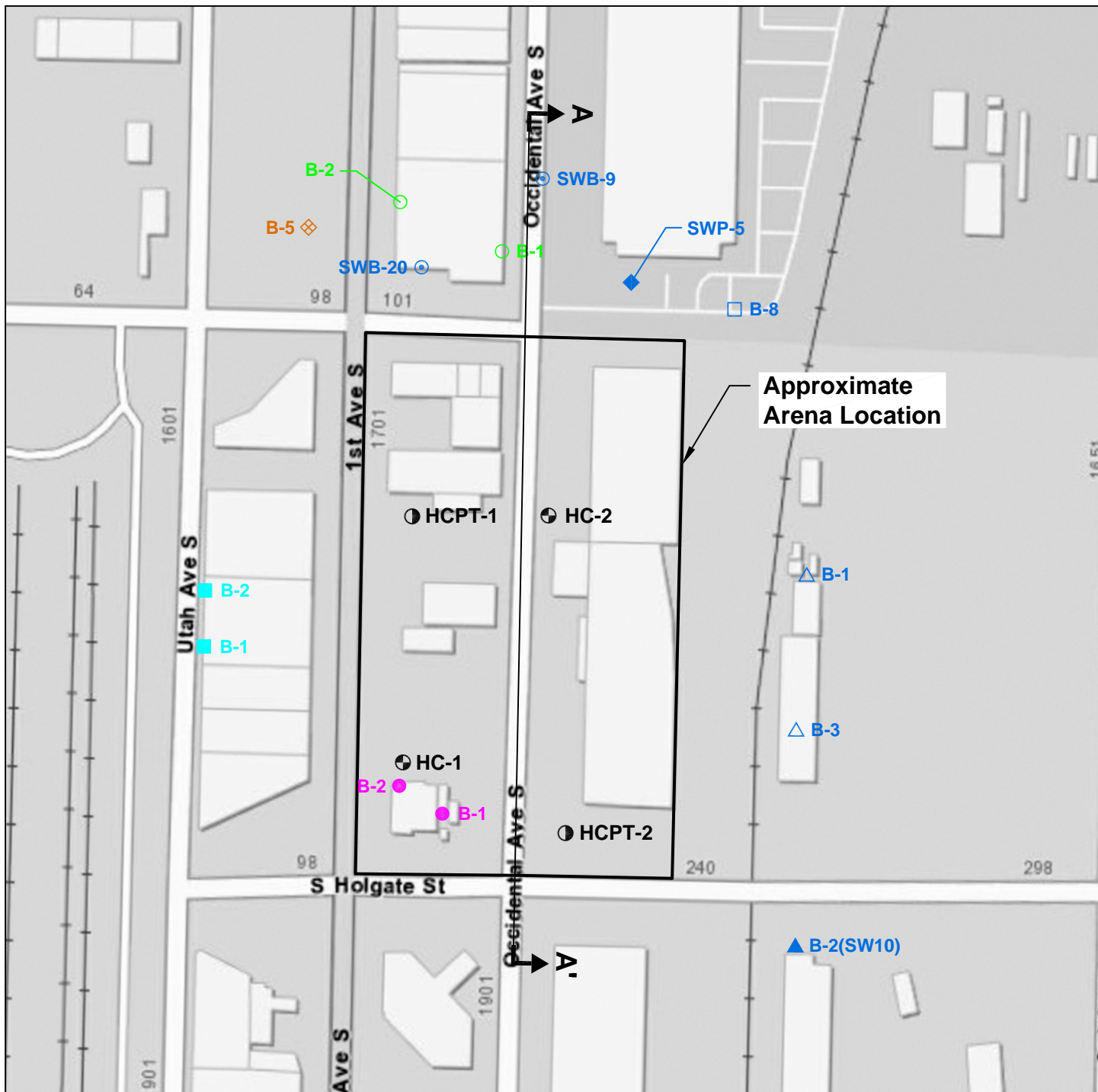
Unit 3. Soil unit 3 typically consists of dense to very dense sand and gravel and may include cobbles and boulders. The expected depth to this unit is about 100 to 140 feet below existing ground surface based on the available information.

Unit 4. Soil unit 4 typically consists of glacially overconsolidated, hard clay and silt. This unit has a much lower permeability than the overlying granular soils. This unit was encountered in borings HC-1, HC-2, and SWB-9; it is not certain that this unit is continuous across the Arena site or how much the depth to this unit varies across the site.

Local Groundwater Conditions

Hart Crowser installed VWPs in HC-1 and HC-2 and measured the groundwater levels on January 17 and 22, 2013 at about 5 to 8 feet below current ground surface.

For design, Hart Crowser recommends using a groundwater table of elevation -15 feet, or 5 feet below the current ground surface.



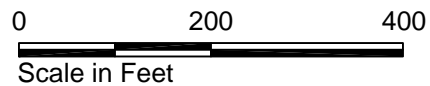
Exploration Location and Number

Exploration by Hart Crowser

- HC-1 ● Boring
- HCPT-1 ● Cone Penetrometer Test

Previous Exploration by Others

- B-2 ▲ Boring (SW, 2010)
- B-5 ◆ Boring (AESI, 2009)
- B-1 ■ Boring (GC, 1999)
- B-1 △ Boring (SW, 1997)
- SWB-9 ⊙ Boring (SW, 1996)
- B-1 ○ Boring (EC, 1995)
- B-8 □ Boring (SW, 1990)
- B-1 ● Boring (RL, 1980)
- SWP-5 ◆ Cone Penetrometer Test (SW, 1996)



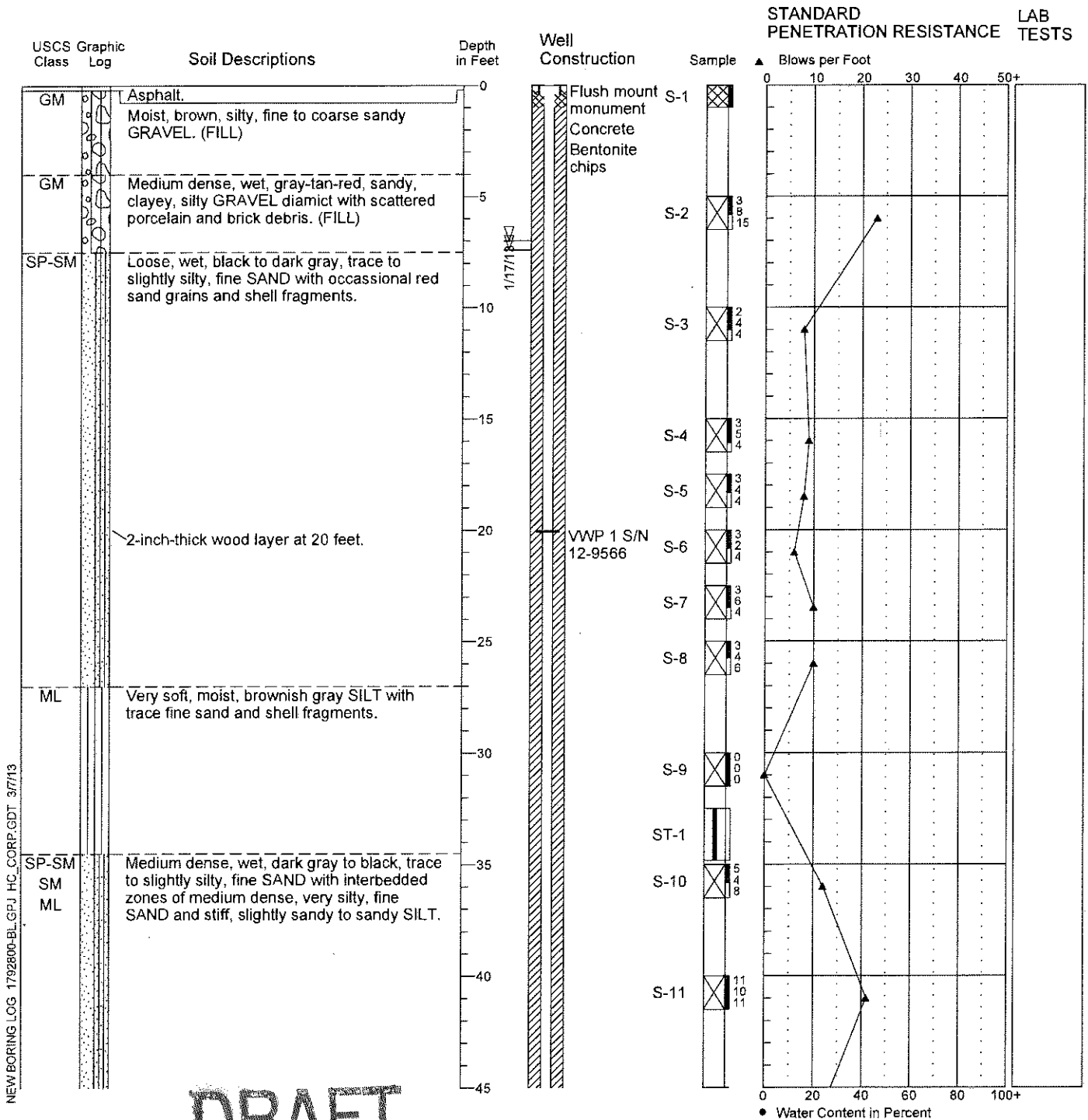
Source: Base map prepared from ArcGIS Online, 2013.

Seattle Arena Seattle, Washington	
Site and Exploration Plan	
17928-00	2/13
	Figure 2

Piezometer/Exploration HC-1

Location: 47.586591, -122.333893
 Approximate Ground Surface Elevation: 20 Feet
 Horizontal Datum: WGS 84
 Vertical Datum: NAVD 88

Drill Equipment: Mud Rotary
 Hammer Type: SPT w/140 lb. Autohammer
 Hole Diameter: 5 inches
 Logged By: W. McDonald Reviewed By: B. Cook



DRAFT

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. USCS designations are based on visual manual classification (ASTM D 2488) unless otherwise supported by laboratory testing (ASTM D 2487).
4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.



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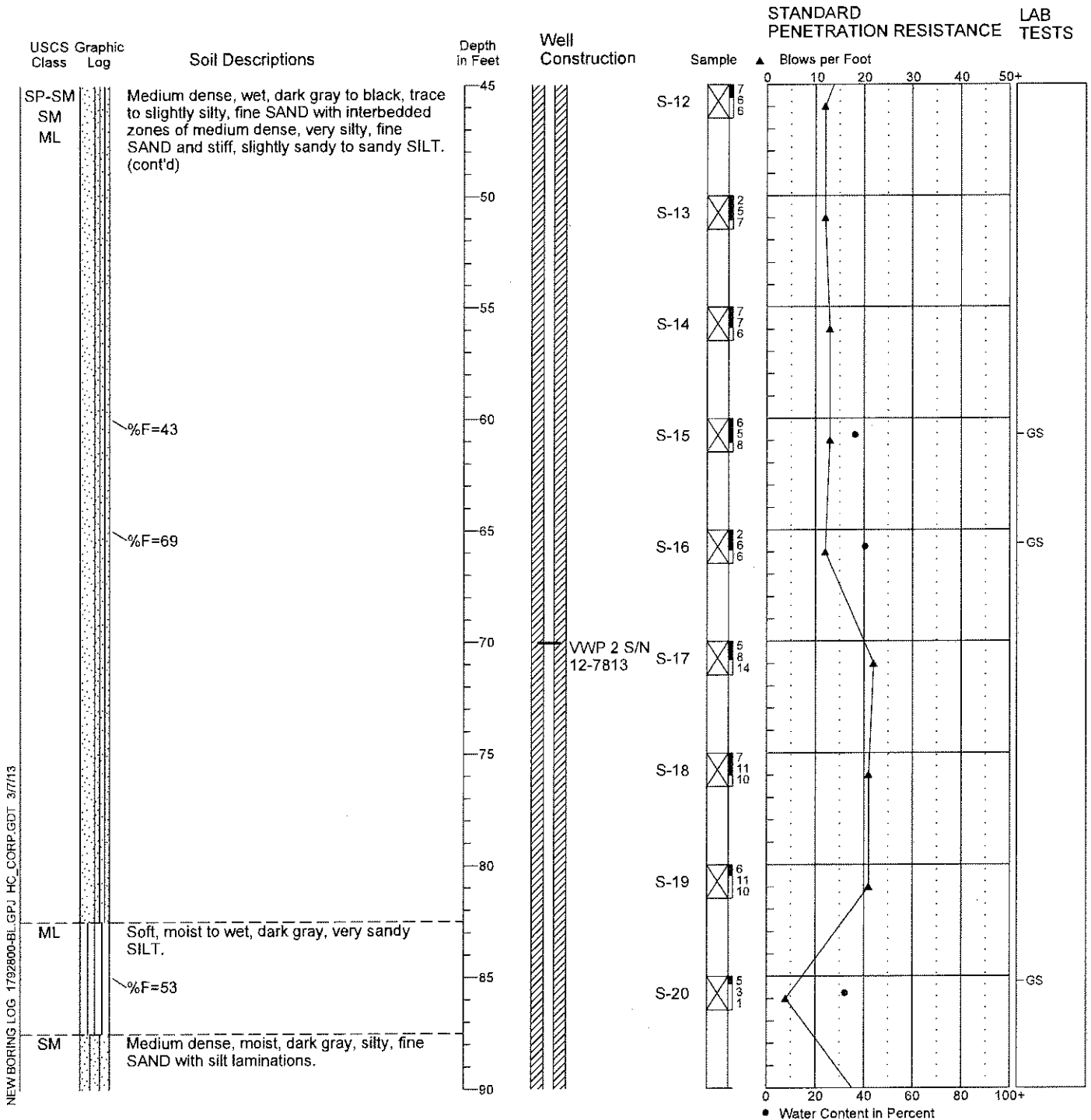
Figure A-2

1/4

Piezometer/Exploration HC-1

Location: 47.586591, -122.333893
 Approximate Ground Surface Elevation: 20 Feet
 Horizontal Datum: WGS 84
 Vertical Datum: NAVD 88

Drill Equipment: Mud Rotary
 Hammer Type: SPT w/140 lb. Autohammer
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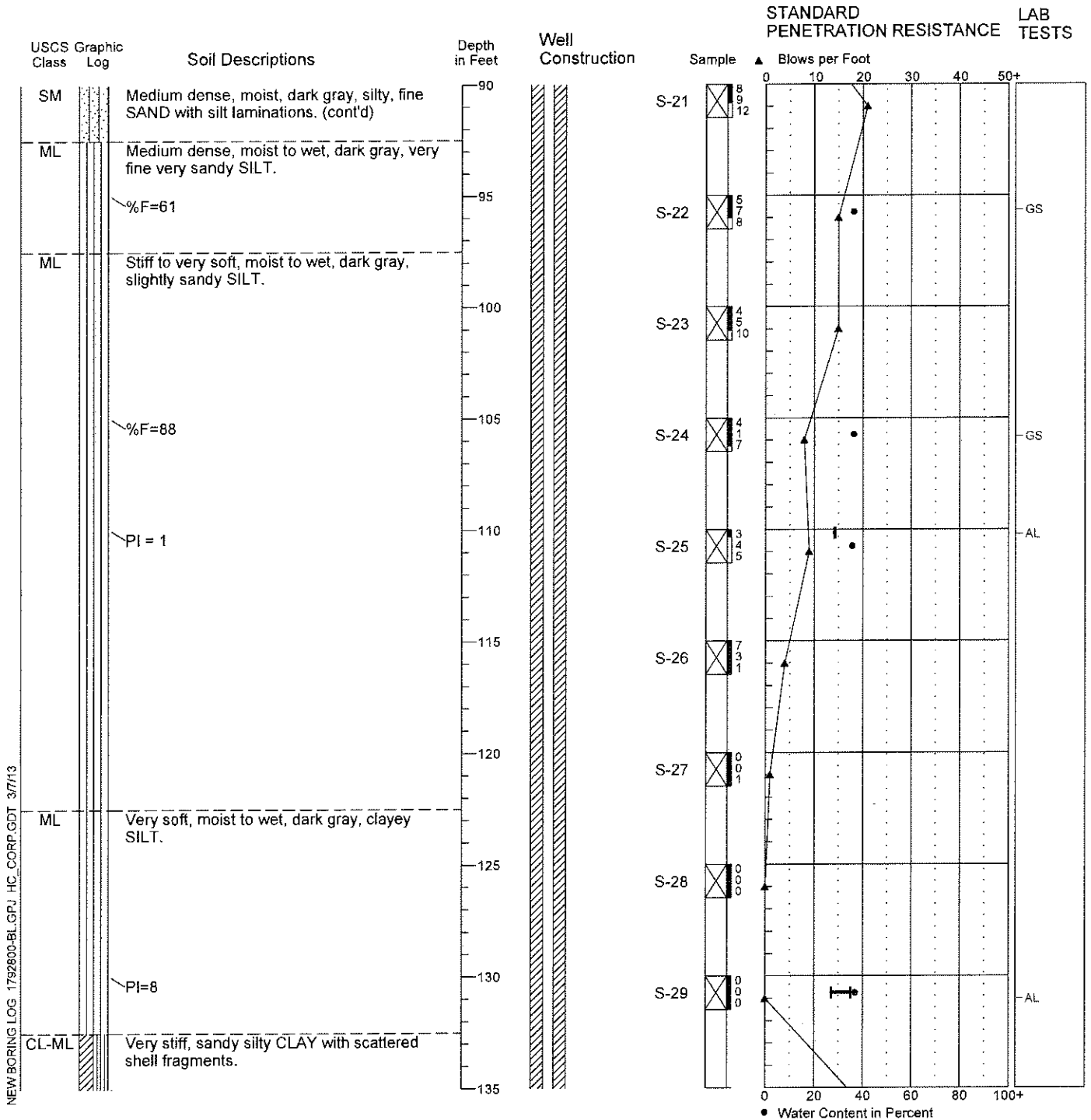


17928-00 1/13
 Figure A-2 2/4

Piezometer/Exploration HC-1

Location: 47.586591, -122.333893
 Approximate Ground Surface Elevation: 20 Feet
 Horizontal Datum: WGS 84
 Vertical Datum: NAVD 88

Drill Equipment: Mud Rotary
 Hammer Type: SPT w/140 lb. Autohammer
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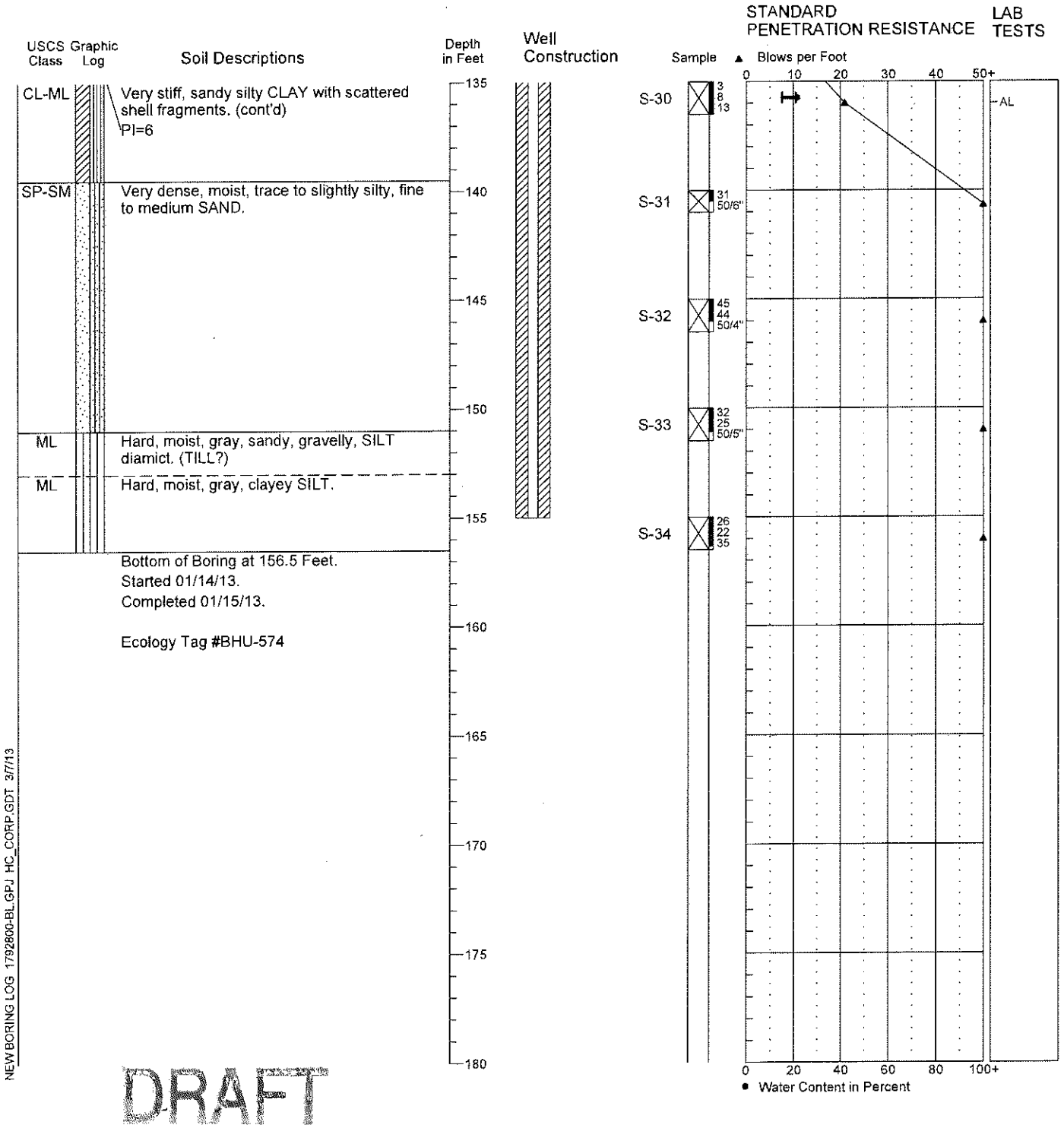


17928-00 1/13
 Figure A-2 3/4

Piezometer/Exploration HC-1

Location: 47.586591, -122.333893
 Approximate Ground Surface Elevation: 20 Feet
 Horizontal Datum: WGS 84
 Vertical Datum: NAVD 88

Drill Equipment: Mud Rotary
 Hammer Type: SPT w/140 lb. Autohammer
 Hole Diameter: 5 inches
 Logged By: W. McDonald Reviewed By: B. Cook



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17928-00

Figure A-2

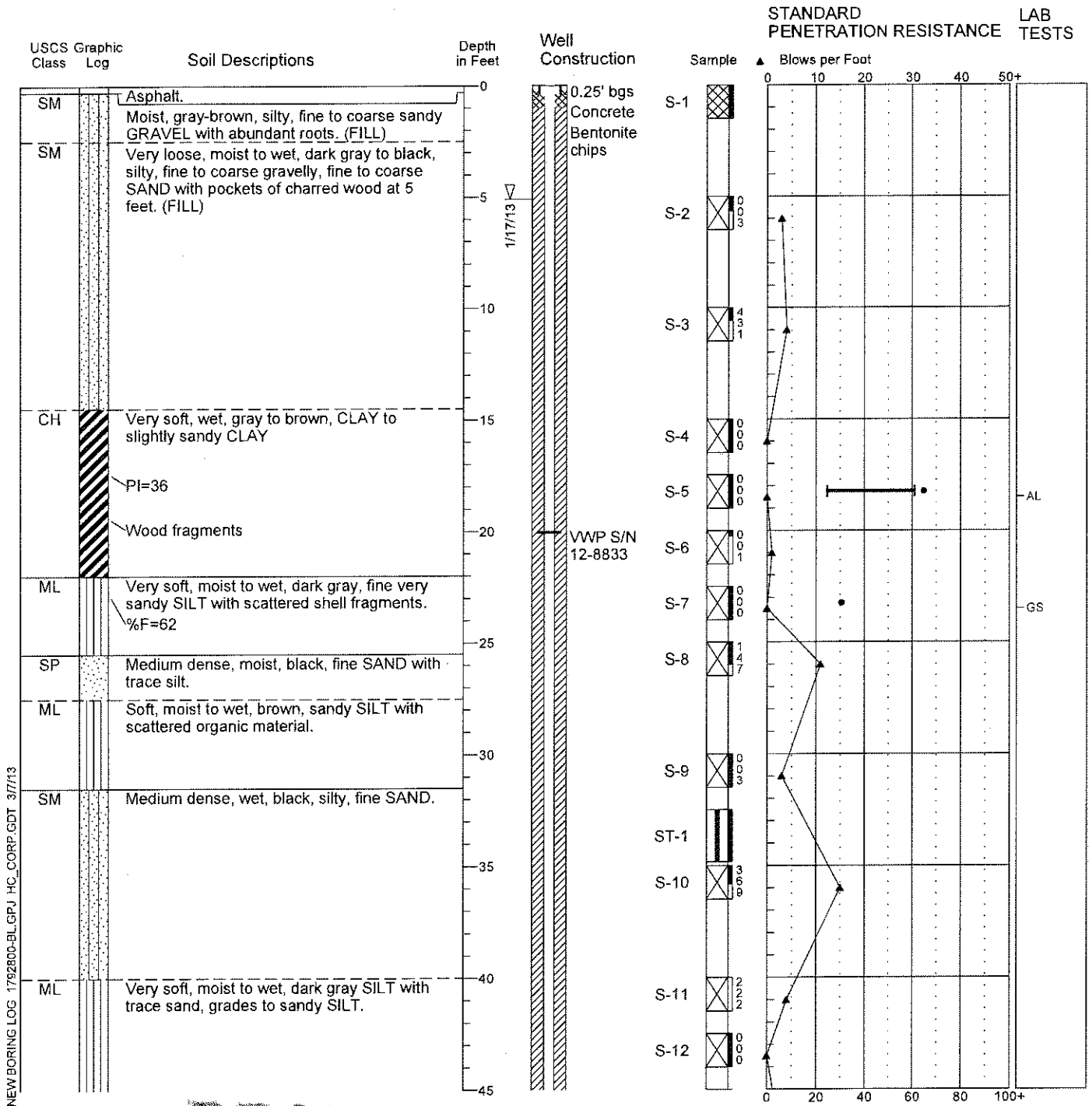
1/13

4/4

Piezometer/Exploration HC-2

Location: 47.587526, -122.333123
 Approximate Ground Surface Elevation: 20 Feet
 Horizontal Datum: WGS 84
 Vertical Datum: NAVD 88

Drill Equipment: Mud Rotary
 Hammer Type: SPT w/140 lb. Autohammer
 Hole Diameter: 6 inches
 Logged By: W. McDonald Reviewed By: B. Cook



DRAFT

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2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
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4. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

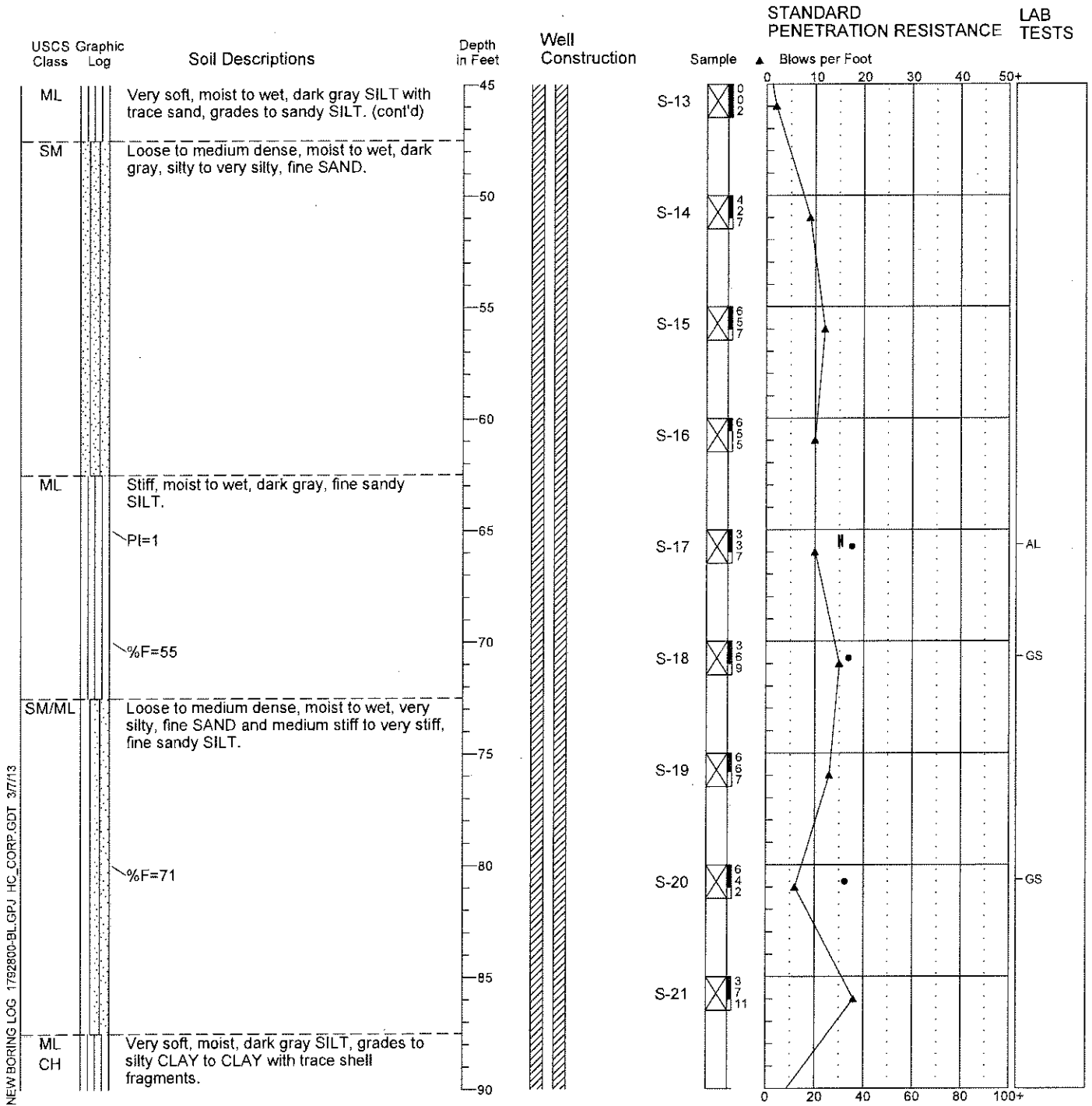


17928-00 1/13
 Figure A-3 1/4

Piezometer/Exploration HC-2

Location: 47.587526, -122.333123
 Approximate Ground Surface Elevation: 20 Feet
 Horizontal Datum: WGS 84
 Vertical Datum: NAVD 88

Drill Equipment: Mud Rotary
 Hammer Type: SPT w/140 lb. Autohammer
 Hole Diameter: 6 inches
 Logged By: W. McDonald Reviewed By: B. Cook



DRAFT

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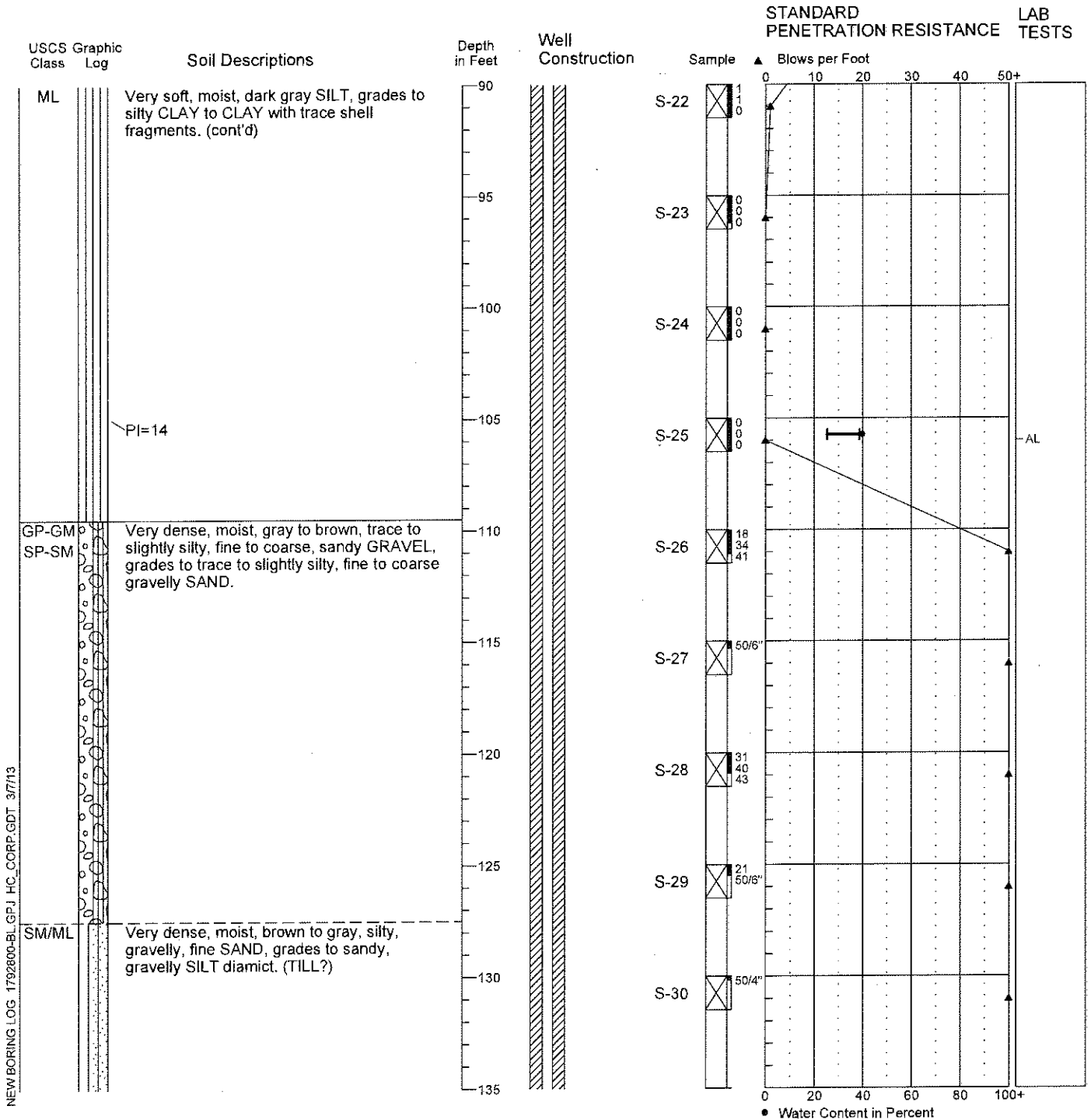


17928-00 1/13
 Figure A-3 2/4

Piezometer/Exploration HC-2

Location: 47.587526, -122.333123
 Approximate Ground Surface Elevation: 20 Feet
 Horizontal Datum: WGS 84
 Vertical Datum: NAVD 88

Drill Equipment: Mud Rotary
 Hammer Type: SPT w/140 lb. Autohammer
 Hole Diameter: 6 inches
 Logged By: W. McDonald Reviewed By: B. Cook



DRAFT

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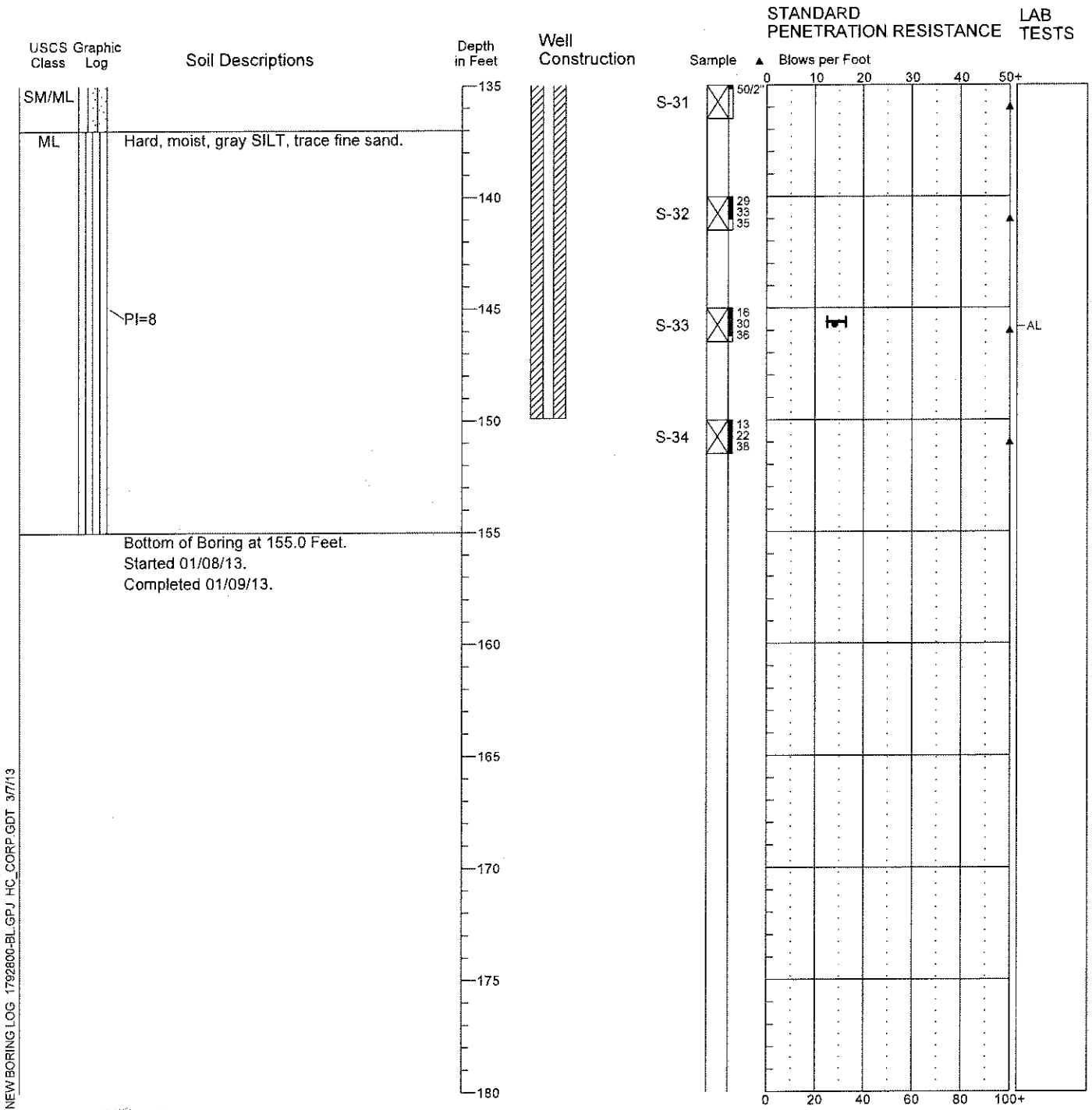


17928-00 1/13
 Figure A-3 3/4

Piezometer/Exploration HC-2

Location: 47.587526, -122.333123
 Approximate Ground Surface Elevation: 20 Feet
 Horizontal Datum: WGS 84
 Vertical Datum: NAVD 88

Drill Equipment: Mud Rotary
 Hammer Type: SPT w/140 lb. Autohammer
 Hole Diameter: 6 inches
 Logged By: W. McDonald Reviewed By: B. Cook



NEW BORING LOG 1792800-BL-GPJ_HC_CORP_GDT_3/7/13

DRAFT

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2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
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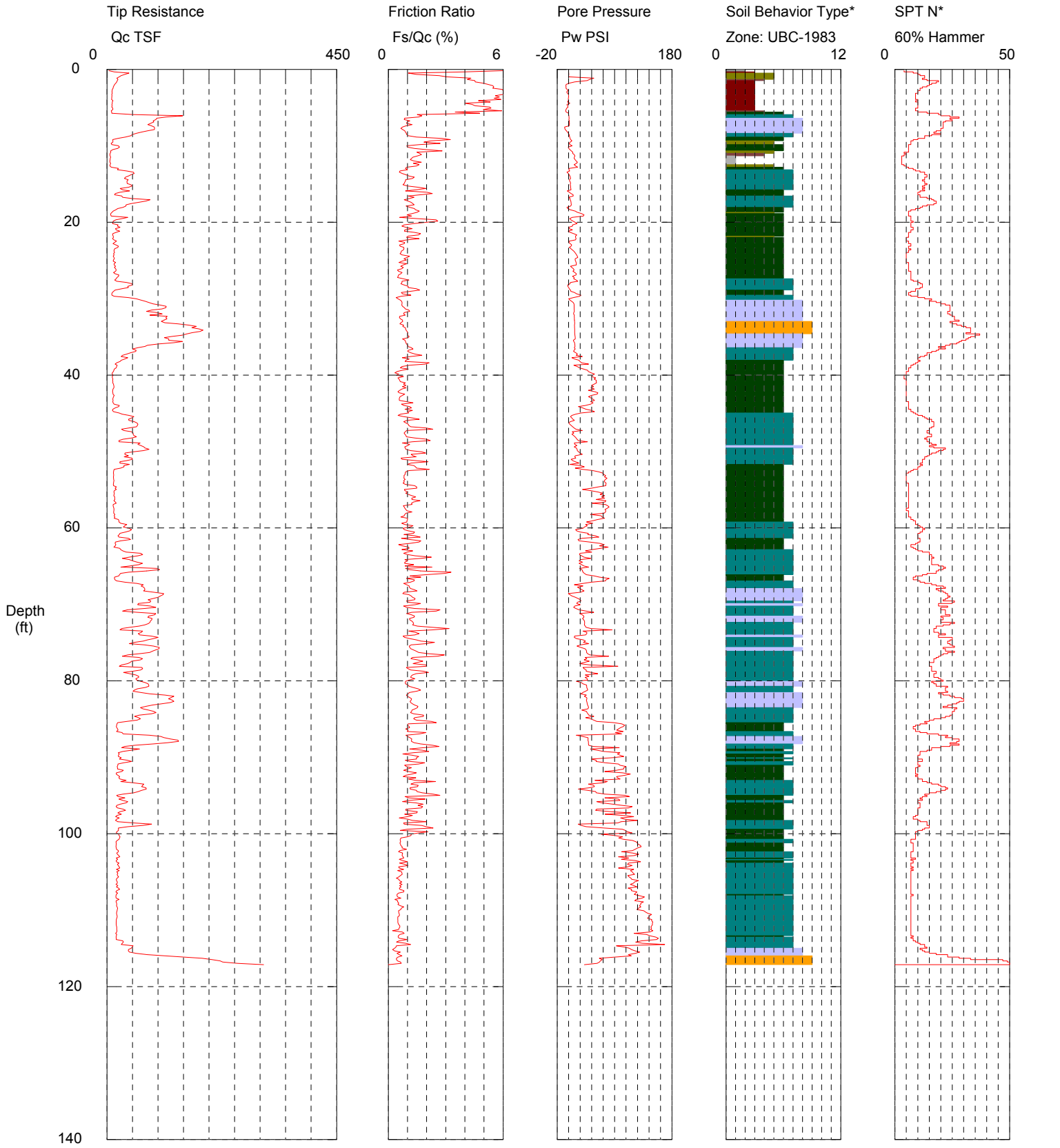


17928-00 1/13
 Figure A-3 4/4

Hart Crowser

Operator: Gerdes
 Sounding: HCPT-1b
 Cone Used: DDG1238

CPT Date/Time: 1/24/2013 9:11:53 AM
 Location: Seattle
 Job Number:



Maximum Depth = 117.13 feet

Depth Increment = 0.164 feet

- | | | | |
|--------------------------|-----------------------------|----------------------------|--------------------------------|
| 1 sensitive fine grained | 4 silty clay to clay | 7 silty sand to sandy silt | 10 gravelly sand to sand |
| 2 organic material | 5 clayey silt to silty clay | 8 sand to silty sand | 11 very stiff fine grained (*) |
| 3 clay | 6 sandy silt to clayey silt | 9 sand | 12 sand to clayey sand (*) |
- InSitu Engineering

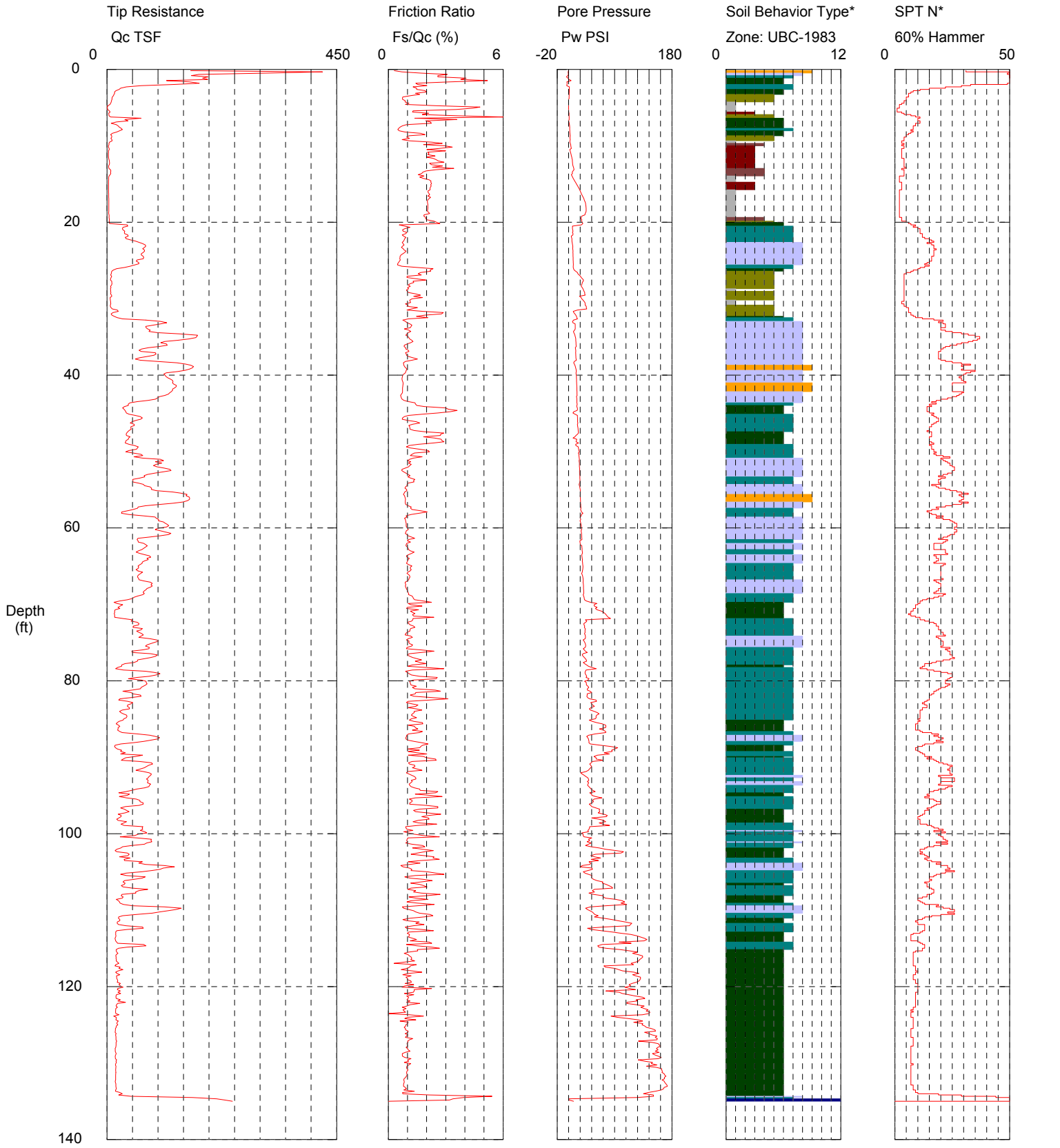
Pre-drilled to 21 feet and backfilled with angular very loose sand.

*Soil behavior type and SPT based on data from UBC-1983

Hart Crowser

Operator: Gerdes
 Sounding: HCPT-2b
 Cone Used: DDG1238

CPT Date/Time: 1/24/2013 11:15:56 AM
 Location: Seattle
 Job Number:



Maximum Depth = 135.01 feet

Depth Increment = 0.164 feet

- | | | | |
|--------------------------|-----------------------------|----------------------------|--------------------------------|
| 1 sensitive fine grained | 4 silty clay to clay | 7 silty sand to sandy silt | 10 gravelly sand to sand |
| 2 organic material | 5 clayey silt to silty clay | 8 sand to silty sand | 11 very stiff fine grained (*) |
| 3 clay | 6 sandy silt to clayey silt | 9 sand | 12 sand to clayey sand (*) |

Pre-drilled to 21 feet and backfilled with angular very loose sand.

*Soil behavior type and SPT based on data from UBC-1983

Appendix C

Greenhouse Gas Emission Worksheet

King County Department of Development and Environmental Services
SEPA GHG Emissions Worksheet
Version 1.7 12/26/07 (Introduction Revised March 2011)

Introduction

The Washington State Environmental Policy Act (SEPA) requires environmental review of development proposals that may have a significant adverse impact on the environment. If a proposed development is subject to SEPA, the project proponent is required to complete the SEPA Checklist. The Checklist includes questions relating to the development's air emissions. The emissions that have traditionally been considered cover smoke, dust, and industrial and automobile emissions. With our understanding of the climate change impacts of greenhouse gas (GHG) emissions, King County requires the applicant to also estimate these emissions.

Emissions created by Development

GHG emissions associated with development come from multiple sources:

- The extraction, processing, transportation, construction and disposal of materials and landscape disturbance (Embodied Emissions)
- Energy demands created by the development after it is completed (Energy Emissions)
- Transportation demands created by the development after it is completed (Transportation Emissions)

GHG Emissions Worksheet

King County has developed a GHG Emissions Worksheet that can assist applicants in answering the SEPA Checklist question relating to GHG emissions.

The SEPA GHG Emissions worksheet estimates all GHG emissions that will be created over the life span of a project. This includes emissions associated with obtaining construction materials, fuel used during construction, energy consumed during a buildings operation, and transportation by building occupants.

The SEPA GHG Emissions worksheet should not be used to estimate GHG emissions from large, complex projects, such as urban planned developments, major infrastructure projects, or projects that require an Environmental Impact Statement (EIS). For more sophisticated tools that may help with assessing the GHGs of these actions, see the Washington State Department of Ecology's (Ecology) SEPA and climate change website:

<http://www.ecy.wa.gov/climatechange/sepa.htm>

Using the Worksheet

1. Descriptions of the different residential and commercial building types can be found on the second tabbed worksheet ("Definition of Building Types"). If a development proposal consists of multiple projects, e.g. both single family and multi-family residential structures or a commercial development that consists of more than one type of commercial activity, the appropriate information should be estimated for each type of building or activity.
2. For paving, estimate the total amount of paving (in thousands of square feet) of the project.
3. The Worksheet will calculate the amount of GHG emissions associated with the project and display the amount in the "Total Emissions" column on the worksheet. The applicant should use this information when completing the SEPA checklist.

4. The last three worksheets in the Excel file provide the background information that is used to calculate the total GHG emissions.
5. The methodology of creating the estimates is transparent; if there is reason to believe that a better estimate can be obtained by changing specific values, this can and should be done. Changes to the values should be documented with an explanation of why and the sources relied upon.
6. Print out the "Total Emissions" worksheet and attach it to the SEPA checklist. If the applicant has made changes to the calculations or the values, the documentation supporting those changes should also be attached to the SEPA checklist.

Disclaimer – March 2011

This worksheet has not been updated 2007. Since then, new resources have become available that more accurately estimate the greenhouse gas emissions impacts of projects. This worksheet can still be used to provide a coarse estimate of a typical project's climate change impact, but should be used with caution. See Ecology's SEPA and climate change website for additional resources:

<http://www.ecy.wa.gov/climatechange/sepa.htm>

Section I: Buildings

Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Emissions Per Unit or Per Thousand Square Feet (MTCO2e)			Lifespan Emissions (MTCO2e)
			Embodied	Energy	Transportation	
Single-Family Home.....	0		98	672	792	0
Multi-Family Unit in Large Building	0		33	357	766	0
Multi-Family Unit in Small Building	0		54	681	766	0
Mobile Home.....	0		41	475	709	0
Education		0.0	39	646	361	0
Food Sales		0.0	39	1,541	282	0
Food Service		0.0	39	1,994	561	0
Health Care Inpatient		0.0	39	1,938	582	0
Health Care Outpatient		0.0	39	737	571	0
Lodging		0.0	39	777	117	0
Retail (Other Than Mall).....		0.0	39	577	247	0
Office		0.0	39	723	588	0
Public Assembly		750.0	39	733	150	691481
Public Order and Safety		0.0	39	899	374	0
Religious Worship		0.0	39	339	129	0
Service		0.0	39	599	266	0
Warehouse and Storage		0.0	39	352	181	0
Other		0.0	39	1,278	257	0
Vacant		0.0	39	162	47	0

Section II: Pavement.....

Pavement.....		0.00				0
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Total Project Emissions:

691,481

Definition of Building Types

Type (Residential) or Principal Activity (Commercial)	Description
Single-Family Home.....	Unless otherwise specified, this includes both attached and detached buildings
Multi-Family Unit in Large Building	Apartments in buildings with more than 5 units
Multi-Family Unit in Small Building	Apartments in building with 2-4 units
Mobile Home.....	
Education	Buildings used for academic or technical classroom instruction, such as elementary, middle, or high schools, and classroom buildings on college or university campuses. Buildings on education campuses for which the main use is not classroom are included in the category relating to their use. For example, administration buildings are part of "Office," dormitories are "Lodging," and libraries are "Public Assembly."
Food Sales	Buildings used for retail or wholesale of food.
Food Service	Buildings used for preparation and sale of food and beverages for consumption.
Health Care Inpatient	Buildings used as diagnostic and treatment facilities for inpatient care.
Health Care Outpatient	Buildings used as diagnostic and treatment facilities for outpatient care. Doctor's or dentist's office are included here if they use any type of diagnostic medical equipment (if they do not, they are categorized as an office building).
Lodging	Buildings used to offer multiple accommodations for short-term or long-term residents, including skilled nursing and other residential care buildings.
Retail (Other Than Mall).....	Buildings used for the sale and display of goods other than food.
Office	Buildings used for general office space, professional office, or administrative offices. Doctor's or dentist's office are included here if they do not use any type of diagnostic medical equipment (if they do, they are categorized as an outpatient health care building).
Public Assembly	Buildings in which people gather for social or recreational activities, whether in private or non-private meeting halls.
Public Order and Safety	Buildings used for the preservation of law and order or public safety.
Religious Worship	Buildings in which people gather for religious activities, (such as chapels, churches, mosques, synagogues, and temples).
Service	Buildings in which some type of service is provided, other than food service or retail sales of goods
Warehouse and Storage	Buildings used to store goods, manufactured products, merchandise, raw materials, or personal belongings (such as self-storage).
Other	Buildings that are industrial or agricultural with some retail space; buildings having several different commercial activities that, together, comprise 50 percent or more of the floorspace, but whose largest single activity is agricultural, industrial/ manufacturing, or residential; and all other miscellaneous buildings that do not fit into any other category.
Vacant	Buildings in which more floorspace was vacant than was used for any single commercial activity at the time of interview. Therefore, a vacant building may have some occupied floorspace.

Sources:

Residential 2001 Residential Energy Consumption Survey
 Square footage measurements and comparisons
<http://www.eia.doe.gov/emeu/recs/sqft-measure.html>

Commercial Commercial Buildings Energy Consumption Survey (CBECS),
 Description of CBECS Building Types
<http://www.eia.doe.gov/emeu/cbeecs/pba99/bldgtypes.html>

Embodied Emissions Worksheet

Section I: Buildings

Type (Residential or Principal Activity (Commercial))	# thousand sq feet/ unit or building	Life span related embodied GHG missions (MTCO2e/unit)	Life span related embodied GHG missions (MTCO2e/ thousand square feet) - See calculations in table below
Single-Family Home.....	2.53	98	39
Multi-Family Unit in Large Building.....	0.85	33	39
Multi-Family Unit in Small Building.....	1.39	54	39
Mobile Home.....	1.06	41	39
Education.....	25.6	991	39
Food Sales.....	5.6	217	39
Food Service.....	5.6	217	39
Health Care Inpatient.....	241.4	9,346	39
Health Care Outpatient.....	10.4	403	39
Lodging.....	35.8	1,386	39
Retail (Other Than Mall).....	9.7	376	39
Office.....	14.8	573	39
Public Assembly.....	14.2	550	39
Public Order and Safety.....	15.5	600	39
Religious Worship.....	10.1	391	39
Service.....	6.5	252	39
Warehouse and Storage.....	16.9	654	39
Other.....	21.9	848	39
Vacant.....	14.1	546	39

Section II: Pavement.....

All Types of Pavement.....	50
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	Columns and Beams	Intermediate Floors	Exterior Walls	Windows	Interior Walls	Roofs	Total Embodied Emissions (MTCO2e) thousand sq feet
Average GWP (lbs CO2e/sq ft): Vancouver, Low Rise Building	5.3	7.8	19.1	51.2	5.7	21.3	
Average Materials in a 2,272-square foot single family home	0.0	2269.0	3206.0	285.0	6050.0	3103.0	
MTCO2e	0.0	8.0	27.8	6.6	15.6	30.0	88.0
							38.7

Sources

All data in black text

Residential floorspace per unit

King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

2001 Residential Energy Consumption Survey (National Average, 2001)

Square footage measurements and comparisons

<http://www.eia.doe.gov/emeu/recs/sqft-measure.html>

Floorspace per building

EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)

Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003

http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

Average GWP (lbs CO2e/sq ft): Vancouver, Low Rise Building

Athena EcoCalculator

Athena Assembly Evaluation Tool v2.3- Vancouver Low Rise Building

Assembly Average GWP (kg) per square meter

<http://www.athenasmi.ca/tools/recoCalculator/index.html>

Lbs per kg

Square feet per square meter

Average Materials in a 2,272-square foot single family home

Buildings Energy Data Book: 7.3 Typical/Average Household

Materials Used in the Construction of a 2,272-Square-Foot Single-Family Home, 2000

http://buildingsdatabase.eren.doe.gov/?id=view_book_table&tableID=2036&t=xls

See also: NAHB, 2004 Housing Facts, Figures and Trends, Feb. 2004, p. 7.

Average window size

Energy Information Administration/Housing Characteristics 1993

Appendix B, Quality of the Data. Pg. 5.

<ftp://ftp.eia.doe.gov/pub/consumption/residential/rx93hcf.pdf>

Embodied GHG Emissions.....Worksheet Background Information

Buildings

Embodied GHG emissions are emissions that are created through the extraction, processing, transportation, construction and disposal of building materials as well as emissions created through landscape disturbance (by both soil disturbance and changes in above ground biomass).

Estimating embodied GHG emissions is new field of analysis; the estimates are rapidly improving and becoming more inclusive of all elements of construction and development.

The estimate included in this worksheet is calculated using average values for the main construction materials that are used to create a typical family home. In 2004, the National Association of Home Builders calculated the average materials that are used in a typical 2,272 square foot single-family household. The quantity of materials used is then multiplied by the average GHG emissions associated with the life-cycle GHG emissions for each material.

This estimate is a rough and conservative estimate; the actual embodied emissions for a project are likely to be higher. For example, at this stage, due to a lack of comprehensive data, the estimate does not include important factors such as landscape disturbance or the emissions associated with the interior components of a building (such as furniture).

King County realizes that the calculations for embodied emissions in this worksheet are rough. For example, the emissions associated with building 1,000 square feet of a residential building will not be the same as 1,000 square feet of a commercial building. However, discussions with the construction community indicate that while there are significant differences between the different types of structures, this method of estimation is reasonable; it will be improved as more data become available.

Additionally, if more specific information about the project is known, King County recommends two online embodied emissions calculators that can be used to obtain a more tailored estimate for embodied emissions: www.athenasmi.ca/tools/ecoCalculator/.

Pavement

Four recent life cycle assessments of the environmental impacts of roads form the basis for the per unit embodied emissions of pavement. Each study is constructed in slightly different ways; however, the aggregate results of the reports represent a reasonable estimate of the GHG emissions that are created from the manufacture of paving materials, construction related emissions, and maintenance of the pavement over its expected life cycle. For specifics, see the worksheet.

Special Section: Estimating the Embodied Emissions for Pavement

Four recent life cycle assessments of the environmental impacts of roads form the basis for the per unit embodied emissions of pavement. Each study is constructed in slightly different ways; however, the aggregate results of the reports represent a reasonable estimate of the GHG emissions that are created from the manufacture of paving materials, construction related emissions, and maintenance of the pavement over its expected life cycle.

The results of the studies are presented in different units and measures; considerable effort was undertaken to be able to compare the results of the studies in a reasonable way. For more details about the below methodology, contact mat.kuharic@kingcounty.gov.

The four studies, Meil (2001), Park (2003), Stripple (2001) and Treolar (2001) produced total GHG emissions of 4-34 MTCO₂e per thousand square feet of finished paving (for similar asphalt and concrete based pavements). This estimate does not include downstream maintenance and repair of the highway. The average (for all concrete and asphalt pavements in the studies, assuming each study gets one data point) is ~17 MTCO₂e/thousand square feet.

Three of the studies attempted to thoroughly account for the emissions associated with long term maintenance (40 years) of the roads. Stripple (2001), Park et al. (2003) and Treolar (2001) report 17, 81, and 68 MTCO₂e/thousand square feet, respectively, after accounting for maintenance of the roads.

Based on the above discussion, King County makes the conservative estimate that 50 MTCO₂e/thousand square feet of pavement (over the development's life cycle) will be used as the embodied emission factor for pavement until better estimates can be obtained. This is roughly equivalent to 3,500 MTCO₂e per lane mile of road (assuming the lane is 13 feet wide).

It is important to note that these studies estimate the embodied emissions for roads. Paving that does not need to stand up to the rigors of heavy use (such as parking lots or driveways) would likely use less materials and hence have lower embodied emissions.

Sources:

Meil, J. A. Life Cycle Perspective on Concrete and Asphalt Roadways: Embodied Primary Energy and Global Warming Potential. 2006. Available:
[http://www.cement.ca/cement.nsf/eee9ec7bbd630126852566c40052107b/6ec79dc8ae03a782852572b900061b914/\\$FILE/ATTK0WE3/athena%20report%20Feb.%202%202007.pdf](http://www.cement.ca/cement.nsf/eee9ec7bbd630126852566c40052107b/6ec79dc8ae03a782852572b900061b914/$FILE/ATTK0WE3/athena%20report%20Feb.%202%202007.pdf)

Park, K, Hwang, Y., Seo, S., M.ASCE, and Seo, H., "Quantitative Assessment of Environmental Impacts on Life Cycle of Highways," Journal of Construction Engineering and Management, Vol 129, January/February 2003, pp 25-31, (DOI: 10.1061/(ASCE)0733-9364(2003)129:1(25)).

Stripple, H. Life Cycle Assessment of Road. A Pilot Study for Inventory Analysis. Second Revised Edition. IVL Swedish Environmental Research Institute Ltd. 2001. Available:
<http://www.ivl.se/rapporter/pdf/B1210E.pdf>

Treolar, G., Love, P.E.D., and Crawford, R.H. Hybrid Life-Cycle Inventory for Road Construction and Use. Journal of Construction Engineering and Management. P. 43-49. January/February 2004.

Energy Emissions Worksheet

Type (Residential) or Principal Activity (Commercial)	Energy consumption per building per year (million Btu)	Carbon Coefficient for Buildings	MTCO2e per building per year	Floorspace per Building (thousand square feet)	MTCE per thousand square feet per year	MTCO2e per thousand square feet per year	Average Building Life Span	Lifespan Energy Related MTCO2e emissions per unit	Lifespan Energy Related MTCO2e emissions per thousand square feet
Single-Family Home.....	107.3	0.108	11.61	2.53	4.6	16.8	57.9	672	266
Multi-Family Unit in Large Building	41.0	0.108	4.44	0.85	5.2	19.2	80.5	357	422
Multi-Family Unit in Small Building	78.1	0.108	8.45	1.39	6.1	22.2	80.5	681	489
Mobile Home.....	75.9	0.108	8.21	1.06	7.7	28.4	57.9	475	448
Education	2,125.0	0.124	264.2	25.6	10.3	37.8	62.5	16,526	646
Food Sales	1,110.0	0.124	138.0	5.6	24.6	90.4	62.5	8,632	1,541
Food Service	1,436.0	0.124	178.5	5.6	31.9	116.9	62.5	11,168	1,994
Health Care Inpatient	60,152.0	0.124	7,479.1	241.4	31.0	113.6	62.5	467,794	1,938
Health Care Outpatient	985.0	0.124	122.5	10.4	11.8	43.2	62.5	7,660	737
Lodging	3,578.0	0.124	444.9	35.8	12.4	45.6	62.5	27,826	777
Retail (Other Than Mall).....	720.0	0.124	89.5	9.7	9.2	33.8	62.5	5,599	577
Office	1,376.0	0.124	171.1	14.8	11.6	42.4	62.5	10,701	723
Public Assembly	1,338.0	0.124	166.4	14.2	11.7	43.0	62.5	10,405	733
Public Order and Safety	1,791.0	0.124	222.7	15.5	14.4	52.7	62.5	13,928	899
Religious Worship	440.0	0.124	54.7	10.1	5.4	19.9	62.5	3,422	339
Service	501.0	0.124	62.3	6.5	9.6	35.1	62.5	3,896	599
Warehouse and Storage	764.0	0.124	95.0	16.9	5.6	20.6	62.5	5,942	352
Other	3,600.0	0.124	447.6	21.9	20.4	74.9	62.5	27,997	1,278
Vacant	294.0	0.124	36.6	14.1	2.6	9.5	62.5	2,286	162

Sources

All data in black text

King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

Energy consumption for residential buildings

2007 Buildings Energy Data Book: 6.1 Quad Definitions and Comparisons (National Average, 2001)

Table 6.1.4: Average Annual Carbon Dioxide Emissions for Various Functions

<http://buildingsdatabook.eren.doe.gov/>

Data also at: http://www.eia.doe.gov/emeu/recs/recs2001_ce/ce1-4c_housingunits2001.html

Energy consumption for commercial buildings and Floorspace per building

EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)

Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003

http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

Note: Data in plum color is found in both of the above sources (buildings energy data book and commercial buildings energy consumption survey).

Carbon Coefficient for Buildings

Buildings Energy Data Book (National average, 2005)

Table 3.1.7. 2005 Carbon Dioxide Emission Coefficients for Buildings (MMTCE per Quadrillion Btu)

http://buildingsdatabook.eere.energy.gov/?id=view_book_table&TableID=2057

Note: Carbon coefficient in the Energy Data book is in MTCE per Quadrillion Btu.

To convert to MTCO2e per million Btu, this factor was divided by 1000 and multiplied by 44/12.

2001 Residential Energy Consumption Survey (National Average, 2001)

Square footage measurements and comparisons

<http://www.eia.doe.gov/emeu/recs/sqft-measure.html>

Residential floorspace per unit

average life span of buildings,
 estimated by replacement time method

	Single Family Homes	Multi-Family Units in Large and Small Buildings	All Residential Buildings
New Housing Construction, 2001	1,273,000	329,000	1,602,000
Existing Housing Stock, 2001	73,700,000	26,500,000	100,200,000
Replacement time:	57.9	80.5	62.5

(national average, 2001)

Note: Single family homes calculation is used for mobile homes as a best estimate life span.
 Note: At this time, KC staff could find no reliable data for the average life span of commercial buildings.
 Therefore, the average life span of residential buildings is being used until a better approximation can be ascertained.

Sources:

New Housing Construction,
 2001 Quarterly Starts and Completions by Purpose and Design - US and Regions (Excel)
http://www.census.gov/const/quarterly_starts_completions_cust.xls
 See also: <http://www.census.gov/const/www/newresconstindex.html>

Existing Housing Stock,
 2001 Residential Energy Consumption Survey (RECS) 2001
 Tables HC1:Housing Unit Characteristics, Million U.S. Households 2001
 Table HC1-4a. Housing Unit Characteristics by Type of Housing Unit, Million U.S. Households, 2001
 Million U.S. Households, 2001
http://www.eia.doe.gov/emeu/recs/recs2001/hc_pdf/housingunits/hc1-4a_housingunits2001.pdf

Transportation Emissions Worksheet

Type (Residential) or Principal Activity (Commercial)	# people/ unit or building	# thousand sq feet/ unit or building	# people or employees/ thousand square feet	vehicle related GHG emissions (metric tonnes CO2e per person per year)	MTCO2e/ year/ unit	MTCO2e/ thousand square feet	Average Building Life Span	Life span transportation related GHG emissions (MTCO2e/ per unit)	Life span transportation related GHG emissions (MTCO2e/ thousand sq feet)
Single-Family Home.....	2.8	2.53	1.1	4.9	13.7	5.4	57.9	792	313
Multi-Family Unit in Large Building	1.9	0.85	2.3	4.9	9.5	11.2	80.5	766	904
Multi-Family Unit in Small Building	1.9	1.39	1.4	4.9	9.5	6.8	80.5	766	550
Mobile Home.....	2.5	1.06	2.3	4.9	12.2	11.5	57.9	709	668
Education	30.0	25.6	1.2	4.9	147.8	5.8	62.5	9247	361
Food Sales	5.1	5.6	0.9	4.9	25.2	4.5	62.5	1579	282
Food Service	10.2	5.6	1.8	4.9	50.2	9.0	62.5	3141	561
Health Care Inpatient	455.5	241.4	1.9	4.9	2246.4	9.3	62.5	140506	582
Health Care Outpatient	19.3	10.4	1.9	4.9	95.0	9.1	62.5	5941	571
Lodging	13.6	35.8	0.4	4.9	67.1	1.9	62.5	4194	117
Retail (Other Than Mall).....	7.8	9.7	0.8	4.9	38.3	3.9	62.5	2394	247
Office	28.2	14.8	1.9	4.9	139.0	9.4	62.5	8696	588
Public Assembly	6.9	14.2	0.5	4.9	34.2	2.4	62.5	2137	150
Public Order and Safety	18.8	15.5	1.2	4.9	92.7	6.0	62.5	5796	374
Religious Worship	4.2	10.1	0.4	4.9	20.8	2.1	62.5	1298	129
Service	5.6	6.5	0.9	4.9	27.6	4.3	62.5	1729	266
Warehouse and Storage	9.9	16.9	0.6	4.9	49.0	2.9	62.5	3067	181
Other	18.3	21.9	0.8	4.9	90.0	4.1	62.5	5630	257
Vacant	2.1	14.1	0.2	4.9	10.5	0.7	62.5	657	47

Sources

All data in black text

people/ unit

Estimating Household Size for Use in Population Estimates (WA state, 2000 average)

Washington State Office of Financial Management

Kimpel, T. and Lowe, T. Research Brief No. 47. August 2007

<http://www.ofm.wa.gov/researchbriefs/brief047.pdf>

Note: This analysis combines Multi Unit Structures in both large and small units into one category; the average is used in this case although there is likely a difference

King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

Residential floorspace per unit

2001 Residential Energy Consumption Survey (National Average, 2001)

Square footage measurements and comparisons

<http://www.eia.doe.gov/emeu/recs/sqft-measure.html>

employees/thousand square feet

Commercial Buildings Energy Consumption Survey commercial energy uses and costs (National Median, 2003)

Table B2 Totals and Medians of Floorspace, Number of Workers, and Hours of Operation for Non-Mall Buildings, 2003

http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set1/2003excl/b2.xls

Note: Data for # employees/thousand square feet is presented by CBECS as square feet/employee.

In this analysis employees/thousand square feet is calculated by taking the inverse of the CBECS number and multiplying by 1000.

vehicle related GHG emissions

Estimate calculated as follows (Washington state, 2006)_

56,531,930,000 2006 Annual WA State Vehicle Miles Traveled

Data was daily VMT. Annual VMT was 365*daily VMT.

<http://www.wsdot.wa.gov/mapsdata/todo/annualmileage.htm>

6,395,798 2006 WA state population

<http://quickfacts.census.gov/qfd/states/53000.html>

8839 vehicle miles per person per year

0.0506 gallon gasoline/mile

This is the weighted national average fuel efficiency for all cars and 2 axle, 4 wheel light trucks in 2005. This includes pickup trucks, vans and SUVs. The 0.051 gallons/mile used here is the inverse of the more commonly known term "miles/per gallon" (which is 19.75 for these cars and light trucks).

Transportation Energy Data Book. 26th Edition. 2006. Chapter 4: Light Vehicles and Characteristics. Calculations based on weighted average MPG efficiency of cars and light trucks.

http://cta.ornl.gov/data/tebd26/Edition26_Chapter04.pdf

Note: This report states that in 2005, 92.3% of all highway VMT were driven by the above described vehicles.

http://cta.ornl.gov/data/tebd26/Spreadsheets/Table3_04.xls

24.3 lbs CO2e/gallon gasoline

The CO2 emissions estimates for gasoline and diesel include the extraction, transport, and refinement of petroleum as well as their combustion.

Life-Cycle CO2 Emissions for Various New Vehicles. RENew Northfield.

Available: <http://renewnorthfield.org/wpcontent/uploads/2006/04/CO2%20emissions.pdf>

Note: This is a conservative estimate of emissions by fuel consumption because diesel fuel, with a emissions factor of 26.55 lbs CO2e/gallon was not estimated.

2205

4.93 lbs/metric tonne

vehicle related GHG emissions (metric tonnes CO2e per person per year)

average life span of buildings, estimated by replacement time method

See Energy Emissions Worksheet for Calculations

Commercial floorspace per unit

EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)

Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003

http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

Appendix D

Historical Building Surveys



July 8, 2013

Historic Preservation and SEPA Review - Appendix A
(Seattle DPD CAM #3000)

Additional Information to determine whether a structure appears to meet any of the criteria for landmark designation

I. Building Location:

1700 First Avenue S., built c.1935 (parcel 7666206400)

II. Physical Description: Provide a physical description of both the interior and exterior of the structure(s).

The building was constructed in 1935-36 as an "Auto Freight Depot" according to drawings on file at the Seattle Department of Planning and Development Microfilm Library.

Although addressed as 1700 First Avenue S., the building north elevation spans the width of the block along S. Massachusetts Street, from First Avenue S. on the west side, to Occidental Avenue S. on the west side. The north side of the building was originally a continuous loading dock, with multiple bays for truck loading and unloading; these were filled in with masonry block at an unknown date.

The building is two stories on the north and one story on the south. Tax records indicate that the building was originally constructed with (brick?) tile walls on a concrete foundation and base, with post and beam structure supporting the flat roof. Interior trusses appear to be original, and incorporate both wood and steel rod members (for elements in compression and tension) in the design. The adjacent building at 1714 First Avenue S. has similar roof trusses.

The building has been considerably altered since original construction. The building suffered damage to several roof trusses during the powerful 1949 earthquake. Repairs were by William Aiken, architect, and Stevenson & Rubens, structural engineer. At the time, Interstate Freight Lines was the occupant. The roof trusses suffered similar damage again in the 1965 earthquake. Repairs, estimated to cost \$2000, were by Harvey Dodd & Associates, engineer. The building was described at that time as a "warehouse and office building." There were also considerable repairs in 1958, estimated to cost \$5000, but the nature of these repairs is unknown.

Drawings by Ivory & Associates, architects, are on file for the 2003 conversion of the building from a warehouse to a live music venue, for Lyle Snyder. The building is currently the location of The Showbox SoDo, a music club, restaurant, and bar. At this time, significant alterations were made to the north, east, and west elevations. On the primary (west) elevation, work included new windows and door openings, new (non-original) pilasters were created on the exterior wall, new brick and tile trim around the door and window openings, as well as new light fixtures and a fabric canopy. On the north, three of the four westernmost bays were altered by removing overhead doors and replacing with infill CMU walls and high strip windows.

III. Architect or Builder: Provide information about the architect/builder; i.e., regarding education, career, other works in Seattle. If other structures were built in Seattle, indicate whether they remain and their location.

The original drawings on file at the DPD Microfilm Library show that Howard H. Riley was the architect. Riley was apparently a relatively prolific architect in Seattle, although he does not appear to be well known today. Information about Riley here is derived mainly from news accounts in The Seattle Times. He and his wife were very frequently mentioned in the society pages. Mentions of Riley first appear as early as the mid-1910s, and end with his death notice at age 61 in 1950. Riley's work appears mainly in the 1920s up to about 1940, and seems to have included apartment buildings, private residences (both high-end and more modest designs), spec homes for builders, usually in applied historicist styles. Notable extant works include the Flemington Apartments (1924) at the northeast corner of Broadway & John; the Fremont Baptist Church (1924) at 717 N. 36th Street; the Wembley Court Apartments (1924) at Franklin & Allison; the Conrad Apartments (1928) at Belmont & Olive Street; and the Westwood Apartments (1928, now the Lauren May Apartments) in Ballard at 22nd Avenue W. & W. 59th Street (see photos). A notable demolished work by Riley was the Venetian Theater, a neighborhood moviehouse, at Pike & 15th (1926, demolished 1959).

IV. Statement of Significance: Current and past uses and owners of the structure(s). The role these uses and/or owners played in the community, city, state or nation.

Polk's city directories were reviewed every decade for occupants of the building, listed below. Tax records and architectural drawings provided information regarding owners and occupants as well.

1938	First Avenue Terminal
	<ul style="list-style-type: none">• James D. Dow, auto freight• Interstate Freight Lines• Mallory Auto Freight• North Counties Freight Line• Olympic Peninsular Motor Freight Company Inc.• Puget Sound Express Inc.• Star Motor Freight• Sunrise Trail Inc.• Valley Milk Transportation Inc.
1948	Interstate Freight Lines Inc., auto freight
1958	Vacant
1968	Safway Steel Products, contractors
1973	The Carpet Exchange (according to tax records)
1978	Easy Up Shelving Inc.; and the Jay Davidner Company, office supplies
1988	Easy Up Shelving Inc.; and Classy Mailing Service Inc., mail consultant

In 1937, tax records indicate that Imogene Franklin Keripner(?) was the fee owner for the property. No additional information could be found on this person.

In 1965 and 1971, the owner listed on architectural drawings and tax records was Alice Franklin Bryant. Alice Franklin Bryant's daughter's name was Imogene; it seems likely that Imogene Franklin Keripner was perhaps her mother or aunt or other older relative, and Alice Franklin Bryant inherited the property from them.

She was born in Missouri, and graduated from the University of Washington in 1919. She moved to the Philippines to teach, and met and married William Chaney Bryant, a coconut plantation manager and former provincial governor. Early in World War II, they were imprisoned in a Japanese camp for over two years. After the war, later became a well-known pacifist and peace activist in Seattle during the 1950s through the 1970s. Her Seattle Times obituary notes that she was a writer, lecturer, poet, and political activist, who was awarded the "First Citizen of Seattle" award from Mayor Wes Uhlman. She ran for the US Senate and Congress several times, but did not win. She died in 1977.

Conclusion regarding significance:

The Seattle Landmarks Preservation Ordinance (SMC 25.12.350) states the following landmark criteria: "Standards of designation: An object, site, or improvement which is more than twenty-five (25) years old may be designated for preservation as a landmark site or landmark if it has significant character, interest or value as part of the development, heritage or cultural characteristics of the City, state, or nation, if it has integrity or the ability to convey its significance, and if it falls into one (1) of the following criteria:

- Criterion A - It is the location of, or is associated in a significant way with, an historic event with a significant effect upon the community, City, state, or nation.
- Criterion B - It is associated in a significant way with the life of a person important in the history of the City, state, or nation.
- Criterion C - It is associated in a significant way with a significant aspect of the cultural, political, or economic heritage of the community, City, state, or nation.
- Criterion D - It embodies the distinctive visible characteristics of an architectural style, or period, or method of construction.
- Criterion E - It is an outstanding work of a designer or builder.
- Criterion F - Because of its prominence of spatial location, contrasts of siting, age, or scale, it is an easily identifiable visual feature of its neighborhood or the City and contributes to the distinctive quality or identity of such neighborhood or the City."

In our opinion, based on the research conducted for this report, the 1700 First Avenue S. building does not appear to meet any of the six landmark criteria; in addition, the building has been significantly altered over time and has lost its original integrity.

Thank you,



David R. Peterson

Nicholson Kovalchick Architects

david@nkarch.com

ph: 206-494-9791

Bibliography of sources

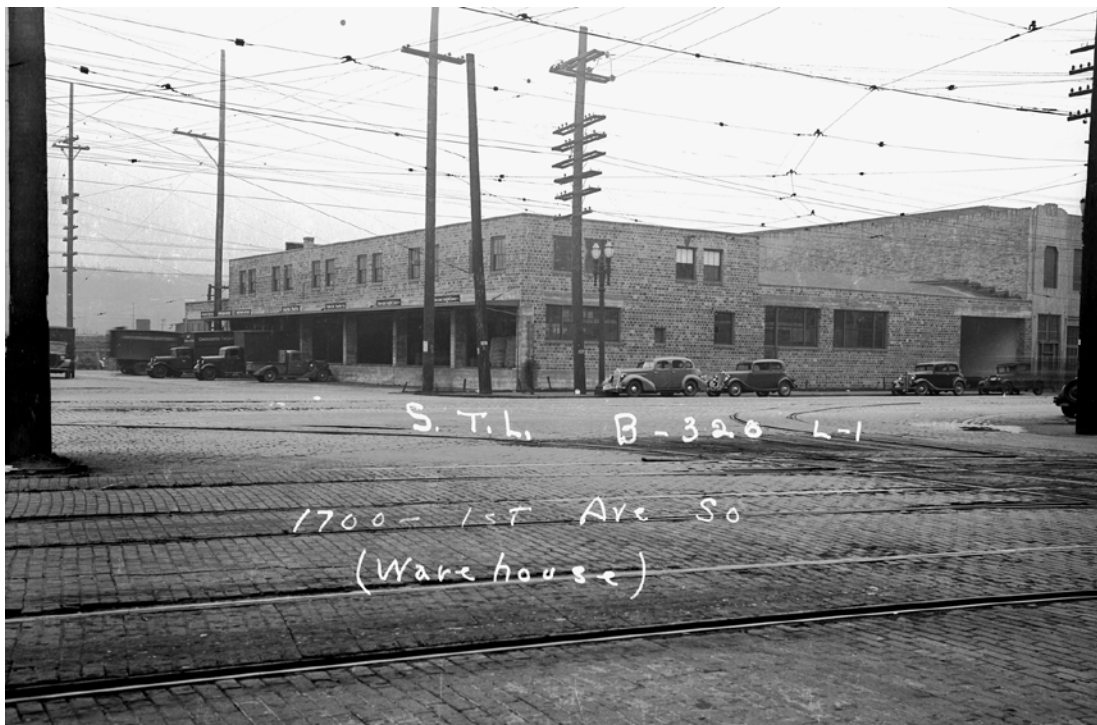
- DPD Microfilm Library available drawings, and historic permit cards.
- Puget Sound Regional Archives, tax assessor records and photos.
- Sanborn maps, various dates
- Historic Seattle Times searchable database
- Seattle Municipal Archives digital photo collection (SMA)

V. Photographs: Clear exterior photos of all elevations of the building; interior photos of major or significant spaces; available historic photos; neighborhood context photos.

Note: All photos by NKA from February-March 2013 unless noted otherwise.



Neighborhood context: Subject parcel located by the red box. North is up. (2012, Google Maps)



1937 tax assessor photo, view from northwest



Detail of north elevation (facing S. Massachusetts Street), 1937 tax assessor photo



Detail of west elevation (facing First Avenue S.), 1937 tax assessor photo



Detail of far south portion of west elevation, 1937 tax assessor photo of adjacent building, showing partial interior of the subject building, including roof trusses.



1980 tax assessor photo, north elevation (from northeast). Compare to 2013 photo; note alterations to loading bays.



Neighborhood context: View south on Occidental Way S.; east elevation of subject building at far right.



View from the northwest



West elevation (facing First Avenue S.); note alterations to the right side of the facade (compare to 1937 photo).



North elevation (facing S. Massachusetts Street)



North elevation, east portion (facing S. Massachusetts Street)



East elevation (facing Occidental Street)



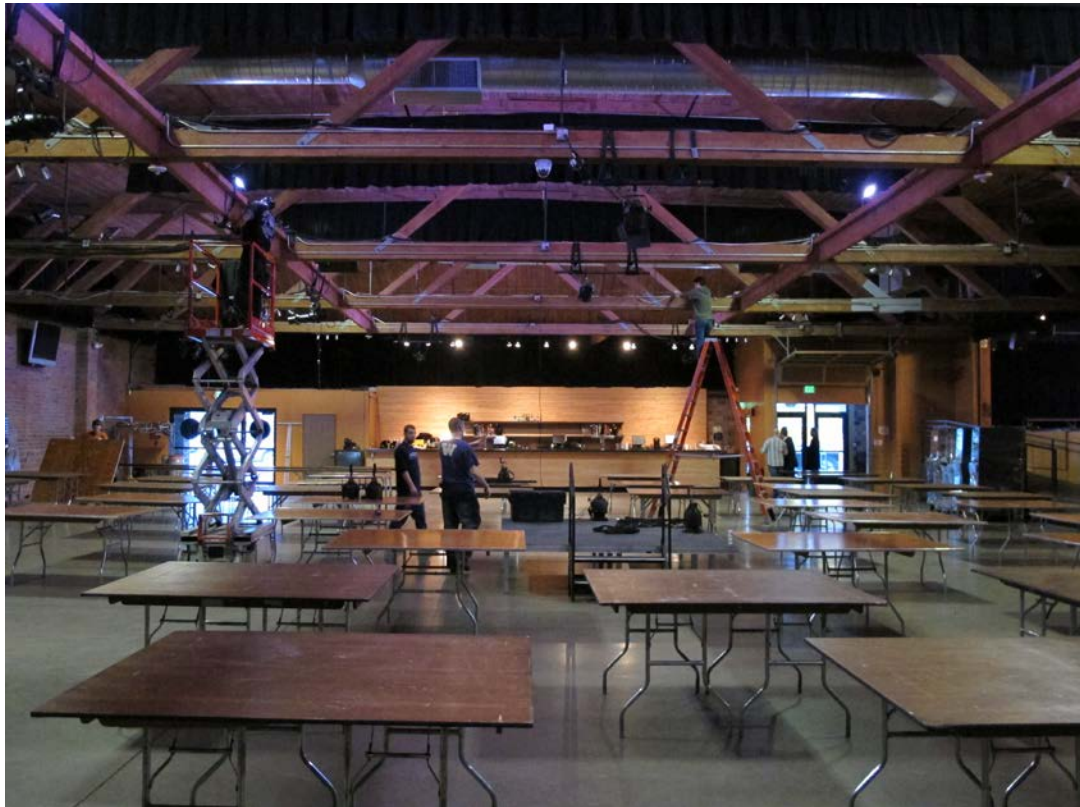
East elevation, south portion (facing Occidental Street)



Detail, west elevation (facing First Avenue S.). Diamond-shaped tiles, shaped window headers, windows, and light fixture are non-original and date from a 2003 renovation. Compare to 1937 tax assessor photo.



Detail, west elevation (facing First Avenue S.), showing main entrance.



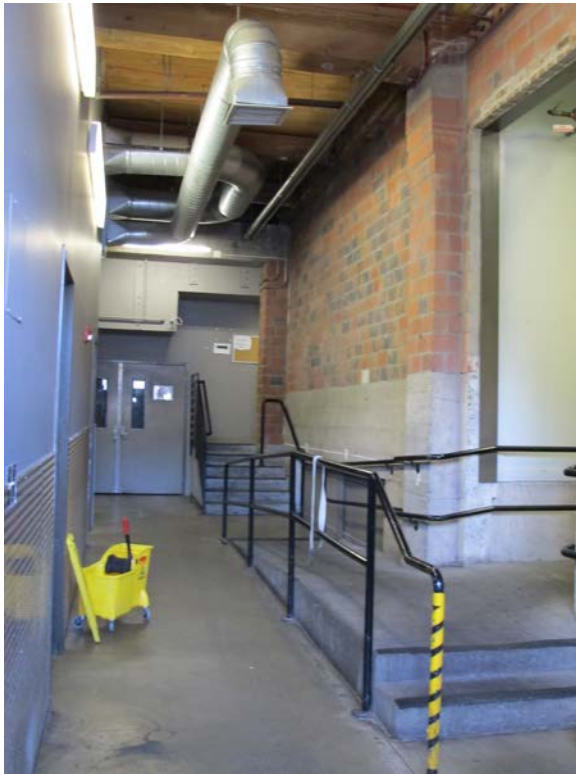
Interior of live venue portion of space.



Interior of live music venue portion of space. Note timber and steel cable components of roof trusses.



Interior showing restaurant portion of building.



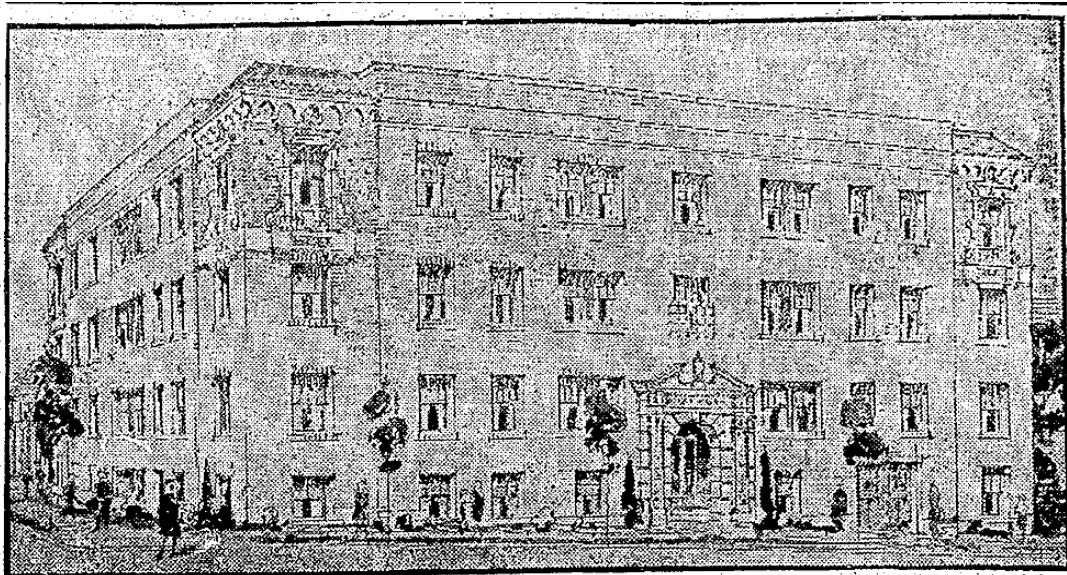
Interior, showing interstitial service spaces and kitchen



Other work by the architect, Howard H. Riley: Wembley Court Apartments (1924) – tax assessor photo



Other work by the architect, Howard H. Riley:
Wembley Court Apartments (1924) and Fremont Baptist Church (1924) – tax assessor photos



Other work by the architect, Howard H. Riley: Westwood Apartments, 1928 (Seattle Times, April 22, 1928)



July 8, 2013

Historic Preservation and SEPA Review - Appendix A
(Seattle DPD CAM #3000)

Additional Information to determine whether a structure
appears to meet any of the criteria for landmark designation

I. Building Location:

1714 First Avenue S, built c.1929-30

(parcel 7666206405)

II. Physical Description: Provide a physical description of both the interior and exterior of the structure(s).

This Art Deco “zigzag” style building was constructed as a “Warehouse and Track Storage Building” according to very poor drawings dated 1929-30 on file at the DPD Microfilm Library. The architect and engineer was E. Glen Morgan, and the building owner was Russak & Nelson. Taylor Edwards Warehouse & Transfer Company was the lessee. Some tax records state that the building was constructed in 1921, but this appears to be erroneous information.

The structure is two stories tall, with a flat roof, and fully occupies the midblock parcel. It is constructed of brick walls, clad with stucco, and features post and beam on the interior. On the second floor, apparently original trusses supporting the roof incorporate both wood and steel rod members (for elements in compression and tension) in the design. The adjacent building at 1700 First Avenue S. has similar roof trusses. There is no basement. First floor ceilings measure 17 feet, and the second floor measures 23 feet 6 inches.

Because the site has no alley, the building extends to Occidental Avenue S. on the east, where there is a rear (non-primary) facade and access to a auto/truck ramp to the second floor. Apparently original windows remain intact on the rear elevation, although no early photo could be found to confirm that they are original.

The building was remodeled in the past few years, and all of the original windows on the primary or west elevation were removed. The north side of the first floor is currently used as a distillery and apartment. The south side of the first floor is unoccupied, as is the upper floor.

III. Architect or Builder: Provide information about the architect/builder; i.e., regarding education, career, other works in Seattle. If other structures were built in Seattle, indicate whether they remain and their location.

The architect and engineer was E. Glen Morgan. According to the Seattle Historic Preservation Office historic survey listing for this building, Morgan “appears to have begun practicing independently in the cabinetmakers trade as early as 1921, offered building contracting services in 1922 and joined the John Graham Sr. architectural firm as a “superintendent” by 1925. In 1930, he was in business partnership with two other men, serving as the vice president of the Universal Plan Service Inc. He had re-joined John Graham’s firm by 1937 as an architect with Graham & Painter. In 1941 he had his own architectural practice. He was no longer living in Seattle by 1948.”

One built work by Morgan that could be found in Seattle Times articles was an office/warehouse building for the Fairbanks Morse Company and a plumbing supply company at 1526 First Avenue S. (1930, much altered), valued at \$60,000 and described as reinforced concrete faced with brick (Seattle Times, May 18 and June 1, 1930). In 1943, Morgan is listed in another article as working as an engineer for The Austin Company, building a radio station for the Navy on Bainbridge Island. No additional information regarding architecture could be found about Morgan for this report.

IV. Statement of Significance: Current and past uses and owners of the structure(s). The role these uses and/or owners played in the community, city, state or nation.

The building is addressed as 1712 and 1714 First Avenue S. Polk's city directories were reviewed every decade for occupants of the building, listed below. Tax records and architectural drawings provided information regarding owners and occupants as well.

- 1938 Marwood Ltd., wholesale electrical appliances
Wilbur B. Driver Co., wire manufacturer
- 1948 Marwood Ltd., manufacturers agents
- 1958 Marwood Ltd., manufacturers agents
Acme Cartage Company, garage
- 1968 Marwood Ltd., power transmission equipment
- 1978 Marwood Ltd., power transmission equipment
Vacant
- 1988 Industrial Rebuild Inc., power transmission equipment
- 1996 Industrial Rebuild (according to tax records)
Q City Sheet Metal (according to tax records)

On the 1929 architectural drawings, the building owner listed was Russak & Nelson, with Taylor Edwards Warehouse & Transfer Company as the lessee. On 1937 tax records, the fee owner is Harry Russak et al.

Harry Russak appears to have been the owner of Harry Russak Truck Company, which begins to appear in classified newspaper advertisements (offering new and used truck parts for sale) as early as 1941. This company at that time was located at 5505 First Avenue. By the 1970s, the Harry Russak Truck Company was located on E. Marginal Way. Russak appears to have died in 1969, and the Harry Russak Truck Company was continued by his children.

Russak & Nelson appear to have been related families, and owned at least a few investment properties in Seattle. At least one of these properties, mentioned in a 1965 news article, was located at 1919 Fourth Avenue S., and leased to Star Rentals, Inc.

Conclusion regarding significance:

The Seattle Landmarks Preservation Ordinance (SMC 25.12.350) states the following landmark criteria: "Standards of designation: An object, site, or improvement which is more than twenty-five (25) years old may be designated for preservation as a landmark site or landmark if it has significant character, interest or value as part of the development, heritage or cultural characteristics of the City, state, or nation, if it has integrity or the ability to convey its significance, and if it falls into one (1) of the following criteria:

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- Criterion C - It is associated in a significant way with a significant aspect of the cultural, political, or economic heritage of the community, City, state, or nation.
- Criterion D - It embodies the distinctive visible characteristics of an architectural style, or period, or method of construction.
- Criterion E - It is an outstanding work of a designer or builder.
- Criterion F - Because of its prominence of spatial location, contrasts of siting, age, or scale, it is an easily identifiable visual feature of its neighborhood or the City and contributes to the distinctive quality or identity of such neighborhood or the City."

In our opinion, based on the research conducted for this report, the 1714 First Avenue S. building does not appear to meet any of the six landmark criteria at this point, due to renovation of the building in recent years which removed the original windows on the primary facade. Although still a recognizably Art Deco building, the current windows are a significant blow to the building's integrity.

Thank you,



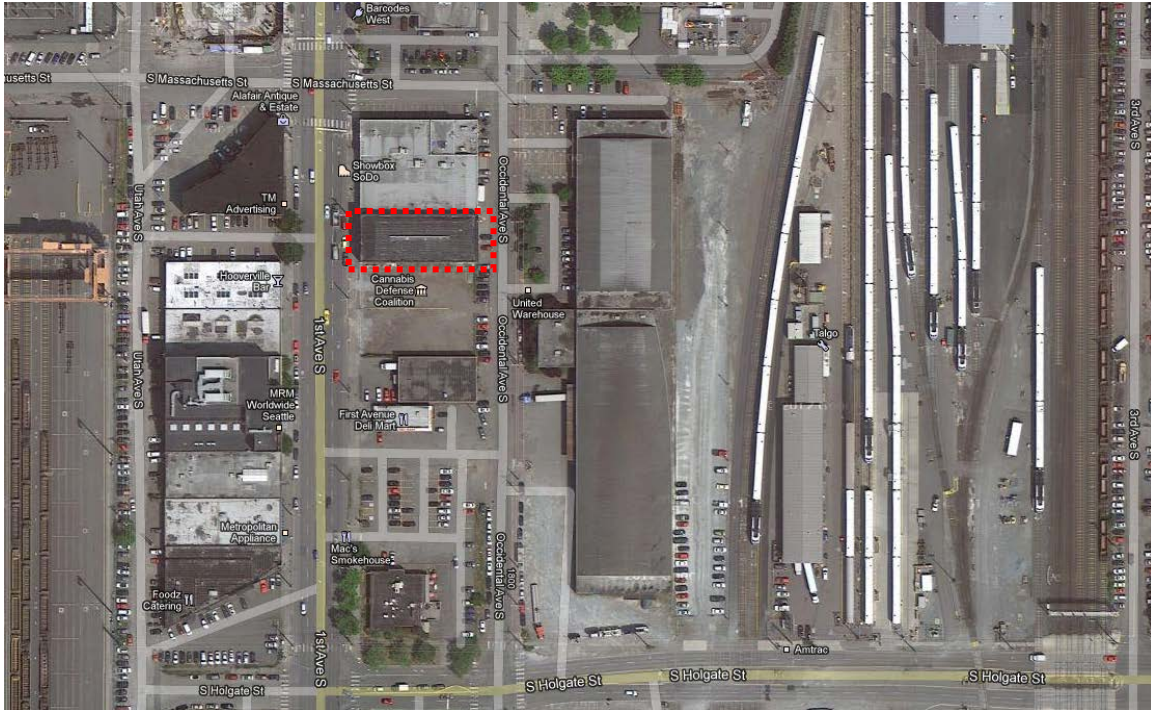
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- Puget Sound Regional Archives, tax assessor records and photos.
- Sanborn maps, various dates
- Historic Seattle Times searchable database
- Seattle Municipal Archives digital photo collection (SMA)
- Seattle Historic Preservation Office historic survey database
- Jim Clark, Western America Commercial LLC, the property manager for building

V. Photographs: Clear exterior photos of all elevations of the building; interior photos of major or significant spaces; available historic photos; neighborhood context photos.

Note: All photos by NKA from February-March 2013 unless noted otherwise.



Neighborhood context: Subject parcel located by the red box. North is up. (2013, Google Maps)



Neighborhood context: View south on Occidental Way S.; east elevation of subject building at middle right.



1937 tax assessor photo, west elevation (facing First Avenue S.)



West elevation (facing First Avenue S.)



East elevation (facing Occidental Street) and south party wall



East elevation (facing Occidental Street). Open entrance at left gives access to an auto/truck ramp to the second floor.



Partial view of north party wall



Detail, west elevation (facing First Avenue S.), and exterior finishes. All windows on this elevation are non-original.



Ramp to second floor, accessed from east side of building.



Second floor, southern half of the building (top of ramp).



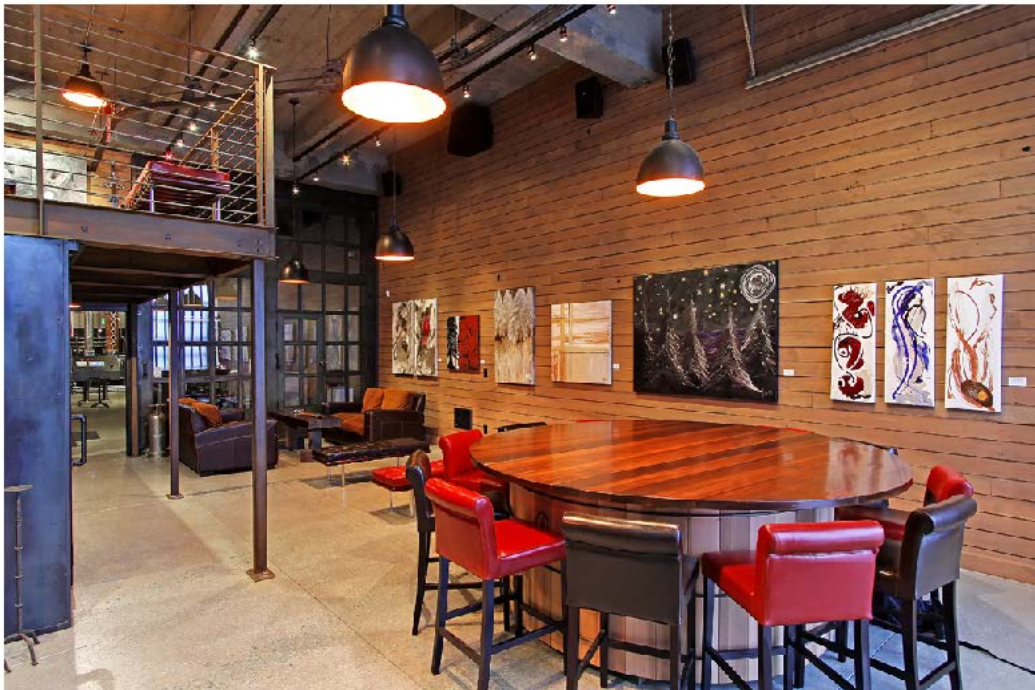
First floor, southern half of building A. Auto/truck ramp is at left, on other side of masonry wall. The purpose of the openings along the wall at right could not be discerned, but may have been warehouse-related storage spaces.



View into storefront at sidewalk level, south side of main elevation.



Interior of north side of building, first floor (image courtesy of Jim Clark)



Interior of north side of building, first floor (image courtesy of Jim Clark)



Interior of north side of building, first floor (image courtesy of Jim Clark)



July 8, 2013

Historic Preservation and SEPA Review - Appendix A
(Seattle DPD CAM #3000)

Additional Information to determine whether a structure appears to meet any of the criteria for landmark designation

I. Building Location:

1750 Occidental Avenue S. (parcel 7666206285)

II. Physical Description: Provide a physical description of both the interior and exterior of the structure(s).

The parcel occupies the entire block, with the building sited to the east side of the parcel, nearest the adjacent railroad yard, with a paved parking/loading area covering most of the rest of the site.

The one-story building sizeable in area, measuring approximately 122 feet by 600 feet in plan, and 24 feet in height. The original building was constructed at the southern portion of the site in 1954 and measured 122 feet by 360 feet. It was constructed as a warehouse, for goods delivered by rail and truck. The eastern wall of this portion of the building is angled for over half of its length, due to a spur rail line which originally was located adjacent to the building.

In 1956-57, an addition measuring 122 feet by 240 feet was constructed on the north side, which nearly doubled the length of the building, extending the building to Massachusetts Street. At that time, a loading dock was built at the angled eastern wall of the original portion of the building.

Both the 1954 and 1956 portions of the building are constructed of tilt-up concrete walls, with large wooden bow trusses supporting the roofs. The interior contains both warehouse space and offices. Notes on tax records indicate that the interior features a floating slab concrete floor, which had ongoing settling and "waving" problems (at least in the 1970s) so severe in some places that it caused difficulties in stacking warehouse goods, and serious cracks in exterior walls.

In 1987, a 45 foot by 70 foot addition was constructed on the west side of the building, containing a main entry area, and additional offices.

III. Architect or Builder: Provide information about the architect/builder; i.e., regarding education, career, other works in Seattle. If other structures were built in Seattle, indicate whether they remain and their location.

Listed on tax records as the architect of the 1953 portion was Harry Powell, and the contractor was the S.S. Mullen Company. Powell was actually a local structural engineer, but only a few citations could be found for him. For example, he was structural engineer for the Lowell Apartments (Harry Hudson, 1928) at 8th Avenue and Spring Street; and for a 105,000 square foot, steel and masonry brick factory on 15 acres in Newcastle in 1958, valued at \$1.2 million

dollars and made of prefabricated brick panels. He was apparently best known for his 1957 design of the “Rainbow Bridge” over the Swinomish Channel near LaConner, Washington. Powell died in 1991.

IV. Statement of Significance: Current and past uses and owners of the structure(s). The role these uses and/or owners played in the community, city, state or nation.

The building is addressed as 1700 or 1750 Occidental Avenue S. According to tax records, the fee owner in 1953 was the Northern Pacific (or possibly Burlington Northern) Railroad, which constructed the warehouse and leased the property to the United Wholesale Company.

A review of Polk’s city directories provides a review of tenants over the decades. Notably, the building has served a number of food-related wholesale companies. Below is a list of occupants for these years:

- 1958 Boyle-Midway Inc., cleaning compound manufacturers
Lenihan Distributing Company, wholesale electronic appliances
Ocoma Foods Company, frozen food processors
American Home Foods (Division of American Home Products Corporation)
- 1968 Lenihan Distributing Company, water heaters and boilers
Kerr Glass Manufacturing Company
Manley Inc, confectioners equipment
PET Milk Company
United Warehouse Company, merchandise wholesaler
Max L. Israel Company, food brokers
American Home Foods (division of American Home Products Corporation), food brokers
Schmoyer Finney & Tischler Inc., food brokers
[Three office spaces are listed as “vacant.”]
- 1978 Lenihan Distributing Company, water heaters and boilers [two spaces are used as “annexes”]
United Warehouse Company, merchandise wholesale
Israel & Agoado Inc., food brokers
[One office space listed as “vacant.”]
- 1988 United Warehouse Company, merchandise wholesaler
Northwest Brokerage Company, candy broker

Conclusion regarding significance:

The Seattle Landmarks Preservation Ordinance (SMC 25.12.350) states the following landmark criteria: "Standards of designation: An object, site, or improvement which is more than twenty-five (25) years old may be designated for preservation as a landmark site or landmark if it has significant character, interest or value as part of the development, heritage or cultural characteristics of the City, state, or nation, if it has integrity or the ability to convey its significance, and if it falls into one (1) of the following criteria:

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- Criterion D - It embodies the distinctive visible characteristics of an architectural style, or period, or method of construction.
- Criterion E - It is an outstanding work of a designer or builder.

- Criterion F - Because of its prominence of spatial location, contrasts of siting, age, or scale, it is an easily identifiable visual feature of its neighborhood or the City and contributes to the distinctive quality or identity of such neighborhood or the City."

In our opinion, based on the research conducted for this report, the 1750 Occidental Avenue S. building does not appear to meet any of the six landmark criteria. Although an unusually sizeable building, it does not rise to the level of significance of a landmark.

Thank you,



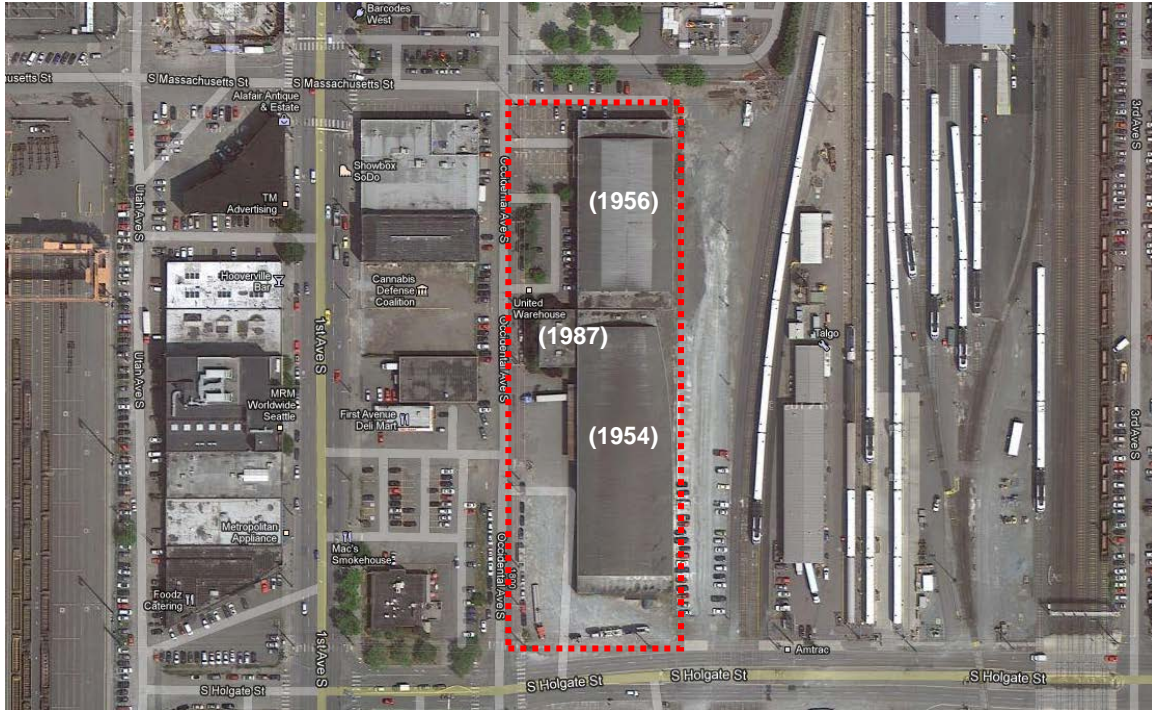
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- Sanborn maps, various dates
- Seattle Historic Preservation Office online survey database of historic properties
- Historic Seattle Times searchable database
- Seattle Municipal Archives digital photo collection (SMA)

V. Photographs: Clear exterior photos of all elevations of the building; interior photos of major or significant spaces; available historic photos; neighborhood context photos.

Note: All photos by NKA from February-March 2013 unless noted otherwise.



Neighborhood context: Subject parcel located by the red box. Dates of construction of parts of building indicated in parentheses. North is up. (2013, Google Maps)



Neighborhood context: View north on Occidental Avenue S.; west elevation of subject building indicated by arrow.



1955 tax assessor photo of north elevation of original building, which occupied only the south portion of the site.



1957 tax assessor photo of original building (foreground) after construction of the addition (visible in the distance), showing south elevation (facing S. Holgate Street) and east elevation (facing railroad tracks).



North elevation at left (facing S. Massachusetts Street), west elevation (facing Occidental Avenue S.) at right.



Detail, west elevation, showing windows and exterior finish



Looking southward, midblock on Occidental Avenue S., at the west elevation. Office addition at right.



West elevation, midblock, showing office addition at right.



Looking northward, on Occidental Avenue S.; note office addition at center.



Looking northward, on Occidental Avenue S. at corner of S. Holgate Street, at the west and south elevations. Note office addition at far left.



Looking southward, midblock on Occidental Avenue S. at corner of S. Holgate Street, at the west elevation.



South elevation (facing S. Holgate Street)



View of south (left) and east (right) elevations



Looking northward at the east elevation



Detail, east elevation



Detail, east elevation



Detail, east elevation, showing former railroad-side loading docks



Interior



Interior



Interior



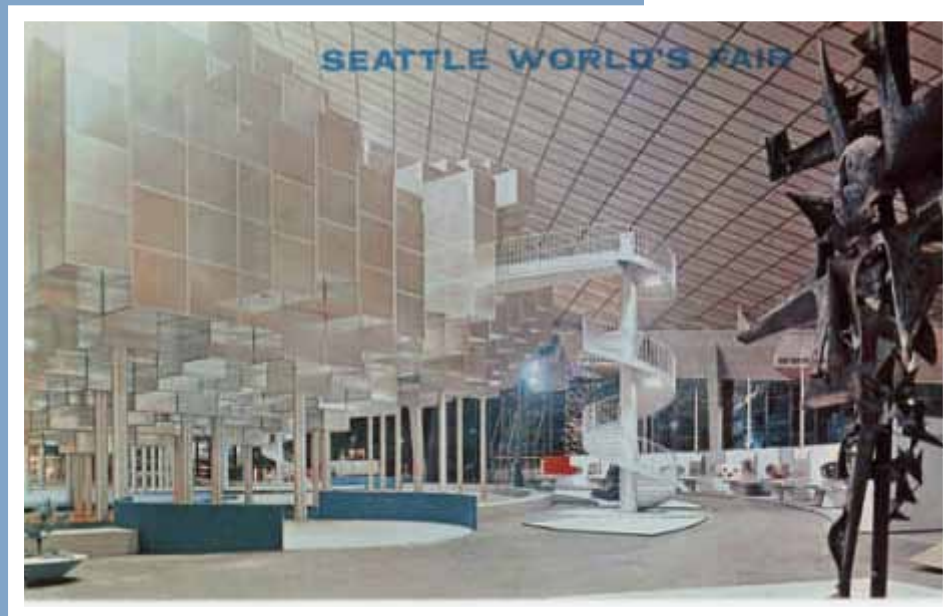
Interior



Other work by the structural engineer, Harry Powell:
Swinomish Channel or “Rainbow” Bridge, LaConner, Washington (1957)

SEATTLE CENTER

HISTORIC LANDMARK STUDY



MARCH 2013

Publishing Data

Roster Program Category #41

This report Commissioned by the City of Seattle,
Seattle Center Redevelopment Department

Published March 2013



HistoryLink.org



Project Team

Artifacts Consulting, Inc. and HistoryLink.org undertook as partners preparation of this report. Michael Sullivan served as principal-in-charge with Marie McCaffrey providing project visioning. Historians Paula Becker and Alan Stein developed the site context and property specific histories and document review. Paula Becker conducted archival research and assisted with site visits assessing the site and buildings to understand significance and changes over time. Architectural historians Katie Chase and Susan Johnson developed property specific physical descriptions, character-defining feature identification, and chronologies of alterations, as well as participating in field work and archival research. Katie Chase developed the report layout and production. Spencer Howard served as project manager providing project coordination, assisting in archival research, project meetings, field work, mapping, and report development.



1962 image of the Playhouse lobby. Source: University of Washington Special Collections.

TABLE OF CONTENTS

Executive Summary 1

Methodology 3

Context Synopsis 5

Assessment 13

Findings 59



2013 view of the Exhibition Hall which houses the Pacific Northwest Ballet. Source: Artifacts Consulting, Inc.

LIST OF TABLES & FIGURES

Glossary of Current vs Historic Building Names ix

Project Area Map 2

Listed Properties Table 13

Inventoried Properties Table 15

Landmark Criteria Table 60

Landmarks Eligibility Map 62

Community Open Space Map 64



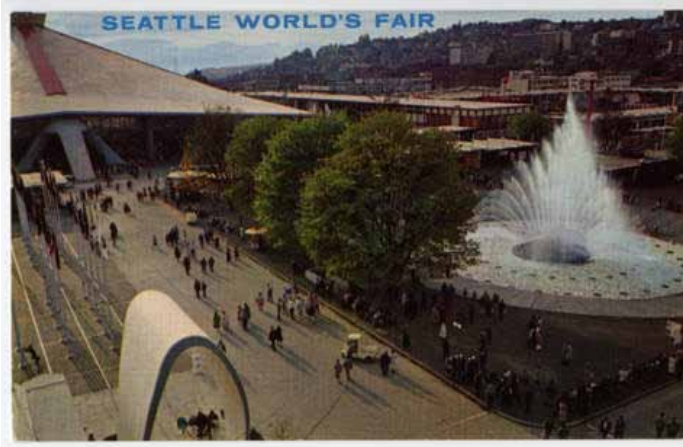
2013 view of James Fitzgerald Fountain of the Northwest. Source: Artifacts Consulting, Inc.

Glossary of Current vs Historic Building Names

ID	CURRENT NAME	HISTORIC NAME(S)	SURVEYED
1	KeyArena	Washington State Pavilion, Washington State Coliseum	Yes
2	International Fountain (including associated open space)		Yes
3	1st Avenue North Parking Garage		No, less than 25 years
4	Blue Spruce Building	Blue Spruce Apartments, Administration Building	Yes
5	Armory	Washington State National Guard Armory, Food Circus, Center House	No, listed
6	Central Utility Plant		No, less than 25 years
7	Exhibition Hall/Phelps Center	Fine Arts Pavilion, Exhibition Hall	Yes
8	Playhouse	Intiman, Playhouse Theater	Yes
9	Fisher Pavilion	Flag Pavilion	No, less than 25 years
10	Seattle Repertory Theatre	Bagley Wright Theatre	Yes
13	Marion Oliver McCaw Hall	Civic Auditorium, Opera House	No, extensive alterations
14	Mercer Arts Arena	Arena, Civic Ice Arena, Display Hall	Yes
15	Mercer Street Parking Garage		Yes
16	NASA Building	NASA Building, NASA Pavilion	Yes
17	Northwest Rooms	International Commerce and Industry Buildings	Yes
18	International Fountain Pavilion	Sweden Pavilion, Northwest Craft Center	No, less than 25 years
19	Pottery Northwest/Gardener's Facility	Bressi Garage	Yes
20	Seattle Center Pavilion		Yes
21	Seattle Children's Theatre	Nile Shrine Temple, Club 21	Yes, Nile Shrine only, rest less than 25 years
23	West Court Building	Fair Headquarters, Century 21 Exposition Headquarters	Yes
24	Founders Court	Presidential Court	Yes
26	Kobe Bell		No, listed
27	Horiuchi Mural		No, listed
35	Memorial Stadium		No, previously documented
37	Pacific Science Center	Federal Science Pavilion	No, listed
39	Space Needle		No, listed
40	Skatepark		No, less than 25 years
42	Chihuly Garden and Glass		No, less than 25 years
43	KCTS 9 Building		Yes
44	Experience Music Project		No, less than 25 years
45	Seattle Center Monorail	Monorail Terminals, Seattle Center Station	No, previously documented
46	Next 50 Pavilion		No, less than 25 years
47	Gift Shop	Monorail Office Building, Quick Draw Theater, Seattle Center Administrative Offices/Alweg Building	No, previously documented
48	Kiosk		No, less than 25 years
49	Restroom Pavilion		No, less than 25 years
50	International Plaza		Yes
51	Courtyard, Playhouse	Grand Court	Yes
52	Fisher Green	Plaza of the States, Fisher Green Open Space, South Fountain Lawn	Yes
53	Mural Amphitheatre	Friendship Mall	Yes



1962 view inside of the former Canadian Pavilion, located within the Northwest Rooms. Source: Seattle Public Library



1962 postcard of the Seattle World's Fair. Source: Seattle Public Library.

EXECUTIVE SUMMARY

The recommended approach for grouping properties to present them to the Landmarks Preservation Board is two small concentration areas, each having an assembly of properties associated with a single architectural firm, and then considering remaining properties on an individual basis.

Concentration Areas

Thiry concentration area properties:

- International Fountain Pavilion
- KeyArena
- NASA Building
- Northwest Rooms
- Seattle Center Pavilion
- International Plaza

Kirk concentration area properties:

- Exhibition Hall
- Mercer Street Parking Garage
- Playhouse (including courtyard)
- Founders Court
- North Gate
- Colonnades

Individual

- Pottery Northwest, Gardener's Complex

Lesser examples that would not be individually eligible for nomination :

- West Court Building
- Blue Spruce Building
- Marion Oliver McCaw Hall

Community Properties

These are properties that rely nearly exclusively on their open space quality to convey their historical associations. These properties merit further discussion relative to their eligibility as Landmarks and their community role.

- International Fountain
- Mural Amphitheatre
- Fisher Green
- Street Grid

Artifacts

Properties and residual property parts that continue to serve an important contextual role within Seattle Center, but do not fit within the Landmark designation process are artifacts. As buildings are adaptively reused, the potential to salvage and reuse elements from the buildings to the benefit of Seattle Center's overall visual character should be considered.



Project Area Map



Historic view of the Exhibition Hall. Source: Mike and Carolyn Nore.

METHODOLOGY

Study Area

The study area encompasses only land owned by the City of Seattle. This includes instances where a building not owned by the City of Seattle stands on land owned by the City of Seattle, such as the KCTS 9 Building at the corner of Mercer Street and Fifth Avenue North.

Property in this study means any site, building, structure, vegetation, open space, or object.

The area is roughly bounded on the north by Mercer Street, south by Broad Street and Thomas Street, the east by Fifth Avenue North, excluding the 9 acres Memorial Stadium site, and Second and First Avenues North on the west. (Refer to Project Area Map)

Planning

Seattle Center initiated this study in 2013 as the majority of properties reached 50 years of age, where by the City has elected to consider their eligibility for Landmark designation.

Planning studies for Seattle Center providing a relevant management overlay follow below.

Seattle Center Century 21 Master Plan, 2008 and 2011 update as an addendum to the *Final Environmental Impact Statement*, Seattle Center Master Plan establish planning zones for the campus. Page 1.11 of the plan introduces the four zones: the Center of the Center, Memorial Stadi-

um, Theatre District, and KeyArena. Recommendations follow this zone organization.

Landscape Management Plan, 2009, addresses vegetation, hardscape and water feature management for the site. Of particular relevance is chapter 1 on trees. Page 11 starts the discussion of Canopy Trees and tree replacement plan. Legacy and Dedicated Trees are identified on page 24 of the plan by zone. Chapter six addresses landscape features, including water features and hardscape.

Century 21 Design Guidelines, 2009, provide planning and guidelines for architectural design, landscape management, public art, signage, and lighting.

Process

Preparation of this study addressed three key steps: research, field work, and production. The study follows standards set forth by the Department of Archaeology and Historic Preservation in the *Washington State Standards for Cultural Resource Reporting*, 2011.

Research built upon the extensive background and archival research undertaken by Paula Becker and Alan J. Stein in writing *The Future Remembered: The 1962 Seattle World's Fair and Its Legacy*. Previous Landmark nominations and surveys for the site provided additional context and details on the individual buildings. Conversations with Seattle Center staff and the extensive on-site collection of drawings maintained by Seattle Center provided a wealth of detailed information on the properties and changes over time. Our team reviewed Department of Planning and Development permit records, collections at the Washington State Archives, Puget Sound Regional Branch, Seattle Public Library, Seattle Municipal Archives, University of Washington, and King County Archives.

Field work entailed an exterior survey of the properties followed by access to select building interiors. The properties were digitally photographed and notes recorded as to character-defining features, spaces, and alterations.

Production involved writing, editing and assembling the study. As part of this process Artifacts set up a GIS database for the study area to record building, tree, circulation network, and landscape data recorded during the survey and archival research.



Historic image of the International Fountain Pavilion and the east end of the Northwest Rooms. Source: Seattle Public Library.



Postcard of the Space Needle and Plaza of States. Source: Seattle Public Library.

CONTEXT SYNOPSIS

The Site's Early History

The land that became the 74-acre (13 square block) site for the 1962 Seattle World's Fair/Seattle Center was part of David and Louisa Boren Denny's 1853 donation land claim. (Mercer Garage occupies land that was part of Thomas Mercer's donation land claim.) By the late 19th century, the area had been platted and had developed into an urban neighborhood comprised of wood-frame homes, some small businesses, and a few boarding houses. Many of the earliest settlers in the developing neighborhood were employees at Western Mill – the city's largest sawmill – located nearby. The Warren Avenue School (built 1902) and adjoining Mercer Playground (built 1910) served neighborhood families, who were predominantly working class.

The idea of creating a civic center to serve as Seattle's preeminent cultural gathering place was broached in Virgil Bogue's elaborate 1911 "Plan of Seattle" that – had the voters approved it – would have reshaped the area in and around the Denny Regrade neighborhood. Although rejected, the Bogue Plan is significant in that it was the first time the notion of building a civic center in or near

lower Queen Anne – where Seattle Center stands – was part of the civic discussion.

Seattle's Chamber of Commerce announced plans for a civic auditorium in April 1926, under banner headlines in local newspapers. They had already purchased a four-block site on lower Queen Anne, using mainly a bequest from pioneer James Osborne, who stipulated that his gift should fund "a public hall." The site was adjacent to Warren Avenue School and Mercer Playground. Along with the auditorium, a civic field and display hall were initially planned. In 1927-1928, the city constructed a cluster of buildings to meet many of the growing city's civic needs: a Civic Auditorium/Exposition Hall (with two distinct spaces: an auditorium for symphony and other performances; and what was referred to as an exposition or display hall, designed to hold conventions and sporting and athletic events, including horse shows); a Civic Ice Arena (used for public skating sessions and for hockey); a Civic Field (used for outdoor sporting events, particularly high school football and professional baseball); and a small Veterans of Foreign Wars facility that also served as a field house. The Seattle City Council appropriated \$50,000 to fund construction of the VFW hall. These structures occupied the four-block area bordered by Mercer and Harrison Streets and Third and Fourth Avenues North, while Warren Avenue School and Mercer Playground occupied the two blocks bordered by Warren Av-



Above: 1962 view of Everett DuPen's Fountain of Creation outside the Northwest Rooms (Canada Pavilion within International Commerce and Industry Buildings). Source: Mike and Carolyn Nore.



Right: Historic view of southeast corner of KeyArena. Source: Seattle Public Library.

enue North, Third Avenue North, Harrison Street, and Republican Street. This meant that six full blocks of the ultimate 13-block Seattle World's Fair site were already in public use before 1930. Major contributors to the creation of these civic facilities included the Seattle Chamber of Commerce, Central Labor Council, Seattle Public Schools, the Rainier Post of the American Legion, Seattle mayor Bertha Knight Landes, the City Council, and Seattle voters, who approved a \$900,000 bond measure to fund construction. While school and playground served primarily nearby residents, the new civic buildings drew people from throughout the city and beyond to what rapidly became a core of civic activity.

In 1939, the Washington National Guard built a massive field armory on the block bordered by Harrison Street, Thomas Street, Nob Hill Avenue, and Third Avenue North, bringing the total number of future fair site blocks in public use to seven. The Armory was used for military purposes, but also as a large public gathering place, serving – for example – as the site of the notorious Canwell Committee hearings on un-American activities in Washington state. The Armory also hosted large scale scouting events, dances, and other similar activities.

In 1947, Seattle Public Schools replaced Civic Field with a stadium. The city condemned the property in the block bordered by Republican and Mercer Streets and 4th and

5th Avenues N to create a parking lot for the stadium. In 1951, the school district added to the stadium a wall memorializing former students who had lost their lives in World War II. By this time, the character of the neighborhood had begun to shift increasingly toward small commercial enterprises. Housing stock, while still plentiful, was aging and frequently not owner-occupied.

The Need

With these core buildings, Seattle had a starter civic center, of sorts, but many residents – especially music lovers who attended Seattle Symphony recitals – felt the 1920s facilities were far from adequate. One problem was the mixed-use Civic Auditorium/Exposition Hall, which served neither function perfectly. The auditorium was built with a flat rather than a raked seating area, meaning that the venue was not suitable for any visual performances such as opera or theater – and acoustics in the barn-like interior were dreadful.

The Seattle Civic Arts Committee, formed by community leaders in 1944, recommended the creation of a civic center to Seattle Mayor William F. Devin in 1946. This committee suggested that the city acquire land adjacent to the existing Washington National Guard Armory, Civic Field, and Civic Auditorium near the Denny Regrade. In late



Historic image of the International Fountain Pavilion. Source: Museum of History And Industry.

1947, members of the Civic Arts Committee formally incorporated as the Seattle Civic Center Association. The group – chaired by University of Washington drama professor Glenn Hughes – worked steadily to build support for a civic center and pushed the city to acquire land, succeeding somewhat in the former effort, but not the latter.

The late 1940s and early 1950s were a period of great growth and change in Seattle and elsewhere in the country as the economy and society in general transitioned from the time of war to peacetime. Seattle, so crucial to the war effort, could finally look beyond the demands of the war-intensified moment to the promise of peacetime leisure, comfort, and relaxation. For a far-thinking core of dedicated civic boosters who loved their city and supported the arts, a real civic center was a steadily increasing desire – a new necessity. In 1954, Seattle Mayor Allen Pomeroy appointed a committee to work toward facilitating the creation of a civic center to meet the city's art, music, theater, and other cultural and community needs.

The Dream

By brilliant happenstance the following year, a group of dedicated Seattle boosters floated the idea of creating a world's fair commensurate with the city's wildly successfully Alaska-Yukon-Pacific Exposition of 1909. They quickly gained the support of the Seattle City Council, Washington Governor Arthur Langlie, and a growing number of state legislators. Seattleite Edward Carlson led the world's fair charge, chairing the Washington World's Fair Commission.

Both the fair and the civic center groups knew their projects would require substantial funding and property acquisition, and both groups examined sites around the region. A major study concluded that the best place for a civic center would be a site near the Denny Regrade area that was already occupied by several buildings serving the community in various ways: performance venue, sports field, skating rink. At Carlson's urging, the World's Fair Commission also examined this promising site.

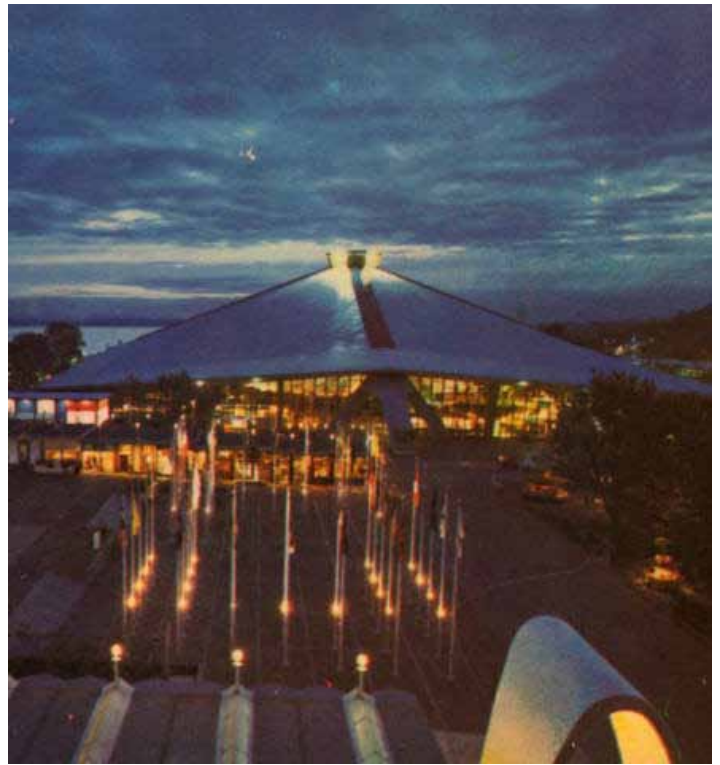
The Goal

World's Fair boosters knew that creating, funding, promoting, and producing an event of magnitude would consume countless resources, both human and financial. Why raise the money, do the work, transform the site, for just a few months' benefit? Their real goal, they realized, meshed perfectly with the aims of the civic center advocates: to create a permanent home for Seattle's arts and culture, a gathering place for the community, a real and lasting legacy that would be the most enduring souvenir of their great World's Fair. On November 6, 1956, Seattle voters approved a \$7.5 million bond issue to acquire land and build a civic center.

Site Development

Once the site was chosen, both the World's Fair Commission and the Civic Center Advisory Commission began the complex process of developing it. All of the existing civic buildings, Memorial Stadium, the Armory, and several newer structures were retained and repurposed for the project. The school, the playground, and more than 200 other structures were demolished. Memorial Stadium was leased from Seattle Public Schools for the duration of the fair, the Armory was leased from the Washington National Guard, and the Nile Shrine Temple was leased from the Nile Temple Holding Company. Although the neighborhood's built environment was altering drastically, the street grid that organized it mostly remained, becoming broad avenues used by pedestrians to navigate the fairground.

The fair's first employee, Ewen Dingwall, was hired jointly by Edward Carlson and Civic Center Commission leader Harold Shefelman as project director for the development of the civic center and the World's Fair. Dingwall's first major hire was architect Clayton Young, who oversaw every aspect of the site's transformation for the World's Fair with an eye to its post-fair use as civic center. A volunteer Design Standards Advisory Board was comprised of a group of Washington architects (Perry Johanson, John Detlie, Robert Deitz, and Paul Thiry); Seattle's Planning Commission Director John Spaeth; Seattle-born but Detroit-based architect Minoru Yamasaki; and San Francisco landscape architect Lawrence Halprin.



Above: Image of KeyArena at night, looking west. Source: Seattle Public Library.

In August 1958, Paul Thiry was appointed primary architect for the joint civic center/world's fair project. Thiry worked with Clayton Young to ensure that pre-fair decisions would dovetail with post-fair use. Numerous architects created buildings for the site, and all of their designs had to pass muster with Thiry.

Funding for the more substantial buildings came from the city, King County, the state, and the federal government. Corporate and private exhibitors funded smaller structures. While the fair had benefitted from the voter-approved bond issue that purchased 28 acres of the site and paid for some construction, the civic center (and thus the city and region) benefitted from land and construction financed by these other entities. On February 28, 1961, the civic center was officially named Seattle Center. Century 21 Exposition – the Seattle World's Fair – opened April 21, 1962 and welcomed nearly 10 million visitors before concluding on October 21, 1962. During the fair the site was busy, crowded, its venues heavily programmed. As the fair's end drew near, the question of which structures would be retained became pressing.



Aerial view of Playhouse and Exhibition Hall in the last stages of construction. Source: Seattle Public Library.

Redevelopment for Seattle Center

After the fair, some buildings that were clearly intended to be temporary were demolished, or sold for salvage. Memorial Stadium, owned by Seattle Public Schools, reverted to that body's control. The Armory lease was continued by Seattle Center, and the building was purchased by the city. The Coliseum, the Playhouse, and the Opera House were planned to last post-fair, while the Science Pavilion and the privately-owned Space Needle had very clear architectural and practical significance and had to stay. The Coliseum and the surrounding International Commerce and Industry buildings were altered, as planned, for post-fair use. Many other buildings proved that the fair's built environment provided great post-fair potential. Many small structures that might have been temporary were instead retained after the fair, pressed into service when the need arose, or even inspired Seattle Center staff to dream up creative programming to make them useful. Many of these structures served multiple uses in the decades after

the fair, especially during the early years as Seattle Center leaders groped their way toward understanding what they had in all that construction, what they could program into it, who they would partner with, and – especially – how they would fund it.

Changing Needs and Uses

The fair's layout utilized buildings to channel the flow of visitors to four main entrances. Today, the focus is creating a more permeable site resulting in less channeling of the flow of visitors and the use of open space as internal and external connectors. Over subsequent decades, Seattle Center's built environment was periodically pruned and edited to continue this process of opening the campus to its surroundings. This happened most substantially in late 1989 when the fair's massive, 500-foot long Domestic Commerce And Industry Building (also called Building 55), that closed the campus off along Broad Street, was demolished, allowing the creation of the Broad Street Green. It is an example of the complex dance of historical significance and usefulness that is inherent in what all of the fair planners wanted: a civic



Historic image of skybridge crossing over Mercer Street from the Mercer Street Parking Garage to the fair site. Source: Seattle Public Library.

center that serves the citizens of Seattle admirably, a place of cultural and community usefulness that is allowed to transform.

Newer construction has opened Seattle Center to an expanded audience in terms of age (Seattle Children's Theatre, the Skate Park, Vera Project), accessibility (compliance with the Americans With Disabilities Act has helped everyone from stroller-users to wheelchair-users), and cultural taste (Experience Music Project, Chihuly Garden and Glass). As Seattle's population grew and changed over the years, what Seattle's citizens asked of their Seattle Center also changed and evolved. Seattle's built environment gained density, and Seattle Center visitors increasingly appreciated the respite the site's views and open spaces could provide. The city in general grappled with encouraging historic preservation while stimulating new growth, and Seattle Center struggled to respect and celebrate the fair's legacy while responding to deterioration in virtually all of the fair-era buildings. Long-awaited infusions of funding via several bond issues gave Seattle Center the chance to patch and repair the most egregious deterioration on the campus, but never to fix all of it. In recent years, increasingly sophisticated methods of public/private partnerships continue to impact and influence Seattle Center's physical development, exemplified

most fully so far by McCaw Hall and Chihuly Garden and Glass. This has been an ongoing struggle, challenge, and opportunity. Seattle Center's Century 21 Master Plan, adopted in August 2008, freshly envisions the center's built environment and open spaces as they connect with each other and with the greater Seattle Center neighborhood. Built to inspire during the fair and to be useful after, Century 21 Exposition's buildings – some architecturally stunning, some utilitarian – have served Seattle Center now for over half a century. Like the campus, they are all workhorses, responding to our evolving community's choices, dreams, and needs.

POST WORLD'S FAIR HISTORY

Seattle Center has served its community for half a century, amply meeting – exceeding – the goals, hopes, and dreams of fair founders and of those who shaped and fought for the Center during its earliest years. Many fledgling arts organizations have found steady footing within Seattle Center buildings. The millions of hours of skill and dedication exercised by performers, designers, and technical staff within the Playhouse, McCaw Hall, Armory/Center Theatre, Seattle Repertory Theatre, and Seattle Children's Theatre have brought Seattle

Center audiences transformative artistic moments that continue to resonate. Seattle Opera and Pacific Northwest Ballet – both gestated, born, and nurtured in the Opera House/ McCaw Hall – flourish and enjoy deep community support.

Seattle Center has hosted some events that instantly became benchmarks in our civic history: The Beatles performance in the Coliseum (now KeyArena) in 1964 brought the white-hot Fab Four together with thousands of screaming Seattle fans. Seattle Art Museum’s landmark King Tut Exhibition in 1978 drew thousands of visitors to Seattle Center to marvel at these globally important artifacts. The International Fountain spontaneously became a gathering place for shell-shocked grieving mourners in the days following the September 11, 2001 terrorist attacks, demonstrating Seattle Center’s deep worth as a touchstone of community solace. His Holiness the 14th Dalai Lama’s appearance at KeyArena in 2008 brought children and young people from throughout the region to focus together on the transformative power of compassion. Seattle’s SuperSonics were KeyArena’s main tenant, galvanizing and delighting basketball fans – especially after winning the NBA championship in 1979 – until their deeply mourned departure in 2008. And when then-presidential candidate Barak Obama appeared at KeyArena on the chilly morning of February 8, 2008, even that massive venue could not contain the crowds that surged in to shout out, “Yes, We Can.”

Countless children – Seattle’s future electorate – learn to know and care about Seattle Center on school or family visits to Pacific Science Center, Seattle Children’s Theatre, or Seattle Children’s Museum. Festivals – especially the annual campus-wide Folklife Festival and Bumber-shoot – pack Seattle Center with a huge array of visitors whose backgrounds and culture reflect our ever-diversifying city. Cloudy days find parents treating children to pizza in the Armory, lifting them to peer at the Winterfest model train display, or keeping track of shoes as sock-footed youngsters scramble through giant inflatable rides during Whirligig. When the sun shines, people of all ages and walks of life pause to bask, play, or contemplate around the center of the Center – the glistening International Fountain.



Everett DuPen's Fountain of Creation. Source: Seattle Public Library.



Left: Aerial view of the fair grounds, from brochure. Source: Seattle Public Library.

Above: Aerial view of Pacific Science Center. Source: photo by Werner Leggenhager, courtesy Washington State Archives.

ASSESSMENT

This assessment addresses properties within the Seattle Center campus that are 50 years or older and not previously listed as a City of Seattle Landmark.

The status section provides an overview for the study area of currently listed properties and previous inventory forms.

The building and landscape sections include a brief historical synopsis, physical description, list of character-defining features and spaces, and chronology of alterations. Character-defining features and spaces distinguish the property’s visual character and their identification follows methods set forth in the National Park Service Preservation *Brief 17, Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character*. The Chronology of Alterations lists changes for each property, organized by date (when known).

Status

To focus survey efforts, existing City of Seattle Landmarks and previously documented properties were iden-

tified. Refer to Listed Properties Table and Listed Properties Map for the listing.

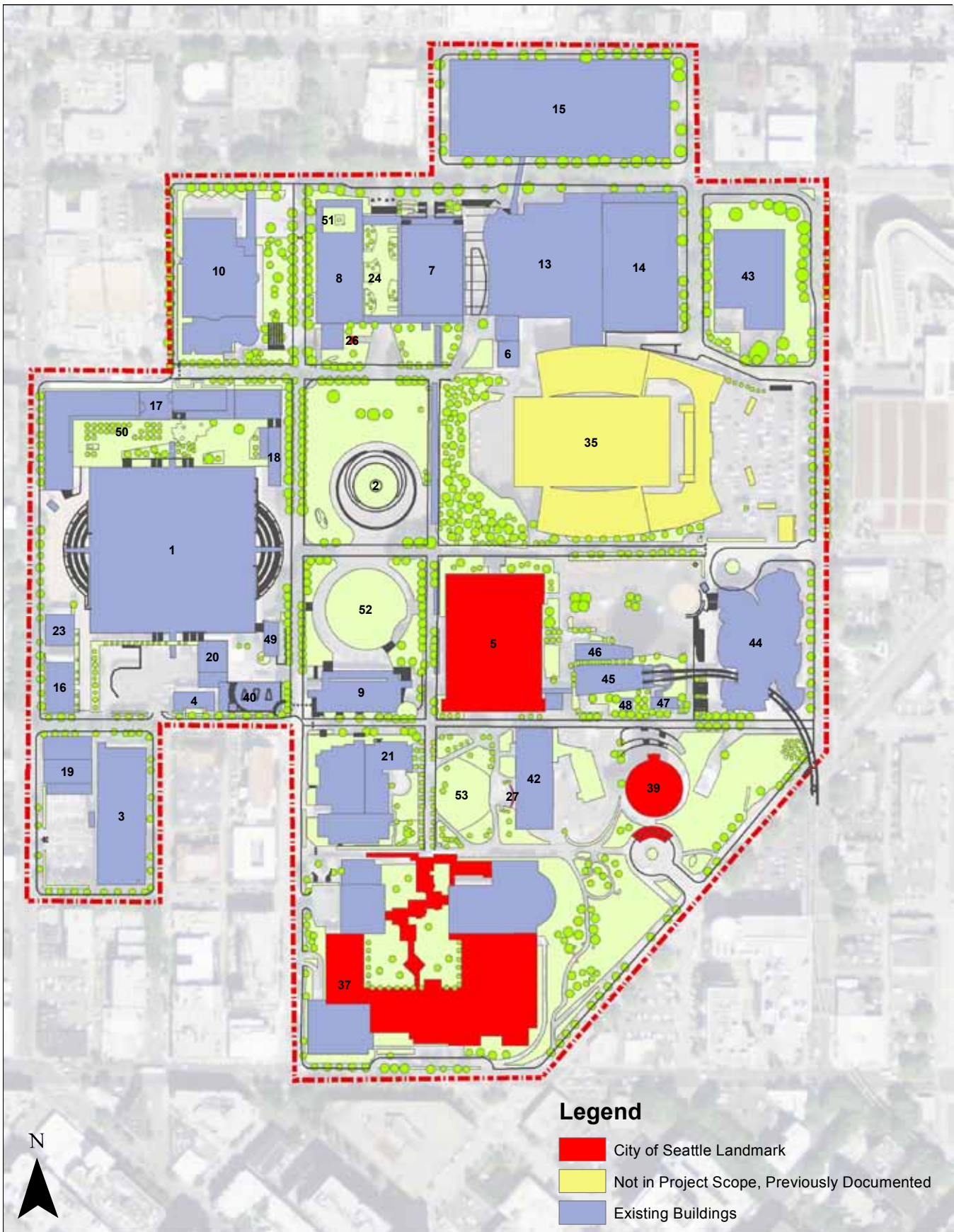
Listed Properties Table

PROPERTY NAME	LISTING DATE	LANDMARK ORDINANCE NUMBER
Space Needle	4/19/1999	119428
Seattle Center House (Armory)	5/10/2010	123298
Pacific Science Center	7/21/2010	Pending
Seattle Monorail	8/4/2003	121240
Kobe Bell	5/10/2010	123297
Horiuchi Mural	5/10/2010	123292

The following list identifies properties within the survey area having unique conditions. The summaries state the reasons for their inclusion or exclusion.

- **Memorial Stadium and Memorial Wall.** Both are owned by Seattle Public Schools ownership and have draft nomination applications prepared which are currently on hold. Consequently, they are not included within this survey of city properties.

Listed Properties Map



- **Monorail, Monorail Historic Review and Landmark Nomination** prepared in 2000 addressed the integrity of the monorail and associated facilities. The 2003 ordinance (121240) listed the monorail and identified parts of the Monorail for which a Certificate of Approval is not required. The following lists only those parts at Seattle Center. For this reason, these Monorail-related properties at Seattle Center were not included in the survey:

- 1962 elements of Seattle Center Station site
- Skybridge to the Center House
- Seattle Center Administrative Offices/Alweg Building (exterior and interior) (note the lower portion of the building was enlarged in 1991 to plans by YCK Architecture & Planning)
- Paving, ramp and stairs at Seattle Center Station
- Electrical vault building
- Two ticket booths

- **Mercer Arts Arena**, for which Seattle Center has a long term lease with the Seattle Opera. The responsibility falls to the Seattle Opera, as the long term lessee, to undertake a study, but they have not chosen to at this date. Due to consideration of the associated Mercer Garage, Exhibit Hall/ Phelps Center, and Playhouse an assessment of this building is included to address only the exterior 1961 conversion as part of the fair.
- **McCaw Hall** is included in the survey as a matter of documentation; although McCaw Hall continues its historic function as a performing arts venue, the building exterior, interior, and west plaza have been extensively altered.
- **Contemporary properties** for the purpose of this study are those built in 1989 or later based on study publication in 2013. Contemporary properties are not addressed in this study.

Inventoried Properties Table

PROPERTY NAME	ID	IN CITY DATABASE	IN WISAARD
KeyArena	1	yes	yes, 1979; 2000; 2004
Blue Spruce Building	4	yes	yes, 2000
Exhibition Hall	7	yes	yes, 2000
Playhouse	8	yes	yes, 2000
Mercer Arts Arena	14	yes	yes, 2000
Mercer Street Parking Garage	15	yes	yes, 2000
NASA Building	16	yes	yes, 2000
Northwest Rooms	17	yes	yes, 2000
International Fountain Pavilion	18	yes	yes, 2000
West Court Building	23	yes	yes, 2000
Pottery Northwest / Gardener's Facility	19	yes	yes, 2000
Monorail Terminal	46	yes	yes, 2000
Gift Shop	47	yes	yes, 2000
KCTS 9 Building	43	no	no
Seattle Repertory Theatre	10	no	no
Seattle Children's Theatre	21	yes	yes, 2000

The following Inventoried Properties Table provided a starting point for research and field work by identifying background on properties built in or before 1989 that have been surveyed and recorded in the City of Seattle, Department of Neighborhoods online [Survey Database](#) or the Washington State Department of Archaeology and Historic Preservation's online [WISAARD](#) database.



1962 aerial watercolor print of Century 21 Exposition. Source: Seattle Public Library.

Buildings

This section is organized thematically. The two main concentration areas are the Paul Thiry (Thiry) grouping and Kirk, Wallace and McKinley (Kirk) grouping. These correspond with the KeyArena and Theatre District Master Plan zones, respectively. Buildings are listed by the current name followed by historic name(s) in parenthesis (name) and Seattle Center drawing index identification number in brackets [##].

Thiry Concentration

Buildings included in this concentration area:

- International Fountain Pavilion
- KeyArena
- NASA Building
- Seattle Center Pavilion
- Northwest Rooms
- West Court Building

Open spaces included in this concentration area:

- International Plaza

Open spaces are covered in more depth in the Open Space section, but are described briefly in conjunction with each building.



Above: 2013 view of the International Fountain Pavilion.
Source: Artifacts Consulting, Inc.



Left: Historic image, looking north, of the International Fountain Pavilion and the east end of the Northwest Rooms. Source: Puget Sound Regional Branch, Washington State Archives.

International Fountain Pavilion [18]

Significance:

This structure was part of Paul Thiry's International Commerce and Industry complex surrounding the Coliseum/KeyArena. Designed by Paul Thiry, the building was funded by King County. During the fair, the Boulevards of the World complex – the fair's main shopping area – separated the Sweden Pavilion from the International Fountain. Boulevards of the World was demolished immediately following the fair.

The building was leased to Northwest Craft Center from 1963 until 2012. Both exterior and interior remain largely unchanged from their appearance during the fair, probably as a result of the building's use by one organization. This building, more than any other built for the fair, retains the most interior and exterior physical integrity. From April 21 to October 21, 2012, it was the site of the Museum of History and Industry's commemorative exhibit on the Seattle World's Fair, a traveling exhibit fea-

turing world's fairs through history, and a photography exhibit depicting young people whose innovative ideas might make them future leaders.

Physical Description:

Completed in 1962, the International Fountain Pavilion is located at the northeast corner of the Coliseum. It formed part of the International Plaza, yet it faces east, away from the other buildings in its group and towards the heart of Seattle Center campus. This Modern style, single-story building had a rectangular footprint on a poured concrete foundation; a contemporary rear (west) utilitarian addition has altered the footprint to a T-shape. The clear span structure has steel columns as a framing system, clad with tilt-up concrete panels and glass. A flat, steel framed roof with wide overhanging eaves caps the building. On all sides of the building, steel joists extend out beyond the walls to support the eaves. Corrugated steel decking comprises the roof structure and the underside of the eaves. The roof extends over the adjoining, mostly intact open-air stairwell to the north. The original cladding and windows are mostly intact. The original plan and interior have been slightly modified.

On the interior, the mostly open volume features exposed roof trusses and roof decking. Three public entrances to the building are spaced along the east (front) facade. These feature replacement doors set within original openings. A fourth entrance, at the north end of the east facade, has been converted to display windows. During the Century 21 World's Fair, carpeting covered at least a portion of the floor. After the fair, the carpeting was presumably changed quickly to asbestos floor tiles, which are largely intact. Shallow steps and ADA ramps navigate slight changes in the floor grade. Freestanding partition walls separate the main exhibit space from service and storage areas along the west side of the floor plan.

Character-Defining Features:

- Footprint and massing
- Flat roof with overhanging, corrugated steel decking eaves
- Steel roof framing

- Painted concrete tilt-up walls with abstract round relief ornament
- Large expanses of glazing, including glass doors and wood framed fixed windows
- Square white light fixtures attached to undersides of eaves

Chronology of Alterations:

- 1964: Adapted to post-fair use as Northwest Craft Center
- 1976: Removed wood stops at window exteriors, temporarily removed glazing to clean and repair existing settings, reinstalled glass panes; bathroom added
- 1976: Electrical upgrade, including new exit lights
- 1996: New exterior doors (three sets); removed northernmost pair of east doors in favor of display windows; existing panels along upper portion of east wall repainted; added roof insulation
- 1990s: ADA work
- Undated: Rear (west) addition



Eave detail on International Fountain Pavilion. Source: Artifacts Consulting, Inc.



1962 view of KeyArena and Plaza of Flags. Source: Photo by Art Hupy, courtesy University of Washington Special Collections.

KeyArena [1]

Significance:

Heralded for its hyperbolic paraboloid roof suspended from a framework of concrete beams, the Washington State Coliseum housed Century 21's theme exhibit, *The World of Tomorrow*, a honey-comb shaped "cloud" of 3250 aluminum cubes 200-feet across and 60-feet high (as tall as a six-story building). Visitors accessed the cube structure in groups of 100 via Plexiglas Bubbleator elevator. As they ascended, the Bubbleator operator gave the first speech of a 21-minute multi-sensory performance complete with imagery, taped dialogue, odors, dramatic music, and sound and lighting effects that the visitors would navigate. The show's official title was "The Threshold And The Threat" – the threat being nuclear annihilation, and the threshold being the present time. In addition to the iconic roof, the Coliseum's huge size – it covers the majority of four city blocks – and clear span construction placed it among the fair's most noted architecture.

In addition to the theme exhibit, the Coliseum also housed:

- The American Library Association Exhibit
- General Motors Corporation Exhibit
- Pan American Airways Exhibit
- Washington Tourist Information Center
- Government of France Exhibit
- Cancer Research Exhibit
- Radio Corporation of America Exhibit

After the fair, the city of Seattle purchased the Coliseum from the state and converted it into an all-purpose convention and sports facility, to plans by Paul Thiry. This conversion was mainly a reconfiguration of interior spaces and the addition of ramps and partition walls. The Bubbleator was relocated to the Food Circus/Center House/Armory, where it remained until 1980. In 1967, the Coliseum became home to the Seattle Supersonics, the city's first major league sports franchise. The venue has also been used for circuses, rock concerts, ice skating shows, and many other events over the years. Between 1994 and 1995 the building was completely reconstructed, including lowering the court 35 feet below street level. The architectural integrity of Thiry's roofline was maintained by using the existing steel trusses in combination with four new main diagonal trusses. As much of the wood, steel and concrete as could be salvaged were used to construct the new structure. It reopened in 1995 as KeyArena.

Physical Description:

Completed in 1962, KeyArena occupies a square footprint at the west edge of Seattle Center, interrupting Warren Avenue and Harrison Street. This Modern – Populuxe/Googie style building has a hyperbolic paraboloid form.¹ Four sets of three-legged, massive concrete abutments support this clear span structure. Each facade has one of these four sets of abutments, centered. The abutments support massive external concrete edge beams at the parabolic roof's perimeter as well as four original triangular section girders. The four original triangular section steel trusses in the roof framing are oriented to the cardinal directions. Four diagonal trusses were added in 1995, replacing the original cable-net portion of the roof structure.² Replacement aluminum, standing-seam aluminum roofing panels replaced the original aluminum panels. The exterior framing is completed with massive V-shaped concrete piers between the three-legged abutments. The

¹ "An Architect's Guidebook to the Seattle World's Fair," *Architecture West*, April 1962, p. 18.

² Joseph E. Gandy, "Coliseum 21: Going Up!," *Progress Magazine*, September 1960. Courtesy of the Seattle Public Library's Century 21 Digital Collection.



Historic image of KeyArena, looking west. Source: photo by Ken Prichard, Courtesy Ken Prichard.

glass curtain wall is largely intact, with minor alterations such as relocation of entrances due to the grade excavation around the building. Replacement lites are located around the lower reaches of the curtain wall, with intact lites above.

KeyArena has been extensively altered on the interior, with no changes to the overall building footprint. The main entrances at the west and east plazas had to be lowered after the site was excavated to increase the usable interior space. The concourse around the interior perimeter is open to the ceiling, as is the arena space. The arena bowl, seating and concessions are free-standing. Concrete and steel framing members are exposed on the interior of the arena. The cobblestones laid around the exterior and interior perimeter of the curtain walls came from the

original International Fountain, which in turn took them in 1962 from old streets in Seattle.³

Character-Defining Features:

- Footprint and massing
- Roof form
- Exposed concrete framing on interior and exterior
- Exterior wall glazing (curtain wall) and slanted orientation of lites
- Glass doors at principal entrances
- Exterior wall fan unit on north facade
- Cobblestones, interior and exterior

Chronology of Alterations:

- By 1979: Interior bowl seating increased from about 12,000 to 15,000 seat capacity. (Later removed and replaced with current seating.)

³ KeyArena, Historic Property Inventory Report, prepared by Michael Houser, Washington Department of Archaeology and Historic Preservation, February 2004.

- 1994-1995: Roofing removed, along with the cable-net suspended roof. The four original trusses left in place, four additional (diagonal) trusses added to replace the cable-net system. Existing bowl seating removed, exhibition floor excavated 35 feet down, new bowl and seating (17,000 seat capacity) constructed. Truss covers replaced.
- 1996: South suite improvements
- 1999: Renovate existing storage area into new food and beverage space and modernization of existing concessions adjacent –east and south concourses
- 2003: New steel canopies and improvements at two entrances (courtside and suite entries)
- 2004: Conversion of south suite space into a club area by removing two walls, opening up the entries, and creating two serving counters and two bars (one at each end)
- Circa 2005: North suite improvements
- Undated: Large downspouts added to exterior; southeast ticket sales addition; conversion of multiple secondary entrances at main level to windows
- Undated: Upper portions plus other select panes of glazing painted black to obscure mechanical systems



2013 view of KeyArena. Source: Artifacts Consulting, Inc.



Left: Historic view of NASA Building. Source: University of Washington Special Collections.

Above: 2013 image of NASA Building. Source: Artifacts Consulting, Inc.

NASA Building [16]

Significance:

NASA's \$2 million exhibit was the organization's first large-scale attempt to tell the story of the United States space program. Designed by Paul Thiry, construction of the building was funded by King County. For many fairgoers, exhibits in the NASA Building would have been their first exposure to space exploration outside the realm of science fiction. After the federal government's science exhibit, NASA's was the largest exhibit at the fair. Fairgoers saw models of satellites launched by the United States, including Explorer, Vanguard, Pioneer, Ranger, Mariner, and Topside Sounder. Actual rockets and scaled-down models were also featured. These were joined by John Glenn's Friendship 7 midway through the fair. The spacecraft, in which Glenn had only recently made America's first orbital space flight, was displayed in the NASA Building as the concluding – and only American – stop on a 24-nation global tour during which it was viewed by more than 8-million people. The craft went directly from the fair to the Smithsonian, where it is now the first artifact encountered by visitors to the Smithsonian Museum of Air And Space.

Post-fair, the NASA Building was mainly used as storage space. Part of the building was relocated to Pavilion

"B" in 1995 during construction of the loading dock during the Coliseum's renovation into KeyArena, and is now called Seattle Center Pavilion. The portion that remains on the original site is designated "NASA" and used for Seattle Center facilities maintenance equipment.

Physical Description:

Built in 1962, the NASA Building is a single-story, clear span structure at the northeast corner of Thomas Street and 1st Ave N. It is of similar construction and design as the Northwest Rooms and International Fountain Pavilion. Steel columns provide the structural framing. The rectangular footprint rests on a poured concrete foundation. A flat, steel framed roof with wide overhanging eaves caps the building. On all sides of the building, steel joists extend out beyond the walls to support the eaves. Corrugated metal decking comprises the roof structure and the underside of the eaves. Although original designs for the NASA Building called for open sides facing KeyArena, historic photos from the Century 21 World's Fair show the building was always enclosed. The north and east facades had corrugated metal cladding, with tilt-up concrete panels on the west and south facades. There have been moderate changes to the original cladding. The few original windows from the fair were removed at an unknown time.



1962 Werner Leggenhager photograph of east entrance to the NASA Building. Source: Seattle Public Library.

- Steel roof framing
- Painted concrete tilt-up walls, either plain or with abstract round relief ornament

Chronology of Alterations:

- 1964: Adapted to storage use
- 1980: Previously added roll-up door relocated (on former east wing, now Seattle Center Pavilion); metal louvers added to upper wall reaches
- 1981: Storage facility improvements
- 1995: Removed east wing, relocated to current site of Seattle Center Pavilion; select south and east bays clad with relocated concrete tilt-up panels (both decorative and plain)

There have been extensive changes to the original plan, notably the removal of the east wing. That wing accounted for more than half of the original footprint. A portion of the removed wing was repurposed and relocated as Seattle Center Pavilion. The southern half of the current NASA Building's east facade was once inside the original NASA Building. A tall freight/loading entryway with a contemporary metal roll-up door has been cut into the east facade's 6th and 7th bays (with 1st at the south end) of the east facade, accessible via a short concrete ramp. To the north on the east facade, a set of double metal security doors provides service access to the building. In the north facade, a single metal door atop a short flight of steps behind a concrete half-wall at the far west end accesses the building. The only other openings in the north facade are two added ventilation louvers high in the wall. The west facade has three similar louvers, also high in the wall. There are no openings in the south facade. Planting strips surround the building on the west, south, and east sides. Surface parking directly abuts the north facade.

Interior access to this building was not necessary, due to the level of alterations and the utilitarian nature of the building.

Character-Defining Features:

- Footprint and massing
- Flat roof with overhanging, corrugated steel decking eaves



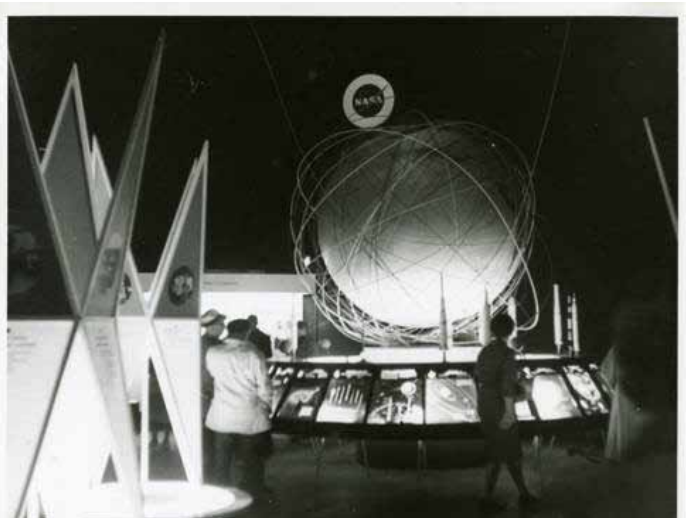
Seattle Center Pavilion [20]

Significance:

Refer to the significance statement for NASA Building [16].

Physical Description:

Built in 1962, this building (20) is the relocated east wing from the Century 21 Fair’s NASA Building. This Modern style building is a single-story, tall volume structure on the south side of the Coliseum, between Warren and 2nd avenues. It is of similar construction as the NASA Building, the Northwest Rooms, and International Fountain Pavilion. The rectangular footprint rests on a poured concrete foundation. This clear span structure is framed with steel columns and originally clad with tilt-up concrete panels and corrugated metal sheets. A flat roof with wide overhanging eaves caps the building. On all sides of the building, steel joists extend out beyond the original building’s walls to support the eaves. Corrugated metal decking comprises the roof structure and the underside of the eaves. The cladding has been extensively altered. Decorative tilt-up concrete panels remain on the west and north facades; on the east and south facades, contemporary metal panels and concrete block replace the original cladding. The original plan has been extensively altered, from a relocation of the core as well as an addition to the south. The addition is distinguishable by its lower height and east facade curtain wall. During the fair, the Seattle Center Pavilion (as part of the NASA Building) originally had few or no windows, and it has none today. Doorways are not historic.



Left: 2013 image of relocated portion of the NASA Building. Source: Artifacts Consulting, Inc.

Right: 1962 interior photograph of the NASA Building, taken by Werner Leggenhager. Source: Seattle Public Library.

Interior access to the Seattle Center Pavilion was not necessary, due to the extensive alterations made to this building.

Character-Defining Features:

- Footprint and massing
- Flat roof with overhanging, corrugated steel decking eaves
- Steel roof framing
- Painted concrete tilt-up walls with abstract round relief ornament

Chronology of Alterations:

- 1995: Relocated to current site (formerly the east wing of the NASA Building; replacement cladding; new roof likely added
- 1996: South storefront addition with canopy, new concrete masonry unit wall added to south facade of main building



Northwest Rooms [17]

Significance:

The Bureau of International Expositions – the governing body that granted Century 21 Exposition true World's Fair status – stipulated that participating nations be provided free space, protected from the elements. Designed by Paul Thiry, these spaces were funded by King County. Thiry's buildings were an overarching protective structure for the various free-standing pavilions within, and were fully enclosed after the fair to enable their use as a conference and meeting facility. The Northwest Rooms form an L-shaped complex arranged around a two-level interior courtyard. The International Fountain Building [18] adjoins the Northwest Rooms to create a larger U-shaped edge opening to the International Plaza and KeyArena.

The following national exhibits used these facilities during the fair:

- The United Arab Republic Pavilion
- The Government of Brazil Pavilion
- The European Economic Communities Pavilion
- The Government of Japan Pavilion
- The Government of Denmark Pavilion
- The Government of Mexico Pavilion
- The Government of Canada Pavilion

Historic view of the southwestern end of the Northwest Rooms, showing the former United Arab Republic Pavilion. Source: Photo by Ken Prichard, Courtesy Ken Prichard.

The city took possession of KeyArena in early 1963, and Paul Thiry's contract overseeing the site was extended through late 1964. Thiry converted these structures to serve as support areas – meeting rooms, lecture halls, banquet halls – for large conventions utilizing KeyArena after the fair. Locker rooms were added beneath the buildings on the north and south sides of KeyArena. Extensive renovations to the interiors of these buildings have occurred over the years.

Physical Description:

Completed in 1962, the Northwest Rooms building is a clear span structure at the northeast corner of Thomas Street and 1st Ave N. It is of similar construction and design as the NASA Building, Seattle Center Pavilion, and the International Fountain Pavilion. The west and north facades, facing the surrounding streets, are solid except for two pass-through areas for site access. Concrete columns provide the structural framing, clad with solid tilt-up concrete wall panels on the north and west facades. The west and north facades have never featured windows. In contrast, the east and south facades are oriented inwards



2013 image of Northwest Rooms, looking north. Source: Artifacts Consulting, Inc.

- Steel roof framing
- Painted concrete tilt-up walls with abstract round relief ornament
- Large expanses of glazing, including glass doors and fixed windows facing inward to the campus
- Square white light fixtures attached to undersides of eaves
- Lower level restrooms at easternmost end of building
- Aluminum louver panels
- Floating second floor in Alki Room, set back from windows
- Exterior Solex glass sunscreens on Alki Room

to the International Plaza and KeyArena. The east and south facades, originally at least partially open-air, were enclosed after the fair with sheets of glass or aluminum. The building rests on a poured concrete foundation. A flat, steel framed roof with wide overhanging eaves caps the building. On all sides of the building, steel joists extend out beyond the walls to support the eaves. Corrugated steel decking comprises the roof structure and the underside of the eaves. An original pre-cast concrete railing borders the concrete stairs at the southeast corner of the west wing. There are two pass-through corridors in the north wing, providing separations between the building segments and circulation for pedestrians between the plaza and Republican Street. The roof is continuous over these corridors, which are open on either end. Added skylights allow increased daylighting to the building.

The interior contains a single main story with a basement below the west and northwest portions, and a mezzanine in the eastern portion. A tunnel, excavated as part of the building's original construction, connects these basement spaces with the KeyArena. Interior spaces and finishes have been highly altered throughout the Northwest Rooms. Originally, the entire building's main floor was designed with an open volume for exhibits. The only exception was the far eastern at grade portion of the Alki Room, which features public restrooms.

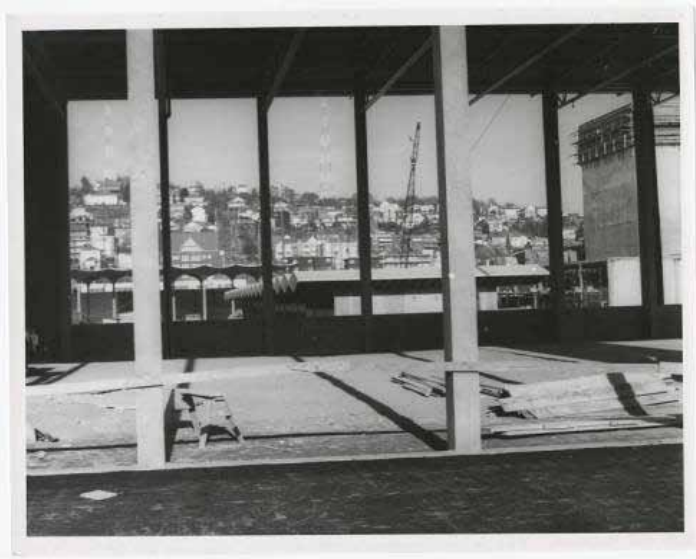
Character-Defining Features:

- Footprint and massing
- Flat roof with overhanging, corrugated steel decking eaves
- Concrete columns, exposed on interior and exterior

Chronology of Alterations:

- 1964: Adaptation of existing, partially open exhibit spaces to permanent, enclosed buildings with meeting and exhibit rooms, storage, restrooms, etc.; partition walls added, along with mechanical systems, suspended ceilings, interior floor divisions (mezzanines), etc. Aluminum louvers and glass sunscreens designed by Paul Thiry, 1964.
- 1980: Alki Room renovations (main and upper floors) - new rails, light fixtures, finishes, systems, etc.
- 1981: Northwest Rooms electrical upgrades
- 1983: General Northwest Rooms improvements. New finishes (e.g., replace existing ceiling and floor tiles), door openings, interior walls. Enclose portion of exterior colonnade with storefront system. Hollow metal doors added along Republican Street. Double tempered glass doors in aluminum frames added to other select locations.
- 1988: Rainier Room sewer replacement
- 1991: Added aluminum cladding panels to south and east facades, also in pass-through corridors and north facade of Alki Room; stripped, repainted mullions; new interior finishes, light fixtures and wall alignments for Northwest Rooms; exterior wavy canopies added to north facade; skylights added
- 1993: General Northwest Rooms improvements. New cladding, interior finishes, plan changes

1961 Werner Leggenhager photograph of Northwest Rooms under construction. Source: Seattle Public Library.



- 1995 remodel of basement spaces for staff use in conjunction with the KeyArena conversion
- 2007: Vera Project, with interior room reorganizations and new partition walls added; select south facade glazing painted
- 2010: SIFF alterations with film added over glass
- 2011-12: Remodel of upper level of Alki Room to accommodate SIFF
- Undated: Exterior sunscreens on Alki Room added (before 1991)



Historic view of the West Court Building. Source: Forde Photographers, Courtesy Seattle Center Foundation.

West Court Building [23]

Significance:

This modest two-story reinforced concrete office building housing Western Pacific Insurance Company was sited within the footprint of the fairgrounds. Designed by Alfors V. Peterson and John W. Adams in 1953, the building was purchased by the State of Washington. Instead of demolishing it, fair planners repurposed it to serve as exposition headquarters before and during the fair. Architects Tucker & Shields prepared the designs for remodeling the building for fair use in 1960. All of the fair's top brass, including fair president Joseph Gandy, Washington Governor Al Rosellini, and World's Fair Commission Executive Director Alfred Rochester, had offices here.

After the fair, the building reverted to the state of Washington. It housed the Research Division of the Department of Commerce and Economic Development and the State Military Specifications Library, and then a variety of state offices before being acquired by the city in the mid-1980s. Since then, it has served a variety of utilitarian purposes for Seattle Center. It currently serves as the box office for KeyArena.

Physical Description:

Completed in 1953, the West Court Building is a two-story concrete and steel frame, Modern style building at the southeast corner of KeyArena. The square footprint

rises from a poured concrete foundation. A flat roof and parapet cap the building. Exposed concrete piers and concrete spandrels comprise the exterior frame, with steel columns spaced evenly throughout the floor plan to support the second floor and ceiling. Painted stucco clads the exterior of the building. The northwest corner of the ground floor has been cut away under an elliptical canopy. Large contemporary display windows at that corner highlight the new retail space on the interior. Original window openings remain on the second floor in the west, south and east walls, but all window sashes have been replaced. These second floor windows fill the width of the recessed bays between piers. Second floor windows mimic the original fenestration pattern, but consist of replacement aluminum sashes. Select windows have been removed and infilled or converted to other openings (doors, box office windows, ventilation panels) on all facades. There is a single contemporary horizontal, fixed, aluminum framed rectangular sash at the ground floor of the east facade. A solid metal security door accesses the building at the north end of the east facade. A planting strip extends halfway along the east facade. Surface parking directly abuts the south facade. Lighting fixtures extend from the south and east parapets. Concrete pavement directly abuts the west and north facades. A contemporary box office, with multiple ticket windows sheltered by an added shed roof canopy, occupies half of the north facade. A contemporary decorative fin wall

projects midway from the north facade, between the box office and the retail space.

Interior spaces were not accessed. From architectural drawings, this building has been extensively altered on the interior to accommodate shifting uses over time. The footprint has had slight alterations, and the original windows have been extensively altered. The original cladding is intact under added layers of paint; in-kind cladding has been added where windows have been removed.

Character-Defining Features:

- Footprint and massing (except for the cut-away northwest corner and canopy at the ground floor)
- Roof form and parapet
- Expressed concrete piers and recessed bays
- Concrete spandrels
- Fenestration pattern on the upper floor of the west, south and east facades

Chronology of Alterations:

- 1991: Converted second floor to offices for Seattle Arts Commission
- 1994: Inserted box office windows and added metal shed roof canopy over them on north wall exterior; filled existing window openings at ground floor in east wall with new concrete to match existing; created new door opening in the north facade; created new door opening in east wall at north end
- 1995: Created retail space for Sonics at northwest corner of ground floor from former office spaces; cut away northwest corner bays to make a diagonal wall at the first floor with tempered glass display windows and double doors; added elliptical canopy over that corner, supported by added column; added north fin wall; removed an existing window in south wall, replaced with intake louver; removed remaining ground floor south windows and infilled with cast in place concrete to match existing exterior; cut new ground floor window opening in east wall, near north end. An underground tunnel (called the jetway) was constructed connecting the building to the main concourse level of KeyArena.
- 1997: Non-display windows replaced
- Undated: Parapet along north wall extended upward and later reduced again; removed historic



2013 view of the West Court Building. Source: Artifacts Consulting, Inc.

canopy over southwest entrance (after 1993); light fixtures added to parapet (since at least 1995)



2013 view of the Exhibition Hall. Source: Artifacts Consulting, Inc.

Kirk Concentration

Buildings included in this concentration area:

- Exhibition Hall
- Playhouse
- Colonnade
- Mercer Street Parking Garage
- Marion Oliver McCaw Hall
- Mercer Arts Arena

Open spaces included in this concentration area:

- Founders Court

Open spaces are covered in more depth in the Open Space section, but are described briefly in conjunction with each building.

Exhibition Hall [7]

Significance:

The Fine Arts Pavilion contained five main galleries housed in a one-story space with a mezzanine balcony

around all four sides. Art exhibits held here during the fair are considered to have been major turning points in Seattle's visual arts history, particularly the groundbreaking "Art Since 1950" exhibit. Almost 1.5 million visitors toured the Fine Arts Pavilion during the fair. During the fair, the building's only exterior illumination came through very narrow slit windows along the east and west sides. The cavernous interior was designed for flexible use to suit conventions and exhibitions post-fair, and the building was planned to be used as a major convention center. It was leased for a wide variety of uses after the fair.

In 1993, the upper level of the Exhibition Hall – the formerly unused air space between the ground floor and the roof – was remodeled to house Pacific Northwest Ballet's studios, offices, and ballet school, and reopened as the Phelps Center. Part of the renovation involved the creation of much larger light bay windows, allowing exterior light to penetrate the studios. The lower level houses the Exhibition Hall, a heavily utilized rental venue.

Physical Description:

Constructed in 1961, the Modern – Neo Formalist building, designed by Kirk, Wallace, McKinley & Associates, features a rectangular plan and stands on a poured con-

crete foundation. The three story reinforced concrete building has a concrete folded plate roof. The concrete walls are clad in brick veneer. Cutouts in the brick and tall narrow windows flanking each bay originally provided a visual interruption along the brick walls. Numerous contemporary oriel window additions now provide daylighting to the building's interior. A full-height colonnade runs along the building's north and south elevations, connecting it to McCaw Hall (the former Opera House) and the Playhouse. The building's original cladding appears to be intact. Exterior alterations to the building include an elevator addition on the south elevation with suspended walkways bisecting the colonnade, a contemporary one-story height colonnade along the west elevation, and a re-tooling of the circulation and stairways to the main entrance on the north elevation. New windows punctuate the building's facade.

In addition to the original large open volume for exhibit space, the building had spaces for offices, utilities, and a kitchen. Uninterrupted vertical bands of wall, flanked by narrow windows and capped by the visible underside of the folded plate roof, accentuated the interior's vertical emphasis. Alterations to accommodate the new use divided the original open space into two levels; the new upper level holds the ballet facilities including rehearsal spaces, locker rooms, and offices, while the lower level remains an open space. The lower level retains the original stairs leading from the entrances off of the east and west courtyards down into the space, but numerous structural columns added to support the new floor above visually break up the once open hall.

Character-Defining Features:

- Colonnade
- Folded plate roof
- Cladding
- Brick piercing and tall windows

Chronology of Alterations:

- 1963, Kirk, Wallace, McKinley & Associates, kitchen alterations
- 1967, office alterations and additions
- 1991, William Bain Jr. of NBBJ, new ballet facilities, elevator addition on south elevation, oriel windows added, new lighting



1962 Werner Leggenhager photograph of the Exhibition Hall entrance. Source: Seattle Public Library.

- 1994, Van Horne & Van Horne, Exhibition Hall walkways updated
- 1995, Van Horne & Van Horne, improved ballet facilities, lighting, acoustics, updated restrooms



Playhouse [8]

Significance:

The 800-seat Playhouse was constructed in just 34 days. During the fair, this venue hosted performers from around the globe. Its peaceful courtyard – including James Fitzgerald's four piece abstract bronze fountain in a center pool – was an oasis of calm nestled against the northern border of the fairgrounds. With a colonnade running along its Mercer Street façade and linking the building with the Exhibition Center, Opera House, and Arena, the Playhouse formed the western anchor to the fair's performing and visual arts corridor. A contemporary architectural reviewer stated, "For me, the element of the fair likely to emerge as the most admirable after all the tumult and hosannas for the more 'spectacular' structures have died down, is the complex designed by Kirk, Wallace & McKinley to house the playhouse, exhibition center, and remodeled opera house and arena. In beautifully restrained style, using no elaborate methods of construction, the Kirk firm has provided a delightful series of exterior and interior spaces which may be said to be

Historic view of south and east elevations of the Playhouse.
Source: University of Washington Special Collections.

socially significant in a large sense ... The series of buildings...is tied together by a roof-high colonnade."⁴

In 1963, the Playhouse became home to the newly-formed Seattle Repertory Theatre, an organization that came into being specifically to provide programming and a permanent tenant for the Playhouse. Seattle Rep moved to the newly-constructed Bagley Wright Theatre in 1982, and in 1987 the heavily renovated Playhouse reopened as home to the Intiman Theatre. The 1987 renovation did not significantly alter the building's exterior or lobby, but completely reworked the actual theater space, reducing seating capacity to 446, steeply racking the seating area, and converting the stage from a proscenium arch to a semi-thrust proscenium configuration. This renovation also included construction of a two-story rehearsal studio in addition at the building's south side.

In 1989, the Playhouse courtyard was dedicated to World's Fair Vice President/General Manager and long-time Seattle Center Director Ewen Dingwall in apprecia-

⁴ James T. Burnes, Jr., "The Architecture of Century 21," *Progressive Architecture*, June 1962, 51.

tion for his vision and enthusiasm for Seattle Center from 1957 to 1988. In 2011, Intiman ceased regular operation (while still occasionally mounting productions). In 2013, Cornish School for the Arts began leasing the building.

Physical Description:

Constructed in 1961, the building originally served as the Playhouse Theater for the Century 21 Exposition. The Modern – Neo Formalist building, designed by Kirk, Wallace, McKinley & Associates, features a rectangular plan and stands on a poured concrete foundation. The two story reinforced concrete building has a flat roof. A fly loft rises from the roof at the southern end of the building. The concrete walls are clad in brick veneer. A colonnade the full height of the building runs along the building's south elevation, connecting it to the former Fine Arts Exhibit building to the east. The western end of the colonnade is bricked in, partially screening the stage door from view. Slim concrete posts and a recessed rounded rectangular detailing of the passage's ceiling characterize the colonnade. Colonnades with the same detailing encircle a courtyard to the north of the building. Brick, matching the building's cladding, fills the spaces between the outer colonnade supports on the north, east, and west, and shelters the courtyard. Access to the courtyard and the building's main entrance is provided through open entranceways on the east and west. A wide flight of stairs leads from the west entrance to an intermediate landing and branches into two side flights to the floor (and main entrance) below. There appear to be moderate changes to the original plan and extensive changes to the original windows. The original cladding appears to be intact. Other alterations include new railings on the stairway, an elevator addition on the south elevation with suspended walkways bisecting the colonnade, and a re-working of the landscaping in the courtyard.

Constructed as the Playhouse, the building continues as a theater. In addition to the auditorium space the building features a main entrance lobby and associated mezzanine with a two-story wall of windows looking north out towards the courtyard. While the building maintains the view out to the courtyard through the wall of windows, the lobby space has been altered with the relocation of the main stairs, which lead from the main level up to the upper level access to the auditorium. Furthermore, the



2013 view looking of the Playhouse courtyard. Source: Artifacts Consulting, Inc.

auditorium has been extensively altered to create a more intimate theater and accommodate newer equipment.

Character-Defining Features:

- Courtyard and 1961 James Fitzgerald Fountain of the Northwest, illuminated bronze sculpture.
- 1964 carved river rock sculpture, Barbet, created by James Washington Jr.
- Stairs down into courtyard
- Colonnades
- Cladding
- Massing

Chronology of Alterations:

- 1976, Paul Hayden Kirk of Kirk, Wallace and McKinley, balcony additions, landscaping alterations and new pavers
- 1986, Albert D. Bumgardner, added mechanical spaces and additional stairs from side lobbies to theater
- 1989, Sajan Inc. Consulting Engineers, roof repairs
- 1996, Schreiber & Lane Architects, general improvements
- 1997, Robert E. Wallis, interior lobby stairs relocated, north entrances relocated, new elevator added on south wall with new balcony and concrete beam



Colonnade

Significance:

Colonnades built as part of the Century 21 Exposition were constructed as integral parts of adjoining buildings. The Exhibition Hall and Playhouse feature prominent colonnades connecting the buildings along their north and south sides. The north colonnade also functioned as the north gate opening to the Presidential Plaza (known today as Founders Court), and they connected the north end of the Playhouse with the Grand Court containing the Fitzgerald's sculpture and fountain. Colonnades were also constructed as extensions of the 1961 renovations of the McCaw Hall building and the Mercer Arts Arena.

Physical Description:

Colonnades run along both the north and south elevations of the Exhibition Hall and continue west across the Founders Court to the Playhouse, visually and physically connecting the two buildings. The colonnade running along the Mercer Arts Arena is intact, but the colonnade which fronted McCaw Hall on the north was removed with the building's 2001 renovation.

Slim concrete posts and a recessed rounded rectangular detailing on the ceiling characterize the colonnade. Colonnades with the same detailing also encircle the Playhouse courtyard.

Character-Defining Features:

- Slim concrete posts
- Pressed rounded rectangular ceiling detailing
- Cylindrical light fixtures



Left: 2013 detail of colonnade concrete post base in the Playhouse courtyard. Source: Artifacts Consulting, Inc.

Above: 2013 view looking east along Exhibition Hall's north colonnade. Source: Artifacts Consulting, Inc.

Chronology of Alterations

- 2001 and 2003, LMN Architects, removal of colonnade along north facade of McCaw Hall to accommodate exterior remodel



Above: Historic view of Mercer Street Parking Garage. Source: Bryce Seidl Collection.

Right: 2013 view of concrete detailing on Mercer Garage. Source: Artifacts Consulting, Inc.



Mercer Street Parking Garage [15]

Significance:

Early estimates predicted that 80% of the hoped-for 7.5 to 10 million visitors would drive to the fair. Parking was a high priority, and fair planners worried constantly that a lack of available spaces would hurt ticket sales. The four-level Mercer Garage includes 1,337 parking spaces, covers two city blocks, and was the only parking facility constructed near the fairgrounds, with the exception of surface lots. The city built and owns the Mercer Garage, but the Century 21 Exposition Company leased it during the fair. Despite a nod to decoration – sculptured precast panels designed by Charles Smith – the garage is largely utilitarian. Conveniently located and connected to the campus by an overhead walkway, the Mercer Garage has changed little since serving fairgoers.

Physical Description:

Built in 1961 as a parking garage, the Modern structure designed by Kirk, Wallace, McKinley & Associates with structural engineering by Norman G. Jacobson & Associates features a rectangular plan and stands on a poured concrete foundation. The structure is two blocks long and one block wide. The four-level reinforced concrete parking structure has a flat roof with parapet which serves as the upper parking level. Exposed aggregate concrete panels clad the exterior walls. Precast concrete panels highlight the building's corners, beneath the skybridge, and the entrances on the west and east elevations. The panels at the east and west entrances featured cast bronze elements within the recesses. These bronze elements re-

main only at the east entrance. Charles Smith designed these sculptural panels. Open stairwells are located in the center of the parking garage's south elevation and at all four corners. An open sky bridge extends from the south elevation across Mercer Street to McCaw Hall. The structure's original plan and cladding appear intact. Alterations to the structure are quite minimal and include added signage and metal panels inserted in an open bay on the west elevation.

The garage features one-way traffic and angle parking on ramps and level sections organized within a four helix interlocking ramp parking system. Cars primarily enter the structure from 3rd Avenue N through a double entrance located on the west elevation. Cars can also exit through the east elevation out onto 4th Avenue N. A secondary entrance is located on the north elevation, off of Roy Street. In addition to the structure's stairwell systems, an elevator provides access to each parking level.

Character-Defining Features:

- Cladding (exposed aggregate concrete panels)
- Fenestration
- Pressed concrete detailing on structure's outer corners (at stairwells)

Chronology of Alterations:

- 1991, K. Michael Nickerson of Church Nickerson Jensen Jonas Architects, office added within southwest corner of the parking structure, included plywood siding and aluminum frame windows
- 2003, Northwest Architectural Company, reconstructed canopy over existing stair



McCaw Hall [39]

Significance:

Constructed in 1928, the building now known as McCaw Hall originally served as Seattle's Civic Auditorium. In preparation for the Century 21 Exposition, the building was drastically altered in 1961 to function as the fair's Opera House and aesthetically align it with the Mercer Arts Arena, Exhibition Hall, and Playhouse. Priteca and Chiarelli designed the new facade for the Civic Auditorium building in the same Modern – New Formalist style, transforming it into the Opera House. A continuation of the colonnade on the Playhouse Theater and the Exhibition Hall ran across the north elevation of the 1961 building's facade. Sepia colored brick cladded the building's exterior, highlighting it in comparison to the lighter colored brick present on adjacent buildings. A second, large-scale remodel between 2001 and 2003 further altered the appearance of the building and associated plaza along its west side to its current look as McCaw Hall.

Physical Description:

The building now features an irregular-shaped footprint. The two story structural steel building has varied rooflines. A curved curtain wall comprises the entire west elevation. Nine metal mesh scrims form a promenade along the building's west elevation. Metal siding clads the building's other facades. The cladding, plan, and windows of the 1928 and 1961 versions of the building have all been extensively altered.

1962 view of McCaw Hall, looking along Mercer Street.
Source: Seattle Public Library.

Below: 2013 image of McCaw Hall looking south along the promenade. Source: Artifacts Consulting, Inc.

The building's interior has been extensively modified since its 1928 construction. The building features four levels of lobbies along its western portion and the curved curtain wall provides a view out to the courtyard separating the building from the Exhibition Hall. The building currently features a large 2,891 seat auditorium, a smaller 381 seat lecture hall, and other reception spaces. The building's current interior configuration is vastly different from previous versions.

Character-Defining Features:

- None

Chronology of Alterations:

- 1961, Priteca & Chiarelli, conversion and exterior cladding for the World's Fair
- 1999, Central Utility Plant constructed as a first step in the larger 2001 and 2003 remodel project
- 2001 and 2003, LMN Architects, exterior and interior remodel, including redesign of the courtyard along the building's west facade

Mercer Arts Arena [14]

Significance:

Complete with Wurlitzer pipe organ, the 1928 Civic Ice Arena, designed by Schack, Young & Myers, had served Seattle skaters and hockey fans for decades before its refurbishment for the fair. In 1961, Kirk, Wallace, McKinley & Associates redesigned the exterior for the Century 21 Exposition. Following this redesign, the exterior of the Mercer Arts Arena, McCaw Hall, and the Exhibition Hall shared brick cladding and colonnades, creating visual harmony among the fair's Mercer Street edge. Bassetti & Morse's renovation of the trusty Civic Ice Arena in 2001 converted some restrooms into dressing rooms, added an insulation cover over the ice surface, improved heating and ventilation systems, and added a portable stage platform – all relatively minor changes. The venue hosted a wide variety of family-oriented performers during the fair, including the Roy Rogers and Dale Evans western show, the Ringling Brothers and Shrine circuses, the Benny Goodman and Count Basie orchestras, Ella Fitzgerald, and many others.

After the fair, the Arena was a popular venue for rock concerts, hockey games, and other events. Renamed Mercer Arena in 1995 and Mercer Arts Arena in 2001, the facility hosted Seattle Opera and Pacific Northwest Ballet performances during construction of Marion Oliver McCaw Hall. In 2008 the Seattle Opera signed a long term lease option for Mercer Arts Arena, enabling the company to bring together all its operational departments.

Physical Description:

Originally constructed between 1927 and 1928, renovations on the former Ice Arena in preparation for the Century 21 Exposition drastically altered the building's appearance in 1961. These 1961 alterations served to aesthetically align the arena with other fair buildings designed in the Modern – New Formalist style, including the Playhouse and Exhibition Hall. The architects, Kirk, Wallace, McKinley & Associates, retained the original footprint of the building choosing to encapsulate it within a new exterior facade. The building features a rectangular footprint. The one story poured concrete building has a front gable roof with eight small cupolas projecting up from the ridge; the roof system is a remnant of the building's original appearance. Tan colored bricks



2013 image of the Mercer Arts Arena. Source: Artifacts Consulting, Inc.

clad the building. A colonnade runs along the building's north elevation, visually connecting it to the Exhibition Hall and Playhouse Theater. Slim concrete posts and a recessed rounded rectangular detailing of the passage's ceiling characterize the colonnade. Three sets of segmental arch doorways provide access to the building's interior on the north facade. A trio of tall doorways punctuates the center of the elevation; shorter paired doorways are located on either side of the trio. Two bronze lanterns, likely dating from the original building's facade, are present between each set of doorways. While the building's original plan has been obscured and the original cladding extensively altered, the 1961 plan and cladding largely retain their integrity.

The building maintains its original use as an arena, and while it retains a large, open interior volume, the materials and configurations within the space have been altered over the years. The building interior was not accessed.



Above: 1962 view of the Mercer Arts Arena interior. Source: Puget Sound Regional Branch, Washington State Archives.

Right: 2013 view of bronze lantern on Mercer Arts Arena exterior facade. Source Artifacts Consulting, Inc.



Character-Defining Features:

- Colonnade
- Brick
- Bronze lanterns

Chronology of Alterations:

- 1961, Kirk, Wallace, McKinley, & Associates, conversion in anticipation of Century 21 Exposition, increasing lobby spaces and improving arena area
- 1964, James J. Chiarelli of Priteca & Chiarelli, AIA, remodel for use after fair, remodeling of north and east foyers, reworking of arena
- 1979, Rigg Nelson Walker Cavage, arena improvement project
- 2001, arena temporary venue improvements, altered arena seating, exterior box office relocated inside building, interior reconfigured by LMN (Loschky Marquardt & Nesholm)

Individual Buildings and Structures

Buildings included in this section:

- Blue Spruce Building
- Seattle Repertory Theatre
- KCTS 9 Building
- Covered Breezeways
- Pottery Northwest/Gardener's Facility
- Seattle Children's Theatre

Blue Spruce Building [4]

Significance:

Designed by George Bolotin in 1956, the unassuming Blue Spruce apartment building consisted of five one-room and 21 two-room apartments, and served as much-needed office space for fair staffers before and during the exposition. The building was acquired by the City of Seattle and used by the Century 21 Exposition, Inc. for fair departments including Site Development, Purchasing, Personnel, Concessions, Operations and Services, Advance Ticket Sales, and Lodging. Post-fair, the Blue Spruce was leased to tenants including Greater Seattle, and over the years has served as office space for many Seattle Center tenants and producing organizations. The building's origin as an apartment house is clearly visible – no modifications other than signage have been made to its exterior – and while this references the neighborhood that once occupied the fair/Seattle Center footprint, it has been perhaps the most utilitarian structure of all those used during the fair, with the possible exception of the Mercer Garage.

Physical Description:

Completed in 1956, the Blue Spruce Building occupies a U-shaped footprint on the north side of Thomas Street, just south of the KeyArena. This building has a Modern, multi-family residential form. The three-story, concrete block structure stands on a poured concrete foundation. Exterior walls are clad with concrete block. On the south walls of the east and west stairwells, the concrete blocks are laid in a decorative relief pattern, with alternating quads of blocks recessed or protruding, producing a zigzag effect. A flat roof and surrounding parapet cap the building. Bands of stepped out sheet metal form the parapet. The footprint's U-shape opens to the south, with



1957 image of the Blue Spruce Building (Blue Spruce Apartments, Administration Building). Source: Puget Sound Regional Branch, Washington State Archives.

poured concrete balconies above the ground floor wrapping the courtyard and overlooking Thomas Street. Metal wrought-iron railings line the balconies. Exterior doors at all floors in the south facade access the former apartment spaces, now offices. On the south, east and west facades, large window units allow daylight into the interior. Most windows appear to be original, aluminum-framed, single pane fixed and casement types. Smaller versions of these same window units are regularly spaced across all bays on the north facade and at the ground floor in the east wall. Select windows are replacements, with matte (silver) aluminum frames. Stairwells are located at the east and west ends of the building, featuring poured concrete steps and metal pipe handrails. A single, partially glazed metal door accesses the west stairwell at the ground floor from the east side; the same kind of door accesses the east stairwell from the west side. The west stairwell also has an open eastside doorway protected by a contemporary metal gate. Replacement fiberglass and plywood panels cover the stacked window openings in the south walls of the end stairwells. Original mailboxes are located at the west and east ends of the ground floor, next to the stairwell doors. An aluminum framed, wall mounted building directory is adjacent to the east mailboxes.

The original cladding appears to be intact, along with the footprint and overall plan. There appear to have been moderate changes to the original windows.

Character-Defining Features:

- Footprint and massing
- Roof form
- Floor plan and spatial arrangement
- Balconies (but not railings)

- Mailboxes
- Building directory
- End stairwells
- Aluminum-framed windows and fenestration pattern
- Patterned concrete work in cladding
- Exterior doors
- Finished concrete floor surface along balconies and in stairwells



Below: 2013 image of the Blue Spruce Building. Source: Artifacts Consulting, Inc.

Chronology of Alterations:

- 1960: Converted to offices for the Century 21 World's Fair
- 1993: Reroofing, alterations to third floor plan
- Undated: Replaced balcony railings and select windows; replaced and/or infilled windows in south walls of stairwells (plywood and fiberglass panels now); rearranged roof drainage system changed (scuppers added, downspouts relocated); added contemporary metal gate to exterior of southwest stairwell entrance

Seattle Repertory Theatre [10]

Significance:

Designed by NBBJ in 1981, construction removed all landscaping and existing former fair buildings and structures from the site was formerly occupied by the International Commerce and Industries Buildings surrounding the International Mall.

The International Commerce And Industry Buildings, designed by the firm of Walker & McGough, housed the pavilions of India, Republic of Korea, United Nations, African Nations, Thailand, Philippines, San Marino, City of Berlin, and the Peace Corps. The pavilions were demolished immediately after the fair, and the International Commerce and Industry Buildings were demolished in 1981. The north terminal for the 76 Skyride, located on the International Mall, was dismantled in 1981.

Seattle Repertory Theatre (founded in 1963 and housed in the World's Fair Playhouse) broke ground for their own venue, the future Bagley Wright Theatre, named for the Rep's founding board member, in 1981, mounting their first season there in 1983. The Bagley Wright Theatre was the first major new construction on Seattle Center's campus since the fair. Neon tubing on the front facade done by Stephen Antonakos in 1983. In 1996, the Rep undertook a major addition adding a second stage, the Leo Kreielsheimer Theatre.

Physical Description:

Completed in 1983, the Seattle Repertory Theatre is located in the northwest corner of the Seattle Center campus, occupying most of the city block bordered by Mercer and Republican streets and 2nd and Warren avenues. The building is executed in the Modern style. A poured concrete foundation supports reinforced concrete walls and an irregular footprint. Painted stucco clads the exterior walls. Metal framed, multi-lite, fixed windows are the predominant window type. A varied height (stepped) flat roof caps the structure's irregular internal volume. This building dates to the post-World's Fair period, although the zigzag footprint of the west and north retaining walls are a relic of the fair. A series of entrances is contained within a ribbon of glazing at the southeast corner. The original cladding and windows appear to be intact. There appear to be moderate changes to the original plan, with addition(s) to at least the south end.



2013 image of the Seattle Repertory Theatre. Source: Artifacts Consulting, Inc.

The interior of the theater was not accessed.

Character Defining Features:

- Footprint and massing
- Exterior neon lights
- Curvilinear and stepped walls
- Asymmetrical composition
- Horizontal banding

Chronology of Alterations:

- 1995: Fire protection, mechanical, electrical, technical, site (grading, paving), and structural updates
- 1996: Wall and door system; addition adding a second stage off the south side of the building and a covered walkway off the northeast corner
- 2002: Addition and reroofing
- 2010: the landscaping added as part of the theater construction was redone to form the Theater Commons



2013 view of KCTS 9 Building. Source: Artifacts Consulting, Inc.

KCTS 9 Building [43]

Significance:

Built by KCTS 9 on city-owned Seattle Center property. During the fair, the current KCTS 9 site and open space around it was occupied by the Show Street complex – Century 21’s adult entertainment area. Structures designed by Paul Thiry housed diverse attractions including Peep Backstage USA, Bavarian Tavern, Girls of the Galaxy, Gay Nineties Review, Antique Car Show, Diamond Horseshoe, Flor de Mexico, Indian Village/TeePee Salmon Barbeque, Cellier de Pigalle, and Stella. A theater building by Roland Terry contained Les Poupees de Paris nude marionette show, a magic show, and Paris Spectacular wax museum. Howard Dong and Associates designed Gracie Hansen’s Paradise International – the pride of Show Street. All of these buildings were funded by Century 21 Exposition, and all were moved or demolished following the fair. Some – most notably the Gracie Hansen building – were given to King County in exchange for funding buildings elsewhere on the fairgrounds. In 1984, KCTS 9 public television constructed a home for all of their operations, which had been scattered across the University of Washington campus. McKinley Architects designed the new building. KCTS sought to build its home at Seattle Center in order to be near the cultural institutions housed there, and planned to broadcast their performances. The site on which KCTS built had been unused since the fair. Although the public television station is much less actively engaged with the live public than most of its neighbors, the cultural programming it

produces and broadcasts is consistent with Seattle Center’s focus on arts and culture.

Physical Description:

Constructed in 1984 as a broadcast studio, the Modern building features an L-shaped plan and stands on a poured concrete foundation. The two story reinforced concrete building has a flat roof with parapet. Rounded arch shaped parapet walls highlight the north and south elevations. Barrel roofs clad in standing seam metal extend from the parapets. The building’s walls are clad in a tan colored brick. Long wall expanses of patterned brick on the west and east elevations are capped by ribbon of windows. Tall narrow windows flank patterned brick expanses on these elevations. Triangular-shaped covered areas, formed by a heavy pillar and a diagonally run wall of windows, are located at both the northwest and northeast corners of the building. The main entrance is located along the northwest diagonal window wall. Two loading bays are present on the building’s south elevation. The building’s plan, cladding, and windows appear to be intact.

Character-Defining Features:

- Brick cladding and patterned brickwork
- Tall narrow windows

Chronology of Alterations:

- Slight modifications to the rear loading bay

Covered Breezeways

Significance:

Free standing covered breezeways respond to our Pacific Northwest maritime climate, providing shelter from the rain for pedestrians along the main circulation corridors. These represent a 1970s addition to the site.

Physical Description:

Covered breezeways facilitate north-south circulation within the Seattle Center campus. Constructed in 1973, these utilitarian structures feature a rectangular plan. The steel structure of the breezeways rises from poured concrete piers. Steel posts support the pyramidal hipped roof of the breezeway structure. Panes of wire glass fill in between the ribs of the roof, providing shelter from the elements. The structure's materials and plan appear largely intact.

Character-Defining Features:

- Narrow footprint
- Roof glazing

Chronology of Alterations:

- 1984 additional covered walkways added



Above and right: 2013 images of covered breezeways. Source Artifacts Consulting, Inc.



Above: 2013 view of Pottery Northwest /Gardener's Facility building. Source: Artifacts Consulting, Inc.

Right: Detail of original door on east elevation of Pottery Northwest /Gardener's Facility building. Source: Artifacts Consulting, Inc.



Pottery Northwest /Gardener's Facility [19]

Significance:

The brick structure was constructed by contractor Vincent Bressi in 1923 as an automobile repair garage, operated in that function through the 1940s by Dominick Bressi (likely his brother). Architect M. C. Heinemann designed the building. By 1950, it was occupied by the City Transfer & Stage Company. During the fair, World Wide Distributors, Inc., a wholesale general merchandise firm, occupied the building. Its size, condition, and proximity to Seattle Center made it attractive to the city, and in April 1966, Seattle purchased it for \$132,000.

Pottery Northwest, founded in 1966 and originally housed on the second floor of the Seattle Center Armory (then called the Food Circus), moved to this site in 1973. Van Horne Architects were hired to design the remodel. They performed seismic upgrades, re-pointed the brick, built out the interior to facilitate meeting and classroom space, clay mixing areas, electric kilns, and made other improvements. The building's adjoining courtyard houses gas-fired kilns. The courtyard's south side now abuts Seattle Center's open parking lots and the entry drive to the First Avenue North garage. When built, the open parking lot site was occupied by a former commercial laundry building that was used as a to-go food concession during

the fair. An addition to the building was constructed in 1976, also to plans by Van Horne Architects.

Physical Description:

Constructed in 1923 (according to the county assessor), the one story vernacular commercial-style building built by M.C. Heinemann features a rectangular plan. The poured concrete foundation supports the common bond brick walls. The building has a hip roof set on a flat roof and enclosed by stepped parapet walls on the west and south ends. Situated on a corner lot at the southeast corner of Thomas Street and 1st Ave N, the garage has two prominent facades, the north and west elevations. The west elevation is divided into five bays by wide brick piers. Brick corbels highlight the window openings which feature multi-paned windows below multi-paned transoms. All the windows on the west elevation have been replaced. Brick piers continue on the north elevation, dividing the facade into six bays. The north elevation bays have similar detailing as those on the west. The north elevation retains most of its original multi-paned windows. One bay now features a large overhead door while another has been partially bricked in and now has a contemporary entrance door. The east elevation, accessed via an alley, retains the outline and header for the original auto bays, but



2013 view of southeast corner of Pottery Northwest /Gardener's Facility building. Source: Artifacts Consulting, Inc.

the openings have been filled in with concrete block. The south wall is a shared party wall with an adjacent building, also a part of the former Bressi Garage operations.

The central bay of the south portion has been modified and now features a contemporary entrance door with surrounding mosaic. A wood frame addition, covered by a corrugated metal clad shed roof, projects from the south elevation along almost its entire length. The east elevation, accessed via an alley, appears to retain its original fenestration, with a central entrance bay flanked on either side by two multi-paned wood windows. The alley entrance door is a sliding wood double door; a mullion separates twelve panes of glass on either side of the door. The north wall is a shared party wall with an adjacent building, also a part of the former Bressi Garage operations.

Historically, the interior of the building was most likely a relatively open volume to facilitate the garage business. A 1973 renovation remodeled the garage for use as pottery studio, which kept much of the interior open, but added a locker area, office, display room, and a mezzanine level for a lounge space. A 1986 renovation remodeled the garage for use as a gardener's facility to support Seattle Center maintenance staff.

Character-Defining Features:

- Brick walls and brick detailing
- Bays
- Multi-paned wood windows
- Stepped parapet walls

Chronology of Alterations:

- 1973, Audrey L. Van Horne of Van Horne & Van Horne Architects, garage remodeled into artist studio, shed addition along south elevation to house external kilns
- 1976, south addition
- 1986, Ing & Associates, north facade roll-up door added, original west elevation double door removed, original brick reused to fill door opening, single door added to north elevation, hanging planters added to building exterior, original windows removed on east elevation



1962 Werner Leggenhager photograph of the Seattle Children's Theatre east entrance. Source: Seattle Public Library.

Seattle Children's Theatre [21]

Significance:

This addresses only the pre Century 21 Exposition Nile Shrine Temple within the larger complex of contemporary buildings and additions known today as the Seattle Children's Theatre.

Built as the Nile Shrine Temple, Club 21 was a private club for top fair brass, Seattle businessmen and their wives, and high-ranking visitors and exhibitors. The building was leased from the Shriners by the Century 21 Exposition, Inc. Members enjoyed dining facilities, meeting rooms, showers and barbershop, switchboard, paging, stenographic services, and nightly entertainment. Club 21's \$250 membership fee included a permanent gate pass to the fair and use of all Club 21 facilities for member and wife. With the exception of one female fair staffer from the Public Relations department, all Club 21 members were male. Designed by Samuel Morrison in 1956 and funded by the Nile Temple Holding Corporation. As constructed for the Nile Temple, the L-shaped building included offices, storerooms, lounge and card rooms, and a 700-seat auditorium which could double as a banquet facility.

Although originally planned to revert to its owners after the fair, within a year of the Exposition's conclusion the city entered a lease agreement for the continued use

of the property. The Nile Temple was used as the gift shop for the 1978 King Tut exhibit. The city purchased the building in 1979. Beginning in 1983, it housed the Pacific Arts Center and, beginning in 1987, some operations of the Seattle Children's Theatre (then performing at the PONCHO Theatre at Woodland Park Zoo). In 1993 it was renovated and became part of the Seattle Children's Theatre complex (built 1993, expanded 1995). The complex includes the Charlotte Martin Theatre, the Allen Family Pavilion, the Eve Alvord Theatre and the Drama School. The latter two facilities incorporate the former Club 21. Exterior design elements on the entire theater complex are referential to the Nile Temple wavy roofline design.

Physical Description:

The former Nile Shrine Temple is currently part of the Seattle Children's Theatre complex. The complex was constructed in three phases, with the 1991 and 1993 sections comprising the majority of the floor plan. The original building in the complex was built as the Nile Shrine Temple in 1956. It occupies the northeast portion of the current Seattle Children's Theatre complex. The former Nile Temple is located in the southern end of Seattle Center, at the southwest corner of 3rd Avenue North and Thomas Street. This Modern style building originally had an L-shaped floor plan. Rising from a poured concrete foundation, the reinforced concrete framing supports a barrel vaulted roof. Concrete blocks in-fill the walls between the poured concrete piers. Painted stucco and concrete block comprise the cladding. At the northeast entrance, two sets of original double doors are extant but hardware has been removed and the doors are currently locked shut. One set of replacement double doors is operable but no longer used as a public entry. A tall canopy over this entryway, plus lower canopies to either side, is all original. Original window units are arched, multi-lite, metal framed sashes on the upper wall reaches. A ribbon of square and rectangular, multi-lite, metal framed sashes stretch along the east wall's lower level. Select windows have been removed/infilled as part of the current theater use. All original windows on the south and west elevations were lost to new additions. There have been extensive alterations to the original plan and the original windows.

On the interior, the original building has a varied volume, ranging from one to two stories. The main entrance was once through the northeast vestibule, which is now defunct. The current main entrance to the original building is through the set back east entryway, under an extended hard canopy. The Eve Alford Theatre space occupies what was once a general purpose gathering space for the Nile Temple. Behind and above the Alford stage, a mezzanine space reveals a portion of a former proscenium opening. The south wing of the original building features a two-story volume, with a north-south central corridor at each floor. Rooms opening off these corridors serve administrative and classroom purposes. The lower corridor retains more integrity with regard to openings, door surrounds, and spatial arrangement than the upper floor corridor. Rooms on the east side of the corridors retain original window openings and sashes.

Character-Defining Features:

- Massing of original building portion
- Cladding (stucco, concrete block)
- Window openings
- Window sashes
- Canopies
- Roof form
- Northeast entry and vestibule (including double doors)

Chronology of Alterations:

- 1991: Southwest addition(s)
- 1993: Charlotte Martin Theatre addition
- 1995: Eve Alford Theatre renovation and build out
- Undated: ADA ramp on north side, removal and infill of windows in north and south walls of original building, addition of ventilation louvers in northeast vestibule wall, replacement of one set of double doors at northeast entry, removal of hardware from two sets of double doors at northeast entry, replaced doors and extended a hard canopy at the secondary east entrance (set back from street)



Above: Historic view of the Seattle Children's Theatre, showing the former Nile Shrine Temple and Club 21. Source: Puget Sound Regional Branch, Washington State Archives.

Below: 2013 image of the Seattle Children's Theatre, showing the former Nile Shrine Temple and Club 21. Source: Artifacts Consulting, Inc.

Historic aerial view of the Century 21 Exposition grounds. Source: Photo by Ken Prichard, Courtesy Ken Prichard.



Open Space

Main Entrances

Main entrances represent a feature specific to the fair. Since entry to the fairground required ticket purchase, planners reduced public access to the fair grounds to five locations. Today, entrances have all become open spaces to support open connections between the Seattle Center and surrounding neighborhood. Entrance locations:

East Entrance (Fifth Avenue North) defined by multi-colored totem poles designed by Bassetti & Morse. This entrance was located on the block just north of the street right-of-way. Today this is the open area near KCTS 9.

South Entrance (Broad Street) defined by multicolored totem poles designed by Bassetti & Morse. Today this area is defined by the Broad Street Green landscape redesign of the green space created by the removal of former pavilions along Broad Street.

West Entrance (West Harrison Street) defined by the direct entry to the KeyArena (Washington State Coliseum), book ended between the Northwest Buildings and Fair Headquarters and groves of trees. Although the axial alignment of West Harrison Street remains and this

continues to function as the main public access point to KeyArena, the 1990s redesign of the west plaza, coupled with interior changes to the arena significantly altered this entrance.

Monorail Arrival Entrance via the City of Seattle Landmark designated monorail provided a key connection with downtown Seattle.

North Entrance, also known as the Presidential Gate (today known as Founders Court), was designed by Kirk, Wallace, & McKinley and funded by the City of Seattle. This served as the most formal of the five established entrances. Entering off Mercer Street, this entrance in conjunction with the Presidential Court served as the formal arrival point and sequence for dignitaries. The location and sequence of spaces allowed dignitaries to proceed through directly to the International Fountain at the core of the fairgrounds. With the exception of the Monorail arrival point, this is the only fair-era site entrance still serving as a visually defined entrance to Seattle Center.

Character-Defining Features:

- North Entrance
- Monorail Arrival Entrance

Chronology of Alterations:

- 1964, entrance turnstiles and ticket sales gates were removed at the fair's conclusion from each of the four gates.
- 1984 construction of the KCTS 9 Building completed the slow transition of this block following the fair and its former role as the east gate.
- 2000s Broad Street Green redesign of the landscaping along Broad Street including the former south gate location
- 1995 conversion of the KeyArena and surrounding plazas, including the former west gate location.

Trees

The 2009 *Landscape Management Plan* identifies candidates for Legacy Trees and officially Dedicated Trees having a plaque or documentation within the site by zone and provides the following definitions on page 23 of the plan. Following review of identified trees, no additional trees were identified during our research and field work.

“The definition of Legacy Tree is based on guidelines for determining heritage, historic, legacy, and landmark trees, as provided by the International Society of Arboriculture. One or more of the following characteristics are used to define a tree with special Legacy Tree status:

Size: Some component of tree size, most frequently trunk diameter, is used, but other components of tree size, such as height or canopy spread, may also be used.

Species: Certain species may be special locally, rare, or important to the community.

Age: Older trees are especially valued (age of living trees is difficult to determine).

Historic significance: A tree that is associated with an historical event, person, structure or landscape.

Ecological value: Examples of trees that have special status are ones that provide a roosting or nesting site for certain wildlife species, play a critical role in slope stabilization, or provide critical cover for another plant or animal species.

Aesthetics: Special form, site, and/or function in the landscape is identified.

Location: There is an important contribution to the site such as near a street or building.

Required plantings and retained trees: If trees have been preserved or planted as a requirement of development, the community has a vested interest in ensuring that the trees are protected.

Other unique characteristics: This is a catchall term that may be used when a special tree does not fall neatly into another category.

A Dedicated Tree has a plaque, marker or documentation on file to commemorate its significance. Dedicated Trees by nature memorialize an event, group of people or individual and are presumed to be a long-term addition to the campus.”

Landscape

Assessment of the landscape includes site features, sculpture, and open spaces within the campus.

Open spaces within the campus consist of key spaces, courts, plazas, and open areas creating defined areas for public gathering with key views of the associated buildings. The following identify key remaining spaces having high integrity or significant community value:

Street Grid

Significance:

When the site was transformed from a city neighborhood to fairgrounds/civic center, the open space along the former street grid was partially retained within the core of the site. Buildings and landscape elements constructed around the perimeter of the site, prior to, as part of, and following the Century 21 Exposition erased many of the former street alignments. These constructed elements include Memorial Stadium, McCaw Hall, Mercer Street Parking Garage, Exhibition Hall, Chihuly Garden and Glass, Broad Street Green, the Pacific Science Center, and KeyArena. Although the city vacated the streets running through the site, they were unchanged until just prior to the fair, when they were paved with asphalt to bring them level to the abutting ground, eliminating curbs that might cause fairgoers to stumble. During the fair, and during the site's decades as Seattle Center, the open space

of the street grid around the core campus spaces remains. This continuity of open space within the site is, along with several legacy trees near the International Fountain that predate the fair, the site's oldest artifact.

Physical Description:

The former 66-foot wide street grid establishes the underlying organizational pattern. This pattern conveys historical street front orientation and block level relationships of pre-fair buildings. Paul Thiry utilized this grid in the layout and organization of the fairgrounds with many of the new buildings receiving addresses based on the street they fronted. Although access to the campus reduced to four main gates during the fair, within the campus the street grid provide important means of circulation around the core open space bounded by West Republican Street to the north, West Thomas Street and Broad Street to the south, and Second Avenue North on the west and Third Avenue North on the east. As part of the post-fair transition back to a civic center reuse of the open space alignments of the former streets as primarily pedestrian access points renewed their importance connecting with the surrounding neighborhood to create a more permeable campus and further strengthened their internal circulation role.

Key former streets (their right-of-ways have been vacated and are no longer considered city streets or avenues):

West Republican Street serves as part of the north edge along one block behind Northwest Buildings, alignment continues through campus as an important circulation route (now August Wilson Way) along the north side of the International Fountain open space, through to Fifth Ave N and the Memorial Stadium.

West Harrison Street runs to the center of KeyArena, and is the only original street to serve as a main gate entry to the fair (west gate). West Harrison Street also serves as the main central east/west axis (United Nations Way) through the campus with views of KeyArena and over the two central open spaces.

West Thomas Street runs east/west and serves as the main promenade (American Way) passes under the Monorail and along the base of the Space Needle.

Warren Ave North runs north/south through the central axis of the KeyArena. Although not a main gate entry, an

opening left in Northwest Buildings provided for continuation of this circulation pattern and has become an important neighborhood entry point following the fair.

Second Avenue North is the main north/south promenade (Boulevard West) through fairgrounds along the west side of the central open spaces. This street passes along the front of the Sweden Pavilion and east side of KeyArena.

Third Avenue North is the main north/south promenade (Boulevard East) through the campus along the east side of the central open spaces. This street leads directly to the Pacific Science Center with views of the Horiuchi Mural and Amphitheater.

Character-Defining Features:

- Open space alignments along former streets and avenues

Chronology of Alterations:

- During the fair, construction of the Federal Science Pavilion (now Pacific Science Center) and the former pavilion along Broad Street cut off the east/west connection of John Street. The right of way was pushed to the north, but no longer maintains a connection with the external street grid.
- Construction of the Mercer Arena and Stadium significantly altered the connections of Fourth Avenue North. During the fair the southern portion provided an important north/south circulation route (Boulevard 21). Changes at the base of the Space Needle and the Chihuly Garden and Glass building have significantly changed this street.

Fisher Green [52]

Significance:

Designed by Richard Bouillon, the Plaza of the States served as a formal venue for ceremonies honoring visiting United States governors, and highlighting their states. Each state was represented by its flag, flying atop a 33-foot pole, and by a plaque. Many civic groups, high school and college bands, and other boosters participated in celebrations and entertainments at the Plaza of the States.

When the nearby Domestic Commerce And Industry Building/Flag Pavilion Building was demolished in 2001



to make way for Fisher Pavilion, the Plaza was demolished to make way for the Fisher Pavilion Green/South Fountain Lawn, retaining its historic role as a public gathering space and enjoying a respite from encroachment by the site's built environment.

Physical Description:

The 2001 redesign of the Fisher Green ties in with original 1961 drawings looking at the connection of this open space to the International Fountain and Open Space to the north with a pavilion at the south end offering views to the north out over the open space. The Fisher Green consists of the Fisher Pavilion along the south edge with an upper level overlooking the Green and a lower level opening to an exterior plaza. The rest of the Green consists of a main circular lawn ringed by a paved walkway with stairs and ramps leading out to the east/west and north connecting with adjoining streets.

Character-Defining Features:

- Open space with views of the surrounding buildings

Chronology of Alterations:

- 2001 construction of the Fisher Pavilion, reworking of the State Flag Plaza, and construction of the Pavilion restrooms to the west. The project removed remaining flag poles and place. Added with a round plaza surrounded by a perimeter seat

Historic view of the Plaza of the States. Source: Photo by Art Hupy, Courtesy University of Washington Special Collections.

wall, lawn at the outer corners with a new east ramp, stairways, and pavers along the north side.

Mural Amphitheatre [53]

Significance:

Century 21 Exposition, Incorporated commissioned the glass tile mural as a gift to the city. Heralded at its April 21, 1962 unveiling as "the largest work of art in the Pacific Northwest," it was Horiuchi's first (and only) work of public art. The Seattle Landmarks Preservation Board granted the Seattle Mural landmark status in September 2004.

Cradled within the Armory, Space Needle, Pacific Science Center, and Seattle Children's Theatre – and within the sight lines of all of these – the Mural Amphitheatre is a central survivor of Seattle World's Fair. It serves as a steady backdrop to every event that occurs on the southern portion of Seattle Center's campus.

Physical Description:

Designed by Paul Thiry as part of the fair to be an open amphitheater space with an east/west orientation, pavilions lined the north and south sides framing the view east to the Horiuchi Mural and the Space Needle.



Historic view of Horiuchi Mural.
Source: Photo by Ken Prichard, Courtesy Ken Prichard.

The space features a central sloped lawn forming the theater seating facing east towards the City of Seattle Landmarked Horiuchi Mural and Space Needle.

Removal of the pavilions to the north and south following the fair expanded the space. 1964 landscaping introduced groves of trees along the north and south sides to maintain the mall character.

Character-Defining Features:

- Central sloped, open lawn space
- Views of the Space Needle, Armory (Center House), Horiuchi Mural (Seattle Mural), and Pacific Science Center, all City of Seattle Landmarks
- Seattle Mural designed by Paul Horiuchi, mounted on parabolic support structure by Paul Thiry

Chronology of Alterations:

- 1964, landscape design by Richard Haag realigned the circulation routes at the north and south sides and expanded tree plantings along the north and south sides

International Fountain [2]

Significance:

Tokyo architects Shimuzu and Matsushita won Seattle's international competition to design the fountain that would serve as a focal point for the fair and, after, Seattle

Center. Designed to shoot water into sculptural forms as much as 150-feet high, the central portion of the fountain was compared to a sunflower, with "seed" nozzles. Machinery deep underground facilitated changes in colored lighting patterns and spray shapes. Taped carillon music accompanied the sprays.

A 1995 renovation replaced the central fountain apparatus while retaining the spray pattern, raised the bowl floor, replaced sharp rocks with aggregate concrete paving, and added a gently sloping spiral ramp that provides wheelchair access and enables water play. The surrounding plaza was redesigned at the same time.

The fountain is constructed on the former site of Mercer Playfield, from 1910 to 1958 the playground for the adjacent Warren Avenue School and for the neighborhood. The fountain's iconic joyful spray patterns and its potential for both active and contemplative appreciation make it a magnet for Seattle Center visitors, retaining its historic World's Fair function as the figurative "heart" of the campus and echoing its playful pre-fair function.

Physical Description:

Built in 1961, the International Fountain space includes the main fountain and the block of surrounding open space. Designed by Tokyo architects Kazuyuki Matsushita, and Hideki Shimizu architects, with assistance by Seattle architects John Phillips and Harry Rich. The fountain served as the center piece for the fair.



Left: Historic view of International Fountain and surrounding open space. Source: Mike and Carolyn Nore.

Above: View of International Fountain at night. Source: Museum of History And Industry.

International Plaza [50]

Significance:

Designed by Paul Thiry and Otto E. Holmdahl and Associates, L. J. Janzen and V. L. Nichols the space was created as part of the larger coliseum compound. This focused on the central KeyArena with supporting buildings and open spaces arranged around the perimeter. Early landscape plans for the upper level plaza had an irregular tree spacing, with later revisions changing this to a more rigid L shaped alignment along the Northwest Rooms. Original trees specified included *Crataegus Carrierei* and at the lower level kept an existing Atlas Cedar as a dominant planting with the DuPen fountain, as well as a loose grouping of trees (*Picea Excelsa*, *Quercus Pilustris*) behind the Swedish Pavilion to soften the windowless rear facade of that building. Two trees (*Betula Alba*) off the south end of the Sweden Pavilion blocked sight lines from the main International Fountain open space, reinforcing the intimate character of the north space.

Physical Description:

Originally this plaza encompassed the two open areas north and south of the KeyArena. The fair buildings along West Republican Street (north) and Thomas Street (south) defined the outer edges of these spaces.

Original 1961 drawings envisioned a long rectangular mall extending from Thomas to Republican streets between Second and Third Avenues North. The exhibit pavilion at the south end would look out to the north over the mall and the International Fountain.

Character-Defining Features:

- Open space with views of the surrounding buildings

Chronology of Alterations:

- 1969-1971, rewire water lighting display
- 1995 fountain rebuild, removed all rocks, the fountain, perimeter walk and curbing, inner mote, light trough, and cobbles in area. The project added precast concrete planters, a perimeter seat wall, pavers, an orca sculptures off the southwest corner, and installed stainless steel dome fountain. A new sloped concrete slab was installed and a spiral ramp down to the fountain. The project retained below grade tunnels, equipment room, and reservoirs.
- 2001 modification to piping and service platform



2013 view of the remaining three bronze sculptures from the Fountain of Creation. Fountain of Creation. Source: Artifacts Consulting.

The north space represented the more important of the two, having a greater diversity of international pavilions and integrated design with the Northwest Rooms bounding its outer north edge. The north space's original design served primarily as an intimate exterior extension of the Northwest Rooms and a transition space between them and the KeyArena.

The south space featured only two pavilions (Republic of China and Great Britain) with the rest of the buildings consisting of administrative offices and the windowless NASA Building.

The north space consists of an upper and lower level, as well as Everett DuPen's Fountain of Creation. A series of small openings around the perimeter allow through access to the rest of the fairgrounds. A broad stairway off the southeast corner of the Northwest Rooms wraps around the building corner to provide access between the upper level and West Entrance of the former fair grounds. A smaller stairway between the Sweden Pavilion and Northwest Rooms provides access from the plaza down to the International Fountain area. The open colonnade along the Northwest Rooms open to the space. The upper level features a former fountain with decorative inset mosaic tiles designed by Paul Thiry (since converted to a planter), which doubles as a mechanical vent for the KeyArena. Contemporary trees planted in a grid occupy the north and west portions of the level. A new concrete railing

runs along the east side overlooking the lower level. Large planters and two direct flights along the side of the arena replace the original broad flight of concrete stairs that led down into the KeyArena. A single decorative concrete panel remains at the top of the railing for the new stairs. The lower level prominently features an entirely redone fountain replacing clean lines of the original Fountain of Creation with a contemporary organic form dominated by large rocks. Added planters and contemporary trees

Designed by Everett DuPen in 1961 and funded by the Century 21, Inc., the Fountain of Creation (40 x 120-foot basin) occupied a prominent location within the north space of the International Plaza.

As originally constructed, University of Washington professor Everett DuPen's fountain in the International Plaza near the Canada Pavilion consisted of a large shallow pool from which rose three abstract bronze sculptures depicting the evolution of human life from a single cell to the conquest of space. In spite of its cool formality, the DuPen Fountain's shallow depth, wide expanse, and ease of access tempted fairgoers to wade or revive weary feet – still a common response among 21st Century Seattle Center visitors.

Character-Defining Features:

- Decorative concrete panel off added stairway to arena, as the last remaining example of this work along the former stairs
- Atlas Cedar retained on the lower level
- Stairway off the southeast corner of the Northwest Building
- Stairway off the north end of the Sweden Pavilion
- Enclosed open space between the KeyArena, Northwest Rooms, and International Fountain Pavilion creating a public gathering area
- Atlas cedar
- Concrete vent with inset mosaic tiles, and former pool basin
- Fountain of Creation cast bronze sculptures, Evolution of Man, Flight of Gulls, and Seaweed

Chronology of Alterations:

- 1987, all of north space's upper level redone, while converting the vent pool to a planter and replacing all trees added during and immediately after the fair, as well as replacing all pavement



2013 view looking west within the north space of the International Plaza. Source: Artifacts Consulting.

- 1991, redid the north space's lower level, including replacing Everett DuPen's Fountain of Creation, and replacing the stairs and paving in the breezeway. The project redesigned the Fountain of Creation removing all of the original pool, west wall, curb and concrete pool edges, as well as paving around the pool. The project retained the three original sculptures, but utilized them in new locations within a new organically shaped pool. The project added boulders, and tree grove and new west wall.
- 1994, reworking of the south space, moving a portion of the NASA Building to its current location, removing the south vent and planter, installation of below grade access to the KeyArena and adding a wall of reused concrete panels along the south edge
- 1999, Northwest Future Forests Grove, trees planted as part of the Millennium Celebration in conjunction with American Forests planted in dedication of northwest environmentalism on the 100th anniversary of the birth of Eddie Bauer and his wife Christine. A time capsule resides beneath the stone and plaque to be opened on October 19, 2099.

Founders Court [24]

Significance:

Designed by Kirk Wallace McKinley & Associates, this court served as the Presidential Court, part of the formal entrance sequence in conjunction with the North Entrance. Dignitaries entering through the North Entrance passed directly through the court into the heart of the fairgrounds at the north end of the International Fountain.

The Presidential Plaza continued through the south colonnade, extending to Republic Street at the north end of the International Fountain. The Kobe Friendship Bell, as an important post-World War II effort in international relations, occupied a prominent location on the west side of the Presidential Plaza (off the south end of the Playhouse). The bell was a gift to Seattle in 1962 from Seattle's sister city, Kobe and is housed in a small building built from Japanese cypress. After the Century 21 Exposition, Richard Haag's 1964 landscape designs called for 60 flowering cherries to be planted in a grid pattern around the north, south and west sides of the Kobe Bell Pavilion.

Physical Description:

The overall volume of the space is defined by the original colonnades at the north and south ends, and the east and west facades of the adjacent buildings. Also designed by Kirk Wallace McKinley & Associates, the colonnades and associated buildings work to create a larger version of the Grand Court at the north end of the Playhouse. The views from the Founders Court through the colonnades create a welcoming reception drawing visitors into the fairgrounds. Contemporary paving, curved planters and granite pylons replaced the lighted stone and concrete basins of the 1961 Julius C. Lang Memorial Fountain designed by Kirk Wallace McKinley & Associates and featuring the carved abstract stone column sculpture by Francois Stahly. A contemporary canopy extends along the west facade of the Exhibition Hall.

Character-Defining Features:

- Open space creating a public gathering area
- Original colonnades defining the north and south edges
- East facade of the Playhouse
- West facade of the Exhibition Hall
- Kobe Bell

Chronology of Alterations:

- 1964, Richard Haag landscape revisions around the Kobe Bell Pavilion
- 1996, Founders Court redevelopment replacing the Julius C. Lang Memorial Fountain with the existing concrete planters, granite pylons, and new canopies. Granite pylons by artists Ned Kahn and Horace Washington



Historic view of north entrance; Presidential Court just beyond gates. Source: Seattle Public Library.



2013 view of former north entrance; Founders Court visible beyond the colonnade. Source: Artifacts Consulting, Inc.



View from the Space Needle towards KeyArena.
Source Seattle Public Library.

FINDINGS

Eligibility

The first step in nominating properties for City of Seattle Landmark designation is to assess the full campus to understand what exists and determine which properties are eligible for nomination. There are three parts to considering eligibility: age thresholds, historic associations, and integrity. Each step helps to refine the list of eligible properties. To be eligible for nomination a property must be within the age threshold, meet at least one of six criteria, and possess integrity.

As City of Seattle properties, Seattle Center buildings, structures and landscape are subject to the following age thresholds with regards to City of Seattle Landmark eligibility consideration. This study addresses eligibility for Seattle Center properties for each of these three age thresholds. The majority of the properties are over 50 years of age.

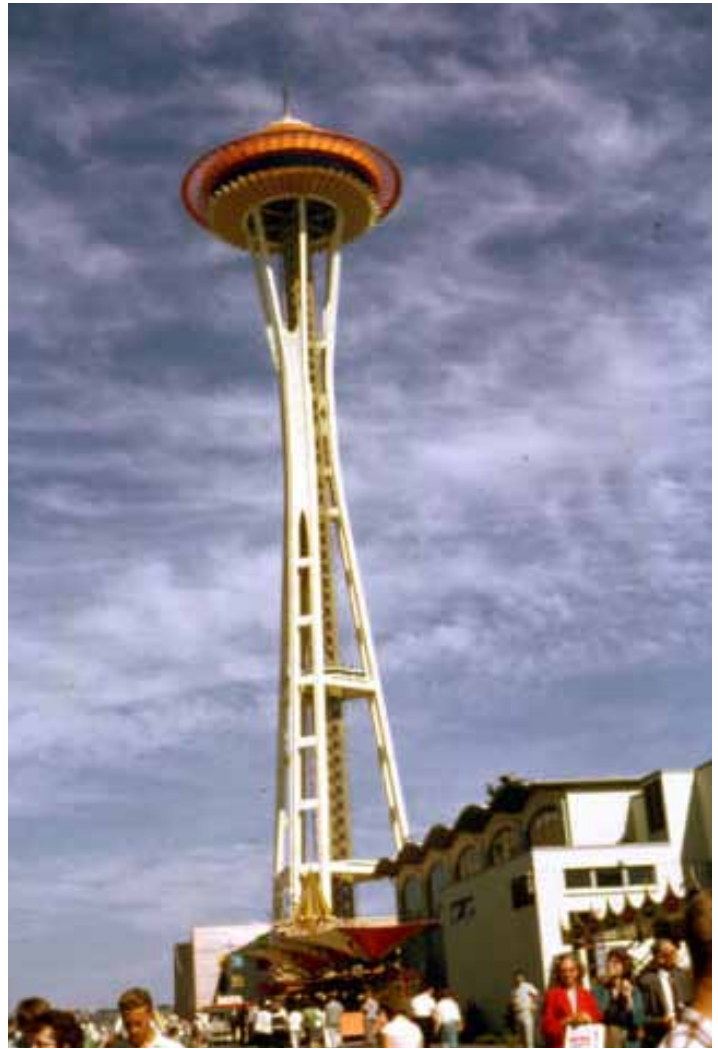
Eligible at 25 years

Nomination voluntary at 25-50 years

Nomination mandatory at 50+ years

Historical associations are the qualities of historic and architectural significance that make the property important to the community. The Seattle Landmarks Preservation Ordinance (SMC 25.12.350) defines the six criteria for designation. This is addressed for each of the properties meeting the age thresholds.

- a) It is the location of, or is associated in a significant way with, a historic event with a significant effect upon the community, City, state, or nation; or
- b) It is associated in a significant way with the life of a person important in the history of the City, state, or nation; or
- c) It is associated in a significant way with a significant aspect of the cultural, political, or economic heritage of the community, City, state or nation; or
- d) It embodies the distinctive visible characteristics of an architectural style, or period, or a method of construction; or



1962 view of Space Needle. Source: Seattle Public Library.

- e) It is an outstanding work of a designer or builder; or
- f) Because of its prominence of spatial location, contrasts of siting, age, or scale, it is an easily identifiable visual feature of its neighborhood or the city and contributes to the distinctive quality or identity of such neighborhood or the City.

Integrity is a measure of how much of the property's original design, materials, spaces and features remain to convey the historic associations for which it is significant.

The **Landmark Criteria Table** identifies applicable landmark designation criteria for Seattle Center properties meeting both the age thresholds and having sufficient integrity to convey their historic associations.

Landmark Criteria Table

PROPERTY NAME	ID	DOC	CRITERIA A	CRITERIA B	CRITERIA C	CRITERIA D	CRITERIA E	CRITERIA F
Thiry Concentration								
International Fountain Pavilion	18	1962	X		X	X		X
KeyArena	1	1962	X	X	X	X	X	X
NASA Building	16	1962	X		X	X		
Northwest Rooms	17	1962	X		X	X		X
Seattle Center Pavilion	20	1962	X		X	X		
International Plaza	50	1962	X		X			
Kirk Concentration								
Exhibition Hall	7	1961	X		X	X		X
Mercer Street Parking Garage	15	1961	X		X	X		X
Playhouse	8	1961	X	X	X	X		X
North Gate	N/A	1961	X		X			
Colonnade	N/A	1961	X			X	X	
Founders Court	24	1961	X		X			
Other								
Seattle Children's Theatre	21	1956	X		X	X		
West Court Building	21	1953						
Covered Breezeways	N/A	1973						
Pottery Northwest / Gardener's Facility	19	1923	X		X	X		
Blue Spruce Building	4	1956						
Fisher Green	52	1962	X		X			
Mural Amphitheatre	53	1962	X		X			
International Fountain	2	1961	X		X			X

Recommendations

Eligible properties can be nominated for City of Seattle Landmark designation individually and as districts. The following provides recommendations based on our assessment.

District

Districts encompass multiple properties. They can be large and small in terms of geographic area. Typically there is a core historic context and development period with which most if not all of the district's properties derive their significance. Properties are identified as contributing/non-contributing to the historical and architectural significance of the district. Evaluation as a collective group places a lower burden on integrity for individual properties since their integrity is measured collectively.

A single historic district encompassing the majority of the site would be strengthened by the inclusion of existing Seattle Landmark properties. Open spaces, views, trees, and smaller artifacts and artwork could be included. Potential impacts due to tenant driven changes to buildings could be measured against the district as a whole, rather than just the building being rehabilitated, allowing greater flexibility in adaptive reuse. However, the process for moving a large district through the designation process can be long. KEXP as the future tenant for the Northwest Rooms will be bringing context level design work to the design commission in February. Planning related to the possible return of a basketball team to Seattle is moving quickly and could potentially impact the KeyArena.

Small historic concentration areas encompassing a concentration of properties designed by a single architecture firm would provide some of the benefits of a large historic district and could move through the designation process at a faster pace. The Paul Thiry (Thiry) concentration area around KeyArena and the Kirk, Wallace, & McKinley (Kirk) concentration area around the Playhouse and the Exhibition Hall present the most uniform groupings of properties. These align with the KeyArena and Theatre District zones identified in the Master Plan, which would help for planning and stewardship purposes.



Postcard view of the Alweg Monorail and the Space Needle.
Source: Seattle Public Library.

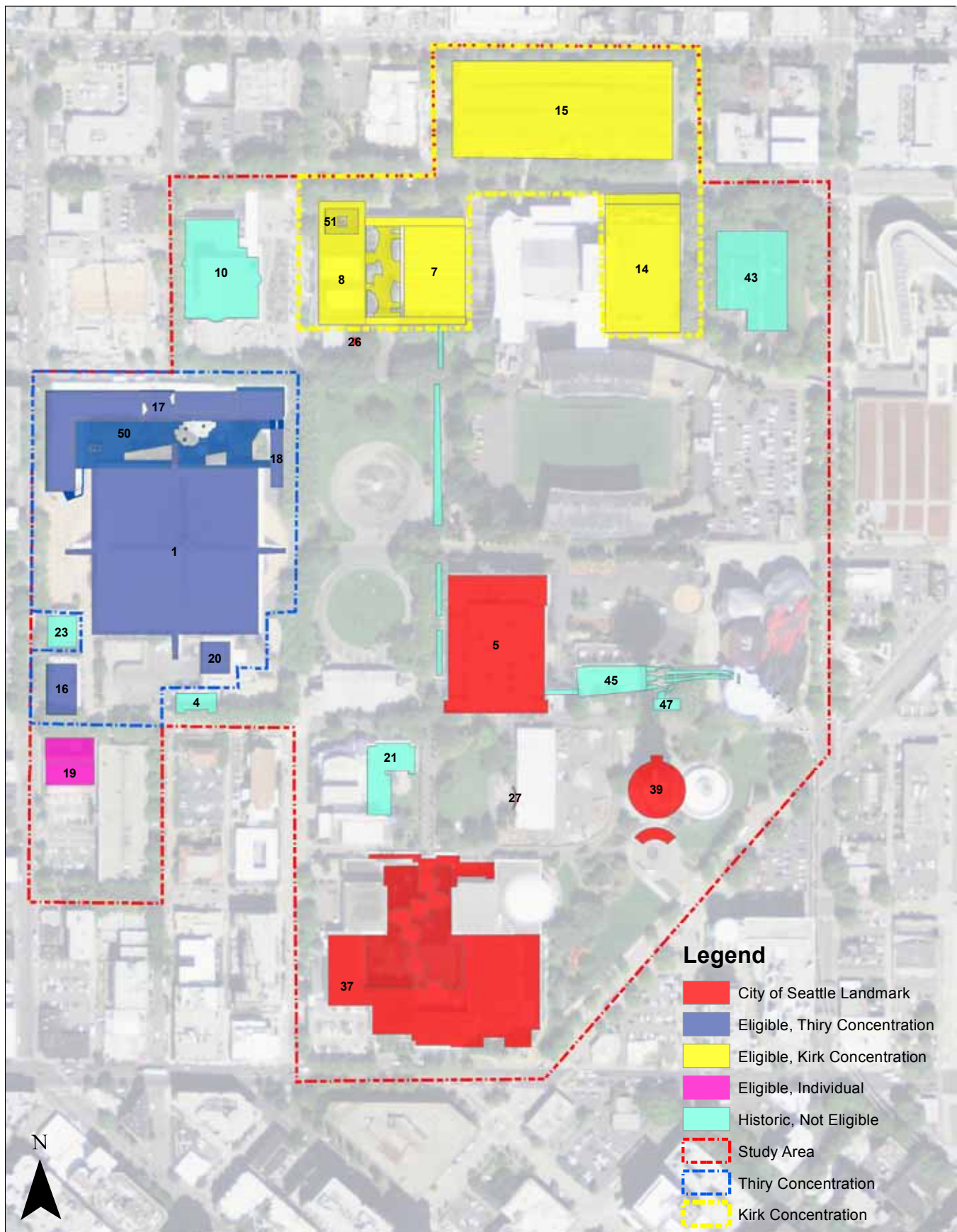
Thiry concentration area properties:

- International Fountain Pavilion
- KeyArena
- NASA Building
- Northwest Rooms
- Seattle Center Pavilion
- International Plaza

Kirk concentration area properties:

- Exhibition Hall
- Mercer Street Parking Garage
- Playhouse
- Founders Court
- North Gate
- Colonnades
- Mercer Arts Arena

Landmarks Eligibility Map





Historic view of KeyArena Source: Seattle Public Library.

Both concentration areas retain a substantially intact collection of properties. They were constructed for the Century 21 Exposition and held key roles as pavilions and exhibit halls in the fair. As part of the 1964 post fair transition to a civic center the majority of these buildings continued to serve anchor roles. Their exterior visual character communicates the past role of the site as the Century 21 Exposition and significance community impact this event exerted. The cohesion of mid-century design elements within each concentration area embody the distinctive characteristics of this architectural style, engineering technology, and period of construction. They represent outstanding works of the architects and engineers involved in their design. Their visual prominence and cohesiveness provide an easily identifiable feature of the neighborhood and a supporting context to the city-wide identifiable features of the Seattle Landmark Space Needle and Pacific Science Center.

Individual

Individual nominations address a single property. These properties convey the neighborhood transition to Century 21 Exposition and then to Civic Center.

The best example of these is the **Pottery Northwest/Gardener's Complex**. The building's exterior remains largely intact. The building's character-defining features convey its architectural style, period and method of construction. The contrast between this building and those of the Thiry concentration area provides a stark example of the neighborhood's transition.

Lesser examples that would not be individually eligible:

- West Court Building
- Blue Spruce Building
- McCaw Hall
- Seattle Children's Theatre

The West Court Building experienced extensive exterior and interior alterations. Built just prior to the fair, the building's architectural style can be discerned; however the extent of previous changes has removed the majority of exterior and interior features.

The Blue Spruce Building retains slightly more integrity than the West Court Building; however the building did not have a significant association with the Century 21 Exposition or fair ground's ongoing role as a civic center.

McCaw Hall experienced extensive interior and exterior alterations removing all visible character-defining features of the building's original and 1961 construction.

The former Nile Temple has been incorporated into the Seattle Children's Theatre complex of buildings. While the original architectural style of the former Nile Temple is still discernible, the surrounding Seattle Children's Theatre additions have diminished the integrity of the original building.

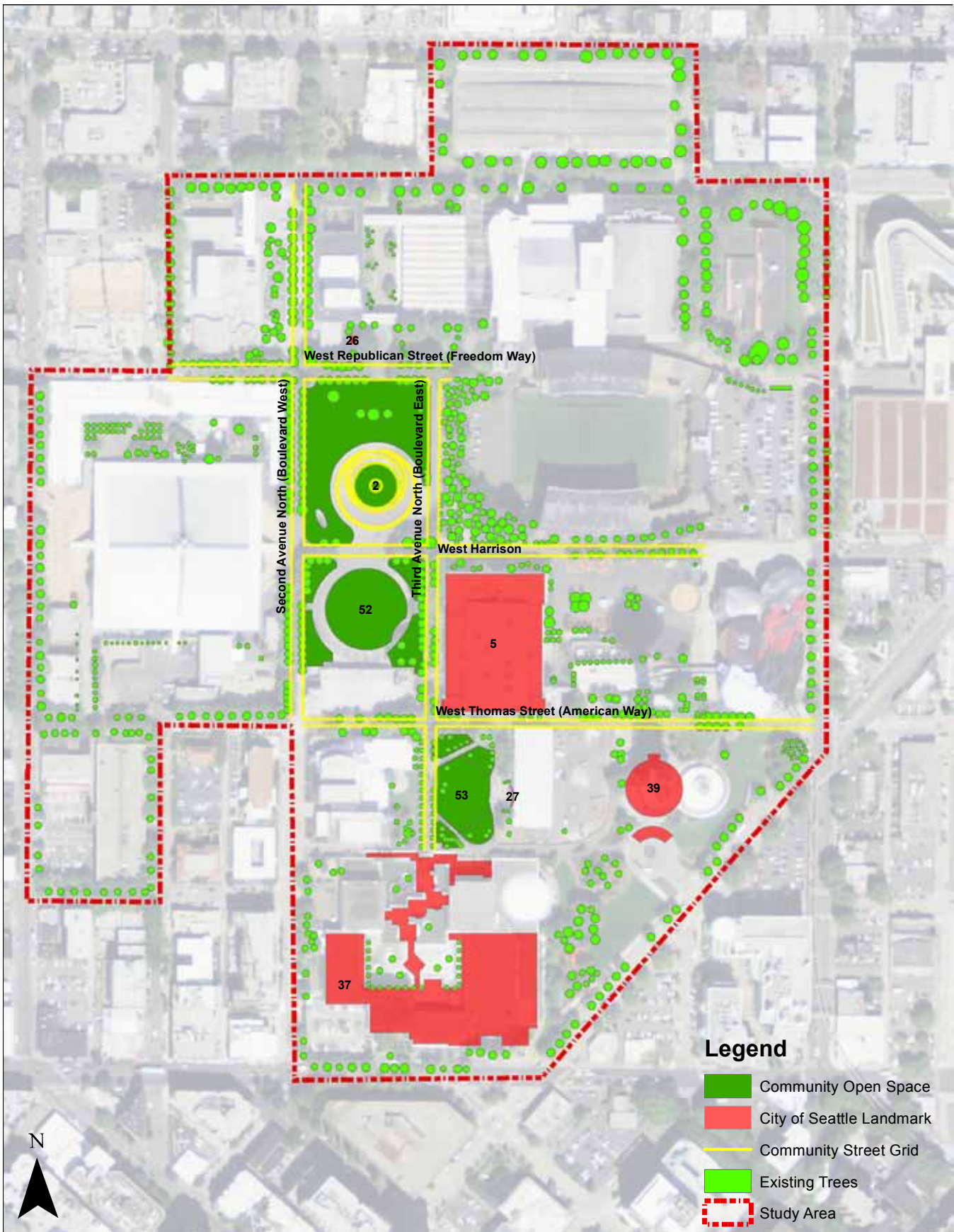
Community Properties

These are properties that rely nearly exclusively on their open space quality to convey their historical associations.

- International Fountain
- Mural Amphitheatre
- Fisher Green
- Former Street Grid

Each served an important role in the Century 21 Exposition and the site's transition to a civic center. Part of the International Fountain pre-dated the fair, serving as an athletic field. The former Street Grid provided an underlying organizational structure for the residential neighborhood, fair, and subsequent civic center. Their prominent locations, contrast with the built-up spaces, and views of the surrounding properties provide an easily identifiable

Community Open Space Map



visual feature of the neighborhood. Their loss would detract substantially from the qualities of the campus at large and setting for the Thiry and Kirk concentration areas. These spaces benefit from views of adjacent Seattle Landmarks.

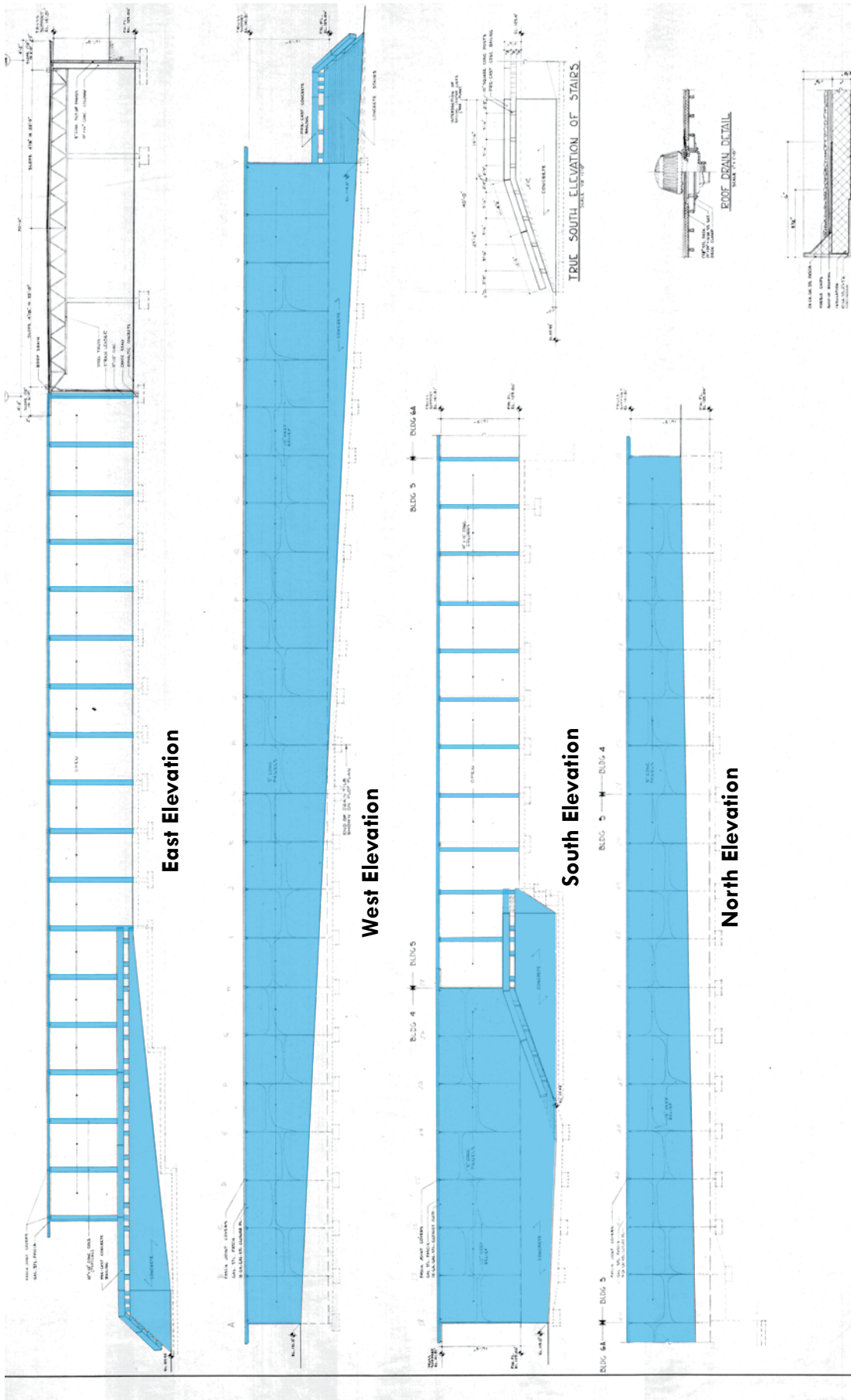
These properties merit further discussion relative to their eligibility as Landmarks and their community role. From the neighborhood perspective these are essential to the public experience, neighborhood connectivity to, and visual qualities of Seattle Center.

Artifacts

Properties and residual property parts that continue to serve an important contextual role within Seattle Center, but do not fit within the Landmark designation process are artifacts. The key to value and reuse is being able to reuse them within their context. Without this context they have minimal to no value. Examples of this category are the cast concrete panels with decorative patterning reused along the south side of the KeyArena site as a fence, as well as the remnant original concrete panel fence off the northwest corner of the NASA Building. As buildings are adaptively reused, the potential to salvage and reuse elements from the buildings to the benefit of Seattle Center's overall visual character should be considered.

Analysis

The following analysis maps were prepared for buildings with high integrity within the Kirk and Thiry concentration areas. Color coding identifies existing original, and 1964 fair to civic center conversion features on the building exteriors. These are intended to inform integrity discussions, and should the buildings be designated, the controls and incentives process. All areas left white represent alterations. Original drawings provide the base drawings for the analysis maps. Feature identification stemmed from archival research, review of original and alteration drawings, and site visit to verify conditions. Blue indicates existing original features and yellow indicates alterations made in 1964.



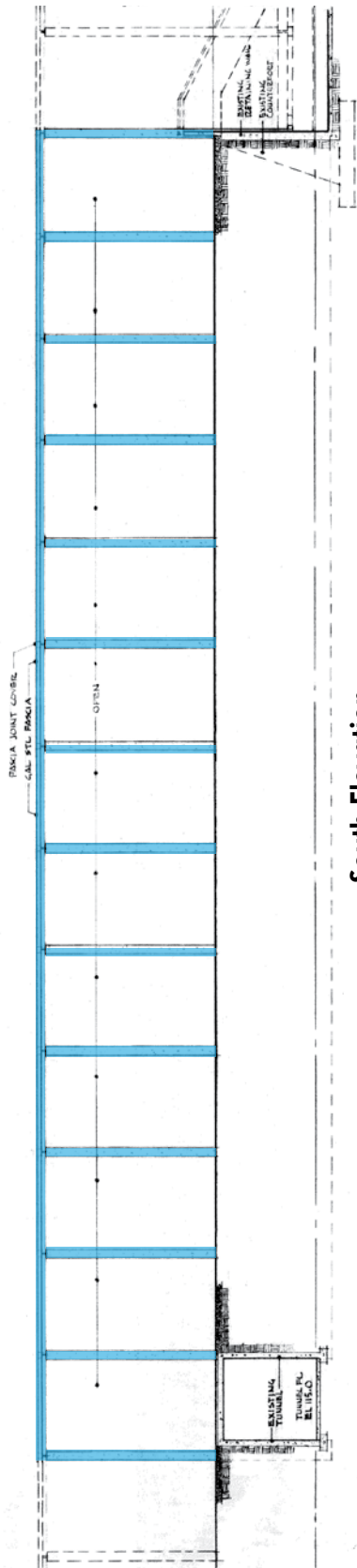
Upper Northwest Rooms

Blue identifies original features

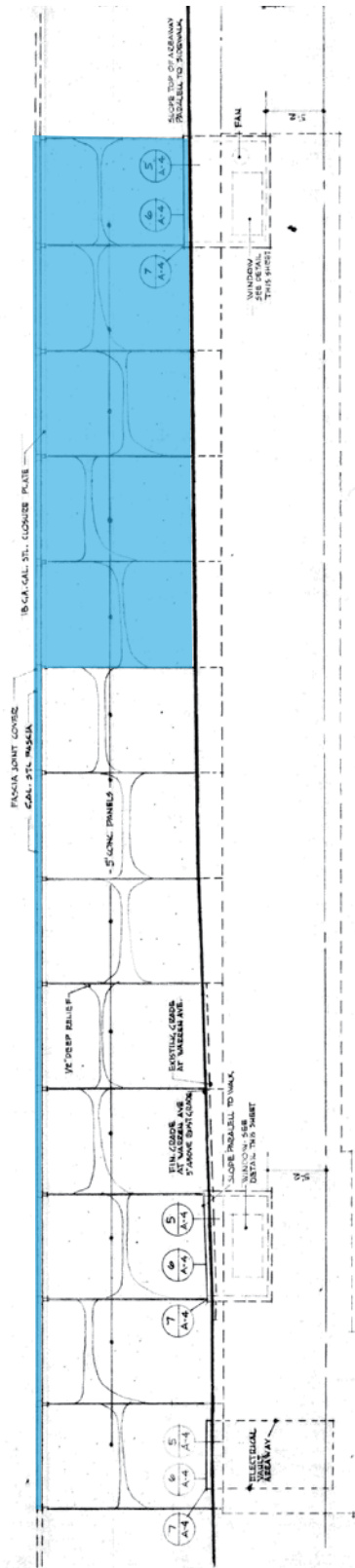
Yellow identifies 1964 fair to civic center changes

Features left white are contemporary alterations

Original drawings provided courtesy of Seattle Center. Shading by Artifacts Consulting, Inc.



South Elevation



North Elevation

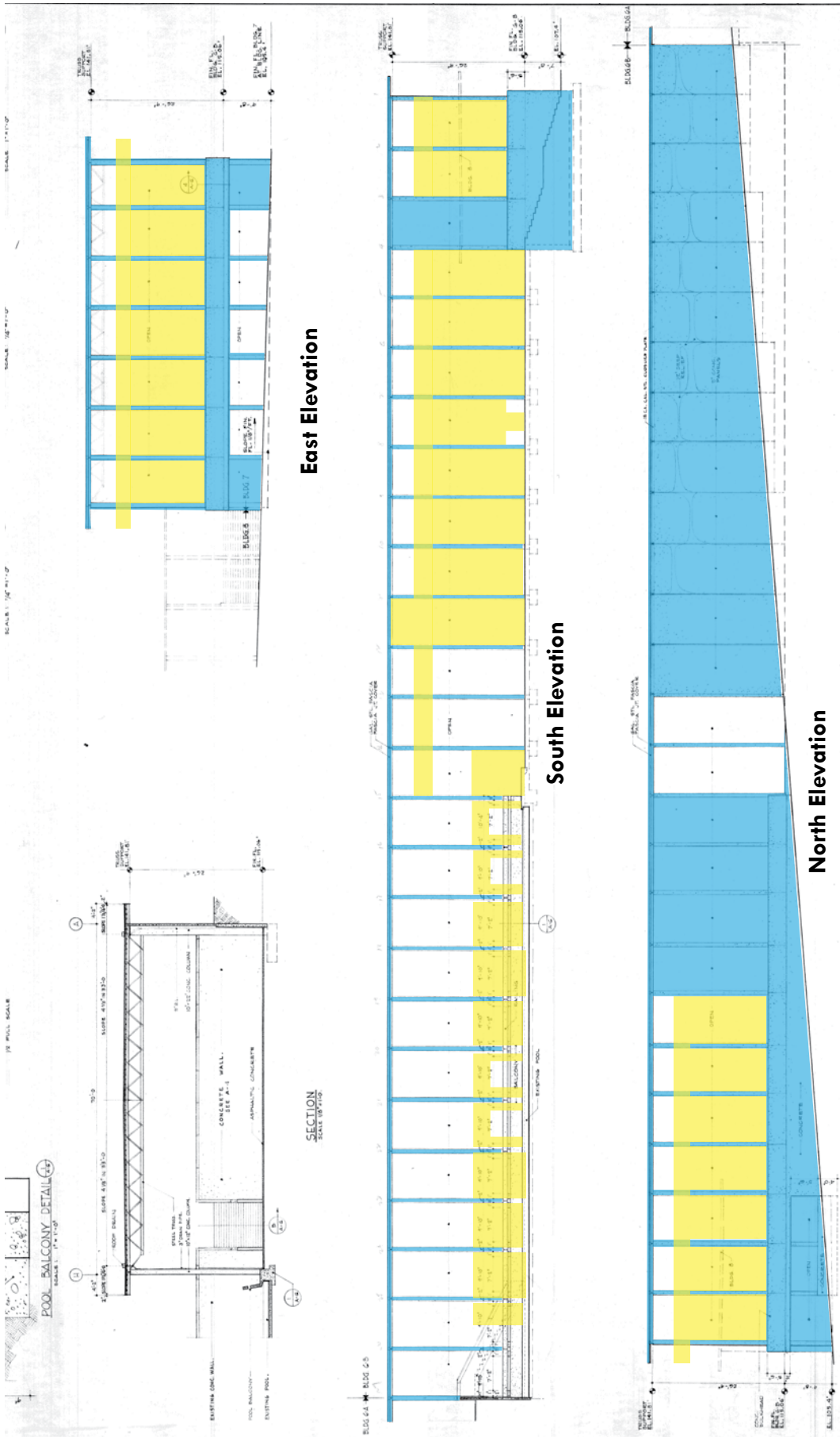
Lower Northwest Rooms

Blue identifies original features

Yellow identifies 1964 fair to civic center changes

Features left white are contemporary alterations

Original drawings provided courtesy of Seattle Center. Shading by Artifacts Consulting, Inc.



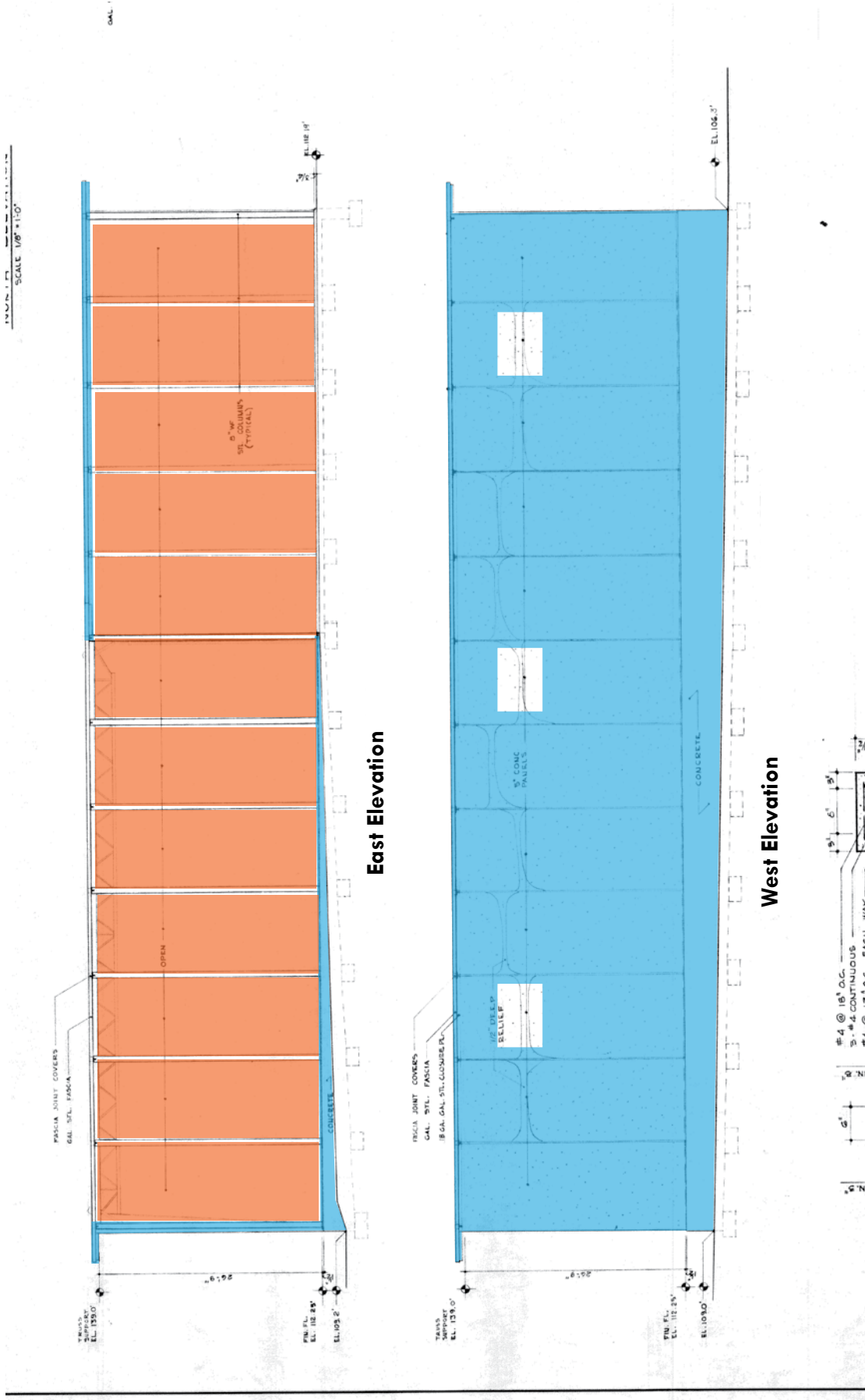
Northwest Rooms

Blue identifies original features

Yellow identifies 1964 fair to civic center changes

Features left white are contemporary alterations

Original drawings provided courtesy of Seattle Center. Shading by Artifacts Consulting, Inc.



NASA Building

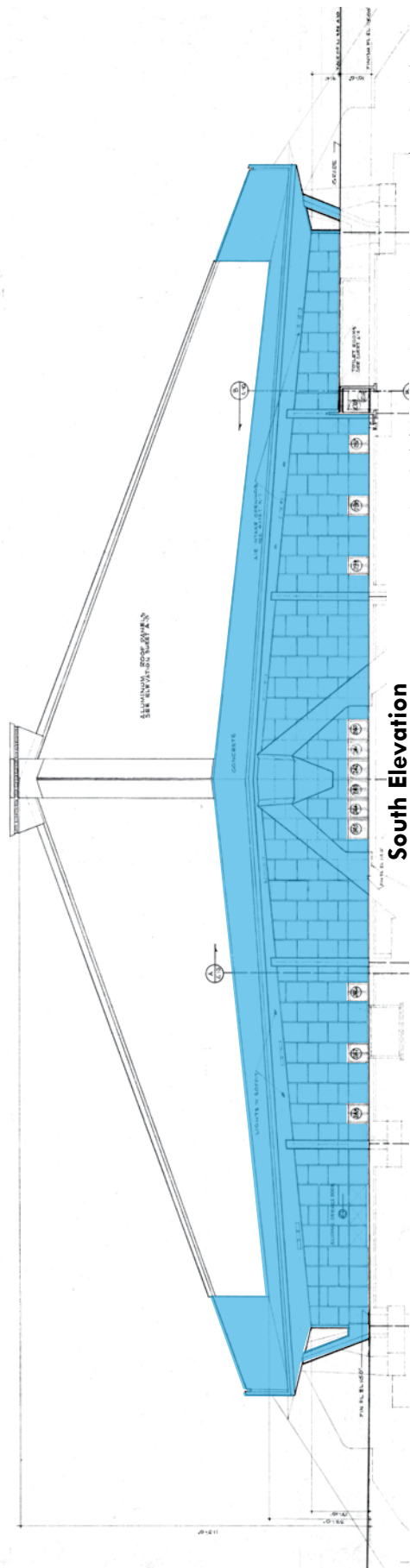
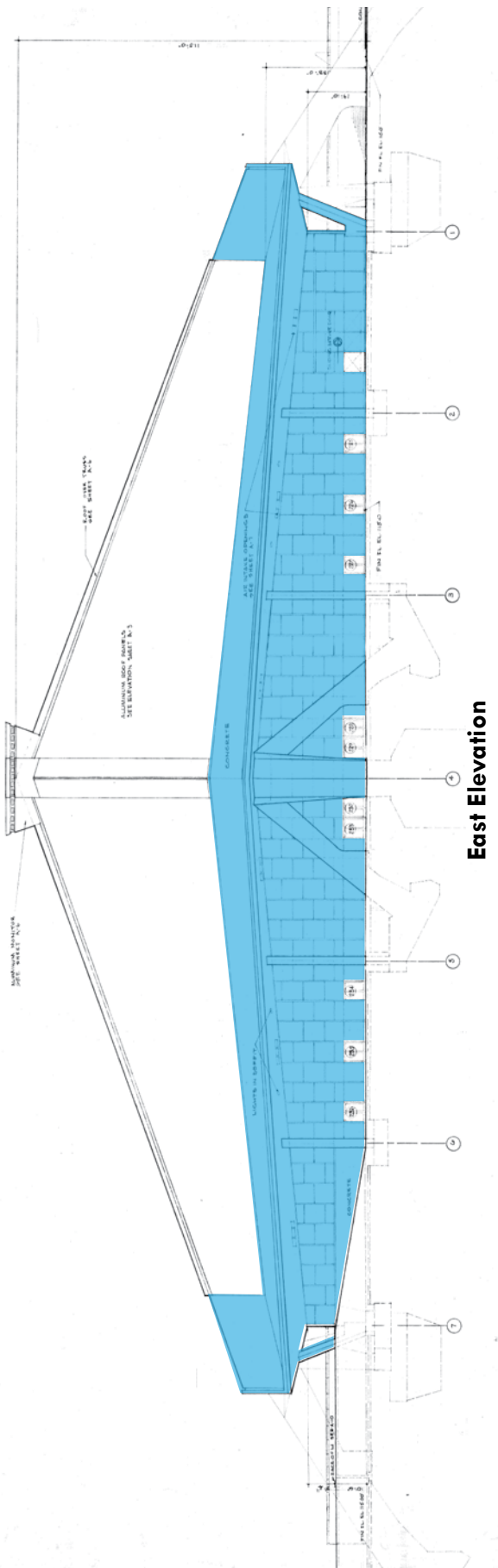
Blue identifies original features

Yellow identifies 1964 fair to civic center changes

Orange identifies relocated features

Features left white are contemporary alterations

Original drawings provided courtesy of Seattle Center. Shading by Artifacts Consulting, Inc.



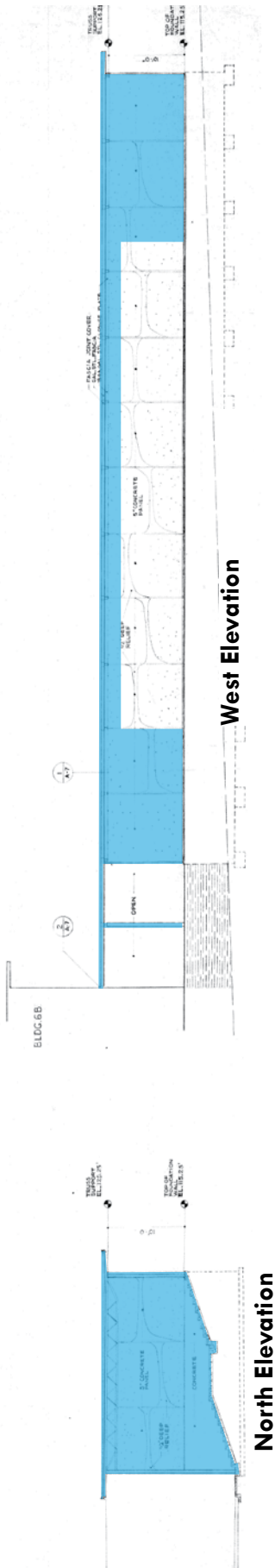
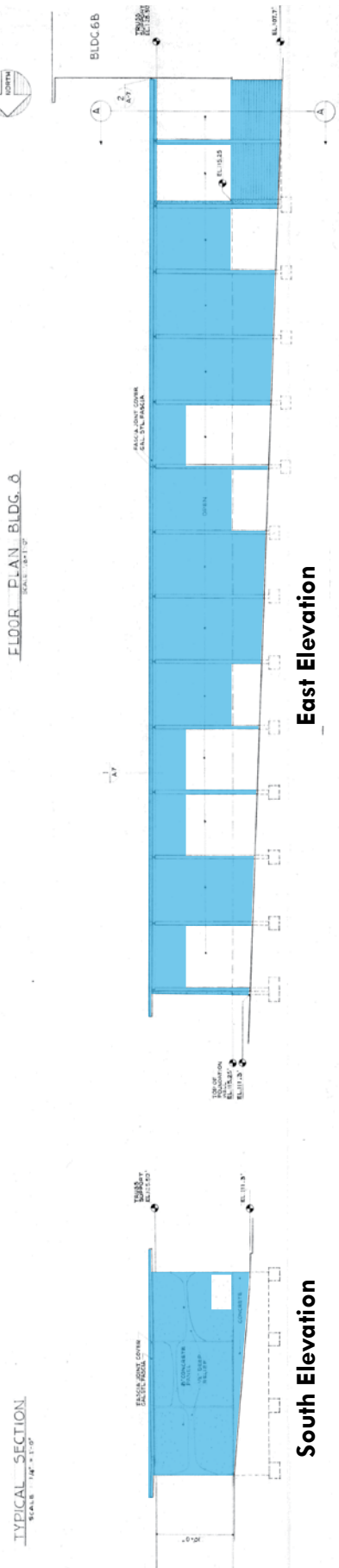
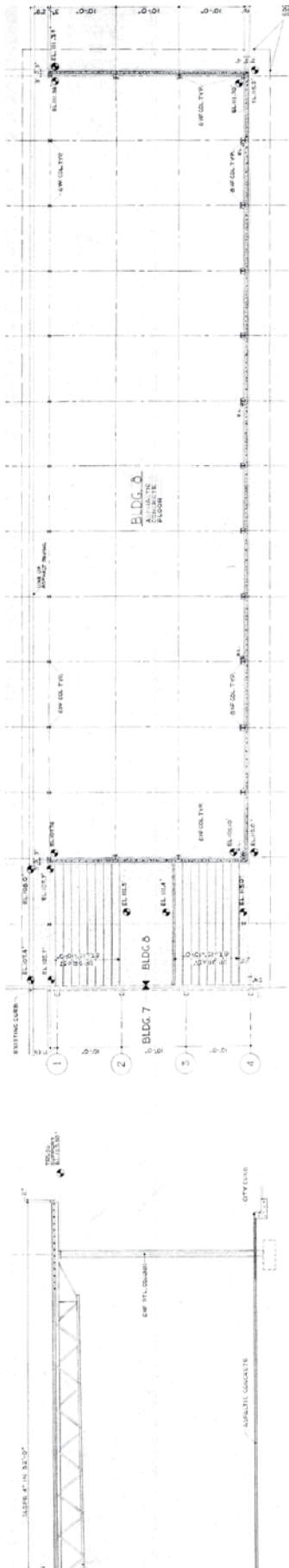
KeyArena

Blue identifies original features

Yellow identifies 1964 fair to civic center changes

Features left white are contemporary alterations

Original drawings provided courtesy of Seattle Center. Shading by Artifacts Consulting, Inc.



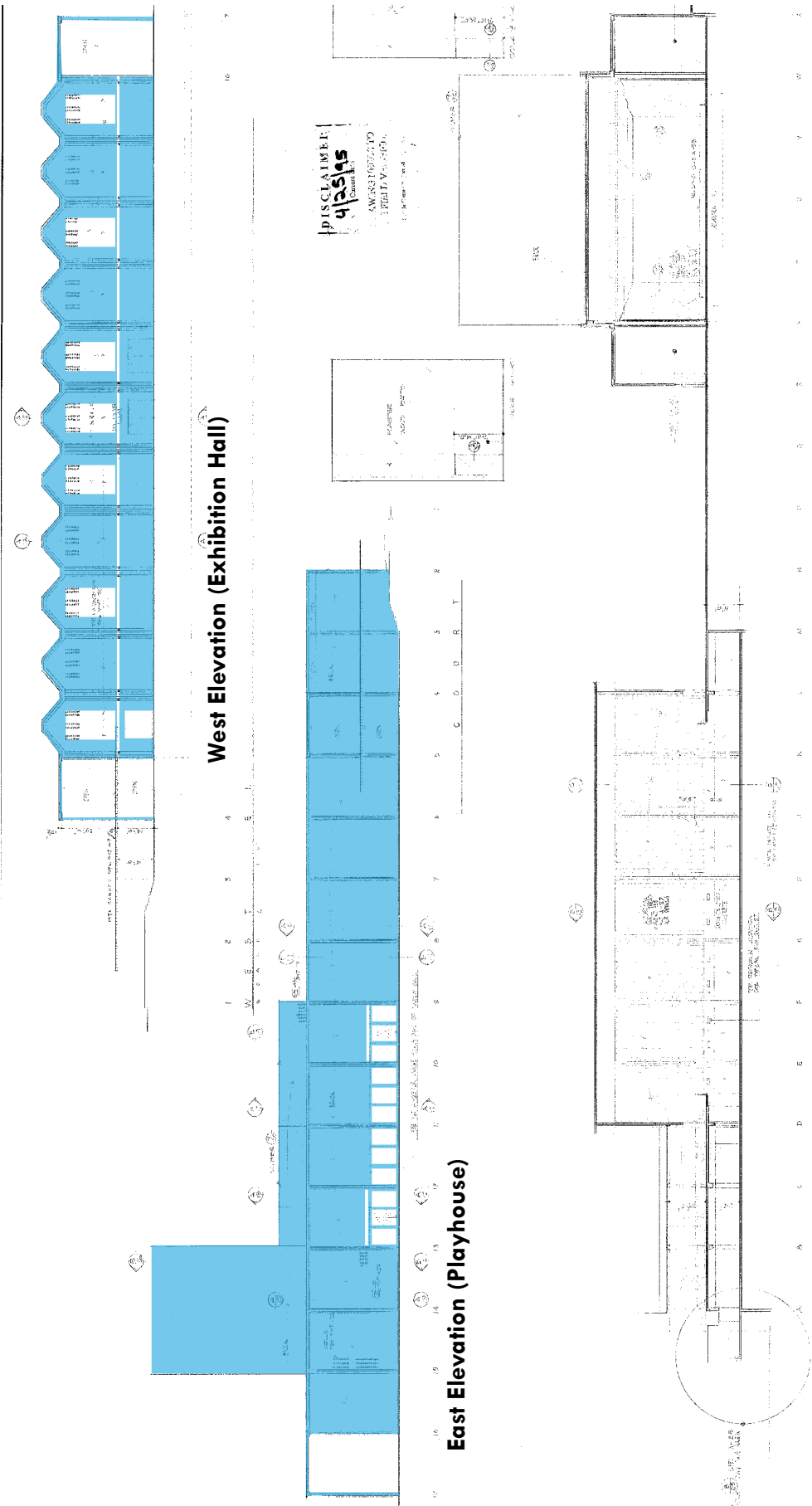
International Fountain Pavilion

Blue identifies original features

Yellow identifies 1964 fair to civic center changes

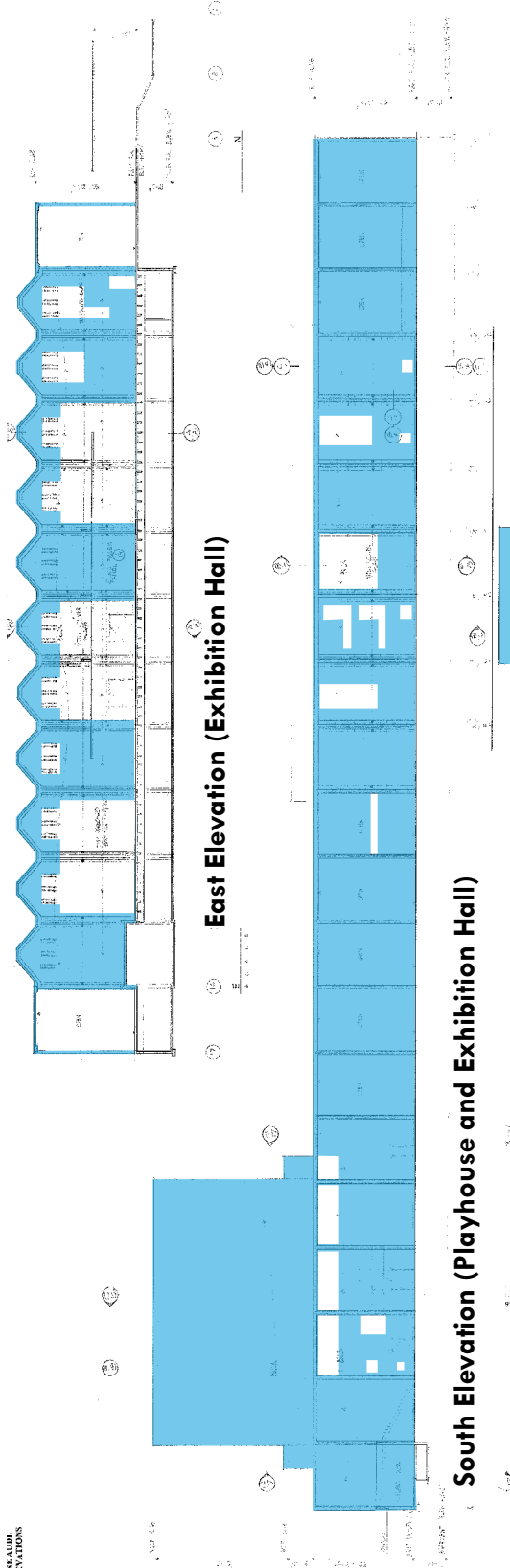
Features left white are contemporary alterations

Original drawings provided courtesy of Seattle Center. Shading by Artifacts Consulting, Inc.



Playhouse and Exhibition Hall

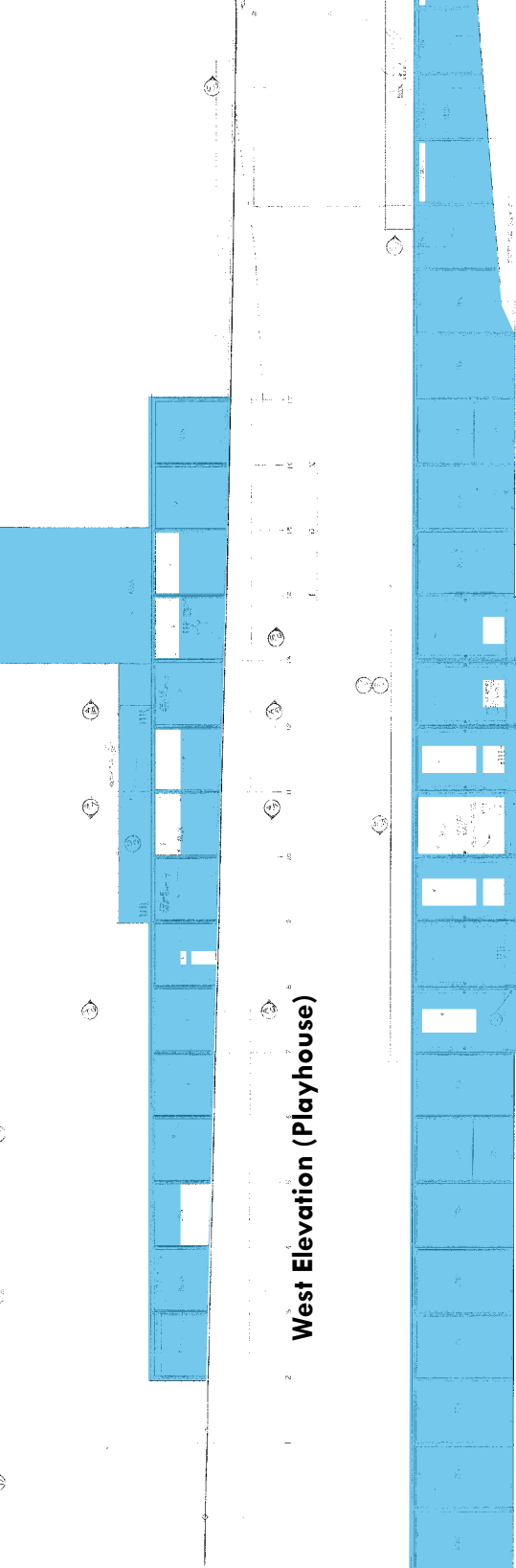
- Blue identifies original features
- Yellow identifies 1964 fair to civic center changes
- Features left white are contemporary alterations
- Original drawings provided courtesy of Seattle Center. Shading by Artifacts Consulting, Inc.



East Elevation (Exhibition Hall)

South Elevation (Playhouse and Exhibition Hall)

PROJECT
435
DRAWING
BFFIELD
DATE
1/18/01



West Elevation (Playhouse)

North Elevation (Playhouse and Exhibition Hall)

Playhouse and Exhibition Hall

- Blue identifies original features
- Yellow identifies 1964 fair to civic center changes
- Features left white are contemporary alterations
- Original drawings provided courtesy of Seattle Center.
- Shading by Artifacts Consulting, Inc.

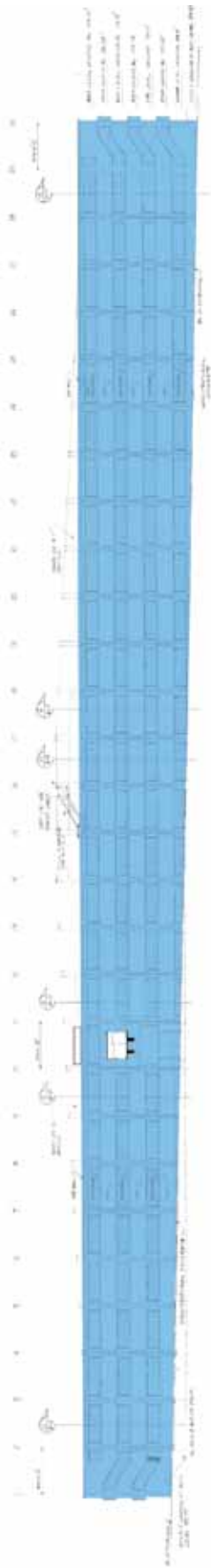
Mercer Street Parking Garage

Blue identifies original features

Yellow identifies 1964 fair to civic center changes

Features left white are contemporary alterations

Original drawings provided courtesy of Seattle Center. Shading by Artifacts Consulting, Inc.

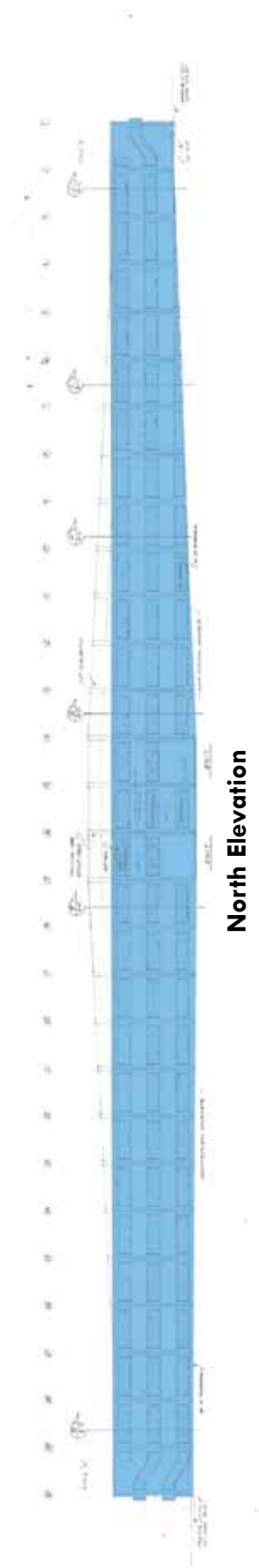


South Elevation



East Elevation

West Elevation



North Elevation

Seattle Arena



FEIS Appendix F - Economic Impact Analysis FEIS Appendix G - DEIS Comments & Responses

**(Appendices A-D are bound with the FEIS
Appendix E is bound separately)**

Date Published: May 7, 2015

**City of Seattle
Department of Planning and Development**

The intent and purpose of this Final Environmental Impact Statement is to satisfy the procedural requirements of the State Environmental Policy Act (RCW 43.21c) and City Ordinance 114057. This document is not an authorization for an action, nor does it constitute a decision or a recommendation for an action; in its final form it will accompany the final decision on the proposal.

Appendix F

Economic Impact Analysis

Appendix F Economic Impact Analysis

Updated Port and Non-Port Truck Impacts

Pro Forma Advisors completed a study on the potential impacts of the proposed new SoDo arena in July, 2013. Subsequent to this date, the transportation analysis in the FEIS was updated to integrate additional variables and to modify initial assumptions. The revisions included changes to transit mode split percentages, parallel route reallocations due to possible reduced capacity from forecasted increases in train activity and related street blockages, and updated parking assumptions. These modifications changed the calculated operation at intersections throughout the study area and, as a result, Pro Forma Advisors' Port transportation activity cost impacts changed.

The updated transportation analysis results increased the previous estimated annual additional costs resulting from port truck delays and the estimated annual costs associated with non-port truck delays.

The related port and non-port truck delay cost impacts are summarized below.

Updated Port Truck Cost Impacts

The updated impacts resulting from the modifications to the transportation analysis for port truck delay costs are summarized in Exhibit ES-16U below. The modifications to the transportation analysis increased the annual truck trip delay hours from 2,299 hours to 2,408 hours (or \$110,370 to \$115,584).

The primary reason that the impact on port truck trips delay costs increased was an overall increase in the estimated delay on corridors and intersections used by port trucks, most significantly for Alternative 2 Case S2. When multiplied by the estimated port truck trips on those routes for the different event cases, the revised intersection delay estimates increased the projected annual port truck delay by 109 hours (from 2,299 to 2,408), and annual cost by \$5,214 (from \$110,370 to \$115,584).

Exhibit ES-16U: Updated Summary of Port Truck Cost Impacts

Route	Trip Delay	Total Delay		Cost @\$48/hour
	Average Delay – Minutes	Annual Delay – Minutes	Annual Delay – Hours	Estimated Annual Truck Delay Cost
T-25/30/46 to Freeways	3.4 – 4.5	38,345	639	\$30,676
T-25/30/46 to SIG North	0.2 – 0.2	3,074	51	\$2,459
T-25/30/46 to SODO	2.7 – 4.5	3,175	53	\$2,540
T-25/30/46 to SIG South	2.7 – 4.5	53,101	885	\$42,480
T-5/18 to SIG North	2.6 – 4.4	43,610	727	\$34,888
T-25/30/46 to Argo/South DMIC	2.7 – 4.5	3,175	53	\$2,540
Total Truck Trips		144,480	2,408	\$115,584

Exhibit PI-23U augments the summary in Exhibit ES-16U (above) and provides additional drayage detail and costs based on the updated transportation analysis.

Exhibit PI-23U: Updated Estimated 2030 Port Truck Delay by Drayage Route

Route	Trips 4 - 8 PM w/ Night Gates	Case	Annual Frequency	Corridor Delay		Intersection Delay				Total Delay (minutes & hours)			
				S Atlantic Corridor	1 st Ave Corridor	Atlantic St/E Marginal Way	Atlantic St/E Frontage St	Atlantic St/ Colorado Ave	Hanford St/E Marginal Way	Trip Delay – Min	Daily Case Delay - Min	Annual Delay – Min	Annual Delay - Hours
T-23/30/46 to Freeways	93	S1	102	3.5		0.14	-0.21	0.02		3.4	321	32,746	546
	93	S2	12	4.3		0.14	-0.22	0.02		4.3	396	4,757	79
	93	S3	2	4.6		0.15	-0.21	0.02		4.5	421	842	14
	93									3.4 – 4.5		38,345	639
T-25/30/46 to SIG North	161	S1	102			0.14		0.02		0.2	26	2,702	45
	161	S2	12			0.14		0.02		0.2	27	319	5
	161	S3	2			0.15		0.02		0.2	26	53	1
	161									0.2 – 0.2		3,074	51
T-25/30/46 to SODO	10	S1	102		2.7				0.03	2.7	26	2,636	44
	10	S2	12		3.9				0.02	3.9	38	454	8
	10	S3	2		4.4				0.01	4.5	43	86	1
	10									2.7 – 4.5		3,175	53
T-25/30/46 to SIG South	161	S1	102		2.7				0.03	2.7	432	44,078	735
	161	S2	12		3.9				0.02	3.9	633	7,592	127
	161	S3	2		4.4				0.01	4.5	715	1,430	24
	161									2.7 – 4.5		53,101	885
T-5/18 to SIG North	134	S1	102		2.7	0.14	-0.21	0.02	0.03	2.6	355	36,162	603
	134	S2	12		3.9	0.14	-0.22	0.02	0.02	3.9	522	6,265	104
	134	S3	2		4.4	0.15	-0.21	0.02	0.01	4.4	592	1,183	20
	134									2.6 – 4.4		43,610	727
T-25/30/46 to Argo/South DMIC	10	S1	102		2.7				0.03	2.7	26	2,636	44
	10	S2	12		3.9				0.02	3.9	38	454	8
	10	S3	2		4.4				0.01	4.5	43	86	1
	10									2.7 – 4.5		3,175	53
Total Truck Trips	568	S1	102								1,186	120,959	2,016
	568	S2	12								1,654	19,842	331
	568	S3	2								1,839	3,679	61
	568	All	116								4,679	144,480	2,408

Updated Non-Port Truck Impacts

The updated impact of non-port truck costs are summarized in Exhibit ES-18U below. The modifications to the transportation analysis increased the annual truck trips from 185 to 199, and increased the estimated delay on affected corridors. Correspondingly, the additional estimated annual costs increased from \$38,351 to \$66,141.

The reasons for the increased delay cost impact on non-port trucks include the higher number of projected daily 2030 truck trips, and longer estimated delays on relevant corridors. The total trucks trips for 2030 increased from 10,572 to 11,396; the non-port truck total (“cordon entries”) increased from 1,109 to 1,196; and the estimate of affected (4 PM – 6 PM) non-port truck trips increased from 185 to 199. When applied to the greater expected corridor travel time delays in the current FEIS Appendix E Table 2-41 (p. 2-252), the higher number of non-port trucks results in an estimated annual cost increase of \$27,790 (from \$38,351 to \$66,141).

Exhibit ES-18U: Updated Estimated Annual Delay and Cost to Non-Port of Seattle Trucks @\$48/hour

Annual Totals					
	Minutes	Hours	Cost	Trips	Total Cost
NB	523	8.7	\$418	72	\$30,269
SB	325	5.4	\$260	63	\$16,328
EB	141	2.4	\$113	36	\$4,082
WB	692	11.5	\$554	28	\$15,462
Average	417	6.9	\$333		
Total				199	\$66,141

Exhibit PI-22U and PI-31U updates the estimated delays at relevant intersections and the projected increase in truck quantities based upon the updated transportation data.

Exhibit PI-22U: Updated Intersection Delay Estimates

Intersection Number	Intersection		2020 Added Delay Alternative 2 v Alternative 1 (No Action)		
	Location	Approach	S1	S2	S3
61	Atlantic and Marginal	NB	0.7	0.8	1.3
		SB	2.9	2.8	3.0
		SEB	17.4	17.4	17.4
		NWB	-0.1	-0.1	0.0
62	Atlantic and Colorado	NB	8.0	8.0	6.9

	Intersection		2020 Added Delay Alternative 2 v Alternative 1 (No Action)		
Intersection Number	Location	Approach	S1	S2	S3
		SB	1.1	1.1	1.1
		EB	0.2	0.3	0.2
		WB	-4.3	-4.2	-3.6
63	Atlantic and E Frontage	NB	NA	NA	NA
		SB	4.2	4.1	4.1
		EB	-1.2	-1.2	-1.1
		EB	-24.5	-24.6	-23.9
64	Hanford and Marginal	NB	6.0	5.8	1.3
		SB	0.0	0.0	1.6
		EB	0.0	0.0	0.0
		WB	0.0	0.0	0.0

**Exhibit PI-31U: Updated Study Area Non-POS Truck Counts
(All 2030 Trucks, subtracting Port of Seattle Trucks)**

	Intersection	EB	WB	NB	SB	SEB	NWB	Total
1	1st Ave/Madison St	0	23	21	19			63
2	1st Ave S/Railroad N Way S	28	0	35	16			78
3	1st Ave S/Main St	0	0	19	10			29
4	1st Ave S/ S Massachusetts St	9	1	67	73			150
5	1st Ave S/S Atlantic St	76	72	42	42			232
6	1st Ave S/S Holgate St	0	5	74	102			181
7	1st Ave S/S Jackson St	0	21	21	17			59
8	1st Ave S/S Lander St	8	51	57	81			197
9	1st Ave S/S Royal Brougham Wy	33	9	43	38			123
10	1st Ave S/S Spokane St	130	55	86	93			364
11	1st Ave S/Yesler Wy	11	14	22	8			66
12	2nd Ave Ext S/S Main St	0	0	0	90	150		90
13	2nd Ave/Yesler Way	13	0	0	196			210
14	2nd Ave S Ext/S Jackson St	23	19	3	156			201

	Intersection	EB	WB	NB	SB	SEB	NWB	Total
15	2nd Ave S/S Jackson St	9	24	11	12			56
16	4th Ave S/S Main St	23	20	328	0			371
17	4th Ave S/Airport Wy S	0	147	110	192			449
18	4th Ave S/I-90 WB Off Ramp	55	0	71	143			269
19	4th Ave S/S Holgate St	26	9	56	122			212
20	4th Ave S/S Jackson St	32	77	278	0			387
21	4th Ave S/S Lander St	38	34	72	99			243
22	4th Ave S/S Royal Brougham Wy	8	80	26	154			269
23	4th Ave S/S Spokane St	47	64	60	82			255
24	4th Ave S/S Weller St	0	0	270	177			447
25	4th Ave/James St	11	14	166	0			191
26	4th Ave/Madison St	0	22	185	0			207
27	5th Ave S/Airport Way/S Dearborn St	0	16	60	94			170
28	5th Ave S/S Jackson St	47	48	64	92			251
29	5th Ave/James St	9	18	0	31			58
30	6th Ave S/Airport Wy S	74	36	98	0			208
31	6th Ave S/S Dearborn St	10	26	8	6			50
32	6th Ave S/S Forest St	1	12	22	26			62
33	6th Ave S/S Holgate St	29	34	31	15			109
34	6th Ave S/S Jackson St	53	59	2	20			134
35	6th Ave S/S Lander St	37	21	29	15			102
36	6th Ave S/S Royal Brougham Wy	38	18	134	51			241
37	6th Ave S/S Spokane St	71	105	43	37			256
38	6th Ave/James St	11	27	0	16			54
39	7th Ave S/S Dearborn St	11	47	36	0			94
40	7th Ave S/S Jackson St	53	48	12	2			114
41	8th Ave S/S Dearborn St	50	58	0	5			112
42	8th Ave S/S Jackson St	63	55	7	0			125
43	Airport Wy S(NB)/S Royal Brougham Wy	19	5	63	0			88
44	Airport Wy S/S Holgate St	12	0	12	93			117
45	Airport Wy S/S Lander St	21	0	13	80			114

	Intersection	EB	WB	NB	SB	SEB	NWB	Total
46	Airport Wy S/S Royal Brougham Wy	52	31	0	55			138
47	Atlantic St/ Occidental Ave S	75	68	0	0			144
48	Atlantic St/Colorado Ave	182	75	102	13			372
49	Atlantic St/E Frontage St	106	1223	0	45			274
50	Atlantic St/E Marginal Way	70	149	143	21			383
51	E-3 Busway/S Royal Brougham Wy	92	61	84	24			261
52	Edgar Martinez Dr/ E Pkg Garage	63	58	0	0			121
53	Edgar Martinez Dr/ W Pkg Garage	62	58	0	0			121
54	Hanford St/E Marginal Way	22	211	208	112			553
55	Holgate St/ Occidental Ave S	21	12	2	1			35
56	I-5 NB/S Dearborn St	43	29	13	3			87
57	I-5 SB/S Dearborn St	37	26	0	23			86
58	I-90 off-ramp/ Edgar Martinez Dr	68	5	0	56			129
59	I-90 on-ramp/Edgar Martinez Dr/4th Ave S	72	0	25	44			142
60	Lander St/ Occidental Ave S	36	53	1	3			93
61	Maynard Ave S/S Dearborn St	13	44	0	15			72
62	Maynard Ave S/S Jackson St	57	59	5	2			123
63	Occidental Ave/Massachusetts St	0	0	0	0			0
64	Royal Brougham Way/ Occidental Ave S	29	5	0	2			37
Total		2,304	2,460	3,338	2,925	184	185	11,027
	Non-Port Truck Cordon Entries – Daily	216	168	249	337	0	185	1,196
	Non-Port Truck Cordon Entries - 4-6 PM	36	28	42	63	0	31	199

Corrected Executive Summary Table

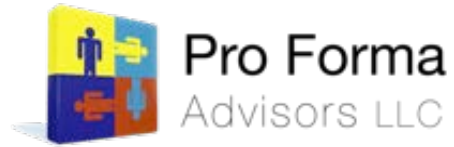
It was noted that Exhibit ES-5 located on page xiii of the Economics Report contained property tax information that was inconsistent with the property tax information shown for the City of Seattle and King County found on Exhibit F-3 Tax Summary – Annual on page 32.

Exhibit ES-5 has been corrected to match Exhibit F-3:

Exhibit ES-5U: Tax Summary – Annual

	City of Seattle	King County	Total
Admissions Tax	\$4,884,000		\$4,884,000
B&O Tax	\$940,000		\$940,000
Property Tax	\$1,150,000	\$534,000	\$1,684,000
Sales Tax	\$181,000	\$32,000	\$213,000
Leasehold Tax	\$40,000	\$20,000	\$60,000
Total Debt Service Taxes	\$7,195,000	\$586,000	\$7,781,000
Utility Tax	\$141,000		\$141,000
Commercial Parking Tax	\$450,000		\$450,000
Total All Taxes	\$7,786,000	\$586,000	\$8,372,000

Source: www.seattle.gov, www.kingcounty.gov, www.dor.wa.gov



Report for:

Proposed Seattle Arena Economic Impact Analysis Seattle, WA

Prepared for: City of Seattle and King County

Prepared by: Pro Forma Advisors LLC

July 2013

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Table of Contents

Executive Summary	ix
Engagement	1
Context	2
Operating Results	19
Fiscal Impacts	31
Economic Impacts	38
Economic Impact Overview	39
Scenario A Arena Economic Impacts	41
Substitution	49
Port and SoDo Industrial Business Economic Impacts	54
Scenario A Net Arena Impacts	60
Alternative Scenarios	61
Additional Impacts	69
Port and Industrial Business Impacts	71
Seattle Arena Port Truck Impacts	72
Impact on the Port of Seattle	90
Non-Port Truck Impacts	97
Real Estate and Land Use Analysis	103
SoDo Study Area	105
Lower Queen Anne Study Area	130
Regulatory Framework	140
Case Studies	141
Potential Real Estate Changes in the SoDo District with the Proposed Arena	160
Appendices	163

List of Tables

Exhibit C-1: SoDo Arena Site	3
Exhibit C-2: Key Arena Site	4
Exhibit C-3: Memorial Stadium Site	5
Exhibit C-4: King County Population Estimates	6
Exhibit C-5: Population Growth	7
Exhibit C-6: Travel Time Map - 30, 60, 90-minutes	8
Exhibit C-7: Summary of Population by Travel Time	9
Exhibit C-8: Primary Market Age Distribution	10
Exhibit C-9: Market Projected Population by Race	11
Exhibit C-10: Households by Income	12
Exhibit C-11: King County Employed Population by Industry	13
Exhibit C-12: Historical King County Visitor and Expenditure Trends	13
Exhibit C-13: King County Visitor Spending by Commodity Purchased	14
Exhibit C-14: Historical King County Travel Tax Receipts	14
Exhibit C-15: 2012 King County Visitor Spending	15
Exhibit C-16: Visitor Tax Receipts	15
Exhibit OR-1: Operating Projections - Capacity 18,000 Seats	19
Exhibit OR-2: 10 Year Financial Projections	24
Exhibit OR-3: Basketball Per Capita and Attendance	27
Exhibit OR-4: Hockey Per Capita and Attendance	28
Exhibit OR-5: Event Per Capita and Attendance	29
Exhibit F-1: Construction Costs	31
Exhibit F-2: Construction One Time Fiscal Impacts	31
Exhibit F-3: Tax Summary - Annual	32
Exhibit F-4: Admissions Tax	33
Exhibit F-5: Business and Occupation Tax	33
Exhibit F-6: Property Tax Distribution	34
Exhibit F-7: Property Tax	34
Exhibit F-8: City of Seattle Property Tax Allocation	34
Exhibit F-9: King County Property Tax Allocation	35
Exhibit F-10: Washington Sales Tax Distribution	35
Exhibit F-11: Sales Tax	35
Exhibit F-12: Leasehold Tax	36

Exhibit F-13: Utility Tax	36
Exhibit F-14: Commercial Parking Tax	37
Exhibit F-15: Tax Benefits - Other Taxing Districts	37
Exhibit E-1: Direct Construction Impacts	41
Exhibit E-2: Total Construction Impacts	42
Exhibit E-3: Total Arena and 3rd Party Operations Revenues and Direct Onsite Impacts	43
Exhibit E-4: Locally Purchased Expenditure Summary	43
Exhibit E-5: Average Spending by Visitor Origin	44
Exhibit E-6: Scenario A Total Visitor Spending Table	45
Exhibit E-7: Average Spending for Traveling Teams/Performers	46
Exhibit E-8: Scenario A - Total Traveling Team/Performer Spending	46
Exhibit E-9: Scenario A - Local Offsite Purchases	47
Exhibit E-10: Scenario A Total Impacts	47
Exhibit E-11: Level I - Total Substitution Impact	50
Exhibit E-12: Level II - Maximum Total Substitution Impact	52
Exhibit E-13: Substitution Impacts	53
Exhibit E-14: Port of Seattle Actual and Target TEU	54
Exhibit E-15: Summary of Port Trucking Delay Cost Impacts at 3.5 Million TEU	55
Exhibit E-16: Impacts of a Reduction in Port Trucking Earnings	56
Exhibit E-17: Estimated Distribution of Reduction in Import/Export Revenues	56
Exhibit E-18: Impacts of a Reduction in Import/Export Final Demand from Truck Delay Cost	56
Exhibit E-19: SoDo Study Area Industrial Businesses	57
Exhibit E-20: Summary of Non-Port Trucking Delay Cost Impacts	58
Exhibit E-21: Estimated Distribution of Reduction in SoDo Industrial Revenues	58
Exhibit E-22: Impacts of a Reduction in Industrial Business Final Demand from Truck Delay Cost	58
Exhibit E-23: Port and Industrial Business Traffic Delay Impact Summary	59
Exhibit E-24: Net Economic Impacts of Scenario A	60
Exhibit E-25: Operating Projections - Capacity 20,000 Seats (@Build Out)	61
Exhibit E-26: Total Construction Impacts	62
Exhibit E-27: Total Operations Revenues and Adjusted Direct Onsite Impacts	62
Exhibit E-28: Scenario B - Locally Purchased Expenditure Summary	63
Exhibit E-29: Scenario B Total Visitor Spending Table	63
Exhibit E-30: Scenario B - Local Offsite Purchases	64
Exhibit E-31: Scenario B Total Impacts	64
Exhibit E-32: Operating Projections - Capacity 18,000 Seats (@Build Out)	65

Exhibit E-33: Total Construction Impacts	66
Exhibit E-34: Scenario C and D Total Visitor Spending Table	67
Exhibit E-35: Scenarios C and D - Local Offsite Purchases	67
Exhibit E-36: Scenarios C and D Total Impacts	68
Exhibit PI-1: Port of Seattle Actual and Target TEU	71
Exhibit PI-2: Average Daily Truck Trips for 3.5 Million TEUs and 60% IM	72
Exhibit PI-3: Expected Daily Port Truck Trip Distribution Pattern	73
Exhibit PI-4: Event Traffic Arrival Patterns (DEIS Figure 1-5)	74
Exhibit PI-5: Terminal Gate Traffic Patterns with Event-vulnerable Zone	75
Exhibit PI-6: Event-Vulnerable Port Trips	76
Exhibit PI-7: S Atlantic St Terminal Access	77
Exhibit PI-8: "Little h" Overcrossing	79
Exhibit PI-9: Terminal to Freeway Routes	79
Exhibit PI-10: Existing Route to BNSF SIG North Gate (7/12)	80
Exhibit PI-11: Existing BNSF SIG North Gate on S Massachusetts Ave. (8/11)	81
Exhibit PI-12: T-46/25/30 to SODO Routes	82
Exhibit PI-13: E Marginal Way and S Horton (7/12)	82
Exhibit PI-14: Routes from T-46 to MacMillian-Piper	83
Exhibit PI-15: Terminal to BNSF SIG South on S Hanford St.	83
Exhibit PI-16: E Marginal Way and South Hanford (7/12)	84
Exhibit PI-17: Port Trucks Turning Left from E Marginal to South Hanford (8/11)	84
Exhibit PI-18: BNSF SIG South Gate on S Hanford Street	85
Exhibit PI-19: Terminal to Argo/South DMIC Route	86
Exhibit PI-20: UP Argo Yard Entrance on Denver Street	86
Exhibit PI-21: Corridor Delay Estimates	87
Exhibit PI-22: Intersection Delay Estimates	88
Exhibit PI-23: Estimated 2030 Port Truck Delay By Drayage Route	89
Exhibit PI-24: Hanjin Shipping Pacific Northwest Services	90
Exhibit PI-25: Hanjin Inland Intermodal Services	91
Exhibit PI-26: Summary of Port Truck Cost Impacts	93
Exhibit PI-27: Port of Seattle Container Terminals	94
Exhibit PI-28: Sample of DEIS Daily Intersection Counts	97
Exhibit PI-29: Summary of Estimated Non-Port Truck Trips to/from SoDo Area	98
Exhibit PI-30: SoDo Truck Entry Cordon Points and Counts	99
Exhibit PI-31: Study Area Non-POS Truck Counts	100

Exhibit PI-32: Corridor Delays vs. No-Action Alternative	101
Exhibit PI-33: Estimated Annual Delay and Cost to Non-POS Trucks @ \$48/hr.	101
Exhibit RE-1: Map of SoDo Study Area	104
Exhibit RE-2: Map of Lower Queen Anne Study Area	104
Exhibit RE- 3: SoDo Study Area Industrial Trends	106
Exhibit RE- 4: Port of Seattle Historical Import & Export Volume and SoDo Industrial Vacancy Rates	107
Exhibit RE-5: SoDo Industrial Average Lease Rate and Port Volumes	108
Exhibit RE-6: SoDo Industrial Absorption, Construction and Port TEUs	108
Exhibit RE-7: SoDo Flex Vacancy and General Industrial Vacancy	110
Exhibit RE-8: SoDo Flex Lease Rates and General Industrial Lease Rates	110
Exhibit RE- 9: SoDo Study Area Industrial Flex Trends	111
Exhibit RE-10: Industrial Building Type	112
Exhibit RE-11: Industrial Buildings Year Built	113
Exhibit RE- 12: SoDo and Duwamish MIC Industrial Properties by Size	114
Exhibit RE- 13: Industrial Properties by Lot Size	115
Exhibit RE-14: Office Building Development	116
Exhibit RE-15: SoDo Office Trends	117
Exhibit RE-16: SoDo Retail Trends	117
Exhibit RE-17: SoDo and MSA Office Vacancy	118
Exhibit RE-18: SoDo Office Lease Rates	118
Exhibit RE-19: Downtown South Seattle Retail Submarket 1Q2013 Snapshot	119
Exhibit RE-20: SoDo Retail Building Development	119
Exhibit RE-21: SoDo Retail Vacancy and Average Lease Rates	120
Exhibit RE-22: Retail Properties Built After 1990 and Sized by Rentable Building Area	120
Exhibit RE-23: New Construction Permits Issued	122
Exhibit RE-24: WOSCA Site	123
Exhibit RE-25: Reported SoDo Land Properties	124
Exhibit RE-26: Industrial Property Average Pricing	125
Exhibit RE-27: SoDo Study Area Businesses	126
Exhibit RE-28: Lower Queen Anne Retail Trends	130
Exhibit RE-29: Map of Lower Queen Anne Retail by Size	131
Exhibit RE-30: Lower Queen Anne Retail Vacancy and Lease Rates	132
Exhibit RE-31: Lower Queen Anne and MSA Average Retail Lease Rates	132
Exhibit RE-32: Lower Queen Anne and MSA Average Office Lease Rates	133
Exhibit RE-33: Lower Queen Anne Office Trends	134

Exhibit RE-34: Lower Queen Anne Office Absorption, Construction and Vacancy	135
Exhibit RE-35: Lower Queen Anne Office Vacancy and Average Lease Rate	135
Exhibit RE-36: Lower Queen Anne Rental Multi-Family Buildings	136
Exhibit RE-37: Planned Lower Queen Anne Rental Multi-Family Buildings	137
Exhibit RE- 38: Map of Recently Built and Planned Lower Queen Anne Multi-Family Buildings	137
Exhibit RE-39: Lower Queen Anne Hotels	138
Exhibit RE-40: Lower Queen Anne Industrial and Flex Summary	139
Exhibit RE-41: PepsiCo Center and Surrounding Downtown Denver Venues	142
Exhibit RE- 42: Existing Businesses within 0.5 Miles of Pepsi Center Arena	145
Exhibit RE- 43: Map of Retail and Accommodation Businesses Surrounding Pepsi Center	146
Exhibit RE- 44: Market Characteristics (0.5 mile radius)	147
Exhibit RE-45: SF of Inventory by Product Type (2 mile radius)	148
Exhibit RE-46: Occupancy by Product Type (2 mile radius)	148
Exhibit RE-47: Rental Rates by Product Type (2 mile radius)	149
Exhibit RE-48: Orientation Map to the Lower South Area	150
Exhibit RE-49: Key Planning Areas in Lower South Philadelphia	151
Exhibit RE-50: Proposed Infill for Sports Complex Site	152
Exhibit RE-51: Office Occupancy Metrics Since 2000	153
Exhibit RE-52: Planned Development - Navy Yard Site	154
Exhibit RE-53: Industrial, Retail, and Office Inventory within 1-Mile of Wells Fargo Center	155
Exhibit RE-54: Packer Park Neighborhood	156
Exhibit RE-55: JMI Developments in the PetCo Park Area	158
Exhibit RE-56: Estimates of Arena Visitor-Supported Development in the Arena Vicinity	161

General Limiting Conditions

Certain information included in this report contains forward-looking estimates, projections and/or statements. Pro Forma Advisors LLC has based these projections, estimates and/or statements on expected future events. These forward-looking items include statements that reflect our existing beliefs and knowledge regarding the operating environment, existing trends, existing plans, objectives, goals, expectations, anticipations, results of operations, future performance and business plans.

Further, statements that include the words "may," "could," "should," "would," "believe," "expect," "anticipate," "estimate," "intend," "plan," "project," or other words or expressions of similar meaning have been utilized. These statements reflect our judgment on the date they are made and we undertake no duty to update such statements in the future.

No warranty or representation is made by Pro Forma Advisors that any of the projected values or results contained in this study will actually be achieved.

Although we believe that the expectations in these reports are reasonable, any or all of the estimates or projections in this report may prove to be incorrect. To the extent possible, we have attempted to verify and confirm estimates and assumptions used in this analysis. However, some assumptions inevitably will not materialize as a result of inaccurate assumptions or as a consequence of known or unknown risks and uncertainties and unanticipated events and circumstances, which may occur. Consequently, actual results achieved during the period covered by our analysis will vary from our estimates and the variations may be material. As such, Pro Forma Advisors accepts no liability in relation to the estimates provided herein.

In the production of this report, Pro Forma Advisors has served solely in the capacity of consultant and Pro Forma Advisors has not rendered any "expert" opinions and does not hold itself out as an "expert" (as the term "expert" is defined in Section 11 of the Securities Act of 1933).

This report is not to be used in conjunction with any public or private offering of securities, and may not be relied upon with the express written consent of Pro Forma Advisors.

This study is qualified in its entirety by, and should be considered in light of, these limitations, conditions, and considerations.

Executive Summary

Pro Forma Advisors was retained by the City of Seattle and King County to evaluate the economic and fiscal impact of a proposed basketball and hockey arena in Seattle, Washington (“Project”). The City of Seattle and King County are considering potential investments of \$120M and \$80M (\$5M if no NHL team commits to play in the arena), respectively.

The City of Seattle has commissioned a full SEPA Environmental Impact Study (“EIS”) to review the proposed SoDo site. The EIS will also consider alternate sites at Key Arena and Memorial Stadium. Pro Forma Advisors has evaluated each site including two alternatives for the SoDo site (i.e. an 18,000 seat option and 20,000 seat option).

The analysis evaluates the economic impacts of the proposed Seattle arena to the City of Seattle and King County economies. The analysis evaluates one-time construction impacts and ongoing gross economic impacts of the proposed arena in four alternatives.

- ▶ Scenario A: 18,000 seat arena in SoDo
- ▶ Scenario B: 20,000 seat arena in SoDo
- ▶ Scenario C: Key Arena
- ▶ Scenario D: Memorial Stadium

The Developer is proposing the project be located in the SoDo area of Seattle. The neighborhood is on Elliott Bay, south of downtown Seattle in the same general area as Safeco Field and Century Link Field. The SoDo site is also located in close proximity to several Port of Seattle terminals and industrial businesses.

Pro Forma evaluated:

- 1) The arena and team operation projections that will be used to pay the City and County annual rent and additional rent, if necessary
- 2) Fiscal impacts, or tax benefits from construction and on-going operation of the arena, that accrue to the City of Seattle and King County. The majority of this fiscal benefit will be used to pay the public financing of the arena, but some fiscal benefits will accrue to the City and County’s general funds.
- 3) Economic impacts generated by the proposed arena’s onsite and offsite direct impacts (i.e. arena jobs, output, and earnings), which spur a series of subsequent indirect impacts (new output, earnings and employment generated because of purchases of industries that supply goods and services to the arena and arena visitors) and induced activities (new output, earnings and employment generated as a result of household purchases by employees).

Due to logistical issues associated with possible increased traffic on event days related to the SoDo site (Scenario A), Pro Forma Advisors estimated the potential impact to the Port and SoDo industrial businesses and reduced the gross impacts accordingly. Pro Forma Advisors also adjusted Scenario A (18,000 SoDo site) for the effects of substitution.

Exhibit ES-1 presents the annual net economic impacts for Scenario A. The Economic Impact Analysis concludes that the proposed Seattle Arena will have a total positive economic benefit of \$230 to \$286 million to the King County economy (inclusive of the City of Seattle impacts) and \$188 to \$236 million to the City of Seattle economy on an annual basis.

Net Economic Impacts (Scenario A)

Exhibit ES-1: Net Annual Economic Impacts - Scenario A

Scenario A	Output		
Net Economic Impacts	City of Seattle	Remainder of King County	Total King County (including Seattle)
Gross Impacts	\$257.8 Million	\$55.3 Million	\$313.1 Million
Substitution Impacts	- \$21.7 to \$69.7 Million	- \$5.5 to \$12.7 Million	- \$27.1 to \$82.4 Million
Upper Limit of Port and Industrial Business Impacts	- \$0.21 to \$0.23 Million	- \$0.00 to \$0.02 Million	- \$0.23 to \$0.23 Million
Net Economic Impacts	\$187.8 to \$235.9 Million	\$42.6 to \$49.9 Million	\$230.4 to \$285.7 Million

Source: Pro Forma Advisors

Context

The Developer’s proposed Project site is located in the SoDo neighborhood in Seattle, Washington. This location makes up part of the Duwamish Manufacturing and Industrial District and is bounded on the north by South King Street, beyond which is Pioneer Square, and on the south by South Spokane Street.



Pro Forma Advisors has evaluated the market and used relevant factors in conjunction with actual financial data from comparable arenas as the basis for our operating projections. Based on the economic results from similar markets, Seattle is a highly appealing market that we believe can support additional sports teams.

Operating Projections

Pro Forma Advisors has developed the following operating projections based on anticipated market demand and the expected financial and operating performance of the proposed Project. Amounts are based on economics of similar existing arenas in comparable markets. Operating revenue and expense estimates assume two main tenants (i.e. NBA team and NHL team) and eighty-two other events (e.g. concerts, family shows, other sporting events, etc.). Amounts are realistic and reflect actual results of existing arenas in similar

markets. Where appropriate, we have updated projections to reflect anticipated changes resulting from changes to the the NBA and NHL Collective Bargaining Agreements which are expected to be fully phased in at build out.

Consistent with the EIS, Pro Forma Advisors has prepared operating projections for the SoDo site (based on 18,000 and 20,000 seat capacities), the Key Arena site and Memorial Stadium site. Due to the proximity and similar market factors for the alternate sites, operating projections remain constant for all sites; the one exception is the difference in the SoDo site driven by a 2,000 seat increase in capacity.

Exhibit ES-2: Proposed Arena and Team Operating Projections

Millions	SoDo Site (18,000 Seats)	SoDo Site (20,000 Seats)	Key Arena Site	Memorial Stadium Site
Revenues	\$221.3	\$228.7	\$221.3	\$221.3
Expenses	-\$191.0	-\$194.7	-\$191.0	-\$191.0
Net Operating Income/(Loss)	\$30.3	\$34.0	\$30.3	\$30.3
Less: Net Playoff Revenue	-\$3.5	-\$3.6	-\$3.5	-\$3.5
Operating Income/(Loss) Before Playoffs	\$26.8	\$30.4	\$26.8	\$26.8

Note: Amounts are for the first year of operations and are expected to grow in subsequent years.

Source: Pro Forma Advisors

Fiscal Impact Results

Fiscal impacts are the tax benefits from one-time construction and ongoing operation of the team and arena that accrue to the City of Seattle and King County. Fiscal benefits are directly attributable to the arena and its operations.

Pro Forma Advisors estimates that approximately \$7.97 million in taxes will be available annually to support the City of Seattle's and King County's debt service on the arena. With an average estimated annual debt of \$14 to \$15 million, and an annual rent payment of \$1 million by the Developer, it is expected that the Developer will need to provide approximately \$5 to \$6 million in additional rent to the City and County. Operating projections appear sufficient to cover the additional debt service.

One-Time Construction Fiscal Impacts

Construction impacts measure the one-time impacts to the regional economy resulting from construction activity related to the proposed Project. These fiscal impacts will accrue to the City of Seattle and King County prior to the opening of the arena. Amounts are based on the following values:

Exhibit ES-3: Construction Costs

\$ Millions	Total
Construction (excluding Land and F, F & E)	\$350.0
Furniture, Fixtures & Equipment	\$40.0
Estimated Total Value	\$390.0

Source: Developer

Following is a summary of the related fiscal impacts which accrue to the City of Seattle and King County. These amounts augment the ongoing annual impacts. Amounts are deemed incremental to the City of Seattle and King County and are a direct result of the Project.

Exhibit ES-4: Construction One Time Fiscal Impacts

	Construction Sales Tax	Real Estate Excise Tax *	Retail B&O Tax	Total
City of Seattle	\$2,975,000	\$1,000,000	\$838,500	\$4,813,500
King County	\$525,000	\$0	\$0	\$525,000
King County (with City)	\$3,500,000	\$1,000,000	\$838,500	\$5,338,500

* *The Real Estate Excise Tax (REET) is levied by the City of Seattle at a rate of 0.5 percent on sales of real estate measured by the full selling price which is assumed to be \$200 million.*

Annual Ongoing Fiscal Impacts

In addition to the one time construction fiscal impacts, Pro Forma Advisors has estimated the following annual ongoing fiscal impacts. These impacts, generated by the Project, accrue directly to the City of Seattle and King County.

We have distinguished fiscal impacts expected to support the related debt service and additional amounts expected to be generated as a direct result of the Project but not used to support debt service. In addition to the amounts specifically identified in the chart below, we expect that additional taxes (e.g. hotel, rental car, restaurant, etc.) will also be generated as a result of the Project. However, due to the indirect nature of these incremental amounts and

the difficulty in quantifying specific amounts, we have not included these in our analysis.

Exhibit ES-5 presents a summary of the aggregate annual fiscal impacts (Note: Amounts are at build-out, in a year of stabilized project occupancy presented in constant 2013 dollars):

Exhibit ES-5: Tax Summary - Annual Fiscal Impact

	City of Seattle	King County	Total
Admissions Tax	\$4,884,000		\$4,884,000
B&O Tax	\$940,000		\$940,000
Property Tax	\$1,281,368	\$596,000	\$1,877,368
Sales Tax	\$181,000	\$32,000	\$213,000
Leasehold Tax	\$40,000	\$20,000	\$60,000
Sub-total Taxes ¹	\$7,326,368	\$648,000	\$7,974,368
Utility Tax	\$141,000		\$141,000
Commercial Parking Tax	\$450,000		\$450,000
Total All Taxes	\$7,917,368	\$648,000	\$8,565,368

¹ Used to support the City of Seattle's and King County's debt service on the arena

Source: www.seattle.gov, www.kingcounty.gov, www.dcr.wa.gov

Pro Forma Advisors has reviewed the City of Seattle annual tax estimates relating to the proposed Project and compared them to our estimates. Pro Forma estimated that, approximately \$7.97 million in taxes will be available

annually to support debt service. This is compared to the City's estimate of \$7.07 million.

Pro Forma Advisor's and the City's estimates differ by approximately \$900,000 primarily due to Pro Forma using a higher new construction value for the property tax calculation. The City's estimates were based on a new construction value of \$250 million. Pro Forma's new construction value, provided by the Developer (excluding Land and Furniture, Fixture and Equipment), was approximately \$100 million higher (i.e. \$350 million). In addition, the City's operating revenue estimates were slightly lower than Pro Forma's amounts and accordingly the related tax impact was lower. Pro Forma also included four additional other arena events. Conversely, the City included a base rent of \$2 million. This was adjusted during negotiations to \$1 million. Pro Forma Advisors included the revised \$1 million base rent amount.

Tax Benefits - Other Taxing Districts

In addition to the one-time construction and annual operating fiscal benefits identified in Exhibit ES-4 and ES-5, the arena is expected to generate the following tax benefits from other taxing districts:

Exhibit ES-6: Tax Benefits - Other Taxing Districts

Additional Fiscal Benefits	One Time Construction	Annual Operating
Property Taxes - State School	\$848,000	
Property Taxes - Other County	\$147,000	
Sales Taxes - State	\$22,750,000	\$1,389,000
Sales Taxes - Metro King County	\$3,150,000	\$192,000
Sales Taxes - Sound Transit	\$3,150,000	\$192,000
Sales Taxes - King County Criminal Justice	\$350,000	\$21,000
Sales Taxes - King County Mental Health	\$350,000	\$21,000
State Real Estate Excise Taxes	\$2,560,000	
State Leasehold Excise Tax		\$68,000
Total Taxes - Other Taxing Districts	\$33,305,000	\$1,883,000

Source: www.seattle.gov, www.kingcounty.gov, www.dor.wa.gov, Pro Forma Advisors

Economic Impacts

The analysis evaluates one-time construction economic impacts and ongoing gross economic impacts of the proposed Seattle arena for all alternatives. Economic impacts, do not include fiscal impacts, and can be described as the sum of the economic activity within a defined geographic region resulting from an initial change in the economy. This initial change spurs a series of subsequent indirect and induced activities (the re-spending of dollars) as a result of interconnected economic relationships.



Impacts are typically expressed in terms of three variables:

- ▶ Output -The value of goods and services produced within a defined geographic region.
- ▶ Earnings - The component of Output that is attributed to labor income. Earnings include wages, benefits and income received by employees, self-employed workers, and proprietors.
- ▶ Employment - The total number of net new jobs created in the economy.

Net economic impacts are evaluated for Scenario A. Net of substitution and the port and industrial business impacts, the annual net economic impacts of the proposed arena in Scenario A are estimated at \$187.8 - \$235.9 million in the City of Seattle economy and \$230.4 to \$285.7 million in the King County (including Seattle) economy.

It should be noted that the Seattle economy is a subset of the King County economy.

One-Time Construction Impacts

The proposed arena is projected to generate total one-time construction economic impacts of \$480.4 million in the City of Seattle economy. The proposed arena is projected to generate total one-time construction economic impacts of \$533.1 million in King County (including Seattle) economy.

Total construction costs for the arena facility are anticipated to be \$390 million and include hard and soft costs as well as fixtures, furnishing and equipment (FF&E). With specialized FF&E, only a limited amount is expected to be purchased within the region. There are \$351.7 million in direct impacts to the City of Seattle economy and \$354.2 million in direct construction impacts to the King County economy.

Using the appropriate multipliers, the indirect and induced impacts are generated based on these direct impacts. Exhibit ES-7 presents the total (direct, indirect, and induced) one-time construction economic impacts. Construction costs and impacts are assumed to be the same for all scenarios.

Exhibit ES-7: Total One-Time Construction Impacts

One-Time Construction Impacts	Direct Impacts	Indirect & Induced Impacts	Total Impacts
City of Seattle			
Output (Millions)	\$351.4	\$128.9	\$480.4
Earnings (Millions)	\$215.6	\$50.2	\$265.8
Jobs	2,335	863	3,199
Remainder of King County¹			
Output (Millions)	\$2.8	\$50.2	\$53.0
Earnings (Millions)	\$1.0	\$21.8	\$22.8
Jobs	14	357	371

One-Time Construction Impacts	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Total King County (including Seattle)			
Output (Millions)	\$354.2	\$179.2	\$533.4
Earnings (Millions)	\$216.5	\$72.0	\$288.5
Jobs	2,349	1,220	3,570

¹Geographic region outside of the City of Seattle, but still within King County

Source: IMPLAN and Pro Forma Advisors

Gross Annual Arena Impacts

In Scenario A, the proposed arena is projected to generate total gross annual arena impacts of \$257.8 million in the City of Seattle economy and \$313.1 million in the King County economy.

Direct Impacts

Gross annual arena impacts include both impacts generated as a result of onsite arena operations and impacts generated offsite by arena visitors. Direct onsite impacts represent adjusted projected annual arena revenues. Offsite impacts are generated from arena visitors' offsite spending within each geography, but outside of the arena. The aggregate of onsite and offsite impacts are included within the direct impacts.

Indirect and Induced Impacts

Indirect and induced onsite impacts are calculated based on the share of arena expenditures, wage and non-wage, purchased in each local geography. Indirect and induced offsite impacts are estimated based on the direct visitor spending within the region.

Total Impacts

Total impacts include the direct, indirect, and induced economic activity generated by the arena's direct impacts. Exhibits ES-9 to ES-10 present the total annual direct, indirect, and induced gross impacts generated by the arena for each scenario.

Exhibit ES-8: Annual Gross Arena Economic Impact - Scenario A

Scenario A - 18,000 Seat SoDo	Direct Impacts	Indirect & Induced Impacts	Total Impacts
City of Seattle			
Output (Millions)	\$197.8	\$60.0	\$257.8
Earnings (Millions)	\$79.5	\$23.6	\$103.1
Jobs	1,570	476	2,045
Remainder of King County			
Output (Millions)	\$10.3	\$45.1	\$55.3
Earnings (Millions)	\$8.6	\$18.4	\$27.0
Jobs	102	326	428
Total King County (including Seattle)			
Output (Millions)	\$208.1	\$105.1	\$313.1
Earnings (Millions)	\$88.1	\$42.0	\$130.1
Jobs	1,672	802	2,473

Source: Pro Forma Advisors

Exhibit ES-9: Annual Gross Arena Economic Impact - Scenario B

Scenario B - 20,000 Seat SoDo	Direct Impacts	Indirect & Induced Impacts	Total Impacts
City of Seattle			
Output (Millions)	\$210.5	\$64.6	\$275.2
Earnings (Millions)	\$82.2	\$25.5	\$107.7
Jobs	1,700	516	2,216
Remainder of King County			
Output (Millions)	\$10.7	\$47.8	\$58.5
Earnings (Millions)	\$9.0	\$19.5	\$28.4
Jobs	111	346	457
Total King County (including Seattle)			
Output (Millions)	\$221.2	\$112.4	\$333.7
Earnings (Millions)	\$91.2	\$45.0	\$136.2
Jobs	1,811	862	2,673

Source: IMPLAN and Pro Forma Advisors

Exhibit ES-10: Annual Gross Arena Economic Impact - Scenarios C/D

Scenario C/D - 18,000 Seat Key Arena/Memorial Stadium	Direct Impacts	Indirect & Induced Impacts	Total Impacts
City of Seattle			
Output (Millions)	\$194.5	\$58.4	\$252.9
Earnings (Millions)	\$77.8	\$23.0	\$100.8
Jobs	1,555	464	2,019
Remainder of King County			
Output (Millions)	\$10.2	\$44.4	\$54.6
Earnings (Millions)	\$8.7	\$18.1	\$26.8
Jobs	102	322	424
Total King County (including Seattle)			
Output (Millions)	\$204.7	\$102.8	\$307.5
Earnings (Millions)	\$86.5	\$41.1	\$127.5
Jobs	1,657	786	2,443

Source: IMPLAN and Pro Forma Advisors

Substitution Impacts

Substitution impacts are estimated at \$21.7 - \$69.7 million annually in the City of Seattle economy and \$27.1 - \$82.4 million annually in the King County economy.

The analysis evaluates issues of substitution from the proposed Seattle arena, specifically in Scenario A. The Substitution Impact section addresses whether the introduction of a new "variable" (e.g. new team entering the marketplace) results in incremental revenues to the area or it simply shifts (reallocates) revenues from an existing source (e.g. baseball stadium).

The study addresses three key substitution considerations:

Level I Events at Similar Venues - Key Arena concerts, events, etc.

Level II Alternate Sporting Events - Baseball, Football, Soccer

Level III Alternate Entertainment Activities - Movies, Dining, Travel, etc.

Direct Substitution Estimates

- ▶ **Level I Substitution.** Based on our understanding of the market and comparable arena data, the shift of events between Key Arena and the Project is estimated to be in the range of 35 to 40 events with revenues of \$3.2 million to \$3.7 million. The shifted Key Arena events have an estimated attendance of approximately 300,000. This represents 28.8 percent of projected offsite visitor spending.
- ▶ **Level II Substitution.** Historical attendance data was reviewed after the Supersonics left the market and, with the exception of the Seattle Sounders, the Seattle Seahawks and Seattle Mariners each had reductions in attendance annually until the 2012 season (i.e. when the

Seattle Seahawks attendance increased). This in itself does not eliminate the existence of some level of substitution but contradicts the notion of 100 percent substitution/redistribution. There are a limited number of similar cases to study and the number variables impacting each market do not allow us to quantify the impact specific to the Seattle market with statistical accuracy. However, sports experts suggest substitution between live sporting events are not large enough to be identified. To be conservative, Pro Forma Advisors has assumed 0-20 percent direct impact of Level II substitution for the Project.

- ▶ **Level III Substitution.** Pro Forma Advisors evaluated changes in restaurant and drinking establishment revenues based on sales tax data adjusted by the consumer price index. Substitutability of spending would imply that patrons would reallocate/redistribute monies previously spent on Seattle Supersonics games to drinking and dining. Spending on drinking and dining actually decreased in the year after they Sonics left the market. In addition, while we did not find a clear relationship between sports and travel, it is helpful to point out that, in cases such as this, the substitution of sports for travel may actually increase local travel. Based on our analysis, any alternative substitutability was deemed negligible.

Total Substitution Impacts

The analysis estimates the indirect and induced impacts generated by direct substitution impacts on a proportional basis.

The Exhibit ES-11 presents estimated total--direct, indirect, and induced--substitution for each level of impact.

Exhibit ES-11: Annual Total Substitution Impacts

Millions

Output Impacts	City of Seattle	Remainder of King County	King County (including Seattle)
Level I Substitution Impacts	\$21.7	\$5.5	\$27.1
Level II Substitution Impacts	\$0 - \$48.0	\$0 - \$7.3	\$0 - \$55.3
Level III Substitution Impacts	N/A	N/A	N/A
Total Substitution Impacts	\$21.7 - \$69.7	\$5.5 - \$12.7	\$27.1 - \$82.4

Source: Pro Forma Advisors

Port and Industrial Business Economic Impacts

On the upper limit, Port and industrial business traffic impacts are estimated at \$210,000 to \$230,000, annually, in the City of Seattle economy and approximately \$230,000, annually, in the King County economy.

The Port and Industrial Business Impact section quantifies the direct costs of projected traffic delays generated as a result of a proposed arena in SoDo (Scenario A). Using data provided by the Port on projected future truck trips and routes and estimates of worst case projected traffic delays generated by a new arena at the SoDo site prepared as part of the Seattle Arena Draft EIS, the Port and SoDo Industrial Business Impact section estimates the total annual

number of trucks delayed and the projected annual time delay. Local port trucking costs from the EPA SmartWay DrayFLEET model are then used to estimate the annual trucking delay cost.

As detailed in the next section, traffic delays are expected to generate a maximum direct annual cost of \$110,000 to Port-related trucking activity and a maximum direct annual cost of \$38,000 to non-Port truck activity.

The table below present the maximum total--direct, indirect, and induced--Port and industrial business truck delay impacts. Total truck delay impacts to the Port are estimated as a range based on the total traffic delay cost absorbed either by trucking companies or as a reduction of import/export revenues. Impacts to non-Port industrial business assume a worst case of a one-to-one reduction in industrial revenues as a result of traffic delays. Multipliers are used to estimate the indirect and induced impacts of traffic delay costs. The table below summarizes the total direct, indirect, and induced impacts of arena traffic delays.

Exhibit ES-12: Annual Port and Industrial Business Traffic Delay Impacts

Output Impacts	City of Seattle	Remainder of King County	Total King County (including Seattle)
Upper Limit of Port Truck Traffic Delay	\$152,100 - \$168,000	\$4,300 - \$19,500	\$171,600 - 172,300
Non-Port Industrial Business Truck Traffic Delay	\$58,200	\$1,700	\$59,900
Upper Limit of Total Port and Industrial Business Impacts	\$210,300 - \$226,300	\$5,900 - \$21,200	\$231,500 - \$232,200

Source: Pro Forma Advisors

As mentioned in the next section, under a more conservative Port growth scenario than used for this analysis, the direct impacts could be closer to \$87,000 for Port-related trucking activity. At approximately 80 percent of the direct impact, total Port and industrial impacts would be in the range of \$180,000 to \$190,000 in the City of Seattle economy and approximately \$195,000 in the King County (including Seattle) economy.

Annual Net Economic Impacts - Scenario A

Accounting for substitution impacts and traffic delay impacts to the Port and industrial businesses resulting from the arena, the City of Seattle economy and King County economy are still expected to have positive net economic impacts for Scenario A in the SoDo site, as shown in Exhibit ES-13.

Exhibit ES-13: Annual Net Economic Impacts - Scenario A

Scenario A	Output		
Net Economic Impacts	City of Seattle	Remainder of King County	Total King County (including Seattle)
Gross Impacts	\$257.8 Million	\$55.3 Million	\$313.1 Million
Substitution Impacts	- \$21.7 to \$69.7 Million	- \$5.5 to \$12.7 Million	- \$27.1 to \$82.4 Million
Upper Limit of Port and Industrial Business Impacts	- \$0.21 to \$0.23 Million	- \$0.00 to \$0.02 Million	- \$0.23 to \$0.23 Million
Net Economic Impacts	\$187.8 to \$235.9 Million	\$42.6 to \$49.9 Million	\$230.4 to \$285.7 Million

Source: Pro Forma Advisors

Port and Industrial Business Impacts

The dollar impact of Port truck delay is very small in relation to total Port transportation activity. The Port of Seattle, however, is facing intense competition from other Pacific Northwest ports for both cargo and carrier vessel calls. The scope of that competition is expected to expand with the completion of larger Panama Canal locks in 2015. To the extent that higher trucking costs and reduced trucking reliability adversely affect customer and carrier perceptions, the Port's competitive position could be diminished and the threat of carrier or cargo diversion increased. While that risk cannot be reliably quantified, the realities of port competition and the importance of customer and carrier perceptions suggest that appropriate measures to minimize the adverse impacts be considered.

Overview

In 2009, a report produced by the Port of Seattle found that in 2007 the seaport, itself, created 21,695 direct jobs and generated another 34,561 indirect and induced jobs. The seaport activity is responsible for another 135,100 import/export related jobs in Washington State. The Port of Seattle's 2012 operating revenue from the marine terminals was approximately \$85.7 million. The value of import and export trade through the Port was about \$30 billion in 2012, although much of that trade moves to and from the Port by rail.

The development of the proposed Seattle arena on the SoDo site (Alternative 2 in the Seattle Arena Draft EIS - DEIS¹) is expected to result in traffic delays to both Port and non-Port trucks. The truck transportation impacts of event-

induced Stadium District congestion following arena development will depend on:

- ▶ The number and routing of Port and non-Port trucks operating in the hours affected by stadium and arena events.
- ▶ Delays on normal truck routes.

The Port of Seattle provided estimates on the number of affected Port trucks and route allocations. Non-port truck volumes were based on Transpo's DEIS analysis.

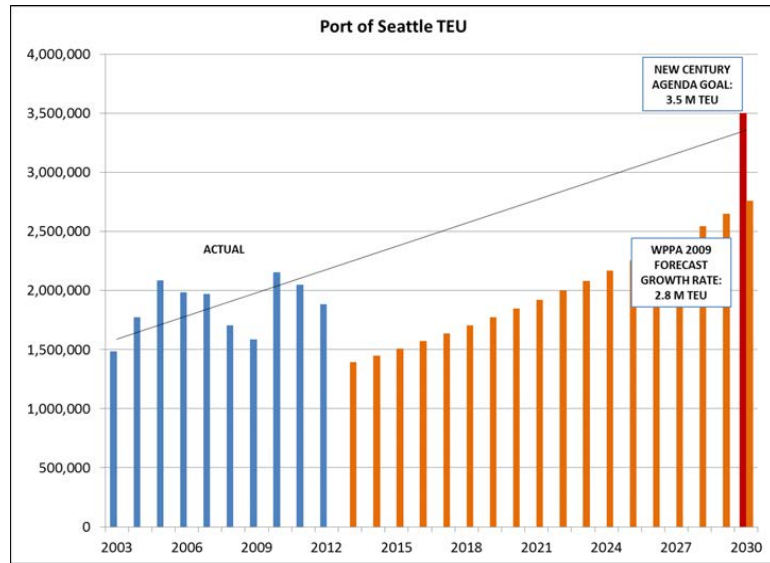
Estimates of truck delays for 2030 were constructed from corridor and intersection delay estimates provided in Appendix E of the DEIS, combined as required to approximate truck impacts. All of the data presented reflect delays expected compared to the No-Action Alternative, rather than the actual travel times. The No-Action Alternative by itself contemplates longer travel times than at present. Trucking cost impacts were estimated from the EPA SmartWay DrayFLEET model. The estimate for trucking costs in the Seattle area is \$48/hr.

Port Truck Impacts

To estimate the upper limit of Port truck impacts, the analysis used Port estimates of expected Port truck trips when the total Port throughput reaches 3.5 million annual TEU (Twenty-foot Equivalent Units). The Port has set a 3.5 million TEU goal in its New Century Agenda. It is not possible to predict with certainty if or when the Port will meet this goal. To estimate the upper limit of truck delays impacts, it was assumed that the 3.5 million TEU goal is reached in 2030.

¹ The DEIS evaluates traffic impacts for a proposed 20,000 seat arena in SoDo. Thus, the traffic impact delays results, likely somewhat overstate traffic impacts for the 18,000 seat proposed arena in Scenario A.

Exhibit ES-14: Port of Seattle Actual and Target TEU



Source: www.portseattle.org, 2009 WPPA/WSDOT Marine Cargo Forecast

Exhibit ES-14 indicates, the Port’s recovery from the recent recession has been uneven, with the 2012 loss of the Grand Alliance to Tacoma being a notable setback. If the Port does not attain its 3.5 million TEU goal in 2030, the Port truck impact in that year would be less. The graph also shows a more conservative scenario using a growth rate from the 2009 Washington Public Ports Association/WSDOT forecast yielding an estimate of 2.8 million TEU in 2030.

The estimated number of daily truck trips associated with 3.5 million TEU was based on the assumption that: 1) 40 percent moved by truck and 60 percent moved by rail; 2) conversion of TEU counts to container counts was based on an average of 1.76 TEU/container; 3) an average of 2.2 truck trips per container

was necessary to account for round trips and repositioning; and 4) there are 250 working weekdays per year. These factors yielded a daily average of 13,664 Port truck trips.

Delays would be experienced primarily by trucks serving Terminals 25/30/46, with lesser impacts on trucks serving T-5/18. About 5.1 percent of the truck traffic is expected to move in the event-vulnerable 4–8 PM period with day gates only, at lower port volumes. With the night gates expected to be necessary at higher port volumes, 11.2 percent of the truck traffic is expected to move in the event-vulnerable time period. Exhibit ES-15 applies these percentages to projected Port truck trips. The trips affected by event congestion are highlighted.

Exhibit ES-15: Event-Vulnerable Port Trips

Route	Distribution Pattern 3.5 M TEU	T-25/30/46	T-5/18	Trips 4-8PM Day Gates	Trips 4-8PM w/Night Gates
Local/Regional	41%	2,301	4,739	118	112
North on Interstate 5	8%	449	925	23	22
South on I-5, SR 509, SR 599	18%	1010	2081	52	49
East on I-90	8%	449	925	23	22
Local Seattle	7%	393	809	20	19
SIG	42%	2,353	1,967	121	321
North		1,177	983	111	295
South		1,177	983	60	161
ARGO	17%	784	1,520	40	107
Total	100%	5,438	8,226	330	675

Source: Port of Seattle, Tioga Analysis

As Exhibit ES-15 indicates, about 675 weekday trips would be affected at the 3.5 million TEU volume goal with night gates, or roughly 5 percent of total port truck trips. The delay impact would depend on the route:

- ▶ Trips between T-25/30/46 and the freeway, a total of 93 with night gates, would ordinarily use S. Atlantic St. The alternative would be E. Marginal Way and SW Spokane Ave.
- ▶ Trips between T-25/30/46 and local Seattle points in the Duwamish Manufacturing Industrial Center (MIC) or other areas (19 with night gates) would ordinarily use E. Marginal Way to an east-west access point (e.g. S. Horton). The alternative would be S. Atlantic.
- ▶ Trips between T-25/30/46, T-5/18, and the North SIG gate (295 with night gates) would use the North SIG driveway (constructed on a BNSF franchised right of way which runs parallel to Colorado Avenue). This driveway accesses Atlantic Street approximately 200 feet east of railroad crossing on the south side of Atlantic Street.
- ▶ Trips between T-25/30/46 and the South SIG gate (161 with night gates) would use E. Marginal Way to S. Hanford.
- ▶ Trips between T-25/30/46 and Argo Yard (107 with night gates) would use E Marginal Way and the East Marginal Way Grade Separation (“Argo Connector”, when fully complete)

Exhibit ES-16 applies average delay estimates derived from the DEIS Appendix traffic analysis to these Port truck trips, using a weighted average delay from multiple Stadium District event scenarios, and cost factors derived from the EPA SmartWay DrayFLEET model.

Exhibit ES-16: Summary of Port Truck Cost Impacts

Route	Trip Delay	Total Delay		Cost @ \$48/ hour
	Average Delay - Minutes	Annual Delay - Minutes	Annual Delay - Hours	Estimated Annual Truck Delay Cost
T-25/30/46 to Freeways	1.3 - 3.3	16,784	280	\$13,428
T-25/30/46 to SIG North	0.2 - 0.3	5,196	87	\$4,157
T-25/30/46 to SODO	2.9 - 4.2	3,414	57	\$2,731
T-25/30/46 to SIG South	2.9 - 4.2	57,097	952	\$45,678
T-5/18 to SIG North	3.2 - 4.5	52,056	868	\$41,645
T-25/30/46 to Argo/South DMIC	2.9 - 4.2	3,414	57	\$2,731
Total Truck Trips		137,962	2,299	\$110,370

Source: Seattle arena DEIS, Tioga Analysis

The total direct truck cost impact estimated in Exhibit ES-16 is small in the context of total Port activity². This is since only about 5 percent of the trucks are affected and many of the delays are estimated to be just a few minutes. The cost impact would be more significant if borne by a narrow cross-section of customers or truckers. Ocean carriers, importers, and exporters may not see actual trucking cost increases, because the competitive nature of the Port trucking industry may force the truckers to absorb the additional cost. If so, the full impact will be felt locally.

Under a more conservative growth scenario with about 2.8 million TEU³ and night gates in 2030 (Exhibit ES-14), there would be about 1,813 hours of

² Total economic impacts of the direct truck cost impact (which includes the additional indirect and induced impacts) are presented in the Economic Impact section.

³ Using a 2013 estimate of 1,367,118 TEU (27.5% below 2012, per YTD results) and a 4.1% CAGR as forecast in the WPPA /WSDOT *Marine Cargo Forecast* of March 2009

annual delay and an annual Port truck delay cost of about \$87,044. The delay cost would be lower still if Port operations were restricted to day gates because the number of evening rail terminal trips would be reduced.

Potential Port Impacts

The Port of Seattle is faced with intense competition from the Ports of Tacoma, Vancouver, and Prince Rupert. The ocean carriers that call at T-30 and T-46 can shift discretionary cargo to other Pacific Northwest ports with relative ease – particularly rail intermodal cargo. In the larger sense, the Port of Seattle also competes with California ports for Asia-Midwest cargo, and will face increased competition from East Coast ports once the new Panama Canal locks are open. The largest risks to the Port would be from adverse shifts in this competitive balance. This report is confined to a discussion of the potential role of arena traffic impacts in such a shift, and does not speculate on the overall comparative outlook for the Port.

Ocean carriers and their customers consider many factors in choosing a port and a terminal, balancing cost and service considerations. For more valuable time-sensitive imports and exports, customers emphasize service, reliability, and ease of doing business over small cost differences.

From the Port's perspective, increased trucking cost, and especially diminished reliability could adversely affect the competitiveness of Terminals 25/30 and 46. These terminals together account for about one third of the Port's terminal space, effective capacity, and expected future throughput.

The most serious potential arena impacts on Port competitiveness may come from carrier or customer perceptions of reduced reliability and ease of doing business at T-30 and T-46. *The risk thus depends as much or more on the*

industry's perception of Terminal 30 and 46 competitiveness than on objective analysis.

- ▶ One potential serious risk to the Port of Seattle would be a carrier decision to shift significant intermodal rail volume from SIG to one of the on-dock transfer facilities at Tacoma or to the Port of Vancouver.
- ▶ The most serious potential risk to the Port of Seattle would be the loss of service to T-46, T-30, or both. As explained in the report, most of these carriers already call at Tacoma and Vancouver terminals.

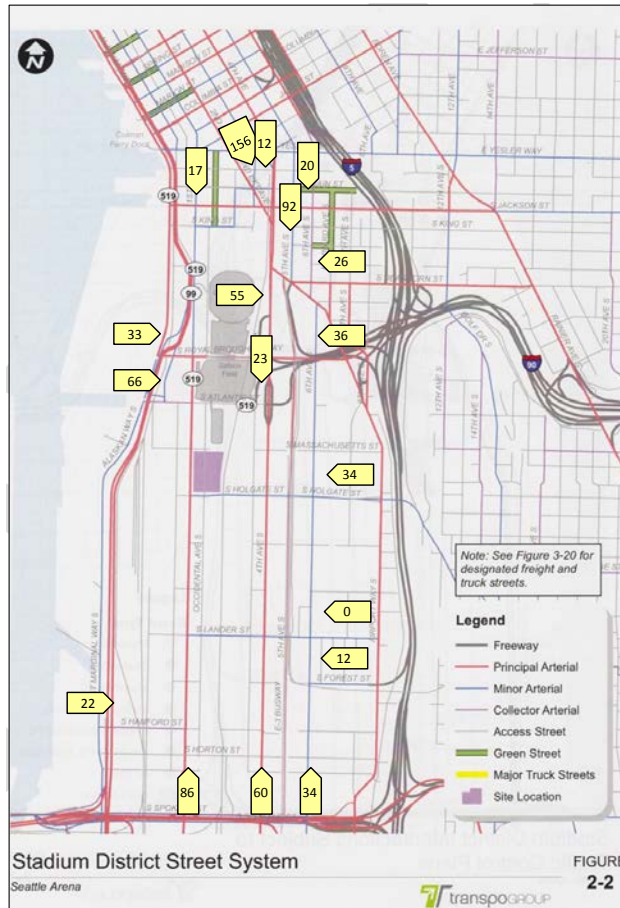
An actual shift would significantly reduce cargo through the Port of Seattle and shift revenue and jobs to Tacoma or Vancouver. The threat of a shift would likely reduce long-term Port of Seattle and terminal operator revenue as a result of lower negotiated rates.

The risks associated with adverse industry perceptions of Port of Seattle terminals suggest that appropriate measures may be considered to both minimize truck delays and to signal Port and City commitment to efficient cargo operations.

Non-Port Trucks

The main information source regarding non-Port trucks is the traffic analysis presented as Appendix E to the DEIS. Tioga, the economic impact team port and freight consulting expert, subtracted the estimates for 2030 Port trucks from the 2030 estimates for all trucks to derive a set of 2030 counts for non-Port trucks. To avoid double-counting trucks that pass through multiple study intersections, Tioga attempted to define "cordon entry points" as shown in Exhibit ES-17.

Exhibit ES-17: SoDo Truck Entry Cordon Points and Counts



The truck movements in pre-event hours will be affected. Freight trucks in urban areas typically concentrate their movements in a 12-hour span from about 6 AM to 6 PM, corresponding to commercial business hours. The impact analysis anticipates that those trucks will be evenly spread over the 12-hour spans, and that two hours, 4-6 PM, will see the major event impacts.

Exhibit ES-18 then applies the estimated cordon trip counts to the delays on each directional route type and uses an average cost of \$48 per hour (derived from the EPA SmartWay drayage model) to estimate the annual delay cost to truck operators⁴.

Exhibit ES-18: Estimated Annual Delay and Cost to Non-POS Trucks @ \$48/hr.

Annual Totals					
	Minutes	Hours	Cost	Trips	Total Direct Cost
NB	396	7	\$317	71	\$22,441
SB	215	4	\$172	57	\$9,738
EB	58	1	\$47	29	\$1,370
WB	215	4	\$172	28	\$4,802
	137	2	\$109		
Total				185	\$38,351

Source: Seattle Arena Draft EIS, Tioga Analysis

The actual cost will depend heavily on the actual pattern of truck trips and on the coping strategies adopted by truck drivers and dispatchers. Attempting to

⁴ Exhibit ES-18 represents direct non-port truck delay costs. The additional indirect and induced impacts of non-port truck delays are calculated in the economic impact section.

conduct “business as usual” during pre-event congestion would likely result in driver delays, added costs, and missed appointments.

The estimated dollar impact of truck delay generated by the proposed arena is low in relation to the total Port of Seattle drayage activity or cost, with approximately 5 percent of the port truck trips being affected. The compelling reason for appropriate measures, however, is to minimize adverse impacts on reliability and ease of doing business that might otherwise affect the competitiveness of Terminals 25/30 and 46.

Measures that may help minimize adverse impacts primarily consist of:

- ▶ Improved communications regarding upcoming events and traffic control measures to facilitate trucker operator planning.
- ▶ Traffic control measure or manning at critical intersections to keep trucks moving in congested pre-event hours.
- ▶ Selected upgrades to impacted intersections or alternate routes.

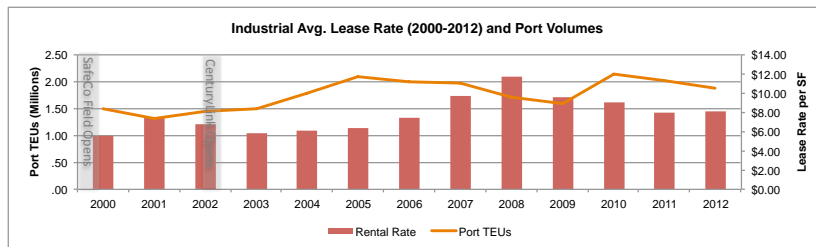
Real Estate and Land Use

The Real Estate and Land Use section reviews the real estate and land use context within the SoDo Study Area and Lower Queen Anne Study Area.

SoDo Study Area

- ▶ The nature of the SoDo study area has been changing over the last 20 years. Across the last decade the SoDo study area has seen the addition of 443,000 square feet of office space and 76,000 square feet of retail commercial space. Industrial space has declined by 1.4 million square feet of rentable space.
- ▶ Industrial rents have increased significantly and industrial uses in the SoDo area are being converted into other uses. The pattern of these changes suggest these changes are occurring on the north end of the district, above Holgate Street.

Exhibit ES-19: SoDo Industrial Lease Rates and Port Volumes



Source: CoStar and Pro Forma Advisors

- ▶ Industrial property values and SoDo raw land has escalated in value. However, this escalation in value does not appear to be solely related to the development of the new stadiums, but is a reflection of overall downtown real estate expansion pressures.

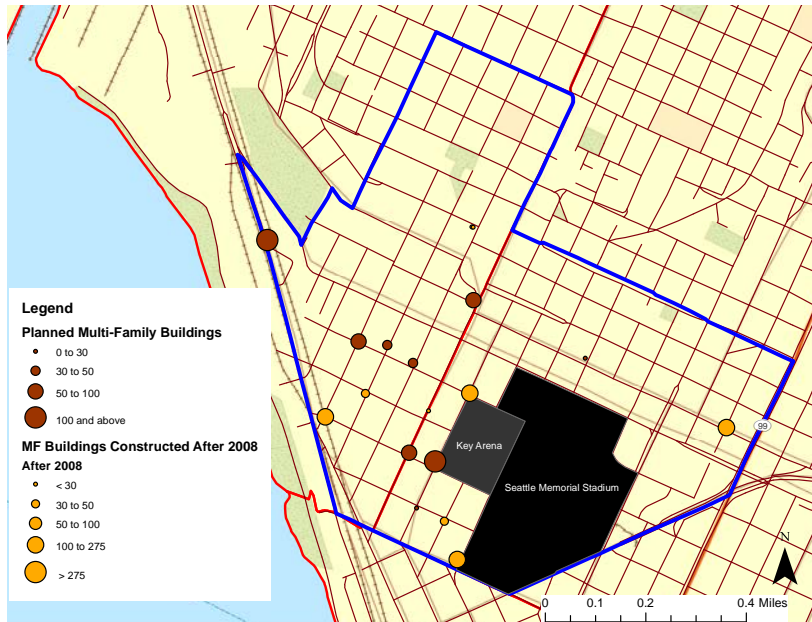
- ▶ Approximately 70 percent of all SoDo industrial rentable space is in buildings smaller than 30,000 square feet, compared to only 25 percent of rentable building area (RBA) throughout the full Duwamish MIC. Also there is a substantial amount of stock built before the 1960's in the SoDo area relative to the Duwamish MIC. As described by brokers in the area, the smaller older industrial properties in the SoDo area are not functional for larger industrial businesses, the smaller older industrial stock in SoDo will continue to hamper the capacity of the area for larger industrial uses.
- ▶ Real estate brokers suggest that property values and rents have become expensive in the area due to the development and economics of Seattle as a whole, rather than as a direct result of the development of the sports venues within the SoDo neighborhood. Many suggest that it was the addition of the Starbucks corporate office, the school district facilities, addition of Home Depot, and the light rail that have had the most significant impact in the SoDo study area.

Lower Queen Anne Study Area

- ▶ The presence of the NBA team at Key Arena helped to buoy retail lease rates in the Lower Queen Anne District and their departure had a negative impact on retail lease rates. However, existing retail remained occupied after the departure of the NBA, at lower rates, and some properties were converted to other uses.
- ▶ The office market in the Lower Queen Anne District has had higher occupancies relative to the Seattle MSA and downtown business cluster since 2007. The office market was not negatively impacted by the departure of the NBA team and has, in fact, expanded and performed better than other areas of the City, inline with growth in the Seattle technology sector.

- ▶ Multi-family development has grown substantially in Lower Queen Anne in recent years, as mentioned above this is primarily due to overall real estate growth in the greater area. However, brokers also suggested that perhaps the departure of the Sonics provided the opening for new redevelopment and residential growth in the area.
- ▶ With exception to retail, the area has seen more real estate development than the period in which the NBA played at Key Arena.

Exhibit ES-20: Recently Built and Planned Lower Queen Anne Multi-Family Buildings



Source: CoStar, ESRI, CBRE, Pro Forma Advisors

Case Studies

Pepsi Center Denver

- ▶ The three sports venues located in downtown Denver, Colorado, are touted as the prime example of how sports venues can help to revitalize downtown, but even in this example it is clear that much of the redevelopment occurred as a result of the Coors Field Stadium, rather than Pepsi Center Arena. Coors Field is better integrated into downtown than Pepsi Center Arena, but also generates higher attendance. Much of the retail and hospitality developments are oriented to Coors Field.
- ▶ While noting that Pepsi Center is isolated by surface parking, this example suggests that an arena generates less ancillary development impact relative to the stadiums.
- ▶ This case study, as well as Philadelphia, suggest that the location of parking—specifically, the route visitors walk to arrive at the sports venue—can impact where supporting real estate development occurs.

Wells Fargo Center and South Philadelphia Sports Complex

- ▶ The Wells Fargo Center in South Philadelphia demonstrates how design of an area impacts the real estate/economic impacts produced in the area. The Wells Fargo Center and other sports venues are surrounded by a significant amount of parking that separates the complex from other areas. The parking as well as the I-95 freeway are physical barriers that limit the growth surrounding the sports venues.
- ▶ The Wells Fargo Center and South Philadelphia Sports Complex demonstrate that sports venues alone do not stimulate development. Located several miles from downtown Philadelphia, the Sports Complex has not stimulated significant growth in the area. Instead only through

current specific revitalization efforts of Xfinity Live! have the sports venue created ancillary development.

PetCo Park, San Diego

- ▶ While a stadium, PetCo Park demonstrates the capacity of a well-designed sports venue to improve a neighborhood, capture private investment, and increase property values.
- ▶ It should be noted that several of the catalytic developments around PetCo Park, including the hotel, office complex, and retail were required as part of the MOU between the City and stadium developer.

Potential Real Estate Changes in the SoDo District with the Proposed Arena

- ▶ **Ongoing Industrial Trends and Real Estate Pressure.** Industrial space was lost in SoDo as a result of the two existing stadiums, particularly north of Holgate Street. However, since 2005, economic growth and the real estate expansion of downtown has accelerated this loss. The existing trend of gentrification within the SoDo area is likely to occur with or without the development of a new arena and, with appropriate regulatory policies and enforcement of those policies, the development impacts of the arena can be focused in particular areas of SoDo.
- ▶ **Revitalization with Sports Venues Typically Results from Purposeful Efforts.** In the cases where sports venues helped to redevelop and catalyze development in an area, the sports venues were typically stadiums and there were intentional efforts made by jurisdictions to support development growth in the area. In cases where there was not an intentional effort to spur growth, and even in cases where there were ineffective efforts, the development of a new arena often did not change the development path of the area.

- ▶ **Physical Barriers Can Help to Limit Unwanted Impacts.** The proposed SoDo site will not be surrounded by surface parking, but the proposed arena at the SoDo site (and close by vicinity) will still have natural barriers to growth including the BNSF tracks to the east and the north SIG Yard, approximately two blocks to the west.
- ▶ **Spinoff Retail Estimates.** Offsite visitor spending provides a benchmark to understand support for additional retail and ancillary development. Projected visitor spending for the new arena supports approximately 150 rooms and 32,000 square feet of retail. The larger Stadium District and/or a focused entertainment retail area are likely to generate additional non-arena visitors that will support additional ancillary development.
- ▶ **Conflict with Port Uses.** Currently residential is not allowed within the SoDo area because these uses often conflict with Port and Port-related industrial uses. As described by brokers in the area, SoDo does not have the amenities to be a strong residential area. Given the economic importance of the Port the City should carefully consider the limitation of residential uses within the proposed arena area.
- ▶ **A SoDo Arena Coexisting with Industrial Development.** As shown by the case studies, a development of an arena alone is not the main catalyst for development and arenas can co-exist with high performing industrial development. However, there are ongoing property value pressures in the SoDo area due to its proximity to downtown Seattle and efforts need to be made to protect the industrial developments in the area from both the operational traffic impacts of the arena and to limit/regulate the capacity of the area to transition into higher performing uses.

Engagement

Pro Forma Advisors has been engaged by City of Seattle (“the Client”) to conduct an economic impact study which examines the net economic impact of constructing and operating a proposed arena in the SoDo neighborhood of Seattle.

Pro Forma Advisors research and analysis in support of the scope of services includes:

1. Developing Operating Projections
2. Determining Fiscal Impacts
3. Projecting Arena Economic Impacts
4. Evaluating the Potential Effect of Substitution, and
5. Determining Possible Impacts to the Port of Seattle and Related Industrial Businesses

Context

Proposed Project

The City of Seattle and King County have been approached by Chris Hansen (“Developer”) with a proposal to participate in the ownership of a sports and entertainment arena (“Project”). The arena is expected to have approximately 700,000 square feet of useable space and it is believed the construction and equipping of the arena (including cost of acquiring the site) will be \$490 million - \$500 million.

The City of Seattle and King County are considering potential investments of \$120M and \$80M (\$5M if no NHL team commits to play in the arena), respectively.

In response to concerns, \$40 million of the tax revenue is expected to be used to fund transportation improvements and offset possible negative effects which the proposed arena may have on Port of Seattle (“Port”) container operations, railway lines and truck activity.

The City has required that a full SEPA Environmental Impact Study (“EIS”) be completed on the site options. This economic impact report will be included as an appendix to the EIS.

Location and Sites

The proposed Project is expected to be located in the SoDo area of Seattle. Consistent with the scope of the EIS, the City of Seattle and King County are reviewing alternate sites and seating capacities for the proposed arena. Pro Forma Advisors evaluation of the different sites/seating options does not address construction costs which are deemed to be the same regardless of location. The operating projections will change slightly based on seating capacity and other variables. The sites evaluated are identified below:

SoDo

SoDo, a neighborhood in Seattle, Washington, that makes up part of the Duwamish Manufacturing and Industrial District, is the primary site under consideration. It is bounded on the north by South King Street, beyond which is Pioneer Square; on the south by South Spokane Street, beyond which is more of the Duwamish Manufacturing and Industrial District; on the west by the Duwamish Waterway, across which is West Seattle; and on the east by Metro Transit’s Downtown Seattle Transit Tunnel and SoDo Busway, beyond which is the International District and the rest of the Duwamish Manufacturing and Industrial District. SoDo’s main thoroughfares are First and Fourth Avenues S. and Alaskan Way S. (north- and south- bound) and S. Lander and Holgate Streets, Edgar Martínez Drive S., and S. Royal Brougham Way (east- and west-bound).

The neighborhood is on Elliott Bay, south of downtown Seattle. It is currently the home of Safeco Field (1999) and CenturyLink Field (2002) and is located in close proximity to several Port of Seattle terminals. The Seattle Mariners and Port of Seattle have publicly opposed the new arena with the Port raising concerns regarding transportation, infrastructure and land use.

SoDo Site - Scenario A

The base scenario evaluated by Pro Forma Advisors is expected to have a capacity of 18,000 attendees for concerts, 18,000 attendees for National Basketball Association (NBA) games and 17,000 attendees for National Hockey League (NHL) games.

SoDo Site - Scenario B

In addition to the proposed 18,000 seat arena capacity (**Scenario A**), Pro Forma Advisors developed operating projections for a 20,000 seat option. This option would have a capacity of 20,000 attendees for concerts, 20,000 attendees for NBA games and 19,000 attendees for NHL games.

Exhibit C-1: SoDo Arena Site



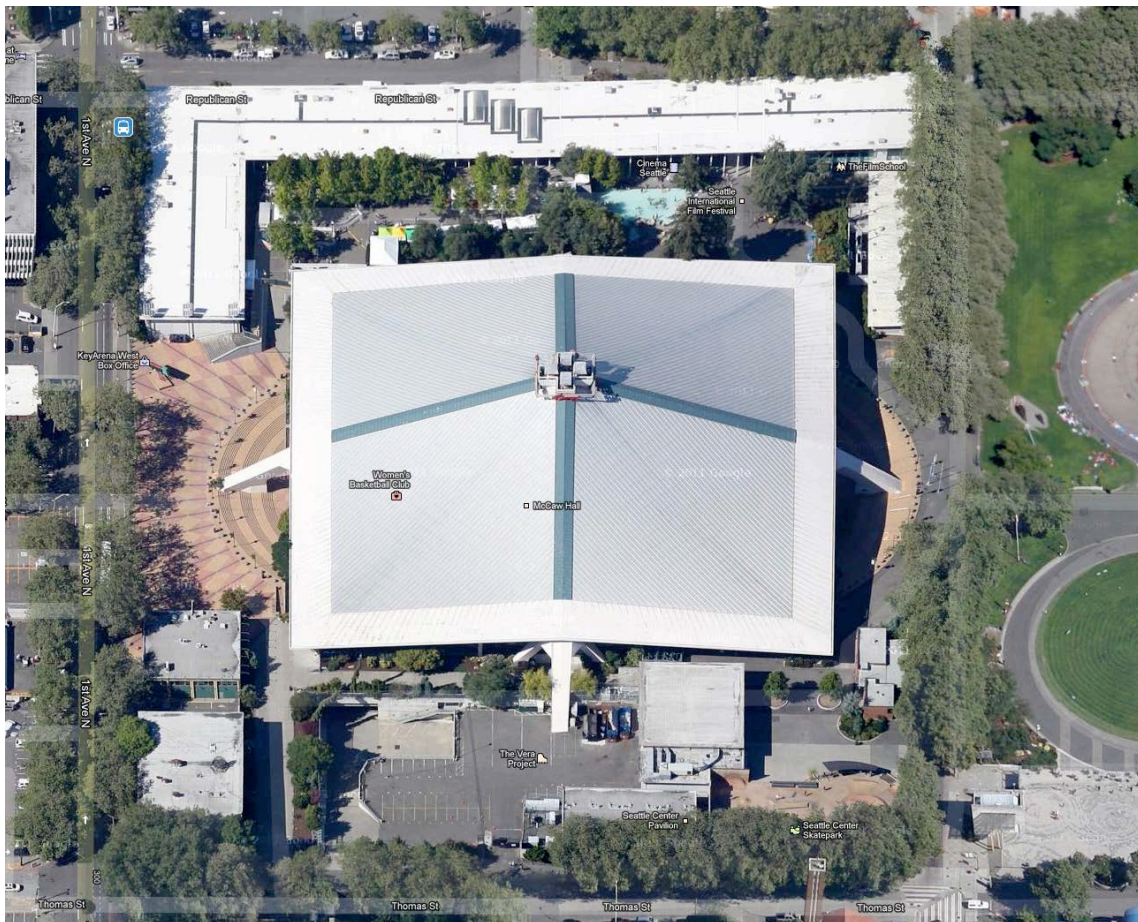
Key Arena and Memorial Stadium Sites

A Key Arena site and Memorial Stadium site are also being reviewed. For the purposes of this economic impact study and due to the proximity of these sites to one another, we have determined that these two sites have no material economic differences. Both sites are located in the same general area whose landmark feature is the 605-foot tall Space Needle, a now-iconic building that was, at its completion, the tallest building west of the Mississippi River.

Key Arena Site - *Scenario C*

The Key Arena site, where the Seattle SuperSonics played until 2008, is pictured below. The site is part of the Seattle Center in Seattle, Washington and is located just north of Belltown in the Lower Queen Anne neighborhood.

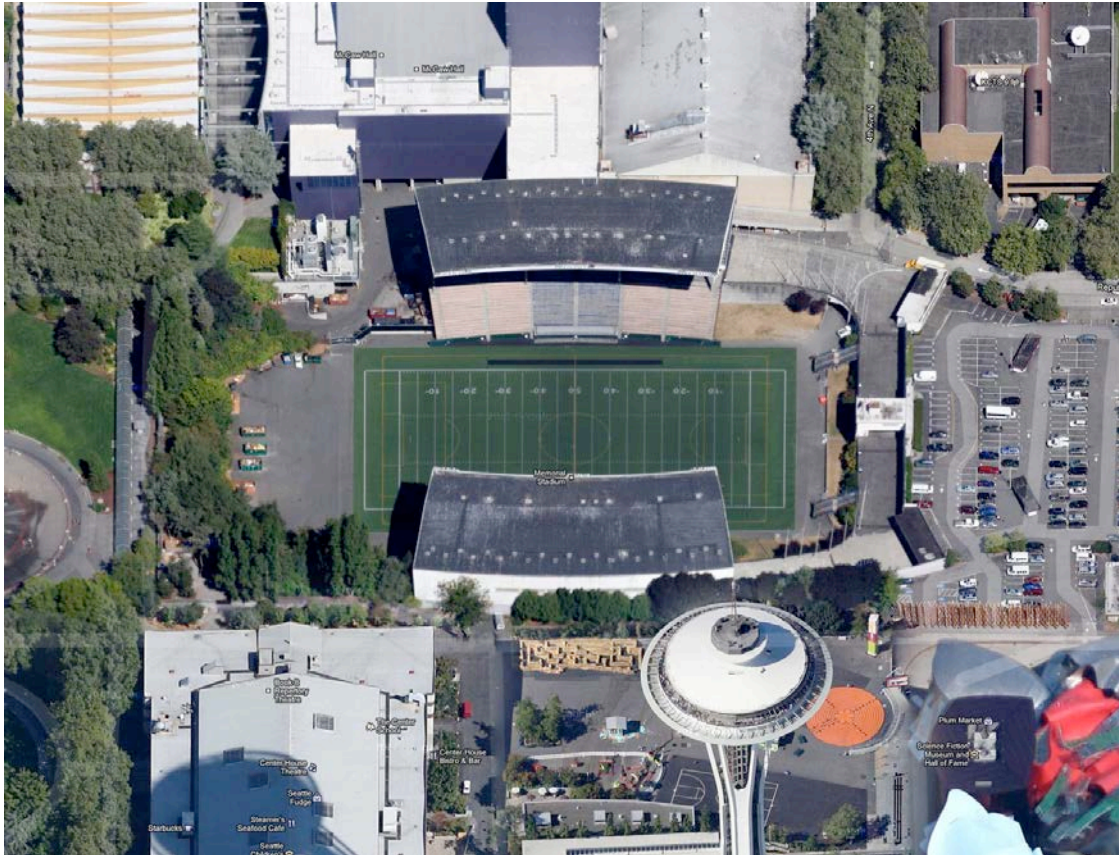
Exhibit C-2: Key Arena Site



Memorial Stadium Site - Scenario D

Memorial Stadium is located in the northeast corner of the Seattle Center grounds in Seattle, Washington. The facility is not operated by the Seattle Center. It is owned by the Seattle School District ("District") and still serves as the "home field" for football games played by high schools within the District.

Exhibit C-3: Memorial Stadium Site



Market Context

Projections for the Project are affected by the location and market context of the Project site. This section provides an overview of the conditions the Project will operate within.

Demographic Overview

The Project is located in King County and is expected to draw customers primarily from within King County. However, as per the Seattle Center/Key Arena survey, approximately 25% to 30% of attendees are likely to come from other counties within the state of Washington and 5% to 10% are expected from outside of Washington. This section provides additional market context of the resident and tourist markets.

Population

King County is currently home to approximately 1.9 million people and has seen significant population growth in the last decade. The largest city is Seattle with approximately 608,000 people, representing 31.5% of the total King County population. The second largest city is Bellevue with approximately 122,000 people (6.3% of the County population). King County is the 14th most populous county in the United States (9th for counties which currently have NBA teams).

Exhibit C-4: King County Population Estimates

Place	2010	% of Total	2013	
			Estimate	% of Total
Seattle	608,660	31.5%	626,600	31.6%
Bellevue	122,363	6.3%	132,100	6.7%
Kent	92,411	4.8%	120,500	6.1%
Renton	90,927	4.7%	95,540	4.8%
Federal Way	89,306	4.6%	89,720	4.5%
Auburn (part)	62,761	3.2%	64,320	3.2%
Redmond	54,144	2.8%	55,840	2.8%
Shoreline	53,007	2.7%	53,670	2.7%
Kirkland	48,787	2.5%	81,730	4.1%
Sammamish	45,780	2.4%	48,060	2.4%
Burien	33,313	1.7%	48,030	2.4%
Issaquah	30,434	1.6%	32,130	1.6%
Des Moines	29,673	1.5%	29,730	1.5%
SeaTac	26,909	1.4%	27,310	1.4%
Mercer Island	22,699	1.2%	22,720	1.1%
Maple Valley	22,684	1.2%	23,910	1.2%

Place	2010		2013	
	2010	% of Total	Estimate	% of Total
Kenmore	20,460	1.1%	21,170	1.1%
Tukwila	19,107	1.0%	19,160	1.0%
Covington	17,575	0.9%	18,100	0.9%
Bothell (part)	17,090	0.9%	17,440	0.9%
Lake Forest Park	12,598	0.7%	12,680	0.6%
Woodinville	10,938	0.6%	10,990	0.6%
Snoqualmie	10,670	0.6%	11,700	0.6%
Enumclaw (part)	10,669	0.6%	11,100	0.6%
Newcastle	10,380	0.5%	10,640	0.5%
Other Incorporated	42,904	2.2%	43,910	2.2%
Other Unincorporated	325,000	16.8%	253,100	12.8%
Total King County	1,931,249		1,981,900	

Source: 2010 US Census

King County gained almost 200,000 residents (11.2%) over the last decade. This growth is higher than the nation as a whole, which grew at a rate of 9.7%. During the past decade, King County's population growth comprised nearly one-quarter of Washington state's increase (approximately 830,000 people).

King County is projected to grow by almost 190,000 people (9.8%) from 2010 to 2017. The projected growth of King County represents approximately one-third of the state's projected increase (approximately 551,000 people) over the same period.

Exhibit C-5: Population Growth

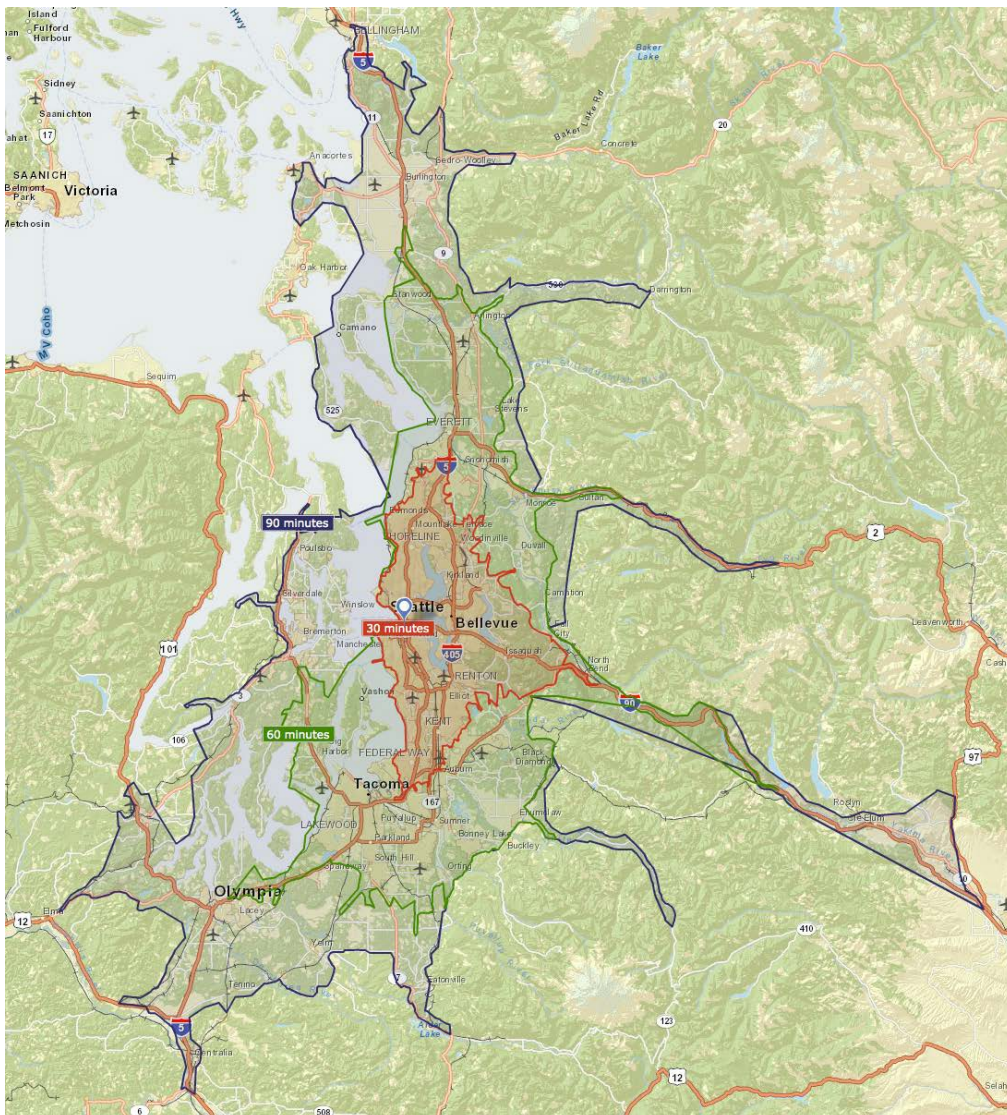
(thousands)	City of Seattle	King County	Washington State
2000	563,590	1,737,303	5,894,121
2010	608,660	1,931,249	6,724,540
2012	626,015	1,982,696	6,878,781
2017	670,385	2,120,328	7,275,529
2000 - 2010 Change	45,070	193,946	830,419
% Change 2000 - 2010	8.0%	11.2%	14.1%
2010 - 2017 Change	61,725	189,079	550,989
% Change 2010 - 2017	10.1%	9.8%	8.2%

Source: ESRI Business Analyst and Pro Forma Advisors

Market Summary

While located in King County, the Project market area draws patrons beyond King County. The following section provides augments the data provided above relative to drive-time (i.e. 30, 60, 90-minutes from the proposed primary SoDo site. Drive time review assists in the comparability with other teams and markets. The 90-minute drive time is generally a good proxy for the distance a non-overnight visitor will drive for a game and/or event.

Exhibit C-6: Travel Time Map - 30, 60, 90-minutes



Source: ESRI

The Seattle market is considered a robust market. The population within a 90-minute drive time to the proposed SoDo site has grown 13.3% from 2000 to 2010 and is expect to grow another 8.4% from 2010 to 2017.

Exhibit C-7: Summary of Population by Travel Time

Year	Population (thousands)		
	Travel Times		
	30 mins	60 mins	90 mins
2000	1,596.2	2,916.8	3,552.4
2010	1,777.4	3,297.3	4,023.4
2012	1,824.4	3,377.4	4,117.8
2017P	1,948.5	3,581.6	4,360.4

Source: ESRI Business Analyst and Pro Forma Advisors

Age

Generally, the core group of sports and entertainment attendees falls within the 15-49 age group. This represents approximately 50% of the population within a 90-minute drive time of the Project. The 15-49 age group cohort is highest (53%) within a 30-minute drive time of the Project which represents the highest proportion of attendees.

Exhibit C-8: Primary Market Age Distribution

Cohort	Travel Times (min)							
	<30	% of Total	30-60	% of Total	60-90	% of Total	0 - 90	% of Total
Age 0 - 4	111,252	6.3%	103,085	6.8%	44,030	6.1%	258,367	6.4%
Age 5 - 9	100,311	5.6%	104,198	6.9%	44,160	6.1%	248,669	6.2%
Age 10 - 14	95,262	5.4%	108,607	7.1%	46,452	6.4%	250,321	6.2%
Age 15 - 19	103,040	5.8%	109,861	7.2%	49,387	6.8%	262,288	6.5%
Age 20 - 24	125,794	7.1%	96,498	6.3%	52,710	7.3%	275,002	6.8%
Age 25 - 29	158,959	8.9%	102,247	6.7%	48,862	6.7%	310,068	7.7%
Age 30 - 34	147,274	8.3%	99,870	6.6%	44,141	6.1%	291,285	7.2%
Age 35 - 39	139,513	7.8%	103,941	6.8%	43,633	6.0%	287,087	7.1%
Age 40 - 44	134,544	7.6%	111,869	7.4%	46,500	6.4%	292,913	7.3%
Age 45 - 49	131,031	7.4%	121,883	8.0%	52,836	7.3%	305,750	7.6%
Age 50 - 54	127,212	7.2%	118,591	7.8%	55,048	7.6%	300,851	7.5%
Age 55 - 59	113,586	6.4%	99,397	6.5%	53,200	7.3%	266,183	6.6%
Age 60 - 64	92,594	5.2%	79,379	5.2%	46,009	6.3%	217,982	5.4%
Age 65 - 69	61,183	3.4%	53,707	3.5%	33,396	4.6%	148,286	3.7%
Age 70 - 74	41,984	2.4%	36,498	2.4%	22,235	3.1%	100,717	2.5%
Age 75 - 79	33,229	1.9%	28,055	1.8%	16,720	2.3%	78,004	1.9%
Age 80 - 84	27,721	1.6%	21,188	1.4%	13,120	1.8%	62,029	1.5%
Age 85+	32,930	1.9%	20,973	1.4%	13,689	1.9%	67,592	1.7%
Total	1,777,419		1,519,847		726,128		4,023,394	
Total (15-49)	940,155	52.9%	746,169	49.1%	338,069	46.6%	2,024,393	50.3%

Source: Department of Finance

Demographic Characteristics

Currently, the primary population in the <30-minute market is 67% white, 16% Asian and 7% black. The percentage of the white population increases at further distances from the Project, while the percentage of the black population decreases.

Overall, the racial composition of populations in the Seattle market are comparable to other NBA markets.

Generally, the NBA attracts a higher percentage of black fans compared to other sports. Seattle's total white and black population ranges from 73%-86% (depending on drive time) while the NBA market average is approximately 87%.

Exhibit C-9: Market Projected Population by Race

Cohort	Travel Times (minutes)								NBA City Market Averages % of Total
	<30		30-60		60-90		0-90		
	Persons	% of Total	Persons	% of Total	Persons	% of Total	Persons	% of Total	
White	1,185,523	66.7%	1,159,949	76.3%	608,061	83.7%	2,953,533	73.4%	56.9%
Black	117,557	6.6%	72,510	4.8%	15,888	2.2%	205,955	5.1%	29.9%
Native American	13,354	0.8%	22,043	1.5%	10,181	1.4%	45,578	1.1%	0.9%
Asian American	284,761	16.0%	106,735	7.0%	28,188	3.9%	419,684	10.4%	6.4%
Pacific Islander	12,802	0.7%	14,926	1.0%	4,984	0.7%	32,712	0.8%	0.2%
Other Race	72,651	4.1%	56,028	3.7%	23,428	3.2%	152,107	3.8%	3.8%
Multi-racial	90,896	5.1%	87,531	5.8%	35,398	4.9%	213,825	5.3%	1.9%
Total	1,777,544		1,519,722		726,128		4,023,394		

Source: ESRI Business Analyst

Income

The immediate market (<30 minute drive time) skews to a slightly higher income level, with approximately 30% of the households earning \$100,000 or higher, than further distances. Per Scarborough Sports media, 22% of NBA fans have a household incomes of \$100,000 or more and 35% of NHL fans have a household incomes of \$75,000 or more.

Exhibit C-10: Households by Income

Cohort	Travel Times (min)					
	<30		30-60		60-90	
	Households	% of Total	Households	% of Total	Households	% of Total
<\$15,000	76,360	10.0%	51,843	9.0%	29,189	10.1%
\$15,000 - \$24,999	61,718	8.1%	43,961	7.6%	27,831	9.6%
\$25,000 - \$34,999	70,272	9.2%	48,551	8.4%	28,495	9.9%
\$35,000 - \$49,999	97,828	12.9%	77,591	13.5%	41,056	14.2%
\$50,000 - \$74,999	130,270	17.1%	116,317	20.2%	61,855	21.4%
\$75,000 - \$99,999	94,947	12.5%	84,875	14.7%	39,429	13.7%
\$100,000 - \$149,999	128,217	16.8%	98,048	17.0%	41,011	14.2%
\$150,000 - \$199,000	52,180	6.9%	33,853	5.9%	12,457	4.3%
\$200,000+	49,453	6.5%	21,311	3.7%	7,196	2.5%
Total	761,245		576,350		288,519	

Source: ESRI Business Analyst

Cohort	Travel Times (min)					
	<30		30-60		60-90	
	2012	2017P	2012	2017P	2012	2017P
Median Household Income	\$61,979	\$75,707	\$61,872	\$75,138	\$60,395	\$72,641
Average Household Income	\$82,595	\$94,098	\$80,338	\$90,849	\$78,322	\$88,437
Per Capita Income	\$35,158	\$39,922	\$32,465	\$36,651	\$31,602	\$35,657

Source: ESRI Business Analyst

Employment

A market's unemployment rate can be an indicator of the relative strength of the local economy and discretionary spending. As of the end of 2012, King County's unemployment rate of 6.0% was approximately 2.5% lower than the state as a whole (8.5%) and 1.7% lower than the US average.

Exhibit C-11: King County Employed Population by Industry

Category	2012
Civilian Labor Force	1,115.0
Civilian Employment	1,048.0
Civilian Unemployment	67.0
Unemployment Rate	6.0%

Source: WA State Employment Security Dept, Labor Market

Tourism

Based upon a Key Arena survey, the annual event attendees (in the stabilized year), from outside of the state, assumed to stay overnight is approximately 7.5 percent of NBA/NHL attendees and 17.5 percent of concert attendees. These are higher than we have seen in other markets but appear to reflect the draw of the Seattle market.

Historical Visitor Spending

The following figures show historical visitor spending through 2009. The number of visitors to King County has decreased in certain years however, aggregate spending and spending by visitor has continued to grow.

Exhibit C-12: Historical King County Visitor and Expenditure Trends

Year	Visitor ¹ Expenditure (millions)	% Change	Number of Visitors ¹ (millions)	% Change	Expenditure Per Visitor ¹	% Change
2003	\$3,770.0	N/A	8.50	N/A	\$443.5	N/A
2004	\$3,970.0	5.3%	8.73	2.7%	\$454.8	2.5%
2005	\$4,330.0	9.1%	9.10	4.2%	\$475.8	4.6%
2006	\$4,750.0	9.7%	9.41	3.4%	\$504.8	6.1%
2007	\$5,160.0	8.6%	9.49	0.9%	\$543.7	7.7%
2008	\$5,140.0	-0.4%	9.34	-1.6%	\$550.3	1.2%
2009	\$6,900.0	34.2%	8.80	-5.8%	\$784.1	42.5%

Source: Dean Runyan Associates

¹ Visitor - Any in state or out-of-state resident who does not reside in King County.

The following figures show visitor spending broken out by year and commodity purchased. Aggregated King County travel expenditures decreased from 2008 to 2009 but rebounded in 2012 (see 2012 data below).

Exhibit C-13: King County Visitor Spending by Commodity Purchased

By Commodity (\$ Millions)	1991	2000	2002	2004	2006	2008	2009
Accommodations	\$405	\$804	\$734	\$813	\$1,071	\$1,209	\$986
Food Service	\$442	\$756	\$797	\$910	\$1,060	\$1,163	\$1,119
Food Stores	\$70	\$117	\$124	\$141	\$154	\$175	\$164
Local Transportation and Gas	\$379	\$679	\$639	\$851	\$1,067	\$1,264	\$979
Arts, Recreation, Entertainment	\$226	\$363	\$371	\$409	\$449	\$465	\$434
Retail Sales	\$320	\$492	\$487	\$512	\$559	\$566	\$535
Visitor Air Transportation	\$402	\$617	\$545	\$559	\$724	\$782	\$812
Total Destination Spending	\$2,244	\$3,828	\$3,697	\$4,195	\$5,084	\$5,624	\$5,029

Source: Dean Runyan Associates

Exhibit C-14: Historical King County Travel Tax Receipts

(Millions)

	1991	2000	2002	2004	2006	2008	2009
Local Tax Receipts ²	\$46	\$128	\$124	\$138	\$166	\$185	\$160
State Tax Receipts ³	\$115	\$189	\$190	\$217	\$247	\$267	\$246
Total Direct Tax Receipts	\$161	\$317	\$314	\$355	\$413	\$452	\$406

Source: Dean Runyan Associates

² Local Tax Receipts - Tax receipts collected by counties and municipalities, as levied on applicable travel-related purchases. Includes local sales taxes, auto rental taxes, and all transient occupancy taxes, including the two percent state shared tax, additional hotel/motel taxes, and King County convention center tax (which is technically a state tax).

³ State Tax Receipts - State excise taxes such as sales, auto rental, and gasoline taxes attributable to travel expenditures and business taxes levied on travel industry firms (i.e. B&O taxes).

2012 Visitor Spending

King County had a total of 10.2 million visitors in 2012. This is higher than historically. However, visitors spent a total of \$5.9 billion, or approximately \$578 per visitor which is lower than prior years. Total direct earnings from King County travel spending was \$2.5 billion (representing approximately 56% of the \$4.5 billion generated for the entire state of Washington). Tourism industry spending resulted in 53,500 jobs within King County.

Exhibit C-15: 2012 King County Visitor Spending

Type	Expenditure (Millions)	% of Total
Food Service	\$1,500.0	25.4%
Lodging	\$1,200.0	20.4%
Retail Sales	\$591.0	10.0%
Local Transportation and Gas	\$710.0	12.0%
Arts, Recreation, Entertainment	\$593.0	10.1%
Visitor Air Transportation	\$1,300.0	22.1%
Total	\$5,894.0	

Source: Dean Runyan Associates - 2012

Visitors to King County generated \$479 million in tax receipts in 2012. This represented approximately 27% of the aggregate \$1.8 billion received by Washington state.

Exhibit C-16: Visitor Tax Receipts

(Millions)	Amount	% of Total
State Sales Taxes	\$188.0	39.2%
Local Sales Taxes	\$96.0	20.0%
Lodging Taxes	\$94.0	19.6%
State/County Auto Rental	\$41.0	8.6%
Passenger Facility Charge	\$23.0	4.8%
B&O Taxes	\$22.0	4.6%
State Gas Taxes	\$15.0	3.1%
Total Direct Tax Receipts	\$479.0	

Source: Dean Runyan Associates

Sports Demographics

Although the potential new arena will host numerous events and draw from various demographics, the core tenants are expected to be NBA and NHL teams. As such, a significant amount of focus is on sports demographics which in many instances, have similar patron demographics to other anticipated arena events (i.e. concerts, other sports, world wrestling and ultimate fighting events, etc.).

General Note: The below market data focuses on U.S. NBA markets. These markets often overlap with other major league franchise markets (NHL, NFL, MLB) and are deemed most relevant in evaluating the proposed arena. We have focused on US markets even though Hockey has a strong Canadian/international presence. This is since differences in international markets do not translate to domestic markets and accordingly may incorrectly skew results.

Major League Franchises

The addition of two major league teams to the Seattle market will result in Seattle being ranked 24th on the basis of CBSA ⁽¹⁾ population per franchise and 24th on the basis of household per franchise. Currently, nine NBA cities support five or more major league franchises. While it is necessary to highlight this variable, it should be noted that several of the franchises that fall below Seattle in population and households per franchise have successfully supported five or more franchises and several markets ranking higher than Seattle have seen a lack of support.

⁽¹⁾ *Where appropriate, we have used the related Core Based Statistical Area (CBSA) when comparing the Seattle market to other current NBA markets. CBSA is a US geographic area defined by the Office of Management and Budget (OMB) based around an urban center of at least 10,000 people and adjacent areas that are socioeconomically tied to the urban center by commuting.*

Exhibit C-17: Population Per Franchise (NBA Markets)

City	NBA Team	2010 CBSA	# of Major League Franchises*	Population per Franchise
Sacramento	Kings	2,149,127	1	2,149,127
San Antonio	Spurs	2,142,508	1	2,142,508
Orlando	Magic	2,134,411	1	2,134,411
New York	Knicks, Nets	19,567,410	10	1,956,741
Atlanta	Hawks	5,286,728	3	1,762,243
Los Angeles	Lakers, Clippers	12,828,837	8	1,603,605
Chicago	Bulls	9,461,105	6	1,576,851
Houston	Rockets	5,920,416	4	1,480,104
Miami	Heat	5,564,635	4	1,391,159
Memphis	Grizzlies	1,324,829	1	1,324,829
Dallas	Mavericks	6,426,214	5	1,285,243
Oklahoma City	Thunder	1,252,987	1	1,252,987
Philadelphia	76ers	5,965,343	5	1,193,069
Washington	Wizards	5,636,232	5	1,127,246
Portland	Trail Blazers	2,226,009	2	1,113,005
Charlotte	Bobcats	2,217,012	2	1,108,506
Detroit	Pistons	4,296,250	4	1,074,063
Phoenix	Suns	4,192,887	4	1,048,222
Indianapolis	Pacers	1,887,877	2	943,939
Boston	Celtics	4,552,402	5	910,480
Minneapolis	Timberwolves	3,348,859	4	837,215
Milwaukee	Bucks	1,555,908	2	777,954
Cleveland	Cavaliers	2,077,240	3	692,413
Seattle//Tacoma/Balleveue**	Sonics	3,439,809	5	687,962
Oakland/SF/Northern CA	Golden State	4,335,391	7	619,342
New Orleans	Pelicans	1,189,866	2	594,933
Salt Lake City	Jazz	1,087,873	2	543,937
Denver	Nuggets	2,543,482	5	508,696
Average (NBA Market Only)		4,450,416	4	1,208,600
Median (NBA Market Only)		3,394,334	4	1,120,126

*Major League (NFL, MLB, NBA, NHL, MLS) Franchises **Includes an NBA and NHL franchise. Source: 2010 Census and Pro Forma Advisors

Exhibit C-18: Households Per Franchise (NBA Markets)

City	NBA Team	Households	# of Major League Franchises*	Households per Franchise
Orlando	Magic	778,178	1	778,178
Sacramento	Kings	777,373	1	777,373
New York	Knicks, Nets	6,873,593	10	687,359
San Antonio	Spurs	687,182	1	687,182
Atlanta	Hawks	1,865,741	3	621,914
Chicago	Bulls	3,431,388	6	571,898
Los Angeles	Lakers, Clippers	4,301,513	8	537,689
Miami	Heat	2,079,180	4	519,795
Memphis	Grizzlies	482,754	1	482,754
Houston	Rockets	1,914,046	4	478,512
Oklahoma City	Thunder	470,187	1	470,187
Philadelphia	76ers	2,221,104	5	444,221
Detroit	Pistons	1,738,130	4	434,533
Dallas	Mavericks	2,171,092	5	434,218
Portland	Trail Blazers	829,870	2	414,935
Washington	Wizards	2,029,059	5	405,812
Phoenix	Suns	1,568,904	4	392,226
Boston	Celtics	1,705,968	5	341,194
Indianapolis	Pacers	658,480	2	329,240
Minneapolis	Timberwolves	1,237,926	4	309,482
Charlotte	Bobcats	614,864	2	307,432
Milwaukee	Bucks	610,139	2	305,070
Cleveland	Cavaliers	856,796	3	285,599
Seattle **	Sonics	1,302,483	5	260,497
Oakland	Golden State	1,571,191	7	224,456
New Orleans	Pelicans	401,314	2	200,657
Denver	Nuggets	939,573	5	187,915
Salt Lake City	Jazz	345,652	2	172,826
Average (NBA Market Only)		1,587,989	4	430,827
Median (NBA Market Only)		1,270,205	4	424,577

*Major League (NFL, MLB, NBA, NHL, MLS) Franchises **Includes an NBA and NHL franchise. Source: 2007 ACS data, Claritas and Pro Forma Advisors

Operating Results

Financial Projections

Pro Forma Advisors has, within the context of available markets, competition, and comparable economics of other arenas, developed the following operating projections based on anticipated market demand and the expected financial and operating performance of the proposed arena. Operating projections are based on current, real dollars and include revenue and expense estimates for an NBA team, NHL team and eighty-two other events (e.g. concerts, family shows, other sporting events, etc.). Amounts assume the arena operator owns both teams and accordingly retains 100% of the revenues and pays 100% of the related expenses.

The Project is estimated to generate \$30.3 million (\$26.9 million excluding playoffs) in operating income annually in a stabilized year with a capacity of 18,000 seats.

Exhibit OR-1: Operating Projections - Capacity 18,000 Seats

(Build Out, Stabilized Year-\$ millions, not-inflated)

Net Ticket, Suite and Club Seat Revenue	\$83.2
Local Media	\$35.8
Sponsorship and Naming Rights	\$22.4
Concessions and Merchandise	\$19.5
Preseason, Playoff and Other Revenue	\$12.8
Total Local Revenue	\$173.7
National Revenue	\$53.5
Less: League Assessment Expense	-\$5.9
NET REVENUE	\$221.3
Player and Team Salaries and Benefits	\$123.4
Other Team Costs	\$17.1
Event Staffing	\$8.6
Other Expenses	\$41.9
TOTAL EXPENSES	\$191.0
OPERATING INCOME	\$30.4
Less: Net Playoff Revenue	\$3.5
OPERATING INCOME BEFORE PLAYOFFS	\$26.9

Source: Pro Forma Advisors

Seating Capacity

The above operating projections are based on operating a new 18,000-seat arena. It is expected that NHL games will have 1,000 fewer seats compared to NBA games or approximately 17,000 seats. It is expected that the NHL game seats lost will be those nearest to the floor (some of the most costly seats). Similar seating adjustments/seat losses are expected for certain large concerts and events.

Sporting Events

The operating projections include forty-one regular season home games and three pre-season games for both Basketball and Hockey. We have also included revenue and expense projections for two playoff games per year. While there is no guarantee that the teams will reach the playoffs in any season, given the high probability of reaching the playoffs (i.e. sixteen of the thirty teams advance to the playoffs annually), we have included two games for each team. This assumes, should the team make the playoffs, that they will not advance past the first round. It is important to note that the actual number of playoff games (should the teams reach the playoffs) will fluctuate and, although remote, should the teams advance to the finals, Seattle could host as many as sixteen home playoff games (4 per round).

Other Arena Events

The projections also include eighty-two non-Basketball/Hockey events. These events range from large concerts, family shows (Disney, etc.) and other adult events (e.g. World Wrestling Entertainment, Ultimate Fighting Championships, etc.) to small, lower margin events (e.g. meetings, non-professional local sporting events, conferences, conventions, etc.).

Amounts included herein only reflect the portion of total revenues retained by or paid to the Developer. The projections do not reflect the majority (i.e. 85%-95%) of the aggregate revenues earned for each event. The Developer revenue allocation/share is based on data from comparable markets along with expectations based on previous Key Arena revenue sharing arrangements.

Event economics are determined through negotiation with third parties (e.g. promoters, producers, etc.) and are unique to each type of event and the availability of other venues. Consistent with industry practice for similar events, Pro Forma Advisors has assumed the Developer would receive approximately 10% of aggregate ticket and merchandise/novelty revenue. For certain events, the Developer would also receive a facility surcharge or rent payment (which is generally expected to cover/offset staffing and other expenses incurred by the Developer) and net concession revenue.

The Developer generally pays labor and other facility costs (e.g. utilities, equipment, etc.) required to stage the performance/event.

REVENUES

Ticket and Suite Revenue

Ticket sales levels, pricing and in-arena attendance are driven by the market, competition, event mix and other economic and market factors. Amounts were derived using comparative market and industry data with adjustments for relevant local market considerations.

It is assumed that most suites will be sold on a season basis for combined regular season Basketball and Hockey games as well as exhibition games. Suites for playoff games and other arena events are expected to be sold independently or

included at a premium. The price per suite reflects suite pricing in comparable markets and venues. The number of seats per suite is expected to range between 16 - 20 seats per suite as indicated by the Developer.

Suites that are sold on a per game basis often include a premium compared to full season pricing. However, due to the uncertainty of selling suites for every available suite night (i.e. for non-season suites) we have not included this premium and assumed annualized individual suite revenues will mirror season amounts since slightly lower occupancy rates are expected to be offset by higher per game fees.

Admission Taxes

Ticket revenues are shown gross with a corresponding deduction for admission taxes (5% of ticket revenues).

Local Media

Television/cable and radio rights fee revenues are based on existing local NBA and NHL media deals in comparable markets. We attempted to address recent escalation in media rights fees, however, the recent renewals are in larger markets (e.g. Los Angeles and Boston) and reflect the teams assuming a partial ownership stake in the related regional sports network (RSN). We expect that this is something that will be accessed by the team owner, but the economics of this type of deal is more complicated, and accordingly, we have used a straight rights fee comps to derive our projections. Deals are also impacted by competition between providers in their pursuit for content which is not clear at this point.

It is also difficult to assess the impact of the recent deal with the Seattle Mariners and DirecTV whereby the Mariners assumed a controlling stake in a new regional sports network (RSN) in partnership with DirecTV that will run through the 2030 baseball season. As such, we have included the more conservative option but expect that if the opportunity is available that the developer will pursue a partial ownership stake in a regional network in order to benefit from potential dramatic escalations in fees under this alternative.

Naming Rights, Sponsorships and Rent/Facility Surcharge

Naming rights estimates are based on average new arena deals in comparable markets. Sponsorship projections are based on comparable arenas hosting two major sports tenants. Consistent with the anticipated Seattle sports market, the comparable market data was obtained for markets with multiple franchises (e.g. NFL, MLB, NBA, NHL and MLS).

Naming rights revenues are 100% allocated to the arena. Sponsorship revenues are allocated between the two core tenants.

With regard to other arena events/concerts we have included revenues paid by the promotor for rent/facility surcharge. Amounts were based on data received on Key Arena events and from other comparative markets.

Regular Concessions, Premium Concessions and Merchandise

Regular concessions, premium concessions and merchandise revenues are based on average industry per capita spending by patrons, applied to the projected in-house attendance for NBA games, NHL games and other arena events.

Parking

Parking is generally a significant revenue stream for arena owners/operators. Per our discussion with Developer representatives no onsite parking structure is currently envisioned for the new arena. Based on other markets and since this is considered a favorable amenity for many higher value ticket holders, we expect that an arrangement will be negotiated with one or all of the adjacent parking structures or the Developer will construct a structure. We have not included any direct parking revenue to the team at this time which is the most conservative scenario based on the information available.

National Revenues

National revenues reflect shared NBA and NHL league-wide revenues (i.e. national television rights fees, etc.). Amounts are negotiated on a national basis and distributed equally between all teams annually. It is important to note that the NBA's national media deal expires after the 2015-16 season and the NHL national media deal expires after the 2020-21 season. Recent renewals and extensions of the national media deals for Major League Baseball and the National Football League have resulted in increases of 120%⁽¹⁾ and 64%⁽²⁾, respectively. While we can not guarantee similar increases in the rights deal of the NBA and NHL, it is highly likely that both leagues will negotiate significant increases under the next deal. Given that aggregate amounts are distributed equally to teams any increase inures directly to the teams.

⁽¹⁾ Sports Business Journal, September 2012. ⁽²⁾ Sports Business Journal, December 2011.

League Assessment

For the purposes of our projections we have deducted league assessments on ticket revenues by the NBA and NHL from aggregate revenues. Amounts are levied on all teams based a percentage of the respective ticket revenues of the teams and are used to fund the operations of the central league office.

Expenses

Expenses include direct team and arena expenses as well as allocations between events for various overhead categories. Where applicable, expense allocations mirror related revenue allocations (e.g. suite sales cost allocations mirror related revenue allocations). We have included certain cost efficiencies (due to the sharing of resources), where expected, between teams and other events.

Where appropriate, amounts have been adjusted to reflect the impact of industry changes that will be in full effect at the time the new arena is expected to be available for occupancy. Example: both the NBA and NHL have negotiated new collective bargaining agreements with the corresponding Players Unions within the past two years. The new agreements include various components that are likely to effect team economics (e.g. player salaries). There are also material changes to revenue sharing amounts between large and small market teams. Note: given the strength of the Seattle market we have assumed Seattle is unlikely to be a recipient and is not expected to be a payee.

Players Salaries

Players' salaries reflect the high-end of average spending levels for teams in comparative markets, adjusted for changes in the Collective Bargaining Agreements (CBA) that are expected to be fully phased in when the arena is ready for

occupancy. Both new Collective Bargaining Agreements (NBA and NHL) are expected to have a favorable impact (i.e. restrict excess spending by large market teams with higher cash flows) on player salaries which is expected to potentially improve competitive balance by all teams. It is also assumed that team profitability will improve since salary escalation will not continue to grow in excess of revenues. We have included an offset for player escrow based on new levels established by the CBA. While it is not guaranteed escrow amounts will be retained and applied as offsets by teams to players salaries, history implies this will be the case (i.e. only one year-2008 during the past decade under the previous CBA have amounts been returned to the players union).

G&A Salaries

Amounts were based on a detailed review of staffing levels for comparative teams along with prior Seattle Supersonics data. Estimates have been adjusted to reflect expected staffing and income levels in the Seattle market and include related taxes and benefits. We expect some economies for certain overhead personnel with respect to arena, NBA and NHL operations compared to stand alone operations. The economies are based on data from comparative teams who own and operate their arenas and an NBA and NHL team and those that only own an NBA team and do not own their arena.

Remaining expenses are based on historical Seattle Supersonics data, comparable market expenses and/or dictated by the current memorandum of understanding (e.g. rent, taxes paid by the team). We have included a \$1 million annual rent payment to the City and County in our projections.

Repairs and Maintenance

We expect that the Developer will incur approximately \$1m to \$1.5m annually in repairs and maintenance expense for the arena. We have included additional amounts annually (expected to be less material) as an expense for operations. However, the \$1.5m expense is not included in operations but is expected to be capitalized and expenses over the life of the related expense. This is important since this is a cash outflow but is not reflected as a direct cost of operations. The actual annual expense is unknown and is based on estimates from comparative markets on arenas which have been in existence for 5-10 years. It is unlikely that material expenses will be incurred prior to 5 years and possible they will not be incurred until year 10 or later. This is not a direct cost to operations but given that it is a potential outflow we are highlighting this cost as a footnote.

10 Year Financial Projections

Pro Forma Advisors has projected revenues and expenses for a ten year period (in constant, 2013 dollars). Amounts are summarized below,

Exhibit OR-2: 10 Year Financial Projections

(\$ millions, not-inflated)

10 Year Financial Projections										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Ticket/Premium	\$83.2	\$85.5	\$87.9	\$88.9	\$89.8	\$90.8	\$91.8	\$92.9	\$93.7	\$94.5
Media	\$35.8	\$36.8	\$37.9	\$39.0	\$40.2	\$41.3	\$42.5	\$43.8	\$45.0	\$46.3
Other Revenue	\$48.8	\$46.7	\$51.5	\$49.5	\$55.4	\$51.8	\$56.3	\$53.5	\$59.2	\$55.4
Nat'l Revenue	\$53.5	\$71.5	\$73.0	\$74.4	\$75.9	\$81.7	\$83.4	\$85.0	\$86.7	\$88.5
Total Revenues	\$221.3	\$240.6	\$250.3	\$251.8	\$261.3	\$265.7	\$274.1	\$275.2	\$284.6	\$284.7
Player and Team	\$140.5	\$155.6	\$160.4	\$163.9	\$167.6	\$172.5	\$176.3	\$180.1	\$184.0	\$187.9
Other Expenses	\$50.4	\$51.5	\$52.7	\$53.8	\$55.0	\$56.1	\$57.4	\$58.6	\$59.9	\$61.2
Total Expenses	\$190.9	\$207.2	\$213.1	\$217.7	\$222.5	\$228.7	\$233.7	\$238.7	\$244.0	\$249.2
Net Operating	\$30.4	\$33.4	\$37.3	\$34.0	\$38.8	\$37.0	\$40.3	\$36.5	\$40.7	\$35.5
Playoffs	\$3.5		\$3.6		\$4.6		\$3.7		\$4.8	
Operating Before Playoffs	\$26.9	\$33.4	\$33.7	\$34.0	\$34.2	\$37.0	\$36.7	\$36.5	\$35.9	\$35.5

Source: Pro Forma Advisors

For the purposes of our projections we have assumed the following:

- Ticket/Premium Revenues - Reflect a moderate growth (flat in the latter years) with the majority of the increase coming from pricing.
- Media Revenues - The growth is based on standard media deal escalation factors.
- Other Revenues - Amounts reflect average increases experienced in other comparable markets.
- National Revenues - Expected to increase significantly in Year 2 and Year 6 due to the renewal of the NBA and NHL national media deals, respectively. As indicated previously, recent renewals and extensions of the national media deals for Major League Baseball and the National Football League have resulted in increases of 120% and 64%, respectively. For the purpose of our projections we have included a 50% increase for the NBA national media deal in Year 2 and a 25% increase in the NHL national media deal in Year 6.
- Playoff Revenues - We have included two playoff games for the NBA and NHL every other year and one additional game every fourth year. It is reasonable that both teams will reach the playoffs every three to four years and play two

or more home games. However, it is not known with certainty when and if the teams will reach the playoffs (which is generally highly profitable to teams). As such, we have included conservative playoff estimates in revenues but have removed amounts from operating income to distinguish between amounts that reflect standard operating revenues compared to amounts contingent upon reaching the playoffs.

- Player and team expenses are expected to grow at moderate rates. We have assumed that in Year 2 and Year 6 player salaries for all teams will increase at a higher rate due to the impact of the high growth in revenues from the renegotiation of the national media deals. Revenues are linked to the salary cap in both leagues so any material increase in revenues is often reflected by an increase in player salaries.
- Other expense increases are consistent with related revenue increases and grow at a higher rate in latter years to reflect higher costs (i.e. Marketing, Sales, etc.) required to support the incremental growth in revenues.

Per Capita Estimates

Pro Forma Advisors has, within the context of available markets, competition, and comparable economics of other arenas, developed the following per capita data which was used to develop the operating projections included above. Amounts were based on comparative market data and demand. Amounts were adjusted to reflect any differences in the Seattle market and are based on constant 2013 dollars.

Per Capita and Attendance

The tables below summarize the expected attendance, no show % and per caps for NBA games, NHL games and other arena events.

Amounts are based on the following:

Events

National Basketball Association Games

Our projections include 41 regular season home games, 3 pre-season home games and 2 playoff games. It is not guaranteed that the team will proceed to the playoffs every year, however, due to the high probability of reaching the playoffs (i.e. sixteen of the thirty teams advance to the playoffs annually), we have included two games.

National Hockey League Games

Our projections include 41 regular season home games, 3 pre-season home games and 2 playoff games. Consistent with the NBA, due to the high probability of reaching the playoffs (i.e. sixteen of the thirty teams advance to the playoffs annually), we have included two games.

Other Arena Events

Our projections include eighty-two other arena events (i.e. concerts, family shows, other sporting events, etc.). This is on the low end of reported events in other arenas in comparable markets.

Seating

The proposed seating quantities are based on discussions with Developer's representatives. We have reviewed seating by level and the amounts are reasonable and consistent with other new arenas. As such, we have used the respective seating composition to project annual revenues.

Exhibit OR-3: Basketball Per Capita and Attendance

Description	Regular	Playoffs	Exhibition
# of Events	41	2	3
General Admissions Seats	14,785	14,785	14,785
Suite Seats	990	990	N/A
Club Seats	2,000	2,000	2,000
Floor Seats	220	220	220
Upper Bowl	10,000	10,000	10,000
Lower Bowl (excluding Premium)	4,785	4,785	4,785
Ticket Price	\$60.00	\$80.00	\$50.00
Suite Seat Price	\$125.00	\$300.00	N/A
Club Seat Price	\$150.00	\$250.00	\$100.00
Floor Seat Price	\$250.00	\$350.00	\$150.00
Concession Per Cap	\$12.00	\$15.00	\$12.00
Suite Food Per Cap	\$30.00	\$35.00	\$25.00
Club Seat Food Per Cap	\$20.00	\$25.00	\$20.00
Novelty/Retail Per Cap	\$2.00	\$3.00	\$2.00
Parking Per Cap	N/A	N/A	N/A
No Show % - General	15.0%	10.0%	20.0%
No Show % - Suite	10.0%	10.0%	N/A
No Show % - Club	10.0%	10.0%	20.0%
No Show % - Floor Seats	5.0%	5.0%	10.0%
Ticket Sold %	85.0%	90.0%	60.0%
Suite Sold %	90.0%	90.0%	N/A
Club Seat %	90.0%	90.0%	60.0%
Floor Seats %	95.0%	95.0%	85.0%

Source: Pro Forma Advisors

Exhibit OR-4: Hockey Per Capita and Attendance

Description	Regular	Playoffs	Exhibition
# of Events	41	2	3
General Admissions Seats	14,785	14,785	14,785
Suite Seats	990	990	
Club Seats	1,200	1,200	1,200
Floor Seats	N/A	N/A	N/A
Upper Bowl	10,000	10,000	10,000
Lower Bowl (excluding Premium)	4,785	4,785	4,785
Ticket Price	\$55.00	\$80.00	\$45.00
Suite Seat Price	\$125.00	\$300.00	N/A
Club Seat Price	\$150.00	\$250.00	\$80.00
Floor Seat Price	N/A	N/A	N/A
Concession Per Cap	\$12.00	\$15.00	\$10.00
Suite Food Per Cap	\$30.00	\$35.00	\$25.00
Club Seat Food Per Cap	\$20.00	\$20.00	\$15.00
Novelty/Retail Per Cap	\$2.00	\$3.00	\$2.00
Parking Per Cap	N/A	N/A	N/A
No Show % - General	15.0%	10.0%	25.0%
No Show % - Suite	10.0%	10.0%	N/A
No Show % - Club	10.0%	10.0%	20.0%
No Show % - Floor Seats	N/A	N/A	N/A
Ticket Sold %	80.0%	90.0%	60.0%
Suite Sold %	85.0%	90.0%	N/A
Club Seat %	85.0%	90.0%	60.0%
Floor Seats %	N/A	N/A	N/A

Source: Pro Forma Advisors

Exhibit OR-5: Event Per Capita and Attendance

Arena Events							
Description	Large Concert	Medium Concerts	Other Sports	Large Adult	Family Shows	Other Events	Private Rentals
# of Events	8	4	20	8	30	12	2
General Admissions Seats	14,785	14,785	14,785	14,785	14,785	14,785	
Suite Seats	990	990	990	990	990	990	
Club Seats	2,000	2,000	2,000	2,000	2,000	2,000	
Ticket Price	\$75.00	\$50.00	\$15.00	\$50.00	\$20.00	\$30.00	
Suite Seat Price	\$150.00	\$125.00	N/A	N/A	N/A	N/A	
Club Seat Price	\$250.00	\$150.00	\$30.00	\$60.00	\$30.00	\$40.00	
Concession Per Cap	\$10.00	\$10.00	\$5.00	\$6.00	\$2.00	\$2.00	
Suite Food Per Cap	\$35.00	\$30.00	N/A	N/A	N/A	N/A	
Club Seat Food Per Cap	\$25.00	\$20.00	N/A	N/A	N/A	N/A	
Novelty/Retail Per Cap	\$10.00	\$5.00	\$2.00	\$2.00	\$2.00	\$2.00	
Parking Per Cap	N/A	N/A	N/A	N/A	N/A	N/A	
No Show % - General	5.0%	5.0%	30%	10%	5%	10%	
No Show % - Suite	5.0%	5.0%	N/A	N/A	N/A	N/A	
No Show % - Club	5%	5%	25%	10%	N/A	N/A	
Ticket Sold %	90%	85%	40%	40%	30%	20%	
Suite Sold %	80%	70%	N/A	N/A	N/A	N/A	
Club Seat %	85%	80%	60%	60%	50%	40%	
Rental Fee							\$60,000

Source: Pro Forma Advisors

Ticket, Premium and Suite Per Caps

Ticket pricing is consistent with comparative market data and industry averages. Amounts have been broken out between general admission seating and premium seating. Amounts were based on comparative markets. Pre-season pricing is lower, reflect industry averages and sales levels were adjusted to reflect lower expected sales levels for the pre-season.

Floor seats

Floor seats are generally the costliest seats in the venue with the highest sales percentage. These are unique to each venue and generally dependent on what the market will bear. Seattle has higher income levels compared to many NBA markets so they are more likely to support the seat quantities and pricing.

Club Seats

Generally a significant portion of Club seats are sold on a season basis. Pricing is consistent with average values in comparative markets.

Suites

Suite sales amounts were based on comparable market data with minor adjustments to percentages sold based on sales at other arenas.

Concessions, Premium Food and Beverage and Merchandise Per Caps

General and premium concessions and merchandise per caps were established based on the type event (e.g. NBA game, NHL game, concert, etc.) and average spending levels within the industry.

Parking per caps have not been included since we were informed that the arena is currently not planning to build a dedicated parking structure and accordingly would not receive the related revenue streams.

Show factor

We have estimated the percentage of people actually attending the game based on data from comparable markets and using industry averages. This is an important number since it adjusts amounts "sold" by the percentage of patrons who actually attend the game. Percentages are applied to sales quantities to derive the actual in-house attendees. The actual in-house attendance is used to estimate concession, retail/merchandise and premium food and beverage revenues.

Percentage of Tickets Sold

We have applied a sales rate to the available seats for NBA, NHL and other arena events. Amounts have been applied to each seating/ticket type based on data from comparable arenas.

Fiscal Impacts

Pro Forma Advisors' fiscal impact analysis focuses on the City of Seattle and King County fiscal revenues only. For the purposes of this report, we have excluded non-discretionary fiscal revenues (i.e. dedicated to specific uses). The analysis does not include impacts relating to the interim use of Key Arena. Amounts exclude fiscal costs and, accordingly do not reflect net fiscal impacts.

Construction One-Time Fiscal Impacts

Construction impacts measure the one-time impacts to the regional economy resulting from construction activity related to the proposed Project. These fiscal impacts will accrue to the City of Seattle and King County prior to the opening of the arena. Amounts are based on the following values:

Exhibit F-1: Construction Costs

\$ Millions	Total
Construction (excluding Land and F, F & E)	\$350.0
Furniture, Fixtures & Equipment	\$40.0
Estimated Total Value	\$390.0

Source: Hansen Representatives

Following is a summary of the related fiscal impacts.

Exhibit F-2: Construction One Time Fiscal Impacts

	Construction Sales Tax	Real Estate Excise Tax *	Retail B&O Tax	Total
City of Seattle	\$2,975,000	\$1,000,000	\$838,500	\$4,813,500
King County	\$525,000	\$0	\$0	\$525,000
King County (with City)	\$3,500,000	\$1,000,000	\$838,500	\$5,338,500

* The Real Estate Excise Tax (REET) is levied by the City of Seattle at a rate of 0.5% on sales of real estate measured by the full selling price which is assumed to be \$200 million.

Annual Ongoing Fiscal Impacts

Pro Forma Advisors has estimated the annual ongoing fiscal impacts generated by the planned arena to the City of Seattle and King County, at build-out, in a year of stabilized project occupancy. All values are presented in constant 2013 dollars.

City of Seattle Fiscal Projections

Pro Forma Advisors has reviewed the City of Seattle annual tax estimates relating to the proposed Project and compared them to our estimates (below). Based on our calculation, approximately \$7.78 Million in taxes will be available annually to support debt service. This is compared to the City's estimate of \$7.07 Million.

The primary reason for the difference between the Pro Forma Advisor's and the City's estimate (i.e. approximately \$700,000) is due to Pro Forma using a higher new construction value for the property tax calculation compared the the City of Seattle. The City's estimates were based on a new construction value of \$250 Million. Pro Forma's new construction value, provided by the Developer (excluding Land and Furniture, Fixture and Equipment), was approximately \$100 Million higher (i.e. \$350 Million). In addition, the City's operating revenue estimates were slightly lower than Pro Forma's amounts and Pro Forma had a higher number of other arena events. Conversely, the City included an annual rent of \$2 Million while Pro Forma Advisors included the revised \$1 Million amount.

Using the average estimated annual debt of \$14.0 Million - \$15.0 Million and an annual rent payment of \$1.0 Million, it is expected that the Developer will need to provide approximately \$5.0 Million - \$6.0 Million in incremental rent. It is expected that these incremental payments will be subsidized from operations. Based on our projections, operating profits appear sufficient to cover the incremental debt service.

Following is a summary of the estimated aggregate annual fiscal impacts:

Exhibit F-3: Tax Summary - Annual

	City of Seattle	King County	Total
Admissions Tax	\$4,884,000		\$4,884,000
B&O Tax	\$940,000		\$940,000
Property Tax ⁽¹⁾	\$1,150,000	\$534,000	\$1,684,000
Sales Tax	\$181,000	\$32,000	\$213,000
Leasehold Tax	\$40,000	\$20,000	\$60,000
Total Debt Service Taxes	\$7,195,000	\$586,000	\$7,781,000
Utility Tax	\$141,000		\$141,000
Commercial Parking Tax	\$450,000		\$450,000
Total All Taxes	\$7,786,000	\$586,000	\$8,372,000

Source: www.seattle.gov, www.kingcounty.gov, www.dor.wa.gov

(1) Used 2013 City Levy Rate including dedicated and non-dedicated amounts.

Admissions Tax

The City imposes a 5% tax on admissions to most Seattle entertainment events including pre-season, regular season and post-season sporting events, concerts, family shows and other events. It is estimated that the City of Seattle will receive an incremental \$4.8 Million in gross admissions revenues from the new arena annually. Note: Generally premium seats (i.e. suites, club seats and floor seats) include amenities (e.g. private restaurant access, food and beverage, parking, etc.). For the purpose of our calculation, we have applied admissions tax to the full value of the related ticket and have not segregated an “implied” value of parking and food. Example: The admissions tax on a \$150 club seat which includes complimentary parking and food is applied to the full \$150 value.

Exhibit F-4: Admissions Tax

	City of Seattle Annual	City of Seattle NPV*
Admissions Tax Revenues	\$4,884,000	\$83,800,000

*Period: Contract Term - Thirty Years

Business and Occupation Tax

The City levies Business and Occupation (B&O) tax to gross receipts at different rates on different types of business activity. Manufacturing and retailing is subject to a tax of 0.215% on gross receipts while services are taxed at a rate of 0.415%. We estimate that the Project will generate approximately \$940,000 in B&O taxes annually.

Exhibit F-5: Business and Occupation Tax

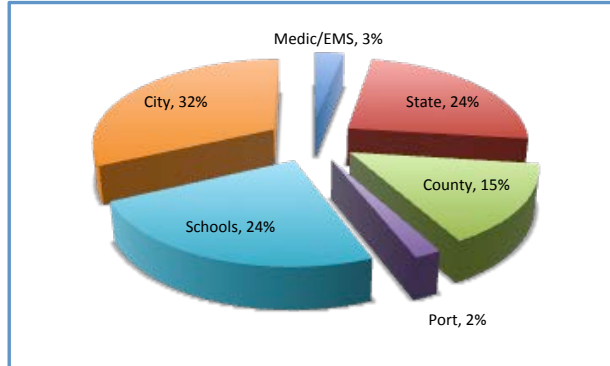
	City of Seattle Annual	City of Seattle NPV*
Service B&O	\$894,000	\$16,300,000
Retail B&O	\$46,000	\$834,000
Total B&O	\$940,000	\$17,134,000

*Period: Contract Term - Thirty Years

Property Tax

Property tax is levied primarily on real property owned by individuals and businesses. Real property consists of land and permanent structures. In addition, property tax is levied on various types of personal property. This approved levy amount is then divided across the assessed value (AV) of all property in the jurisdiction to determine the tax rate. Property taxes paid by a property owner are determined by a taxing district’s rate, which is calculated as the rate per \$1,000 of assessed value, applied to the value of a given property. The chart below shows the different jurisdictions whose rates make up the total property tax rate imposed on Seattle property owners.

Exhibit F-6: Property Tax Distribution



Source: www.seattle.gov

Using the 2012 property tax rate (\$10.16 per 1,000), we applied the pro-rata amount received by the City (32%) and County (15%) to the aggregate projected assessed value of the property. Based on this we estimate that the project will generate approximately \$2 million in incremental property tax revenues annually.

Exhibit F-7: Property Tax

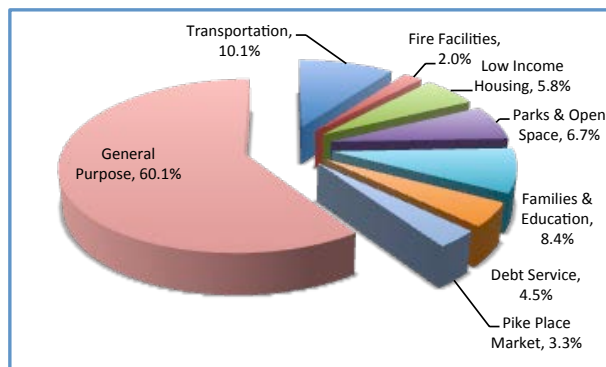
	Annual	NPV*
Property Tax - City of Seattle ⁽¹⁾	\$1,149,946	\$18,643,491
Property Tax - King County	\$534,450	\$8,664,767
Total Property Tax - King County (with City)	\$1,684,396	\$27,308,258

*Period: Contract Term - Thirty Years

(1) Used 2013 City Levy Rate including dedicated and non-dedicated amounts.

The City of Seattle's 2012 property tax components are summarized in the chart below.

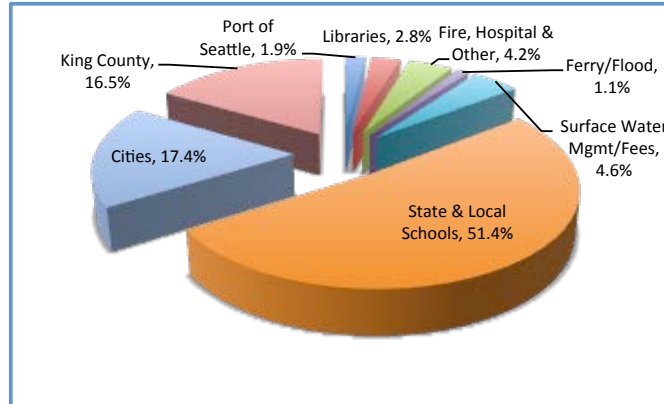
Exhibit F-8: City of Seattle Property Tax Allocation



Source: www.seattle.gov

King County's 2012 property tax components are summarized in the chart below.

Exhibit F-9: King County Property Tax Allocation

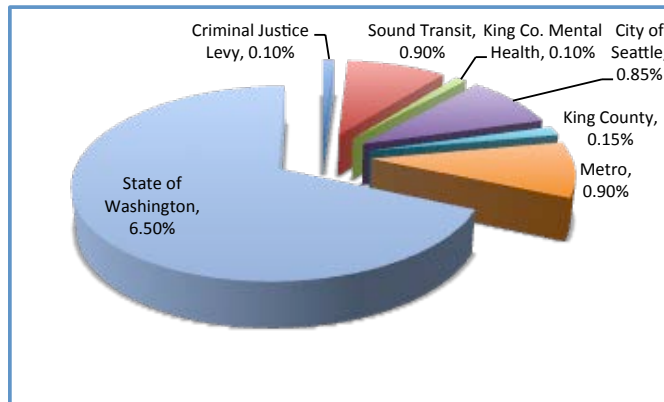


Source: www.kingcounty.gov

Sales Tax

The sales tax rate in Seattle is 9.5% for all taxable transactions. Of this amount, 0.85% is allocated to the City of Seattle and 0.15% is allocated to King County as per the chart below.

Exhibit F-10: Washington Sales Tax Distribution



Based on our calculation, we estimate that approximately \$213,000 in sales tax revenues will accrue to the City of Seattle and King County annually from the Project.

Exhibit F-11: Sales Tax

	Annual	NPV*
Sales Tax - City of Seattle	\$181,000	\$3,299,000

	Annual	NPV*
Sales Tax - King County	\$32,000	\$582,000
Total Sales Tax - King County (with City)	\$213,000	\$3,881,000

*Period: Contract Term - Thirty Years

Leasehold Tax

Cities and counties may levy a local leasehold excise tax on leasehold interests in public property within their jurisdictions at a rate up to a maximum of 6 percent. The maximum city rate is 4 percent and it is credited against the county tax. Thus, the maximum county rate is 2 percent in cities which levy the maximum city rate. We estimate that the Project will generate approximately \$60,000 annually in incremental leasehold taxes.

Exhibit F-12: Leasehold Tax

	Annual	NPV*
Leasehold Tax - City of Seattle	\$40,000	\$649,000
Leasehold Tax - King County	\$20,000	\$324,000
Total Leasehold Tax - King County (with City)	\$60,000	\$973,000

*Period: Contract Term - Thirty Years

Utility Tax

The City levies a tax on most revenue collected by City-owned utilities (Seattle City Light and Seattle Public Utilities). Tax rates range from 6% on City Light up to a current 15.54% on the City Water Utility, as follows:

- City Light - 6.00%
- City Water - 15.54%
- City Drainage - 11.50%
- City Wastewater - 12.00%
- City Solid Waste - 11.50%

While it is expected the proposed new arena will incur material utility costs, we do not have the specific allocation of utility costs by type (i.e. water, waste, etc.). Using the lowest rate (i.e. City Light 6%) Pro Forma Advisors estimates the Project will generate approximately \$141,000 in incremental utility taxes annually.

Exhibit F-13: Utility Tax

	Annual	NPV*
Utility Business Tax - City of Seattle	\$141,000	\$2,286,000

*Period: Contract Term - Thirty Years

Commercial Parking Tax

The commercial parking tax is levied upon a person who pays to park a motor vehicle in a commercial parking lot within Seattle city limits. Effective January 1, 2011, the parking tax rate is imposed at 12.5%. We estimate that approximately \$450,000 in incremental parking taxes will be generated annually due to the Project.

Exhibit F-14: Commercial Parking Tax

	Annual	NPV*
Commercial Parking Tax - City of Seattle	\$450,000	\$8,191,000

*Period: Contract Term - Thirty Years

Tax Benefits - Other Taxing Districts

The arena is also expected to generate the following tax benefits from other taxing districts:

Exhibit F-15: Tax Benefits - Other Taxing Districts

Additional Fiscal Benefits	One Time Construction	Annual Operating
Property Taxes - State School	\$848,000	
Property Taxes - Other County	\$147,000	
Sales Taxes - State	\$22,750,000	\$1,389,000
Sales Taxes - Metro King County	\$3,150,000	\$192,000
Sales Taxes - Sound Transit	\$3,150,000	\$192,000
Sales Taxes - King County Criminal Justice	\$350,000	\$21,000
Sales Taxes - King County Mental Health	\$350,000	\$21,000
State Real Estate Excise Taxes	\$2,560,000	
State Leasehold Excise Tax		\$68,000
Total Taxes - Other Taxing Districts	\$33,305,000	\$1,883,000

Source: www.seattle.gov, www.kingcounty.gov, www.dor.wa.gov, Pro Forma Advisors

Economic Impacts

The economic impact section evaluates the economic impacts generated by the proposed Seattle arena to the Seattle and King County economies, for each project alternative.

The section first provides a description of economic impacts and its components. The section then provides a detailed review of the net economic fiscal impacts in Scenario A, including arena construction impacts, gross arena onsite and offsite impacts, substitution, and port and industrial business impacts. Next the analysis reviews gross arena impacts for Scenarios B, C and D. Finally, additional impacts, such as intangible arena benefits, are discussed.

A detailed economic impact methodology can be found in the Appendix.

Economic Impact Overview

The economic impact analysis evaluates the total economic impacts produced as a result of the proposed project. This section provides a general explanation of economic impact analysis, describes the components of economic impact, and presents the methodology and key assumptions used to estimate the economic impacts in this report.

Introduction

Economic impacts can be described as the sum of the economic activity within a defined geographic region resulting from an initial change in the economy. This initial change spurs a series of subsequent indirect and induced activities (the re-spending of dollars) as a result of interconnected economic relationships.

Economic impact is composed of the following components:

- **Direct Impact:** Direct Impact is the initial change in the economy attributed to the development of the proposed project, i.e. new jobs, output, and earnings generated directly by the proposed development.
- **Indirect and Induced Impacts**, commonly referred to as the “multiplier effect”:
 - **Indirect Impacts:** Additional output, earnings, and employment generated as a result of the purchases of the industries that supply goods and services to the development under consideration.
 - **Induced Impacts:** Additional output, earnings, and employment generated as a result of the household purchases of employees.
- **Total Impacts:** the cumulative impact of the above components.



Impacts are typically expressed in terms of three variables - Output, Earnings, and Employment, which are defined as:

- **Output.** The value of goods and services produced within a defined geographic region. For this analysis, it is expressed in constant 2013 dollars.
- **Earnings.** The component of Output that is attributed to labor income. Expressed in constant 2013 dollars. Earnings include wages, benefits and income received by employees, self-employed workers, and proprietors.
- **Employment.** The total number of net new jobs created in the economy.

Economic Multipliers

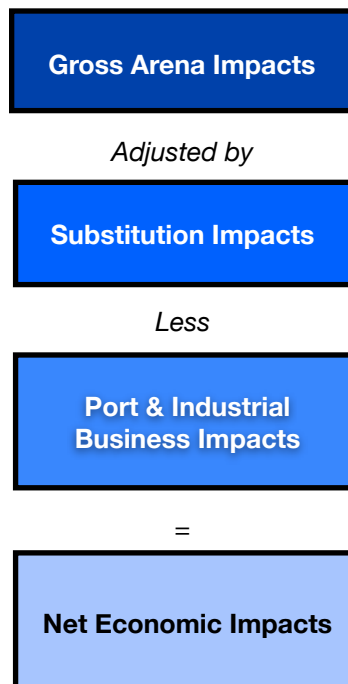
Economic multipliers measure the re-spending of dollars in an economy and are used to calculate indirect and induced impacts or “multiplier effect.” Pro Forma Advisors has utilized the IMPLAN Software system, produced by the Minnesota Implan Group, to derive economic multipliers and total economic impacts (Direct, Indirect & Induced).

Multipliers use input-output tables to measure the business and employee purchases made by industries within a geography and the ongoing rounds of subsequent purchases. The IMPLAN program assembles an enhanced input-output scheme, called social accounting matrices, that capture the actual dollar amounts of all business transactions taking place in a regional economy as reported each year by businesses and governmental agencies. The IMPLAN model is widely used across the United States by government and private entities to prepare location specific economic impact analysis.

Net Economic Impacts

This analysis aims to project the net economic impact generated as a result of the Project, considering the gross ongoing economic impacts generated directly by a Seattle arena as well as potential negative ongoing impacts to the Port of Seattle and local SoDo industrial business arising from increased traffic congestion and displacement impacts arising from substitution effects.

To better understand the overall impact on the City of Seattle and King County, PFA has separately evaluated and defined the various ongoing impacts. The figure below describes the relationship between each of the economic impacts. Each impact is evaluated to determine the total impact--direct, indirect and induced impacts--so they may be applied to the total net economic impact.



Scenario A Arena Economic Impacts

The section presents the arena construction and gross ongoing impact analysis for Scenario A. A detailed methodology can be found in the Appendix.

Construction Impacts

Direct Construction Impacts

Total construction costs for the arena facility are anticipated to be \$390 million. Hard and soft construction costs are expected to be \$350 million, while Furnishing, Fixtures, and Equipment (FF&E) are anticipated to cost \$40 million.

All hard and soft construction costs are final demand change within the City of Seattle and King County. Given the specialized nature of the FF&E, we assume that key items will be purchased directly from the manufacturer and other FF&E will be purchased wholesale.

Table A-1 in the Appendix outlines the estimation of local FF&E purchases. It is anticipated that items such as the scoreboard and audio/visual equipment will be purchased 100% outside of King County. Some portions of the FF&E are anticipated to be purchased from local wholesalers. These items have been distributed into their wholesale margin components based on IMPLAN estimates for each industry. The amount of each good purchased in the area was also estimated based on IMPLAN average regional purchase estimates for each commodity.

Direct construction impacts are summarized in the table below. It should be noted that all City of Seattle purchases and impacts are included in King County figures. The County typically has additional purchases and impacts beyond those that occur in the City. In the case of construction impacts, \$351.7 million is anticipated to be purchased in the City of Seattle and an additional \$2.5 million is purchased outside of Seattle, but still within King County for a King County total purchase of \$354.2 million.

IMPLAN is used to estimate the direct earnings and jobs impacts from the total direct output.

Exhibit E-1: Direct Construction Impacts

Direct Construction Impacts	Local Purchases (Millions)	
	City of Seattle	King County
Hard and Soft Construction Costs	\$350.0	\$350.0
Fixtures, Furnishing, and Equipment	\$1.7	\$4.2
Total Purchases	\$351.7	\$354.2

Source: Pro Forma Advisors and Developer

Total One-time Construction Impact Results

Using an Industry Change approach as described in the Appendix, the direct construction impacts are used to estimate the total impacts through IMPLAN. The table below presents the total construction economic impacts.

Total construction impacts of the proposed arena are estimated at \$480 million in the City of Seattle and \$533 million in King County.

In the City of Seattle, construction activities will generate approximately 3,200 person-year jobs¹ with earnings of \$266 million, spread across the construction period. In King County, construction activities will generate a total of approximately 3,600 person-year jobs with earnings of \$290 million, spread across the construction period.

Exhibit E-2: Total Construction Impacts

Total Construction Impacts	City of Seattle			King County		
	Direct	Indirect & Induced	Total Impacts	Direct	Indirect & Induced	Total Impacts
Output (Millions)	\$351.4	\$128.9	\$480.4	\$354.2	\$179.2	\$533.4
Earnings (Millions)	\$215.6	\$50.2	\$265.8	\$216.5	\$72.0	\$288.5
Jobs	2,335	863	3,199	2,349	1,220	3,570

Source: Pro Forma Advisors

Annual Ongoing Impacts

Annual ongoing impacts measure the annual impacts of operations of the arena and the offsite spending generated by arena visitors and performers.

Onsite Arena Impacts

Direct Arena Impacts (Adjusted)

Total revenues generated by arena operations are presented in the Projections section. Anticipated arena revenues include luxury suites, club seats, and regular season ticket sales, corporate sponsorships, local media revenues, and team national revenue for the NBA, NHL games, as well as large concerts and other events. It should be noted that the economic impacts include total revenues generated to 3rd party promoters, such as Disney on Ice, rather than only the share to the arena owner.

As described in the methodology section, this analysis uses an adjusted direct impact that accounts for players' salaries not spent in the local economy. Direct earnings as presented in the Operating Revenues section are also adjusted by players' salaries not spent in the local economy.

Employment was estimated based on attendance and comparable facilities and team sizes. Employment includes facility and team staffs, as well as players.

¹ A person-year job equates to one job for one person for a year, e.g. if a construction worker is on a project for two years, this equates to 2 person-year jobs. Please note this job is not required to be a full-time job.

Exhibit E-3: Total Arena and 3rd Party Operations Revenues and Direct Onsite Impacts

Scenario A - 18,000 Seat SoDo Arena	Projected Revenues (Millions)	Direct Impacts (Millions)	
		City of Seattle	King County
Output	\$243.9	\$156.7	\$161.8
Earnings		\$57.9	\$63.0
Jobs		1,005	1,005

Source: Pro Forma Advisors

Indirect and Induced Arena Impacts

Expenditures related to the operations of the arena are used to estimate the indirect and induced impacts. Appendix Table A-3 presents detailed arena expenditures and local purchase adjustments.

Facility and team expenditures are both categorized into wage and non-wage industry expenditures, as shown in the table below. It should be noted that wage expenditures includes wages, salaries, and benefits. The Project has a total of \$192.5 million in annual expenditures.

Only a portion of wage and non-wage expenditures are expected to be purchased in the City of Seattle or King County. Using IMPLAN estimates and adjusting these figures based on Pro Forma Advisor's knowledge of the sports operations, the amount of each non-wage industry goods and services are estimated. As described in the methodology section, OntheMap LEHD Census data was used to help estimate the share of workers that are residents in the City of Seattle and King County. This is used as a proxy for the share of household spending that will be made within each geography. The table below summarizes the locally purchased goods, services, and labor.

As with construction impacts, all local purchases that occur in Seattle are included in the King County figure. In this example, \$41.6 million in wage and non-wage purchases are expected to be made in Seattle. An additional \$25.2 million are expected to be made within King County, for a total of \$66.8 million local King County purchases.

Exhibit E-4: Locally Purchased Expenditure Summary

Summary	Total Expenditures	Local Purchases	
		City of Seattle	King County
Non-Wage	\$47.3	\$14.1	\$17.1
Wage			
Facility Staff, Event Staff, Team Staff	\$35.4	\$11.9	\$28.9
Players	\$109.8	\$15.6	\$20.8
<i>Subtotal Wage</i>	<i>\$145.1</i>	<i>\$27.5</i>	<i>\$49.7</i>
Total Wage and Non Wage	\$192.5	\$41.6	\$66.8

Source: Pro Forma Advisors and IMPLAN

Using the IMPLAN program, multipliers will be applied to these local purchases to estimate the amount of ongoing re-spending in the economy generated by arena operations.

Offsite Arena Impacts

Offsite impacts evaluate the impacts produced by visitors' offsite spending and the spending of arena performers and their staff. Total estimated offsite spending and the share of spending within the local region are estimated in Appendix Table A-4.

Offsite Visitor Expenditures

Patrons who attend games or events at a venue/arena often make expenditures outside of the venue/arena. Spending types (e.g. transportation, parking, food, etc.) and amounts spent differ depending on the initial origin of the visitor (e.g. city or county resident, those from outside of the county or those from outside of the state). Amounts also differ based on the type of event (e.g. NBA game, NHL game, concert, family show, other sports, convention, etc.). The major categories include lodging, retail, local travel, food/beverage and entertainment. Below is a summary of estimated average spending levels by type and origin for visitor to events at the proposed SoDo arena.

Exhibit E-5: Average Spending by Visitor Origin

	Within City	Within County	Outside of County	Outside of State	Weighted Average
Lodging	\$0.13	\$0.34	\$6.45	\$44.99	\$7.78
Retail/Merchandise/Souvenirs	\$1.68	\$5.24	\$9.96	\$19.10	\$7.72
Bus/Public Transit	\$0.07	\$0.17	\$0.34	\$1.06	\$0.32
Parking	\$2.91	\$5.55	\$6.59	\$7.20	\$5.56
Auto Travel	\$1.98	\$4.79	\$5.94	\$12.89	\$5.62
Food & Beverage	\$4.37	\$7.62	\$11.28	\$19.58	\$9.60
Entertainment	\$0.95	\$2.32	\$3.88	\$4.30	\$2.77
Total Off-Site Spending	\$12.09	\$26.03	\$44.44	\$109.12	\$39.37

Source: Seattle Center/Key Arena GMA Research Survey, 2006 Bayers Key Arena Economic Impact. Comparative Market Data.

In order to estimate the aggregate offsite visitor spending we applied the above averages to the projected number of arena attendees. Using data from the 2006 Key Arena/Seattle Center survey (updated for current dollars) we applied the proportionate visitor origins to the estimated attendance. Visitor surveys are often used as a means of quantifying visitor data since they can be developed to address area of origin and spending level. However, amounts are estimates since responses are subjective and based on interpretation. Although markets differ, where possible, we compared the data to available data from other comparative markets to provide a level of comfort that amounts are reasonable and adjusted data if necessary. It is important to note that the above amounts are combined averages for those attending sporting events and concerts which differ. Generally, offsite spending for concerts skews higher for most categories than sporting events. Where possible the aggregate impacts were developed using the highest level of detail available to derive the

most accurate amounts. Spending levels were compared to overall spending in comparative markets (adjusted for market differences) and deemed realistic.

Similar to the above, in order to ensure visitor origin allocations were reasonable, we compared percentages to season ticket-holder data by the other local teams and with other markets and amounts are consistent.

Pro Forma Advisors estimates the aggregate annual “in-house” attendance to the proposed arena will be approximately 1,132,000 visitors for NBA and NHL games and an additional 517,000 visitors for other arena events. Utilizing survey and comparative market data on visitor origin we estimated the distribution of visitors between overnight visitors and resident visitors. Resident visitors were further analyzed by distance of residence from the proposed SoDo arena. We then applied a regional adjustment to aggregate spending to determine the amounts made locally.

Overnight Visitors

Based on the Key Arena/Seattle Center survey data discussed above, the annual event attendees (in the stabilized year), from outside of the state assumed to stay overnight is approximately 7.5 percent of NBA/NHL attendees and 17.5 percent of concert attendees. These are slightly higher than we have seen in other markets but appear to reflect the draw of the Seattle market. These new overnight, out-of-town visitors are estimated to spend approximately \$45 per capita on lodging (excluding those staying with friends/family) \$22 per capita for eating and drinking and \$21 per capita for retail with businesses outside of the arena. In addition, these overnight out of town visitors are estimated to spend approximately \$13 per capita on transportation and \$7 per capita on parking.

Exhibit E-6: Scenario A Total Visitor Spending Table

	Within City	Within County	Outside of County	Outside of State	Total
Estimated Attendance	313,786	638,296	487,771	209,346	1,649,199
Estimated Visitor Spending					
Lodging	\$41,257	\$218,733	\$3,145,424	\$9,418,837	\$12,824,250
Souvenirs/Gifts/Retail	\$526,987	\$3,344,914	\$4,858,076	\$3,999,392	\$12,729,369
Bus	\$21,912	\$109,687	\$165,260	\$222,848	\$519,706
Parking	\$911,659	\$3,544,820	\$3,212,821	\$1,508,082	\$9,177,382
Auto Travel	\$622,252	\$3,058,325	\$2,898,009	\$2,697,873	\$9,276,459
Food/Beverage	\$1,370,962	\$4,863,789	\$5,502,281	\$4,099,085	\$15,836,116
Entertainment	\$297,466	\$1,482,131	\$1,892,153	\$900,558	\$4,572,307
Total Visitor Off-Sites	\$3,792,494	\$16,622,398	\$21,674,025	\$22,846,673	\$64,935,590

Source: Pro Forma Advisors and 2006 Beyers Key Arena Economic Impact.

Traveling Team/Performer Spending

Generally, each game or event includes a group of visitor performers or participants who compete in or stage a game or event, such as visiting sport teams, concert performers, production staff, etc. Utilizing data on average party size, length of stay and spending levels, Pro Former Advisors estimates that personnel traveling (players, coaches, etc.) with the NBA and NHL teams will spend approximately \$355 per person for overnight travel and personnel traveling for other events (talent, production staff, etc.) will spend \$268 per person for overnight travel (76.7%) and \$93 per person for day travel (23.3%).

Exhibit E-7: Average Spending for Traveling Teams/Performers

	Sports	Other Events	Average
Lodging	\$250.00	\$175.00	\$200.00
Local Travel/Transportation	\$30.00	\$30.00	\$30.00
Food & Beverage	\$75.00	\$63.00	\$67.00
Traveling Team/Performer Spending	\$355.00	\$268.00	\$297.00

Source: Pro Forma Advisors. Comparative Market Data

Exhibit E-8: Scenario A - Total Traveling Team/Performer Spending

	All Events
Lodging	\$845,600
Local Travel/Transportation	\$151,800
Food & Beverage	\$328,500
Traveling Team/Performer Spending	\$1,325,900

Source: Pro Forma Advisors.

Local Offsite Purchases

As shown in Appendix Table A-4, visitor spending is adjusted to account for purchases made within the City of Seattle and King County.

Local offsite purchases are inputted into the IMPLAN program to estimate total (direct², indirect, and induced) offsite impacts. As with arena purchases, City of Seattle local purchases are a subset of King County local purchases, an estimated \$9.1 million additional purchases are made outside of Seattle, but still within King County by arena visitors.

² The IMPLAN program accounts only for the retail margins on the Souvenirs/Gifts/Retail category thus direct impacts are lower than the local offsite purchases.

Exhibit E-9: Scenario A - Local Offsite Purchases

Scenario A Offsite Spending Summary	Total Spending (Millions)	Local Purchases (Millions)	
		City of Seattle	King County
Lodging	\$13.7	\$10.4	\$12.4
Souvenirs/Gifts/Retail	\$12.7	\$11.5	\$12.7
Food/Beverage	\$16.2	\$13.0	\$14.6
Parking	\$9.2	\$9.2	\$9.2
Other (Travel and Entertainment)	\$14.5	\$4.9	\$9.1
Total Offsites	\$66.3	\$48.9	\$58.0

Source: Pro Forma Advisors

Total Arena Gross Annual Ongoing Impact Results

The table below presents the total gross annual impacts of the arena.

In the 18,000 seat SoDo arena scenario (Scenario A), direct impacts from on-site arena operations and off-site visitor expenditures are \$198 million annually to the City of Seattle. The indirect and induced impact from all activities is approximately \$60 million annually.

The total of all annual impacts is approximately \$258 million with approximately 2,000 total new jobs in the City of Seattle. Of the \$258 million in output, \$103 million is related to annual earnings in the City of Seattle.

In the 18,000 seat SoDo arena scenario, direct impacts from on-site arena operations and off-site visitor expenditures are \$208 million annually to King County. The indirect and induced impact from all activities is approximately \$105 million annually.

The total of all annual impacts is approximately \$313 million with a total of 2,500 new jobs in King County. Of the \$313 million in output, \$130 million is related to annual earnings in King County.

Exhibit E-10: Scenario A Total Impacts

Total Ongoing Annual Arena Impacts	City of Seattle			King County		
	Direct	Indirect & Induced	Total Impacts	Direct	Indirect & Induced	Total Impacts
Onsite Arena Impacts						
Output (Millions)	\$156.7	\$39.7	\$196.3	\$161.8	\$71.6	\$233.4
Earnings (Millions)	\$57.9	\$15.4	\$73.4	\$63.0	\$28.3	\$91.4
Jobs	1,005	338	1,343	1,005	575	1,580
Offsite Arena Impacts						

Economic Impacts

Total Ongoing Annual Arena Impacts	City of Seattle			King County		
	Direct	Indirect & Induced	Total Impacts	Direct	Indirect & Induced	Total Impacts
Output (Millions)	\$41.2	\$20.3	\$61.5	\$46.3	\$33.5	\$79.8
Earnings (Millions)	\$21.6	\$8.2	\$29.7	\$25.1	\$13.7	\$38.8
Jobs	565	138	702	667	227	894
Onsite and Offsite Impacts						
Output (Millions)	\$197.8	\$60.0	\$257.8	\$208.1	\$105.1	\$313.1
Earnings (Millions)	\$79.5	\$23.6	\$103.1	\$88.1	\$42.0	\$130.1
Jobs	1,570	476	2,045	1,672	802	2,473

Source: Pro Forma Advisors

Substitution

One of the major issues associated with economic impact studies is the impact of substitution or displacement. In other words, does the introduction of a new "variable" (e.g. new team entering the marketplace) result in incremental revenues to the area or does it simply shift (reallocate) revenues from an existing source (e.g. baseball stadium). Conceptually, substitution/displacement relates to reducing revenues of one existing element (e.g. venue, entertainment medium, restaurant, etc.) and reallocating it to the new medium introduced into the market.

Often times this is not addressed in economic impact studies or substitution/displacement is assumed to be 100% (i.e. 100% reallocation of existing spending in the market) thereby eliminating any local/resident economic impact. Essentially, it is assumed there is no net new contribution to the area since these expenditures would have occurred anyway within the city/county region in question.

However, unlike other entertainment options (restaurants, movies, etc.) it has been suggested that a new arena with new entertainment options is a different matter due to the drawing power. The venue essentially acts as a magnet to attract individuals from other regions/states ("new money") and also may encourage residents to stay within the region rather than travel outside.

Our analysis addresses incremental spending from individuals within the area who reside in the area but otherwise would not have made the expenditure and individuals who visit the area from outside the City/County to attend a game and spend monies within the region. This includes the extent to which the existence of the new venue result in people staying locally.

Substitution

With respect to economic benefit analysis, the substitution effect is a key issue that can materially affect the true economic impact of an arena and operations. Although there are no definitive studies on the correlation and substitutability of various economic activities of a new venue being added to a market, Pro Forma Advisors believes there are three main categories to consider:

- I. Events at Similar Venues - Key Arena Concerts, Events, Non-Major League Sports**
- II. Alternate Sporting Events - Baseball, Football, Soccer**
- III. Alternate Entertainment Activities - Movies, Dining, Travel, etc.**

Level I Substitution Impacts

The immediate tendency by many is to assume 100% substitution (i.e. spending at the new arena/event similar replaces previous spending at a comparable event). However, because of scheduling conflicts and differences in facilities (size, location, service, marketing, consumer perceptions, price points, etc.) this is only partially substitutable.

Based on our understanding of the market and comparable arena data, the shift of events between Key Arena and the Project is estimated to be in the range of 35 to 40 events with revenues of \$3.2 million to \$3.7 million. A \$3.7 million shift in concert and other event revenue represents approximately 12 percent of estimated gross Project revenues for concerts and events at the Seattle arena.

To adjust the gross arena impacts of the Project, we must understand the total onsite arena operations impacts of the \$3.7 million in concert and other events shift, as well as the scale of the shift of the offsite impacts. The scale of the substitution impact is estimated proportionally to the gross arena total impacts.

Onsite Concert Operations Substitution Impacts

\$3.7 million in revenues represents the direct substitution impact to Key Arena. To account for indirect and induced impacts, the anticipated other event substitution, 12 percent, is applied to expenditures allocated to the concerts and events. Based on an estimate of concert and other expenditures at 14 percent of total expenditures³, on a proportional basis the substitution impacts will represent 1.7 percent of the gross indirect and induced impacts.

Offsite Concert Substitution Impacts

The shifted Key Arena events have an estimated attendance of approximately 300,000. This represents 28.8% of projected offsite visitor spending. Direct, indirect & induced offsite impacts are calculated as a share of gross arena offsite spending.

Total Level I Substitution Impacts

Including the indirect and induced impacts and onsite and offsite impacts, approximately 10 percent of the projected Project gross arena impact is a shift away from Key Arena.

Exhibit E-11: Level I - Total Substitution Impact

Total Substitution Impacts	City of Seattle			King County		
	Direct	Indirect & Induced	Total Impacts	Direct	Indirect & Induced	Total Impacts
Output (Millions)	\$15.6	\$6.1	\$21.7	\$17.1	\$10.1	\$27.1
Earnings (Millions)	\$6.3	\$2.4	\$8.8	\$7.4	\$4.1	\$11.5
Jobs	166	42	208	196	69	265

Source: Pro Forma Advisors

³ It is difficult to separate the expenditures that should be allocated only to concerts and other events. Thus, the proportion of gross concert and other revenues to total revenue is used to estimate total expenditures for concerts and other events.

Level II Substitution Impacts

There is a belief by some that spending for live sports in each market is static. There is a perception that when a new sports option enters a market that there is a redistribution from existing sports options to the new one. In other words, there is a shift of spending between options/facilities when a new option enters the market while aggregate total revenues and attendance levels remains unchanged. Conversely, if a team exits a market there is no overall change but rather a redistribution to remaining teams/venues.

Although there are no definitive studies measuring the impact of new teams entering a market, we reviewed data when the Supersonics left the market and, with the exception of the Seattle Sounders, the Seattle Seahawks and Seattle Mariners each had reductions in attendance annually until the 2012 season (i.e. when the Seattle Seahawks attendance increased). This in itself does not eliminate the existence of some level of substitution but contradicts the notion of 100% substitution/redistribution. The following factors also come into play when considering substitutability relating to varying live sports options.

- Market segments/Fans - Fans show a high affinity for specific types of sports. Fan preference is not always transferable particularly with avid fans of any sport but also for more casual fans. Generally, there is not an immediate transferability between live sporting events since often there is a strong dedication to specific sports and also teams.
- Entertainment environment - Each sport differs in venue, atmosphere and entertainment value aligned with the sport (e.g. tailgating, etc.)
- Demographics- Fan market segments differ from one another and there are moderate differences in demographics of different sports.
- Market preference - Success of different sport options in each market is not consistent (e.g. soccer in the Seattle market compared to soccer other markets).
- Season and number of events - The length and timing of the regular season, number of games/matches, attendance capacity and ticket prices for each live sporting option varies.

Pro Forma Advisors has reviewed cases involving multiple live sporting options to determine the level of substitutability and to identify impacts. There are a limited number of cases to study and number variables impacting each market which do not allow us to quantify the impact to the Seattle market with statistical accuracy. However, we have discussed the impacts with individuals with sports and market knowledge and substitution for live sporting events in market similar to Seattle is not large enough to be identified. To be conservative, Pro Forma Advisors has assumed 0-20% impact of Level II substitution for the Project.

Onsite Level II Substitution Impacts

At the max level of 20 percent of Seattle sports revenue, the Project may draw up to \$35 million of revenue from other sports venues. Indirect and induced impacts are evaluated, proportionally, based on anticipated 20 percent of estimates sports expenditures, approximately 17 percent of total expenditures.

Offsite Level II Substitution Impacts

At the max level, 20 percent of Project sports attendees may be drawn from other sports venues, or approximately 220,000 visitors. Sports attendees spend less than concert attendees and in aggregate these visitors spending make up approximately 9.8 of the Projects total offsite visitor spending. Direct, indirect & induced and total Level II offsite impacts are calculated as a share of gross arena offsite spending.

Total Level II Substitution Impacts

Including the indirect and induced impacts and onsite and offsite impacts, approximately 10 percent of the projected Project gross arena impact is a shift away from Key Arena.

Exhibit E-12: Level II - Maximum Total Substitution Impact

Total Substitution Impacts	City of Seattle			King County		
	Direct	Indirect & Induced	Total Impacts	Direct	Indirect & Induced	Total Impacts
Output (Millions)	\$39.2	\$8.8	\$48.0	\$39.7	\$15.6	\$55.3
Earnings (Millions)	\$12.0	\$3.5	\$15.5	\$13.3	\$6.2	\$19.5
Jobs	228	71	299	238	121	358

Source: Pro Forma Advisors

Level III Substitution Impacts

Level III (alternative entertainment options) are assumed to be substitutable with sports. There is no definitive study that quantitatively defines the substitutability of alternative entertainment options with sports. However, based on our analysis, any alternative entertainment substitutability is deemed negligible.

Pro Forma Advisors evaluated changes in revenue based on sales tax data adjusted by the consumer price index (which is used as a measure of inflation). Our analysis focused on changes in revenues for restaurants and drinking establishments based on tax payments. We evaluated the period prior to and after the Seattle Supersonics vacated the market at the end of the 2008 season. Our expectation was that the these revenue streams would have grown after the Seattle Supersonics left the market under the notion of substitutability. Substitutability of spending would imply that patrons would reallocate/redistribute monies previously spent on Seattle Supersonics games to drinking and dining. Contrary to our expectation, spending on drinking and dining actually decreased in the year after they Sonics left the market. This is most relevant since related revenues decreased during only one year in the decade prior to 2008 and has increased each year thereafter.

Another potential substitution activity is travel. Again, no data exists on the relationship between travel spending as a substitute for sports. However, travel has a significant leakage with respect to economic activity, since most of the transaction revenue leaves a region through airfare, hotel lodging, food & beverage, etc. while on the trip. As such, substituting sporting spending for travel spending could actually increase local economic activity rather than neutralize it.

A similar dynamic occurs for movie theater spending. Substituting sports spending for movie theater spending could increase local spending since most of the movie theater spending leaks out of localized region to the movie distributor and theater owner.

Based on the above, the impact of substitutability is most clearly defined in Level I. Level II substitutability is more likely to be zero or negligible but we have included a maximum 20 percent substitutability to be conservative. Based on our analysis of the local market, it does not appear there is any measurable impact of substitutability for Level III.

Substitution Summary

The following table shows the gross arena impacts adjusted by substitution impacts.

Exhibit E-13: Substitution Impacts

Millions

Output Impacts	City of Seattle	King County
Gross Arena Output	\$257.8	\$313.1
Level I & II Impacts	\$21.7 - \$69.7	\$27.1 - \$82.4
Level III Impacts	N/A	N/A
Gross Area Impacts After Substitution	\$188.1 - \$236.2	\$230.7 - \$286.0

Source: Pro Forma Advisors

Port and SoDo Industrial Business Economic Impacts

In considering the total net economic impacts of the proposed arena, the net economic impacts consider the potential displacement impacts that may arise to the Port and industrial businesses within the SoDo area from potential operational pressures relating to increased traffic congestion from events/games at the proposed arena. The Port and SoDo Industrial Business Impact section, following the Economic Impacts section, quantifies the direct truck traffic costs to Port businesses and other SoDo industrial businesses and presents the traffic-related costs impact methodology and analysis.

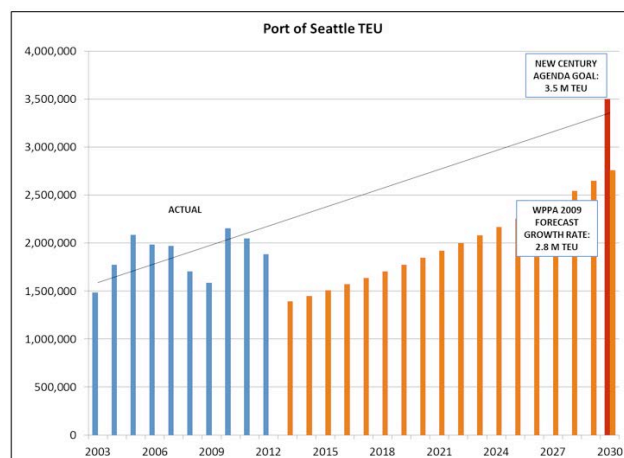
This section of the report, Port and SoDo Industrial Business Economic Impacts, summarizes the truck traffic impact cost findings and projects the indirect and induced Port and industrial impacts, to estimate total economic impacts from truck traffic delay costs.

Economic Impacts to the Port

The Port of Seattle is major driver of economic development for the greater Seattle area and for the State of Washington as a whole. Based on a 2009 economic impact report, seaport activities accounted for 56,256 direct, indirect and induced jobs, and another 135,100 related import/export jobs in Washington State. The seaport generates \$1.6 billion in direct personal income, \$2.5 billion, in business revenue, and \$457 million in state and local taxes. More than half of the Ports exports are agricultural products, chiefly from Washington State.

As Exhibit 14 shows, Port of Seattle container cargo (measured in Twenty-foot Equivalent Units, or TEU) peaked in 2010 after recovering from the recession. Container cargo volume was down in 2012 due to the shift of Grand Alliance vessel calls to Tacoma. The Exhibit also shows the 3.5 million TEU goal set in the Port's New Century Agenda. It is not possible to predict with certainty if or when the Port will meet this goal. For purposes of this analysis, it is assumed that the 3.5 million TEU goal is reached in 2030, which is the horizon year for the analysis. Tioga prepared a second, much more conservative growth scenario to that yielded an estimated 2.8 million TEU in 2030 (based on year-to-date results the July 2013 Global Port Tracker import forecast, and the 2009 Marine Cargo Forecast prepared for the Washington Public Port Association and WSDOT).

Exhibit E-14: Port of Seattle Actual and Target TEU



Source: www.portseattle.org, 2009 WPPA/WSDOT Marine Cargo Forecast

Direct Port Trucking Delay Cost Impacts

Three of the Port of Seattle’s terminals, Terminals 46, 30, and 25, are less than one mile away from the proposed SoDo arena site. This section quantifies the direct impacts of the proposed arena in SoDo, specifically as a result of traffic created by new arena visitors, on Port operations. The direct impacts of traffic include additional time and trucking costs for trucks moving Port-related cargo in, around, and out of the SoDo area.

Using data provided by the Port on projected future truck trips and routes and estimates of worst case projected traffic delays generated by a new arena at the SoDo site prepared as part of the Seattle Arena Draft EIS, the Port and SoDo Industrial Business Impact section estimates the total annual number of trucks delayed and the projected annual time delay. Local port trucking costs from the EPA SmartWay DrayFLEET model are then used to estimate the annual trucking delay cost. Maximum truck delay costs, at 3.5 Million TEU, are shown in the table below. As mentioned above, more information on the development of this estimate can be found in the following Port and SoDo Industrial Business Impact section.

Exhibit E-15: Summary of Port Trucking Delay Cost Impacts at 3.5 Million TEU

	Daily Case Delay Minutes	Annual Delay - Minutes	Annual Delay - Hours	Annual Truck Delay Cost
Total Truck Trips	4,348	137,962	2,299	\$110,370

Source: Toga Group

The total estimated annual delay is 2,299 hours at a cost of \$110,370 for a port volume of 3.5 million TEU. For 2.8 million TEU with night gates the total delay would be 1,813 hours and the cost would be \$87,044.

Total Port Trucking Delay Cost Impacts

The direct truck delay cost impact is small relative to total Port operation activity, but, as discussed in the Port and SoDo Industrial Business Impact section, the cost may be focused on the customers of T-25/30 and T-46, or it is possible that, due to the high competition in the trucking industry, truckers may have to absorb the additional costs.

Both importers and exporters or the truck drivers who would have to absorb the additional costs are likely spread throughout the Seattle, King County, and larger northwest region. However, for purposes of this analysis we will assume the full cost will be borne by either importers and exporters or truckers within the City of Seattle. Additionally, it should be noted that the truck delay costs is either (1) a reduction in profit for companies (lower earnings in the case of trucking independent contractors) or a shift in costs to trucking that causes the business to spend less on employee earnings or other business purchases, or (2) gets passed along to importer/exporter customers which could cause a decrease in purchases from their business. Due to elasticity, a decrease in purchases is unlikely to be one-to-one, but for purposes of this analysis we will consider the worst case 100% reduction in demand purchases of import/export purchases. Based on these cases, we analyze truck cost delay costs as either a reduction in trucker earnings or a reduction in import/export revenues.

The IMPLAN program is used to estimate the indirect and induced impacts from the initial truck delay costs to truckers.

Exhibit E-16: Impacts of a Reduction in Port Trucking Earnings

Case 1 - Reduction in Trucker Earnings	Initial Impact on Truckers Earnings	Total impact	
		City of Seattle	King County
Output	\$110,370	\$152,077	\$171,565
Earnings		\$126,416	\$134,301
Jobs		0.3	0.4

Source: Tioga Group, Pro Forma Advisors and IMPLAN

In the case where the truck delay cost is estimated as a reduction in trucker earnings, there are additional induced output impacts of \$42,000 in the City of Seattle and \$61,000 in King County due to the lower household spending by truckers.

To estimate the case where import/export revenue is impacted, the trucking cost delay is spread across the categories of agriculture, manufacturing and wholesale trade based on the weighted average of each industrial sector in King County.

Exhibit E-17: Estimated Distribution of Reduction in Import/Export Revenues

Industrial Sectors	King County Employees	Employee Distribution	Distribution of Truck Delay Costs
Agriculture, Forestry, Fishing	2,382	1.2%	\$1,322
Mining	377	0.2%	\$209
Manufacturing	91,120	45.8%	\$50,556
Wholesale Trade	57,943	29.1%	\$32,149
Transportation and Warehousing	47,103	23.7%	\$26,134
Total	198,925	100.0%	\$110,370

Source: Census OntheMAP LEHD Employment Data, Tioga Group, and Pro Forma Advisors

IMPLAN is used to estimate the indirect and induced impacts from the potential reduction in import/export revenues⁴.

Exhibit E-18: Impacts of a Reduction in Import/Export Final Demand from Truck Delay Cost

Case 2 - Reduction in Import/Export Sector Final Demand	Initial Industry Change	Total impacts	
		City of Seattle	King County
Output	\$110,370	\$168,022	\$172,296
Earnings		\$54,601	\$58,055
Jobs		0.7	0.7

Source: Tioga Group, Pro Forma Advisors and IMPLAN

⁴ An IMPLAN model with industrial sectors aggregated to the 2-digit NAICS codes for industrial sectors was used to estimate the total impacts. The 2-digit Manufacturing and Mining County multipliers were adjusted to align with higher City multipliers for these sectors.

In the case where the truck delay cost is estimated as a reduction in importer/exporter revenue, there are additional indirect and induced output impacts of \$58,000 in the City of Seattle and \$62,000 in King County due to reduced spending by import/export firms.

Based on these two cases, the annual direct Port-related trucking delay cost generates a total displacement impact of between \$150,000 and \$168,000 in the City of Seattle and approximately \$170,000 in King County.

It should be noted that based on a lower 2.8 million TEU assumption, total Port truck delay impacts would be in the range of \$120,000 to \$130,000 in the City of Seattle economy and approximately \$136,000 in the King County (including Seattle) economy.

Additional Potential Impacts

The Port of Seattle faces stiff competition from the Port of Tacoma as well as from other ports along the Northwestern seaboard, such as the Port of Vancouver and Port of Prince Rupert. Described in more detail in the Port and Industrial Business Impacts section, there could be additional potential impacts beyond those quantified in this section in the case that the proposed arena causes reliability issues to an extent that trigger carriers or customers to move cargo or operations to other ports.

Economic Impacts to SoDo Industrial Businesses

In addition to Port-related trips, other industrial businesses within the SoDo area will be impacted by additional arena visitor traffic. This section quantifies the total impacts of arena-related traffic on local truck traffic and the operations of non-port related businesses in SoDo.

Industrial Business in SoDo

To understand the scale of the truck delay impacts, we include a comprehensive review of industrial businesses within the SoDo Area. Hoovers Business Data was used to examine the industrial businesses within the greater SoDo study area⁵. For purposes of this analysis, industrial businesses are generally defined as the manufacturing, wholesale trade, and transportation and warehousing industry sectors⁶. Approximate 40 percent of the businesses and one-third of the employment in the area is supported by these industrial businesses in SoDo.

Exhibit E-19: SoDo Study Area Industrial Businesses

2-Digit NAIC Industry Sector	# of Businesses	Employees	Revenue (Millions)
Manufacturing	82	2,446	\$252.0
Wholesale Trade	141	1,712	\$214.0
Transportation and Warehousing	52	760	\$17.0
Total SoDo Industrial Businesses	275	4,918	\$483.0

Source: Hoovers Business Data, ESRI, and Pro Forma Advisors

⁵ See the Real Estate and Land Use Analysis section for a definition of the SoDo Study Area.

⁶ Based on 2-digit NAICs codes.

Direct Trucking Delay Cost to Non-Port Industrial Businesses

The Port and SoDo Industrial Business Truck Impact section projects the traffic delay impacts to non-Port industrial businesses during arena events, as shown below.

Exhibit E-20: Summary of Non-Port Trucking Delay Cost Impacts

	Trips	Annual Truck Delay Cost
Total Truck Trips	185	\$38,351

Source: Tioga Group

Total Economic Impact of Truck Cost Delay on Other Industrial Businesses

For local industrial businesses, cargo movements may be completed by company owned trucks and/or trucking companies. Rather than assuming a trucking company absorbs the cost, we assume the cost is absorbed by industrial businesses or is passed along to customers. Again, using a worst case, we assume that there is a reduction in demand for the full amount of the truck cost delay. For these impacts, we estimate the overall impacts of a reduction in industrial revenues equal to the amount of the truck cost delay.

Exhibit E-21: Estimated Distribution of Reduction in SoDo Industrial Revenues

2-Digit Industry Sector	SoDo Industrial Employee Distribution	Distribution of Truck Delay Costs
Manufacturing	50%	\$19,074
Wholesale Trade	35%	\$13,350
Transportation and Warehousing	15%	\$5,927
Total		\$38,351

Source: Hoovers Data, Tioga Group, and Pro Forma Advisors

An IMPLAN model, aggregated to the two-digit NAICS level for the appropriate industrial sectors, was used to estimate the indirect and induced impacts.

Exhibit E-22: Impacts of a Reduction in Industrial Business Final Demand from Truck Delay Cost

Reduction in Industrial Business	Initial Industry Change	Total impacts	
		City of Seattle	King County
Output	\$38,351	\$58,230	\$59,900
Earnings		\$18,914	\$19,434
Jobs		0.2	0.3

Source: Tioga Group, Pro Forma Advisors and IMPLAN

If SoDo industrial businesses were to have a loss in demand due to the truck traffic delay costs, there are additional indirect and induced impacts of approximately \$19,000 in both the City of Seattle and \$22,000 in King County economies due to the lower household spending by truckers.

In total, non-Port related trucking delay cost generate a displacement impact of \$58,000 in the City of Seattle and approximately \$60,000 in King County.

Additional Potential Impacts

Similar to Port truck traffic delays there are additional concerns beyond the direct cost of traffic delays. For non-Port industrial businesses reliability of goods movement may also be a significant potential risk with the development of the arena, particularly for businesses such as brokers and freight forwarders that compete with relatively narrow margins. Although increased trucking costs would initially be borne by the truckers themselves, in the long run they must be passed on to the customers either directly or through the brokers. While the extent of the anticipated delay and its direct costs has been quantified, there are additional risks that these displacement impacts are focused on only a few businesses within SoDo.

A new arena may also have additional impacts on industrial businesses in that the arena may increase property values in the area and make it challenging for industrial businesses to afford to remain in the area. SoDo property values have increased across the last decade. However, there are many factors increasing property values in SoDo and the direct relationship between a new sports venues and property values is not clear. Property values do not directly impact economic activity and are not included in economic impact analysis. However, property value impacts are discussed in a qualitative manner in the Real Estate and Land Use section.

Port and Industrial Business Traffic Delay Impacts Summary

Exhibit E-23: Port and Industrial Business Traffic Delay Impact Summary

Output Impacts	City of Seattle	King County
Port Truck Traffic Delay (Upper Limit)	\$152,100 - \$168,000	\$171,600 - 172,300
Non-Port Industrial Business Truck Traffic Delay	\$58,200	\$59,900
Total Port and Industrial Business Impacts	\$210,300 - \$226,300	\$231,500 - \$232,200

Source: Pro Forma Advisors

Under the lower 2.8 million TEU assumption, total Port and industrial impacts would be in the range of \$180,000 to \$190,000 in the City of Seattle economy and approximately \$195,000 in the King County (including Seattle) economy.

Scenario A Net Arena Impacts

Accounting for substitution impacts and traffic delay impacts to the Port and industrial businesses caused by the arena, the City of Seattle and King County economies are expected to have positive net economic impacts for Scenario A, as shown below.

Exhibit E-24: Net Economic Impacts of Scenario A

	City of Seattle	King County
Gross Arena Impacts	\$ 257.8 Million	\$313.1 Million
<i>Adjusted by</i>	<i>Adjusted by</i>	<i>Adjusted by</i>
Substitution Impacts	\$21.7 - \$69.7 Million	\$27.1 - \$82.4 Million
<i>Less</i>	<i>Less</i>	<i>Less</i>
Port & Industrial Business Impacts	\$210,000 - \$226,000	\$231,000 - \$232,000
=	=	=
Net Economic Impacts	\$187.9 - \$235.9 Million	\$230.5 - \$285.8 Million

Source: Pro Forma Advisors

It should be noted that there would be additional potential impacts if Port carriers perceived reliability issues in the area and shifted cargo away from the Port of Seattle or move to another location. There are several factors that go into these decisions and this risk could not be quantified. More description of these concerns can be found in the Port and Industrial Business Impacts section.

Alternative Scenarios

As part of the Project, Pro Forma Advisors prepared financial projections for two alternate scenarios. The first scenario is based on an increased capacity of the current proposed SoDo location. The base case assumes an 18,000 seat arena whereas alternate Scenario B assumes a 20,000 seat capacity. The second and third scenarios (Alternatives C&D) remained constant at 18,000 seats but the location changed from SoDo to the current Key Arena and Memorial Stadium locations.

Consistent with the base case scenario (Scenario A), operating projections for the alternate scenarios use current, real dollars and include revenue and expense estimates for an NBA team, NHL team and eighty-two other events (e.g. concerts, family shows, other sporting events, etc.). Amounts assume the arena operator owns both teams and accordingly retains 100% of the revenues and pays 100% of the related expenses.

The economic impacts of the alternative scenarios are evaluated using the methodology, as described in the Analysis Framework section. The following section summarizes the results of the analysis for the alternative scenario and highlights key input differentiations between the Project, Scenario A and the alternatives, Scenario B, C & D.

Scenario B - SoDo Location - 20,000 Seats

The Project is estimated to generate \$34 million in operating income annually based on a capacity of 20,000 seats. This is primarily due to increased attendance levels due to the addition of 2,000 incremental seats. The increased attendance resulted in corresponding increases in ticket, concession and merchandise revenues. The growth in revenue was offset by increases in part-time, seasonal event staffing levels and concessions, merchandise, sales and other expenses.

Exhibit E-25: Operating Projections - Capacity 20,000 Seats (@Build Out)

(\$ millions, not-inflated)

Net Ticket, Suite and Club Seat Revenue	\$88.8
Local Media	\$35.8
Sponsorship and Naming Rights	\$22.4
Concessions and Merchandise	\$20.9
Preseason, Playoff and Other Revenue	\$13.5
Total Local Revenue	\$181.5
National Revenue	\$53.5
Less: League Assessment Expense	-\$6.3
NET REVENUE	\$228.7
Player and Team Salaries and Benefits	\$123.4
Other Team Costs	\$17.1
Event Staffing	\$9.5
Other Expenses	\$44.7

TOTAL EXPENSES	\$194.7
OPERATING INCOME	\$34.0

Source: Pro Forma Advisors

Economic Impacts

One-Time Construction Impacts

The construction costs are assumed to be the same for all of the alternatives and, thus, total one-time construction impacts are assumed to be the same as well. Total construction impacts are presented in the table below.

Exhibit E-26: Total Construction Impacts

Total Construction Impacts	City of Seattle			King County		
	Direct	Indirect & Induced	Total Impacts	Direct	Indirect & Induced	Total Impacts
Output (Millions)	\$351.4	\$128.9	\$480.4	\$354.2	\$179.2	\$533.4
Earnings (Millions)	\$215.6	\$50.2	\$265.8	\$216.5	\$72.0	\$288.5
Jobs	2,335	863	3,199	2,349	1,220	3,570

Source: Pro Forma Advisors

Annual Ongoing Impacts

Onsite Arena Annual Impacts

Scenario B, a 20,000-seat arena at the SoDo site, has higher projected attendance revenues and expenditures than Scenarios A, C and D.

Both the direct onsite impacts and the local arena operating purchases are expected to be slightly higher than the 18,000 seat arena. It should be noted that the economic impacts include additional total revenues generated to 3rd party promoters, rather than only the share to the arena owner shown in the projections.

Exhibit E-27: Total Operations Revenues and Adjusted Direct Onsite Impacts

Scenario	Projected Revenues (Millions)	Direct Impacts (Millions)	
		City of Seattle	King County
Scenario B - 20,000 Seat Seattle Arena	\$253.1	\$165.8	\$171.0

Source: Pro Forma Advisors

Exhibit E-28: Scenario B - Locally Purchased Expenditure Summary

Summary	Total Expenditures	Local Purchases	
		City of Seattle	King County
Non-Wage	\$50.2	\$16.2	\$19.6
Wage			
Facility Staff, Event Staff, Team Staff	\$36.2	\$12.2	\$29.7
Players	\$109.8	\$15.6	\$20.8
Subtotal Wage	\$146.0	\$27.8	\$50.5

Source: Pro Forma Advisors and IMPLAN

Offsite Impacts

Scenario B is expected to have the same per capita offsite spending as Scenario A, but the greater attendance will generate greater total offsite spending.

Exhibit E-29: Scenario B Total Visitor Spending Table

	Within City	Within County	Outside of County	Outside of State	Total
Estimated Attendance	340,536	693,455	529,640	228,596	1,792,227
Estimated Visitor Spending					
Lodging	\$44,843	\$238,339	\$3,419,624	\$10,294,255	\$13,997,061
Souvenirs/Gifts/Retail	\$572,989	\$3,644,258	\$5,282,693	\$4,378,017	\$13,877,957
Bus	\$23,763	\$119,128	\$179,377	\$243,467	\$565,735
Parking	\$988,873	\$3,847,934	\$3,487,439	\$1,645,759	\$9,970,005
Auto Travel	\$674,773	\$3,320,033	\$3,144,878	\$2,944,193	\$10,083,877
Food/Beverage	\$1,488,672	\$5,288,748	\$5,979,108	\$4,477,523	\$17,234,050
Entertainment	\$322,989	\$1,611,422	\$2,055,499	\$983,973	\$4,973,884
Total Visitor Off-Sites	\$4,116,901	\$18,069,861	\$23,548,619	\$24,967,187	\$70,702,568

Source: Pro Forma Advisors and 2006 Beyers Key Arena Economic Impact.

Traveling Team/Performer offsite spending is expected to be the same between all scenarios. The following table summarizes the local purchase adjustments for the visitor and traveling performing offsite spending.

Exhibit E-30: Scenario B - Local Offsite Purchases

Scenario A Offsite Spending Summary	Total Spending (Millions)	Local Purchases (Millions)	
		City of Seattle	King County
Lodging	\$14.8	\$11.3	\$13.4
Souvenirs/Gifts/Retail	\$13.9	\$12.5	\$13.9
Food/Beverage	\$17.6	\$14.1	\$15.8
Parking	\$10.0	\$10.0	\$10.0
Other (Travel and Entertainment)	\$15.8	\$5.3	\$9.9
Total Offsites	\$72.0	\$53.2	\$63.0

Source: Pro Forma Advisors

Total Annual Ongoing Impacts

The table below presents the total gross annual impacts of Scenario B.

In Scenario B, a 20,000-seat arena at the SoDo site, direct impacts from on-site arena operations and off-site visitor expenditures are \$211 million annually to the City of Seattle. The indirect and induced impact from all activities is approximately \$65 million annually.

The total of all annual impacts is approximately \$276 million with approximately 2,200 total new jobs in the City of Seattle. Of the \$276 million in output, \$108 million is related to annual earnings in the City of Seattle.

In Scenario B, direct impacts from on-site arena operations and off-site visitor expenditures are \$221 million annually to King County. The indirect and induced impact from all activities is approximately \$112 million annually.

The total of all annual impacts is approximately \$334 million with a total of 2,700 new jobs in King County. Of the \$334 million in output, \$136 million is related to annual earnings in King County.

Exhibit E-31: Scenario B Total Impacts

Total Ongoing Annual Arena Impacts	City of Seattle			King County		
	Direct	Indirect & Induced	Total Impacts	Direct	Indirect & Induced	Total Impacts
Onsite Arena Impacts						
Output (Millions)	\$165.8	\$42.5	\$208.4	\$171.0	\$76.0	\$247.0
Earnings (Millions)	\$58.8	\$16.6	\$75.4	\$63.9	\$30.1	\$94.0
Jobs	1,086	366	1,452	1,086	615	1,701
Offsite Arena Impacts						

Total Ongoing Annual Arena Impacts	City of Seattle			King County		
	Direct	Indirect & Induced	Total Impacts	Direct	Indirect & Induced	Total Impacts
Output (Millions)	\$44.7	\$22.1	\$66.8	\$50.3	\$36.4	\$86.7
Earnings (Millions)	\$23.4	\$8.9	\$32.3	\$27.3	\$14.9	\$42.1
Jobs	614	150	764	725	247	972
Onsite and Offsite Impacts						
Output (Millions)	\$210.5	\$64.6	\$275.2	\$221.2	\$112.4	\$333.7
Earnings (Millions)	\$82.2	\$25.5	\$107.7	\$91.2	\$45.0	\$136.2
Jobs	1,700	516	2,216	1,811	862	2,673

Source: Pro Forma Advisors

Scenario C and D - Key Arena and Memorial Stadium Locations

Scenarios C and D is estimated to generate \$30.4 million in operating income annually based on a capacity of 18,000 seats. This is consistent with the SoDo (Scenario A) projections. This is due to the proximity of both locations and the lack of any information which would suggest there would be any differences in the operations of the two locations.

Exhibit E-32: Operating Projections - Capacity 18,000 Seats (@Build Out)

(\$ millions, not-inflated)

Net Ticket, Suite and Club Seat Revenue	\$83.2
Local Media	\$35.8
Sponsorship and Naming Rights	\$22.4
Concessions and Merchandise	\$19.5
Preseason, Playoff and Other Revenue	\$12.8
Total Local Revenue	\$173.7
National Revenue	\$53.5
Less: League Assessment Expense	-\$5.9
NET REVENUE	\$221.3
Player and Team Salaries and Benefits	\$123.4
Other Team Costs	\$17.1
Event Staffing	\$8.6
Other Expenses	\$41.9

TOTAL EXPENSES	\$191.0
OPERATING INCOME	\$30.4
Less: Net Playoff Revenue	\$3.5
OPERATING INCOME BEFORE PLAYOFFS	\$26.9

Source: Pro Forma Advisors Economic Impacts

Economic Impacts

One-Time Construction Impacts

The construction costs are assumed to be the same for all of the alternatives and, thus, total one-time construction impacts are assumed to be the same as well. Total construction impacts are presented in the table below.

Exhibit E-33: Total Construction Impacts

Total Construction Impacts	City of Seattle			King County		
	Direct	Indirect & Induced	Total Impacts	Direct	Indirect & Induced	Total Impacts
Output (Millions)	\$351.4	\$128.9	\$480.4	\$354.2	\$179.2	\$533.4
Earnings (Millions)	\$215.6	\$50.2	\$265.8	\$216.5	\$72.0	\$288.5
Jobs	2,335	863	3,199	2,349	1,220	3,570

Source: Pro Forma Advisors

Annual Ongoing Impacts

Onsite Arena Annual Impacts

As described above, the projected revenues, expenditures and regional adjustments are the same for Scenario A, the 18,000 seat Seattle arena, and Scenarios C and D, an 18,000-seat arena at the Key Arena and Memorial Stadium sites. Thus, the anticipated onsite arena impact is anticipated to be the same between the two scenarios. It should be noted that the economic impacts include total revenues generated to 3rd party promoters, rather than only the share to the arena owner.

Variations are anticipated with the offsite impacts between Scenario A & Scenarios B and C.

Offsite Impacts

Minor variations in offsite spending are anticipated at the Key Arena and Memorial Stadium sites, such as lower parking revenues (due to the greater presence of public transportation) as well as higher entertainment and souvenirs, gifts, and retail (due to greater retail and entertainment options) and slightly lower food and beverage spending.

Exhibit E-34: Scenario C and D Total Visitor Spending Table

	Within City	Within County	Outside of County	Outside of State	Total
Estimated Attendance	313,786	638,296	487,771	209,346	1,649,199
Estimated Visitor Spending					
Lodging	\$41,257	\$218,733	\$3,145,424	\$9,418,837	\$12,824,250
Souvenirs/Gifts/Retail	\$683,492	\$3,344,914	\$5,345,847	\$4,204,380	\$13,578,633
Bus	\$21,912	\$109,687	\$165,260	\$222,848	\$519,706
Parking	\$594,767	\$2,901,240	\$1,735,515	\$677,346	\$5,908,868
Auto Travel	\$622,252	\$3,058,325	\$2,898,009	\$2,697,873	\$9,276,459
Food/Beverage	\$1,214,069	\$4,542,012	\$5,495,271	\$4,099,085	\$15,350,437
Entertainment	\$297,854	\$1,483,400	\$1,906,546	\$900,558	\$4,588,358
Total Visitor Off-Sites	\$3,475,603	\$15,658,311	\$20,691,873	\$22,220,926	\$62,046,712

Source: Pro Forma Advisors and 2006 Beyer's Key Arena Economic Impact.

Traveling Team/Performer offsite spending is expected to be the same between all scenarios. The following table summarizes the local purchase adjustments for the visitor and traveling performing offsite spending.

Exhibit E-35: Scenarios C and D - Local Offsite Purchases

Scenario A Offsite Spending Summary	Total Spending (Millions)	Local Purchases (Millions)	
		City of Seattle	King County
Lodging	\$13.7	\$10.4	\$12.4
Souvenirs/Gifts/Retail	\$13.6	\$12.2	\$13.6
Food/Beverage	\$15.7	\$12.6	\$14.1
Parking	\$5.9	\$5.9	\$5.9
Other (Travel and Entertainment)	\$14.5	\$4.9	\$9.1
Total Offsites	\$63.4	\$46.0	\$55.1

Source: Pro Forma Advisors

Total Annual Ongoing Impacts

The table below presents the total gross annual impacts of the arena at the Key Arena/Memorial Stadium site.

In Scenarios C and D, an 18,000-seat arena at the Key Arena and Memorial Stadium sites, direct impacts from on-site arena operations and off-site visitor expenditures are \$195 million annually to the City of Seattle. The indirect and induced impact from all activities is approximately \$58 million annually.

The total of all annual impacts is approximately \$253 million with approximately 2,000 total new jobs in the City of Seattle. Of the \$253 million in output, \$101 million is related to annual earnings in the City of Seattle.

In Scenarios C and D, direct impacts from on-site arena operations and off-site visitor expenditures are \$205 million annually to King County. The indirect and induced impact from all activities is approximately \$103 million annually.

The total of all annual impacts is approximately \$308 million with a total of 2,400 new jobs in King County. Of the \$308 million in output, \$128 million is related to annual earnings in King County.

Exhibit E-36: Scenarios C and D Total Impacts

Total Ongoing Annual Arena Impacts	City of Seattle			King County		
	Direct	Indirect & Induced	Total Impacts	Direct	Indirect & Induced	Total Impacts
Onsite Arena Impacts						
Output (Millions)	\$156.7	\$39.7	\$196.3	\$161.8	\$71.6	\$233.4
Earnings (Millions)	\$57.9	\$15.4	\$73.4	\$63.0	\$28.3	\$91.4
Jobs	1,005	338	1,343	1,005	575	1,580
Offsite Arena Impacts						
Output (Millions)	\$37.8	\$18.7	\$56.5	\$42.9	\$31.2	\$74.1
Earnings (Millions)	\$19.9	\$7.5	\$27.4	\$23.4	\$12.7	\$36.2
Jobs	550	126	676	652	211	863
Onsite and Offsite Impacts						
Output (Millions)	\$194.5	\$58.4	\$252.9	\$204.7	\$102.8	\$307.5
Earnings (Millions)	\$77.8	\$23.0	\$100.8	\$86.5	\$41.1	\$127.5
Jobs	1,555	464	2,019	1,657	786	2,443

Source: Pro Forma Advisors

Additional Impacts

Minority and Women Business Enterprise Impacts

Pro Forma Advisors was unable to quantify the construction and operating impact associated with the use of minority and women owned business enterprises (MWBE). This is since the Developer had yet to execute applicable construction and operating agreements and therefore the data is not available.

It is expected that the Developer will achieve MWBE spending patterns consistent with those obtained during the construction of Safeco Stadium and CenturyLink Field. This initiative is also consistent with other markets. Within the last decade new several new stadiums and arenas were erected utilizing MWBE businesses for 25% to 40% of construction and development expenditures and 15% to 25% of professional service spending.

Utilizing MWBE businesses for standard services (e.g. promotional giveaways, transportation, food service, etc.) is a current league office initiative in both the NBA and NHL.

Quality of Life Considerations

In addition to the tangible economic impacts of the proposed SoDo or Key Arena/Memorial Center Arena, there are often additional intangible quality of life benefits of NBA and NHL franchises. Many of these impacts are subjective, generate more benefit to some residents than others (particularly sports fans), and are difficult to measure. This section describes key potential quality of life benefits.

The Sports Franchise as an Amenity

The NBA/NHL teams will add to the entertainment/recreation amenities available to Seattle and King County residents. In addition to Mariner's baseball games (MLB), Seahawk football games (NFL), the Storm basketball games (WNBA), Sounders FC (MLS) soccer games, and university sports, residents will have the choice of attending 80 additional NBA or NHL events. The addition of the NBA/NHL teams represents an expansion of the recreational options of Seattle and King County residents and may lift the overall status of the City and region. (It should be noted that the sports team represent a greater amenity to those most interested in sports.)

Technology and digital and social media are the fastest growing sectors in the nation and, specifically, within Seattle. The growth of these industries in Seattle and King County is tethered to major King County technology sector anchors such as Microsoft and Amazon.com, but many technology and digital and social media firms are able to locate their business in several locations and often are vying for employees that may consider job opportunities at a number of firms within "the Silicon Coast." Creative economy businesses such as technology and digital and social media firms grow based on the quality of their workers and often complain of the limited supply of qualified workers. Young professionals working in the creative economy have been known to prefer businesses located in amenity rich locations.

An NBA team is also a unique amenity that is not offered in every City. There are more than 30,000 incorporated cities in the United States and only 29 cities (Los Angeles has two teams) that have NBA teams. The location of an NBA or NHL franchise (equally true for all the sports facilities) can be a signal for visitors and the nation that a city has an active civic and recreation life. The location of a franchise may signal that a city is of a certain caliber.

Regional Camaraderie & Pride

Two of the main direct quality of life benefits from a sports franchise are the regional camaraderie that can be generated through a shared sports team and civic pride. In addition to the straight entertainment value of following a sports team, sports franchises provide an opportunity for existing friends and families to get together and creates a common link between residents. For both fans and the average resident, sports franchises can strengthen individuals' sense of "community." When sports franchises are doing well, and even in cases when they are not, sports franchises can be a source of civic pride.

Dallas Mavericks' 2011 Victory Parade



Source: Copyright 2011 NBAE (Photo by Glenn James/NBAE via Getty Images) via Danny Bollinger, Creative Commons

National Awareness/Marketing Value

As mentioned above, only a limited amount of US cities and regions have an NBA or NHL franchise. Sports franchises can help to promote national awareness of the region and, with appearances on television and general sports celebrity, sports franchises can act effectively as indirect national and global marketing. In the regular 2013 season, TNT averaged 2 million viewers for its 52 game broadcasts and in 2012 ABC averaged 5,421,000 viewers for its 15 prime time broadcasts according to Nielsen. Game 7 of the 2013 NBA finals captured a viewership of 17.7 million according to Nielsen.

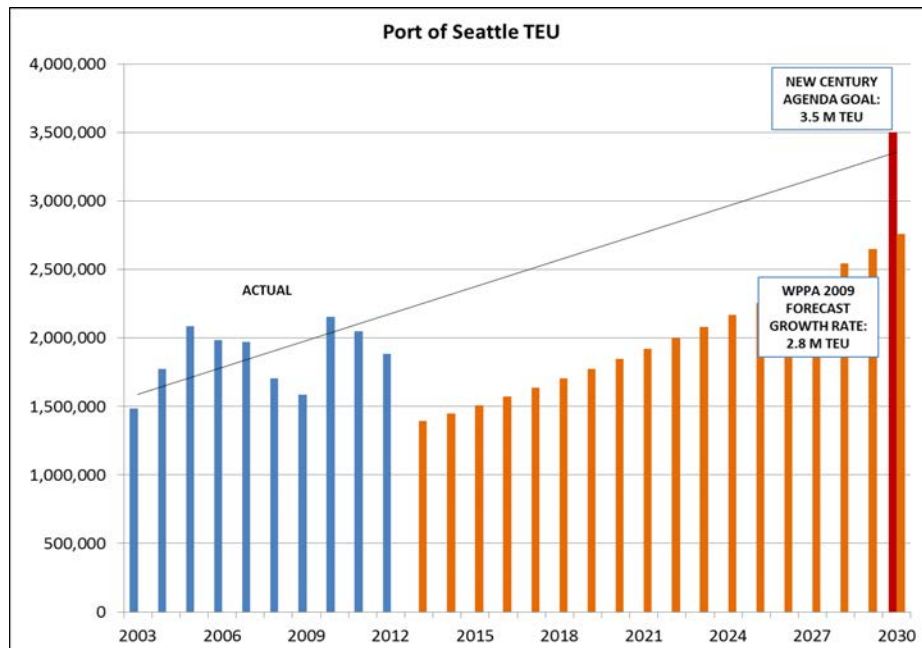
While viewers are tuning in for the sports, in both regular and play off games, the names of cities are prominently mentioned by game announcers and are often displayed on jerseys, and within the arena. While generating direct visitors for only the smaller percentage of non-regional fans of the team, a sports franchise provides additional exposure of a city or region to the general public and may help overall regional tourism. Private companies pay hundreds of millions for naming rights of an arena, suggesting there is a significant marketing value of a city or region having their name attached to the sports teams playing within the arena.

Port and Industrial Business Impacts

The Port of Seattle and industrial businesses in the Duwamish MIC are important employers within the City of Seattle and King County. In 2009, a report produced by the Port of Seattle found that in 2007 the seaport itself created 21,695 direct jobs and another 34,561 indirect and induced jobs. Seaport activity is responsible for another 135,100 import/export related jobs in Washington State. The Port of Seattle's 2012 operating revenue from the marine terminals was approximately \$85.7 million (Port of Seattle CAFR 2012, p. 56). The value of import and export trade through the Port was about \$30 billion in 2012 (Annual Report, p 19 and 2), although much of that trade moves to and from the Port by rail. Further, international trade is a key driver of the Washington State's economy, with ties to 40 percent of jobs in the state⁷. Given the importance of the Port, the analysis considers major concerns posed by the new arena.

As explained above and as Exhibit PI-1 shows, Port of Seattle container cargo was down in 2012 due to the shift of Grand Alliance vessel calls to Tacoma. The Port has set a 3.5 million TEU goal set in its New Century Agenda. It is not possible to predict with certainty if or when the Port will meet this goal. For purposes of this analysis it assumed that the 3.5 million TEU goal is reached in 2030, which is the horizon year for the analysis.

Exhibit PI-1: Port of Seattle Actual and Target TEU



Source: www.portseattle.org, 2009 WPPA/WSDOT Marine Cargo Forecast

Tioga prepared a second, much more conservative growth scenario. Based on year-to-date imports results through June, the July 2013 Global Port Tracker import forecast, a prorated export forecast, and a flat domestic forecast compared to 2012, Tioga estimated annual 2013 TEU at 1,394,094. As shown in Exhibit PI-1, Tioga then applied a 4.1%

⁷ www.wcit.org

annual 2007-2030 growth rate derived from the 2009 Marine Cargo Forecast prepared for the Washington Public Port Association and WSDOT to yield an estimated 2.8 million TEU in 2030.

The study evaluates the Project's potential impacts on the Port of Seattle and industrial businesses within the SoDo study area, particularly in relation to increased traffic congestions from events/games at the proposed SoDo site. The first portion of the following section quantifies the direct traffic congestion delay to Port cargo within the SoDo study area. The second portion of the section quantifies the truck delay cost, discusses current status of the Port and the potential impacts and risks that increased traffic congestion may pose to the Port, and describes potential traffic recommendations. The final section quantifies the traffic delay costs to non-Port related industrial businesses in SoDo.

It should be noted that the results from the Port and non-Port direct traffic delay analyses have been used to estimate the economic impacts to the Port and SoDo industrial businesses in the previous section.

Seattle Arena Port Truck Impacts

Overview

The Port truck impacts of event-induced Stadium District congestion following arena development will depend on:

- ▶ The number and routing of Port trucks operating in the hours affected by stadium and arena events.
- ▶ Delays on normal terminal access routes compared to alternate routes.
- ▶ The effectiveness of traffic control measures or other mitigations.

Port Truck Projections

Exhibit PI-2 shows the expected port truck trips when and if the total port throughput reaches 3.5 million annual TEU (the Port's "New Century Agenda" goal, assumed to be reached in 2030 for purposes for this analysis). These estimates are based on 2.2 truck trips per container, 250 working days per year and 1.76 TEU/container. The number of daily truck trips associated with 3.5 million TEU was estimated using: 1) a split of 40% trucked and 60% moved by rail; 2) an average of 1.76 TEU/container to convert TEU counts to container counts; 3) an average of 2.2 truck trips per container to allow for round trips and repositioning; and 4) 250 working weekdays per year. These factors yielded a daily average of 13,664 Port truck trips.

Exhibit PI-2: Average Daily Truck Trips for 3.5 Million TEUs and 60% IM

Terminal	to/from SIG	to/from Argo	Total Trucked to Local/Regional	Total Truck Trips	% of All Trucked
T-5	37	693	2,224	2,954	22%
T-18	1,930	827	2,515	5,272	39%
T-30	1,153	384	1,127	2,665	20%
T-46	1,200	400	1,173	2,773	20%
Total	4,320	2,304	7,039	13,664	100%

Source: Port of Seattle – T-30 data include former T-25

For the more conservative 2.8 million TEU forecast there would be an estimated 10,776 truck trips.

Exhibit PI-3 applies the expected truck trip distribution to these projections to identify the daily volume on routes vulnerable to delay from Stadium District events.

Exhibit PI-3: Expected Daily Port Truck Trip Distribution Pattern

Route	Distribution Pattern	T-25/30/46	T-5/18
3.5 M TEU			
Local/Regional	41%	2,301	4,739
North on Interstate 5	8%	449	925
South on I-5, SR 509, SR 599	18%	1010	2081
East on I-90	8%	449	925
Local Seattle	7%	393	809
SIG	42%	2,353	1,967
North		1,177	983
South		1,177	983
ARGO	17%	784	1,520
Total	100%	5,438	8,226

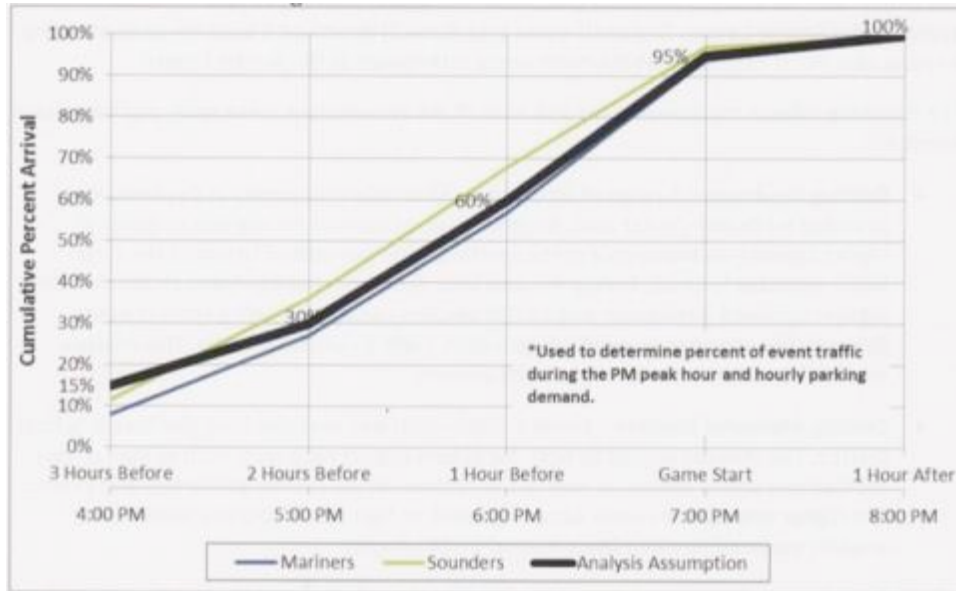
Source: Port of Seattle, Tioga Analysis

Vulnerable trip routes are highlighted in Exhibit PI-3. The proximity of T46 and T-25/30 to the arena site makes all truck trips in event hours subject to delay of some kind. Trips between T-5 and T-18 and the north BNSF SIG gate would also be affected, as explained in more detail below.

Truck Trip Vulnerability Times

As Exhibit PI-4 shows, the expected influx of event traffic and congestion lasts from 4 PM to 8 PM for a 7 PM event.

Exhibit PI-4: Event Traffic Arrival Patterns (DEIS Figure 1-5)



Source: Seattle Arena Draft EIS

Exhibit PI-5 provides hourly truck traffic patterns for marine terminal gates (based on 2005 T-18 data). The exhibit highlights the event-vulnerable 4–8 PM period. Port terminals have usually closed their gates at 4PM (“day gates”) With day gates, 5.1% of the truck traffic is expected to move in this time period. Port terminals occasionally extend their gate hours (“night gates”) to cope with late vessels or high container volumes. As the Port approaches the 3.5 million TEU goal, the use of night gates will become more prevalent and eventually become the norm. . The analysis assumes regular night gates with the 3.5 million TEU volume in 2030. With night gates, 13.6% of the intermodal and 4.9% of the local and regional truck traffic is expected to move in the event-vulnerable time period, or 11.0% of the total.

Exhibit PI-5: Terminal Gate Traffic Patterns with Event-vulnerable Zone

Hour Begins	Day Gate Only	With Night Shift Gates		
		IM Cargo*	Other Cargo	Combined (70% IM + 30% Other)
12:00 AM	0.0%	7.0%	1.4%	5.3%
1:00 AM	0.0%	6.1%	1.2%	4.6%
2:00 AM	0.0%	4.4%	0.9%	3.4%
3:00 AM	0.0%	2.7%	0.3%	2.0%
4:00 AM	0.0%			0.0%
5:00 AM	0.0%			0.0%
6:00 AM	0.0%			0.0%
7:00 AM	8.8%	4.4%	8.0%	5.5%
8:00 AM	13.1%	6.5%	11.8%	8.1%
9:00 AM	11.7%	5.8%	11.4%	7.5%
10:00 AM	10.1%	5.0%	9.1%	6.2%
11:00 AM	11.2%	5.6%	11.7%	7.4%
12:00 PM	4.8%	2.4%	3.5%	2.7%
1:00 PM	14.1%	7.0%	12.3%	8.6%
2:00 PM	12.3%	6.1%	11.2%	7.6%
3:00 PM	8.8%	4.4%	8.4%	5.6%
4:00 PM	5.1%	2.5%	2.7%	2.6%
5:00 PM	0.0%	0.2%	0.0%	0.1%
6:00 PM	0.0%	4.4%	0.9%	3.3%
7:00 PM	0.0%	6.5%	1.3%	5.0%
8:00 PM	0.0%	5.8%	1.3%	4.4%
9:00 PM	0.0%	5.0%	1.0%	3.8%
10:00 PM	0.0%	5.6%	1.3%	4.3%
11:00 PM	0.0%	2.4%	0.4%	1.8%
Total	100.0%	100.0%	100.0%	100.0%
Event-vulnerable	5.1%	13.6%	4.9%	11.0%

*Assumes 50% of IM move at night and 10% of Regular Traffic

Source: Port of Seattle, Tioga Analysis

Exhibit PI-6 applies these percentages to projected Port truck trips at 3.5 million annual TEU (nominally assumed to occur in 2030). Not all these truck trips would be affected, or affected equally. The affected trips are highlighted.

Exhibit PI-6: Event-Vulnerable Port Trips

Route	Distribution Pattern 3.5 M TEU	T-25/30/46	T-5/18	Trips 4-8PM Day Gates Only	Trips 4-8PM w/Night Gates
Local/Regional	41%	2,301	4,739	118	112
North on Interstate 5	8%	449	925	23	22
South on I-5, SR 509, SR 599	18%	1010	2081	52	49
East on I-90	8%	449	925	23	22
Local Seattle	7%	393	809	20	19
SIG	42%	2,353	1,967	121	321
North		1,177	983	111	295
South		1,177	983	60	161
ARGO	17%	784	1,520	40	107
Total	100%	5,438	8,226	330	675

Source: Port of Seattle, Tioga Analysis

Exhibit PI-6 indicates that about 675 daily truck trips would be affected to some degree by event-related traffic if and when the Port reaches 3.5 million TEU and is regularly operating night gates. This is roughly 5% of the 13,664 total estimated daily trips.

At 2.8 million TEU, the number of affected trips with day gates would be 260 and with night gates 532.

As Exhibit PI-6 suggests most trips to and from T-46 and T-25/30 would be affected due to their proximity to the project site and the Stadium District in general.

- ▶ Trips between T-25/30/46 and the freeway, a total of 93 with night gates, would ordinarily use S. Atlantic St. The alternative would be E. Marginal Way and SW Spokane Street.
- ▶ Trips between T-25/30/46 and local Seattle points in the Duwamish MIC or other areas (19 with night gates) would ordinarily use E. Marginal Way to an east-west access point (e.g. S. Horton). The alternative would be S. Atlantic.
- ▶ Trips between T-25/30/46, T-5/18, and the North SIG gate (295 with night gates) would use the North SIG driveway (constructed on a BNSF franchised right of way which runs parallel to Colorado Avenue). This driveway accesses Atlantic approximately 200 feet east of railroad crossing on the south side of Atlantic Street.
- ▶ Trips between T-25/30/46 and the South SIG gate (161 with night gates) would use E. Marginal Way to S. Hanford.
- ▶ Trips between T-25/30/46 and Argo Yard (107 with night gates) would use E Marginal Way and the East Marginal Way Grade Separation ("Argo Connector", when fully complete)

Other trips to and from T-5 and T-18 would be less affected.

- ▶ Trips between T-5/18 and the freeways would ordinarily use SW Spokane St. They may be affected by event traffic NB on I-5 or EB on I-90, but not within the study area.
- ▶ Trips between I-5/18 and local Seattle points would likewise use SW Spokane St. and access the SODO area from the south, away from the Stadium District congestion. Impacts in this area are expected to be small.
- ▶ Trips between T-5/18 and the south SIG gate would likely use SW Spokane St./E. Marginal Way to S. Hanford and experience only minor event-related delay.
- ▶ Trips between T-5/18 and Argo would likely use the Argo Connector.

T-25/30/46 Truck Routes and Impacts

Truck traffic to and from Terminal 25/30 and Terminal 46 (T-25/35/46) moves two ways:

- ▶ East and west on S. Atlantic Street
- ▶ North and south on Alaskan Way S./E. Marginal Way

S. Atlantic St. (Exhibit PI-7) connects the two terminals to:

- ▶ SR 519 and I-90/I-5 via Edgar Martinez Dr. S.
- ▶ 1st Ave. South and 4th Ave. South accessing SODO area customers.
- ▶ The North SIG driveway (constructed on a BNSF franchised right of way which runs parallel to Colorado Avenue). E. Frontage Rd. South or 1st Ave. South to reach customers north of the Stadium District.

Exhibit PI-7: S Atlantic St Terminal Access



Source: Google Earth

The S. Atlantic St./Edgar Martinez Dr. S. route is heavily affected by existing stadium events as it passes between the stadium and the large parking garage to the south. The Seattle Arena Draft EIS (DEIS) indicates that this route will incur progressively serious delays under area event conditions.

The spur track crossing Atlantic St just east of the Terminal 46 entrance at East Marginal Way limits Port of Seattle business operations as well as connectivity to downtown. The Alaskan Way Viaduct/tunnel replacement project addresses the freight and vehicle movements to and from Terminal 46, East Marginal Way, BNSF North SIG, and I-5/90 access by constructing an overpass (known as Little 'h', Exhibit PI-8) and working with BNSF to create a truck-only driveway entrance/exit to North SIG running parallel to the Colorado Avenue alignment.

Little 'h'

Once completed in 2014, all modes of travel will have the ability to bypass the BNSF grade crossing by using the Little 'h' overpass. On the west side of the railroad crossing, the overpass touches down just north of the Terminal 46 entrance on the East Marginal Way alignment. The east end touches down approximately 200 feet east of the railroad crossing on the north side of Atlantic Street. The overpass is available for travel at all times but will likely be used only when the railroad crossing is blocked by trains.

North SIG Driveway

The North SIG driveway is constructed on BNSF franchised right of way, which runs parallel to the Colorado Avenue alignment. The driveway accesses Atlantic St approximately 200 feet east of the railroad crossing on the south side of Atlantic St. Because it is a private facility, it will operate as a freight-only access point to the North SIG.

Benefits

These projects join together at a traffic signal on Atlantic Street and, in combination, directly benefit freight movement by allowing direct continuous access from East Marginal Way to the North SIG Yard. The signal operation eliminates movement from the Southbound SR-99 off-ramp to Colorado Ave while also keeping the SIG Yard drive clear. While the railroad crossing is blocked, reactive signal detection adjusts timing to maximize the Little 'h' overpass movement to the North SIG Yard driveway and effectively eliminates delays by Atlantic Street operations to freight movements from all Terminals (5, 18, 25, 30, 46) to the BNSF North SIG Yard.

Exhibit PI-8: "Little h" Overcrossing



Source: SODO Arena presentation to the King County Council Budget and Fiscal Management Committee, 6/12/12

T-25/30/46 to/from Freeway

Exhibit PI-9 shows the existing route on S. Atlantic St. between the terminals and the I-90/I-5 freeways. With night gates, about 93 port trucks would operate on this route during the evening event window. For purposes of this analysis it was assumed that the volume would be evenly split EB and WB. EB delays would range from 0.5 minutes for the S1 case to 0.9 minutes in the S3 case. WB delays would be more severe due to the congested inbound flow from I-90 to the Stadium District. WB S1 delay was estimated at 1.6 minutes while S3 delay would be 5.2 minutes compared to the No Action Alternative.

These delay estimates assume that S. Atlantic between 1st Ave. and the SR 519 ramps remains open to truck traffic in the pre-event hours. The truck delay could be longer if S. Atlantic is closed to through traffic while the Mariners parking garage is filled (which happens when Safeco Field sells out or there are multiple events).

Exhibit PI-9: Terminal to Freeway Routes



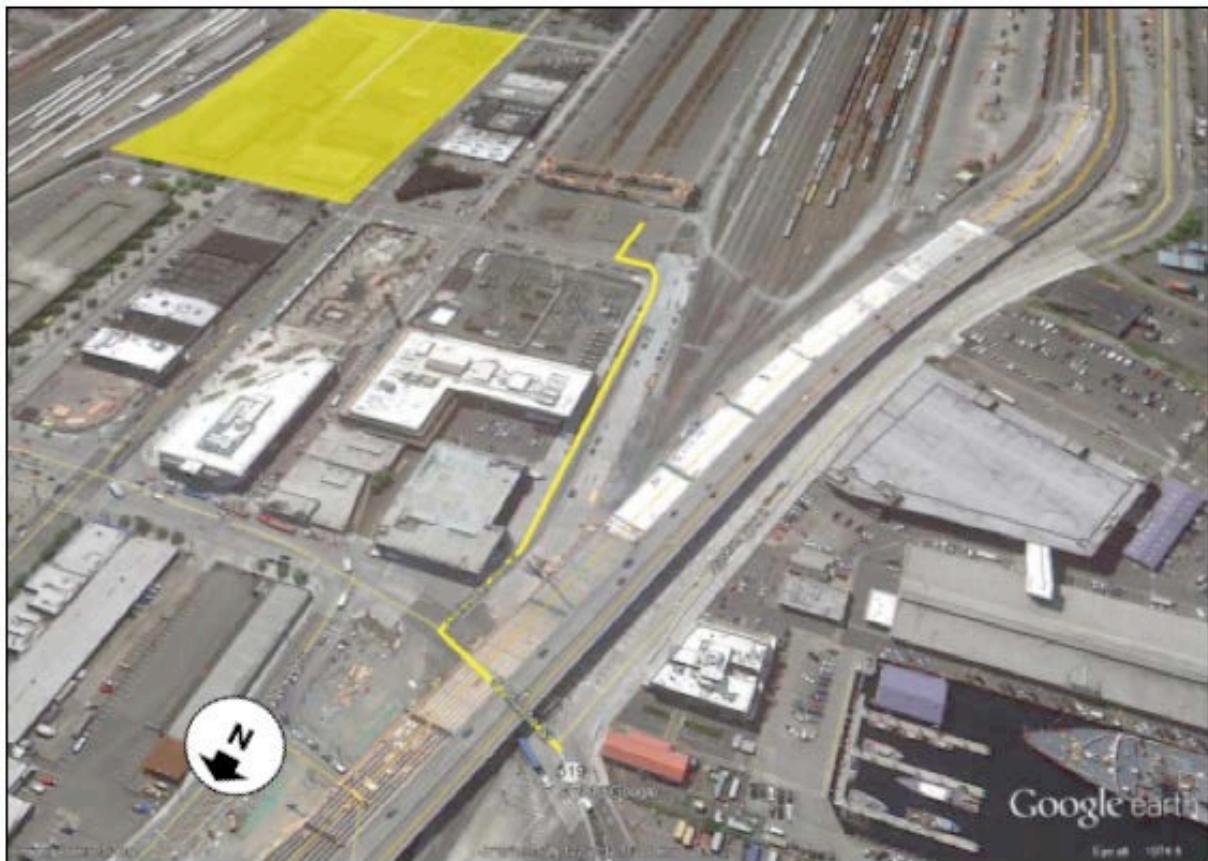
Source: Google Earth

The alternate route between T-25/30/46 and the freeway system is also shown in Exhibit PI-9. The route would use E. Marginal Way and Spokane Street. (under the viaduct) to reach I-5, and then turn north or south, as required. This route is about 3.7 miles versus 0.9 miles via S. Atlantic, and would add roughly 8–10 minutes at 20 mph.

Terminals to/from BNSF SIG North Gate

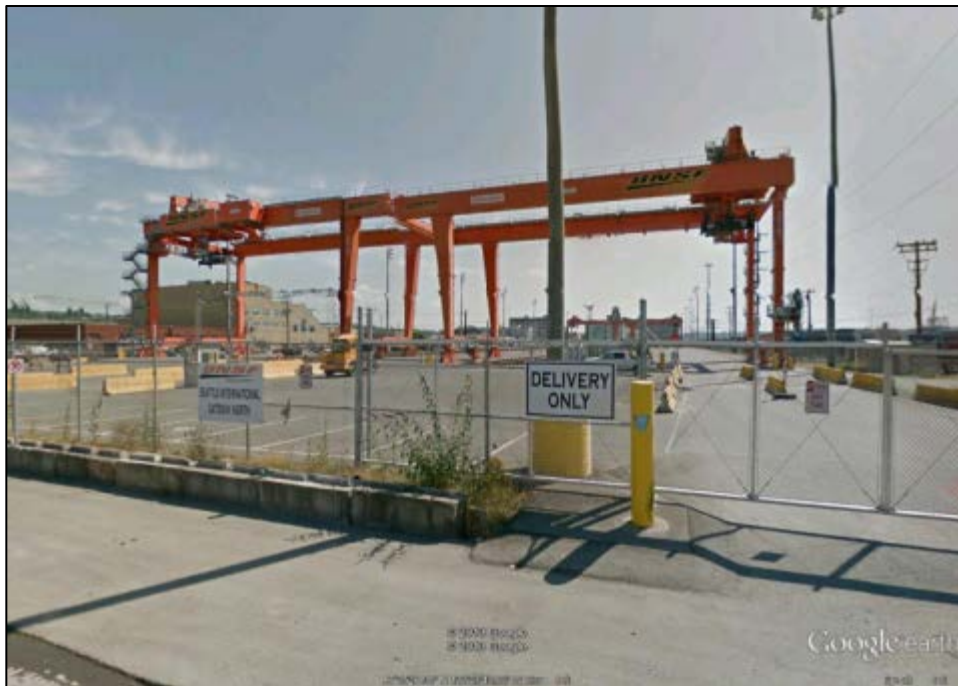
The route between the T-25/30/46 and the BNSF SIG North gate is shown in Exhibit PI-10, and the existing gate itself in Exhibit PI-11. The North SIG Driveway, being developed parallel to Colorado St, will replace this route. Trucks from T-5/18 would probably also use this route after they come up E Marginal Way. For day gates only the vulnerable volume would be about 111 trucks, but would rise to 295 trucks with night gates. The night gates may be particularly significant because SIG operates 24 hours a day, and opening regular night gates at the Port terminals would allow truckers to shift more of their work to less-congested night hours. Although the cutoff for outbound containers to depart on trains that night is 5 PM, truckers can deliver containers for the next day's trains and pick up inbound containers around the clock. The route from Alaskan Way is short, only about 400 yards. The "Little h" overpass would lengthen this trip, but allow access when the railroad crossing on S. Atlantic is blocked.

Exhibit PI-10: Existing Route to BNSF SIG North Gate (7/12)



Source: Google Earth

Exhibit PI-11: Existing BNSF SIG North Gate on S Massachusetts Ave. (8/11)



Source: Google Earth

There is no alternate route, since other options are closer to the arena site.

While the anticipated delay on this route may be short when measured in minutes, the greater risk could be gridlock in the segment of S. Atlantic between Colorado Ave. and Alaskan Way. The finished intersections will be very complex, with multiple streets and driveways in less than 800 feet between Alaskan Way and 1st Avenue. The complexity of this section of road makes it vulnerable to congestion, and the occasional need for manual traffic control should be anticipated.

T-25/30/46 to/from SODO

There are a handful of importers and exporters in the SODO area north of the Spokane Viaduct who reportedly ship and receive containerized cargo (yellow pushpins). Exhibit PI-6 shows 19-20 trucks moving between T-25/30/46 and local Seattle points in the vulnerable hours. If half of them move to the SODO area and the other half south of the Spokane Viaduct, about 10 trucks would be affected on this route. If they stay on S. Atlantic, these trucks would experience delays similar to those on the S. Atlantic/I-90 corridor.

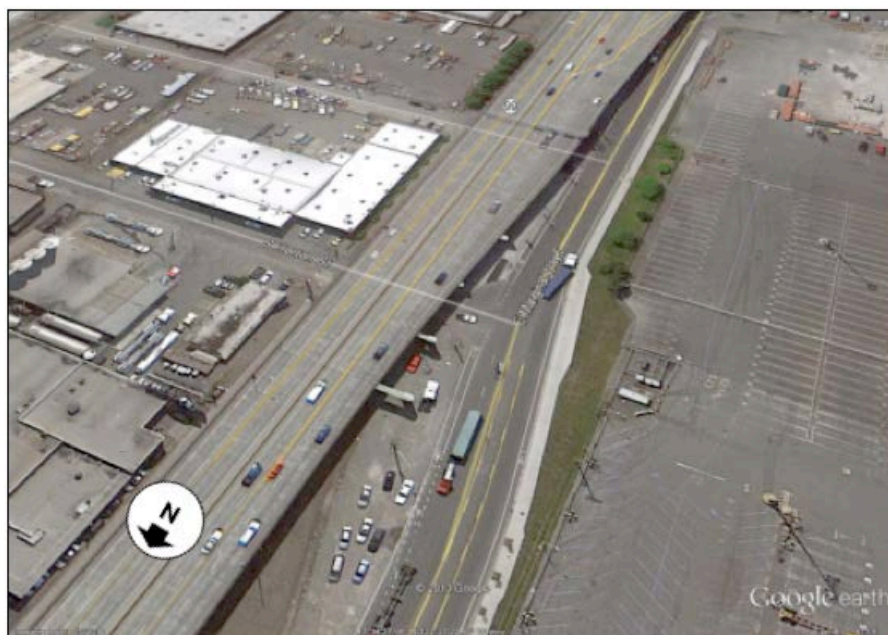
Exhibit PI-12: T-46/25/30 to SODO Routes



Source: Google Earth

The alternate route, also shown on Exhibit PI-12, would be to use E. Marginal Way to S. Horton (Exhibit PI-13). This route would add about 1.5 miles and 5–8 minutes, depending on the customer location within the SODO area.

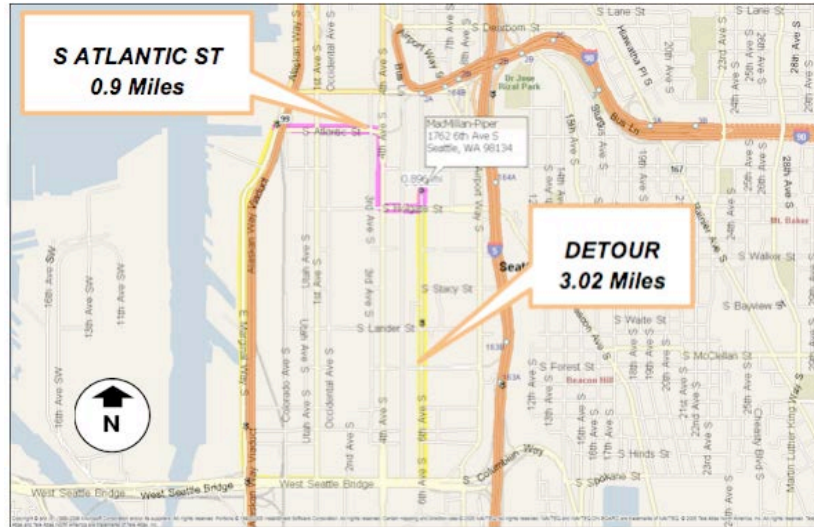
Exhibit PI-13: E Marginal Way and S Horton (7/12)



Source: Google Earth

As Exhibit PI-12 shows, reported customer locations are dispersed through the district. The worst-case detour is illustrated in Exhibit PI-14, which shows the two different routes to the current MacMillan-Piper location at 1762 6th Ave. S.

Exhibit PI-14: Routes from T-46 to MacMillan-Piper

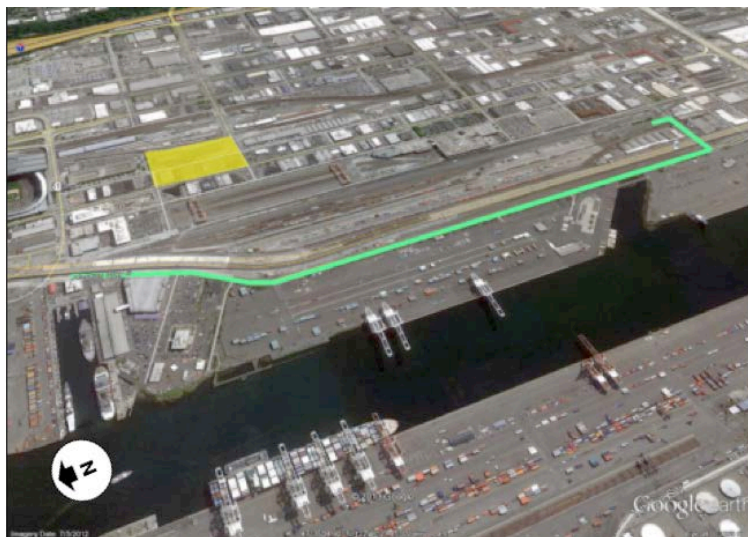


Source: Google Earth and Tioga Group

T-25/30/46 to/from BNSF SIG South Gate

Based on Port information, about 1,117 trucks will move between T-25/30/46 and the South SIG gate off S. Hanford St. on an average day in 2030 (based on 3.5 million TEU at the Port). About 161 of these would be in the vulnerable event period with night gates. These trucks would most likely use E. Marginal Way and S. Hanford (Exhibit PI-15).

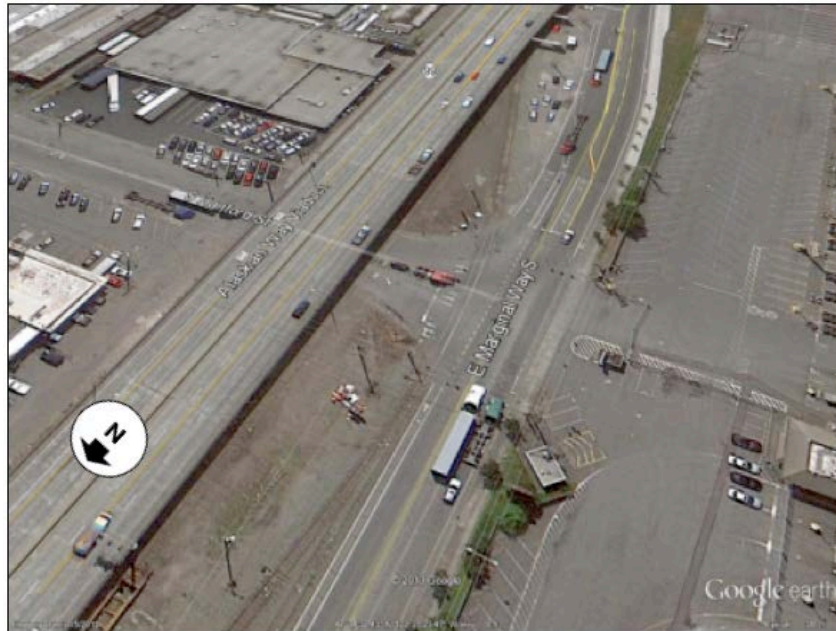
Exhibit PI-15: Terminal to BNSF SIG South on S Hanford St.



Source: Google Earth

S. Hanford and E. Marginal is a signaled intersection with a left turn pocket (Exhibit PI-16). As shown in Exhibit PI-17 a line of trucks can form between the South SIG Gate (Exhibit PI-18) and E. Marginal Way.

Exhibit PI-16: E Marginal Way and South Hanford (7/12)



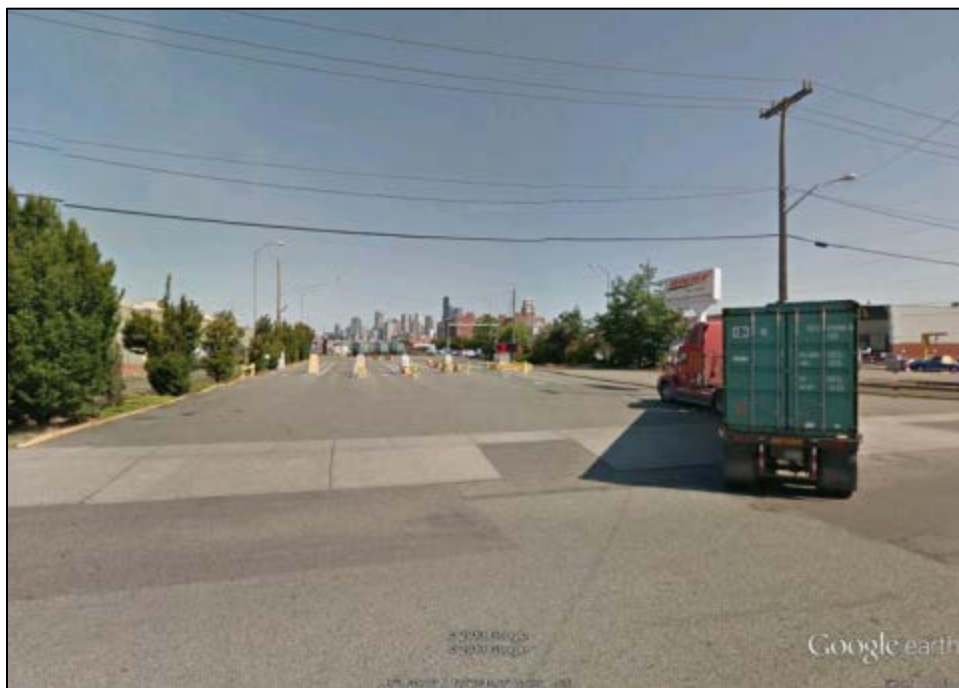
Source: Google Earth

Exhibit PI-17: Port Trucks Turning Left from E Marginal to South Hanford (8/11)



Source: Google Earth

Exhibit PI-18: BNSF SIG South Gate on S Hanford Street



Source: Google Earth

Event-induced delays on this route may be minor as only 2% of the inbound event vehicles are expected to use E. Marginal Way. The SB delay on 1st Ave. parallel to E. Marginal Way is estimated at about 1.5 minutes for the S3 case compared to the No Action alternative. The NB delay on 1st Ave. from Railroad Ave. to S Horton is expected to be longer at 5.8 minutes for the S3 case. The E. Marginal Way route, however, does not pass through LOS F intersections.

T-25/30/46 to/from Argo Yard and South Duwamish MIC

Exhibit PI-19 shows the most likely route for trucks between T-25/30/46 and either the UP Argo Yard or customers south of Argo in the Duwamish MIC. Based on Port estimates (Exhibit PI-5), about 117 trucks would use this route daily with night gates – about 107 to/from the Argo Yard and 10 to/from other customers. This route coincides with the BNSF SIG South Gate route along E. Marginal Way.

Exhibit PI-19: Terminal to Argo/South DMIC Route



Source: Google Earth

Exhibit PI-20 shows the entrance to the UP yard from Denver St.

Exhibit PI-20: UP Argo Yard Entrance on Denver Street



Source: Google Earth

Port Truck Impact Summary

Estimates of port truck delays for 2030 were constructed from corridor and intersection delay estimates provided in Appendix E of the DEIS. The study corridors and intersections in the DEIS do not correspond exactly to the port truck routes described above, so the delay estimates were combined as required to approximate port truck impacts.

All of the data shown are the additional delays expected compared to the No-Action Alternative, not the actual travel times. The No-Action Alternative by itself contemplates longer travel times than at the present.

Exhibit PI-21 displays the delay estimates in minutes for the major study corridors compared to the no-action case. There are two qualifications:

- ▶ Since port trucks will move both ways, the directional delays were averaged. This may slightly understate the impact on S Atlantic, where in the event periods most port trucks will be trying to leave the terminals eastbound.
- ▶ The closest study corridor to E Marginal Way was 1st Ave S from Railroad Way to S Horton St, which was used as the best available proxy. Delays on E Marginal are likely to be less than on 1st Ave S, since a smaller percentage of event traffic is expected to use E Marginal Way. Use of the 1st Ave S corridor as a proxy may therefore be regarded as a worst-case estimate for delays on E Marginal Way.

Exhibit PI-21: Corridor Delay Estimates

Corridor	Delay (minutes) vs. No-Action			
	Direction	Case S1	Case S2	Case S3
1st Ave S - Railroad Way S to S Horton St	NB	4.6	7.0	5.8
	SB	1.2	1.4	1.5
	Avg.	2.9	4.2	3.6
4th Ave S - S King St to S Horton St	NB	2.2	3.1	3.1
	SB	2.7	2.5	2.5
	Avg.	2.4	2.8	2.8
	NB Avg.	3.4	5.0	4.4
	SB Avg.	1.9	2.0	2.0
S Atlantic St - I-90 to 1st Ave. S.	EB	0.5	0.9	0.9
	WB	1.6	5.0	5.2
	Avg.	1.0	2.9	3.0

Source: Seattle Arena DEIS, Tioga Analysis

On the other hand, port trucks accelerate and brake more slowly than passenger cars and take up more pavement space, and so are likely to be more affected by congestion.

Exhibit PI-22 displays the delays estimated at relevant intersections, taken from supplementary data provided by Transpo. The delays are small, mostly less than a minute, because they are the marginal delays for the arena alternative compared to the No-Action alternative. Some intersection approaches are expected to move more quickly in the arena case (due to signal timing).

Exhibit PI-22: Intersection Delay Estimates

Int Number	Intersection		2030 Added Delay Alt 2 vs Alt 1		
	Location	Approach	S1	S2	S3
61	Atlantic and Marginal	NB	-2.4	-2.4	-2.6
		SB	-1.2	-1.2	-1.2
		SEB	19.9	19.9	19.9
		NWB	-0.9	-0.9	-0.9
62	Atlantic and Colorado	NB	-0.5	-0.5	-0.5
		SB	0.1	0.1	0.1
		EB	1.1	1.1	1
		WB	-15.4	-13.5	-13.2
63	Atlantic and E Frontage	NB	na	na	na
		SB	-5	-5	-5
		EB	2.3	2.1	2.1
		WB	20	15.4	15
64	Hanford and Marginal	NB	4.1	0	2
		SB	0	0	0
		EB	0	0	0
		WB	0	0	0

Source: Seattle Arena DEIS, Transpo Data, Tioga Analysis

Depending on the likely port truck routes or turns through these intersections, the analysis averaged multiple approach delays as follows:

- ▶ Atlantic and Marginal: Average of SEB and NWB delays
- ▶ Atlantic and Colorado (also representative of North SIG Driveway): Average of all approaches
- ▶ Atlantic and E Frontage: Average of EB and WB approaches
- ▶ Hanford and Marginal: Average of all approaches

Exhibit PI-23 then combines the estimates of affected truck trips by route (with the best available estimates of event-induced delay on those routes. The truck trip totals, as noted above, are based on 2.2 truck trips per container, 250 working days per year and 1.76 TEU/container. For each analysis case, S1-S3, the table uses the annual frequency, the applicable corridor delay, and additional applicable intersection delays to estimate the total truck delay on the route. The total estimated annual delay is 2,299 hours for a port volume of 3.5 million TEU. For 2.8 million TEU with night gates the total delay would be 1,813 hours.

Exhibit PI-23: Estimated 2030 Port Truck Delay By Drayage Route

Exhibit PI-23: Estimated 2030 Port Truck Delay By Drayage Route

Route	Trips 4-8PM w/Night Gates	Case	Annual Frequency	Corridor Delay		Intersection Delay				Hanford St/E Marginal Way	Trip Delay - Minutes	Total Delay		
				S Atlantt Corridor	1st Ave Corridor	Atlantt St	Atlantt E Frontage	Atlantt Colorado Ave	Daily Case Delay - Minutes			Annual Delay - Hours		
T-25/30/46 to Freeways	93	S1	102	1.0		0.2	0.2	-0.1			1.3	124	12,600	210
	93	S2	12	2.9		0.2	0.1	-0.1			3.2	298	3,573	60
	93	S3	2	3.0		0.2	0.1	-0.1			3.3	306	612	10
	93												16,784	280
T-25/30/46 to SIG North	161	S1	102			0.2	0.2	-0.1			0.3	45	4,633	77
	161	S2	12			0.2	0.1	-0.1			0.3	40	483	8
	161	S3	2			0.2	0.1	-0.1			0.2	40	80	1
	161												5,196	87
T-25/30/46 to SODO	10	S1	102		2.9					0.0	2.9	28	2,856	48
	10	S2	12		4.2					0.0	4.2	41	488	8
	10	S3	2		3.6					0.0	3.7	35	70	1
	10												3,414	57
T-25/30/46 to SIG South	161	S1	102		2.9					0.0	2.9	468	47,770	796
	161	S2	12		4.2					0.0	4.2	680	8,156	136
	161	S3	2		3.6					0.0	3.7	586	1,172	20
	161												57,097	952
T-5/18 to SIG North	134	S1	102		2.9			-0.1		0.0	3.2	429	43,791	730
	134	S2	12		4.2			-0.1		0.0	4.5	602	7,219	120
	134	S3	2		3.6			-0.1		0.0	3.9	523	1,046	17
	134												52,056	868
T-25/30/46 to Argo/South DMIC	10	S1	102		2.9					0.0	2.9	28	2,856	48
	10	S2	12		4.2					0.0	4.2	41	488	8
	10	S3	2		3.6					0.0	3.7	35	70	1
	10												3,414	57
Total Truck Trips	568	S1	102									1,123	114,506	1,908
	568	S2	12									1,701	20,406	340
	568	S3	2									1,525	3,050	51
	568	All	116									4,348	137,962	2,299

Impact on the Port of Seattle

Port Structure and Competition Overview

Marine container terminals are ordinarily operated by *stevedores*, terminal operating companies that lease the terminals from the Port and operate them for a profit. Most U.S. container ports thus operate as *landlord* ports, rather than engaging in day-to-day terminals operations⁸. The terminal operators at Seattle are:

- ▶ T-5: Eagle Marine (a subsidiary of American President Lines)
- ▶ T-18: Stevedoring Services of America (SSA)
- ▶ T-30: Stevedoring Services of America (SSA)
- ▶ T-46: Total Terminals International (TTI, a subsidiary of Hanjin Shipping)

All of these companies also operate terminals at other ports.

Terminal operators typically sign a long-term lease for the terminal (TTI extended their lease for T-46 through 2025 in December of 2012, after approval of the Arena MOU). Terminal operators and the Port typically cooperate in seeking to attract new steamship line service and new cargo.

Ocean carriers in turn sign service agreements with the terminal operators to call at the terminal. (For example, Maersk renewed its agreement with SSA to call at T-18 in July of 2012.) The carrier pays the terminal operator for handling the vessel and the containers under a confidential contractual agreement. The Port receives fees for use of the dock (“dockage”) and for the volume of cargo handled (“wharfage”), also under a confidential contractual agreement. Such contracts typically include a minimum annual cargo commitment, and incentives to route additional cargo through the port and terminal.

Ports compete both for cargo and for ocean carrier tenants and vessel calls. The two are linked; a growing cargo volume will attract ocean carriers and vessel calls, and a wide choice of ocean carriers and sailings will attract cargo.

Ocean carriers (steamship lines) offer regularly scheduled service between seaports. Ocean carriers own and operate ships, and most are also members of alliances or consortia with other carriers. The major tenant at T-46, Hanjin Shipping, is a good example. Hanjin offers its customers 18 different transpacific services, each with multiple vessel and port calls. Some services are offered using only Hanjin vessels, and some with vessels of alliance partners. The exhibit below lists the Hanjin services calling at Pacific Northwest (PNW) ports. Hanjin can thus offer its customers service to Seattle, Tacoma, Portland, Prince Rupert, and Vancouver. Even though Hanjin has a commitment to call at Seattle’s Terminal 46, Hanjin’s customers have complete flexibility in their choice of ports.

Exhibit PI-24: Hanjin Shipping Pacific Northwest Services

Service	PNW Port Calls
PCN	Prince Rupert - Vancouver - Seattle
CAX	Long Beach - Oakland - Seattle
GEN	Prince Rupert - Long Beach - Oakland

⁸ The Port of Tacoma operates one of its container terminals directly.

PNY	Tacoma - Vancouver
KPN	Tacoma - Vancouver
PNH	Prince Rupert - Seattle - Portland - Vancouver

Source: www.Hanjin.com

The map in Exhibit PI-25 illustrates a second aspect of ocean carrier service: inland intermodal connections. Hanjin can offer an Asian exporter or a U.S. importer rail intermodal service to Chicago through any major West Coast port. For such shipments, Seattle must compete with every other West Coast port.

Exhibit PI-25: Hanjin Inland Intermodal Services



Source: www.Hanjin.com

The Port of Seattle's nearest competitor is the Port of Tacoma, about 30 miles south. The two ports are close enough to be highly competitive for almost all local and regional markets except for customers clustered around the port terminals themselves. Even for those customers the two ports may offer competitive choices if the ocean carriers equalize rates or take other steps to pull Seattle customers to Tacoma or vice-versa.

The Ports of Seattle and Tacoma together define the Pacific Northwest U.S. port market. Every major container carrier serves this market by calling at either Seattle or Tacoma, either with their own vessels or as part of a vessel-sharing agreement. While there is some market and hinterland overlap with Vancouver (BC) to the north and Portland (OR) to the south, all major carriers serve either Seattle or Tacoma directly.

The Port of Seattle also competes with other North American ports. In British Columbia, Prince Rupert and Vancouver offer highly competitive rail intermodal service to the same inland markets as Seattle. In California, Oakland, Los Angeles, and Long Beach also compete for intermodal cargo to and from Midwestern markets. To the extent that Port of Seattle cargo originates or terminates east of Chicago, Seattle must also compete with East Coast ports being served via the Panama Canal.

The Port of Seattle will face increasing competition from the Panama Canal over the time horizon for this analysis. All-water routes to eastern U.S. markets are typically less costly than rail intermodal options via West Coast ports, and tend to attract lower-value, lower-priority, cost-sensitive cargo. The completion of new, larger canal locks expected in 2015 will allow carriers to use larger ships on Panama Canal routes. As these ships are phased in over several years, their scale economies will allow the carriers to compete for more cargo presently moving via the West Coast.

There are numerous factors in a carrier's choice of port and terminal, including terminal capacity, port fees, stevedoring (terminal operation) costs, the availability of on-dock rail, terminal age and efficiency, market access, and the operations of partners and competitors. The most important factor is customer preference. Ocean shipping is highly competitive, and ultimately ocean carrier services follow the available cargo rather than the availability of service dictating cargo routes.

The July 2012 shift of the Grand Alliance from Seattle to Tacoma illustrates the competition for ocean carrier tenants and vessel calls. The Grand Alliance is a consortium of three major carriers: Hapag-Lloyd, OOCL, and NYK Line, and also involves ZIM. Prior to July 2012 the Grand Alliance called at Port of Seattle's Terminal 18. The move from T-18 to Tacoma's Washington United Terminal significantly reduced Seattle's overall containerized cargo volume.

There have also been carrier shifts that favor Seattle. MSC added a Seattle call to an existing service in February 2011. MOL created a new service in May of 2012 that included a Seattle call.

Ocean carrier customers include importers, exporters, and third parties that control shipment routing and have the final say over choice of carrier, port, and terminal. The key factors in their choices include:

- ▶ Capacity – Customers avoid carriers, ports, and terminals that may not be able to handle their business in a timely fashion. Capacity is seldom a problem except in peak shipping season.
- ▶ Service – Customers have shipment requirements including volume, container supply, day of departure and arrival, and transit time. Their range of candidate shipping options will be narrowed to those that meet requirements.
- ▶ Reliability – Customers are highly adverse to unreliable services, as service delays or failures disrupt their supply chain plans.
- ▶ Cost – Once candidate shipping options have met capacity, service, and reliability requirements, customers will prefer the lowest cost option.
- ▶ Ease of doing business – There is a tradeoff between cost and service attributes and the level of customer effort required to maintain them. Customers may walk away from otherwise favorable options that require unreasonable management attention or cause frequent problems.

Factors in customer choice thus include both quantitative and qualitative factors. The qualitative factors are heavily influenced by the customer's perception of service quality, reliability, and ease of doing business under each option.

Trucking Cost Impacts

Trucking cost impacts were estimated from trucking data and projections provided by the Port, traffic impacts estimated for the DEIS by Transpo (Exhibit PI-23), and cost factors derived from the EPA SmartWay DrayFLEET model. The estimate for port trucking costs in the Seattle area is \$48/hr. These cost impacts are summarized in Exhibit PI-26.

Exhibit PI-26: Summary of Port Truck Cost Impacts

Route	Total Delay		Cost @ \$48/Hour
	Annual Delay - Minutes	Annual Delay - Hours	Estimated Annual Truck Delay Cost
T-25/30/46 to Freeways	16,784	280	\$13,428
T-25/30/46 to SIG North	5,196	87	\$4,157
T-25/30/46 to SODO	3,414	57	\$2,731
T-25/30/46 to SIG South	57,097	952	\$45,678
T-5/18 to SIG North	52,056	868	\$41,645
T-25/30/46 to Argo/South DMIC	3,414	57	\$2,731
Total Truck Trips	137,962	2,299	\$110,370

Source: Seattle Arena DEIS, Tioga Analysis

The corresponding truck delay cost estimate at 2.8 million annual TEU would be \$87,044.

The total truck cost impact estimated in Exhibit ES-14 is small in the context of total Port activity, because only about 5% of the trucks are affected and many of the delays are estimated to be just a few minutes. It would be more significant if borne by a narrow cross-section of customers or truckers. The costs would affect carriers and their customers at T-25/30 and T-46 much more than at T-5 and T-18, and could lead specific customers to favor the carriers at T-5 and T-18.

Ocean carriers, importers, and exporters may not see actual trucking cost increases, because the competitive nature of the port trucking industry may force the truckers to absorb the additional cost. If so, the full impact will be felt locally.

The trucking cost impacts raise a corollary issue: driver and trucker earnings. Port drayage firms and owner-operator drivers are paid by the completed revenue move, not by the hour. If a trip takes longer due to Stadium District traffic congestion, the driver's earnings remain the same. If the driver cannot complete as many trips on the days with arena-related congestion, the driver's earnings decline.

Potential Additional Port Impacts

Based on the Tioga Group's experience with the container port industry, there are potential impacts on port and terminal competitiveness that cannot readily be quantified.

The Port of Seattle is faced with intense competition from the Ports of Tacoma, Vancouver, and Prince Rupert. The ocean carriers that call at T-30 and T-46 can shift discretionary cargo to other Pacific Northwest ports with relative ease – particularly rail intermodal cargo. In the larger sense, the Port of Seattle also competes with California ports for Asia-Midwest cargo, and will face increased competition from East Coast ports once the new Panama Canal locks are open.

Ocean carriers and their customers consider many factors in choosing a port and a terminal, balancing cost and service considerations. For more valuable time-sensitive imports and exports, customers emphasize service, reliability, and ease of doing business over small cost differences.

Throughput Capacity

The ability of marine container terminals to sustain adequate throughput depends on the ability of truckers to deliver exports and pick up imports on a timely and predictable basis. Failure to deliver exports on time can cause either vessel delays or, more likely, cause export containers to miss vessel sailings. Failure to pick up import containers on a timely basis can cause container yard congestion as well as delays to import customers.

The effective capacity of the port drayage truck fleet depends on its velocity – the ability to make multiple round trips in a working day. Trucks delayed by congestion or detours reduce the working velocity and capacity of the fleet.

Reliability

The most serious potential impacts on port competitiveness may come from reduced reliability. While informed planning may minimize the cost and capacity impacts, it is harder for all the stakeholders involved – terminal operators, customers, truckers, railroads – to adjust to unpredictable delays. These delays can be compounded when truck drivers are attempting to complete specific trips late in the afternoon when Stadium District congestion begins to build on event days.

- ▶ Many customers, both importers and exporters, tend to close their doors at 5-6 PM. A driver arriving 10–20 minutes late may not be able to deliver an import container or pick up and export load as planned. While customer hours may be flexible in the long run, predictable truck service will continue to be essential.
- ▶ Rail intermodal terminals are typically open 24 hours daily but have fixed cut-off times for train departures. At BNSF's SIG yard, for example, the cutoff time for major eastbound departures is 5 PM. Late arrivals will be delayed until the next day's train.

Potential Risk to the Port of Seattle

From the Port of Seattle's perspective, increased trucking cost, reduced throughput capacity and especially diminished reliability could adversely affect the competitiveness of Terminals 25/30 and 46 and the Port's competitive position on the West Coast. As Exhibit PI-27 indicates, Terminal 30 (including former Terminal 25) and Terminal 46 together account for about one third of the Port's terminal space, effective capacity, and expected future throughput. Stadium District traffic conditions that left these terminals less than fully competitive would handicap the Port and reduce its potential for economic development. These risks could not be quantified in this report.

Exhibit PI-27: Port of Seattle Container Terminals

Terminal	Total Lease	Total Container Yard Area	Future Increase in Terminal Area	Future Total CY	% Port Terminal Acreage	Throughput Proportional To CY Area
T-5	158	130	24	154	32%	1,105,900
T-18	194	174		174	36%	1,250,200
T-30	70	62	16	78	16%	560,600
T-46	88	81		81	17%	583,300
Total	510	448	40	488	100%	3,500,000

Source: Port of Seattle, May 2013. [E-mail from Jasmin Contreras to Geri Poor, May 7, 2013] + expansion areas at T-5 & T-30

Terminal 46 is operated by Total Terminals International (TTI) and is served by Hanjin, COSCO, "K" Line, Yang Ming, and MSC (per port website 6/18/13). Yang Ming, Hanjin, COSCO, and "K" Line are in a vessel sharing agreement that also

calls at the Olympic and Husky Container Terminals at Tacoma (Exhibit PI-24). Carriers or their customers are, thus, readily able to shift cargo to Tacoma in response to increased cost or reduced reliability at T-46.

Terminal 30 (including the former T-25, converted by an internal bridge) is currently served by China Shipping and United Arab Shipping (UASC) and operated by SSA (which also operates T-18). This terminal is lightly used at present, but its capacity will be needed as cargo grows.

Container-by-container cargo loss to other ports is difficult to predict as it depends on case-by-case decisions by importers and exporters, and on contractual obligations to ports and terminal operators.

There are relatively few major ocean carriers. With a small number of decision makers their port and terminal choices cannot be modeled statistically, nor can the risks to the Port of Seattle be accurately quantified. The potential risk depends as much or more on the industry's *perception* of Terminals 30 and 46' competitiveness than on objective analysis.

One serious potential risk to the Port of Seattle would be a carrier decision to shift significant intermodal rail volume from BNSF SIG or UP Argo to one of the on-dock transfer facilities at Tacoma or to the Port of Vancouver. The Olympic and Husky Terminals at Tacoma used by Yang Ming, Hanjin, "K" Line, and COSCO both have on-dock rail service. All of the T-46 and T-30 carriers (except UASC) also call at Vancouver, BC terminals with on-dock rail capabilities. If access to the North Gate at SIG becomes unreliable, these carriers could shift intermodal rail traffic within existing vessel calls. As noted above, Seattle also competes with other North American West Coast ports for intermodal cargo, and could even be in competition with some East Coast ports. While shifting cargo to these other entry and exit ports would be more difficult than shifting to Tacoma or Vancouver, such shifts are possible in the long run.

The most serious potential risk to the Port of Seattle would be the loss of service to T-46, T-30, or both. As noted, most of these carriers already call at Tacoma and Vancouver terminals. Although the terms and details of carrier commitments and terminal leases are confidential, the 2012 shift of the Grand Alliance demonstrated the ability of carriers to shift when circumstances are favorable.

An actual shift would significantly reduce cargo through the Port of Seattle and shift revenue and jobs to Tacoma or Vancouver. The threat of a shift would likely reduce long-term Port of Seattle and terminal operator revenue as a result of lower negotiated rates.

The dollar impact of Port truck delays is very small in relation to total Port transportation activity. The Port of Seattle, however, is facing intense competition from other Pacific Northwest ports for both cargo and carrier vessel calls. The scope of that competition is expected to expand with the completion of larger Panama Canal locks in 2015. To the extent that higher trucking costs and reduced trucking reliability adversely affect customer and carrier perceptions, the Port's competitive position could be diminished and the threat of carrier or cargo diversion increased. While that risk cannot be reliably quantified, the realities of port competition and the importance of customer and carrier perceptions suggest that appropriate measures to minimize the adverse impacts be considered.

Recommendations

The risks associated with adverse industry perceptions of Port of Seattle terminals suggest that appropriate measures be considered to both minimize truck delays and signal Port and City commitment to efficient cargo operations. While direct

traffic delay costs are small relative to total port activity, the potential impacts to the Port of Seattle, port truckers, terminal operators, importers, and exporters, described above, suggest the value of measures to reduce the traffic effects of arena and multi-revenue events could be significant.

The emphasis placed above on movement reliability implies a priority need to keep routes open for the high-volume movements most likely to be seriously delayed or interrupted:

- ▶ Trips between T-25/30/46 and the I-90 and I-5 freeways (Exhibit PI-9).
- ▶ Trips between all marine terminals and the BNSF SIG North Gate (Exhibit PI-10).

Protected access to the freeways might be maintained either by facilitating truck movements on S. Atlantic St./Edgar Martinez Way through the arena/stadium area, or, perhaps more realistically, by insuring that trucks can move expeditiously along E. Marginal Way between the S. Atlantic Ave./Alaskan Way intersection and SW Spokane Street. Keeping E Marginal Way open and fluid during event peaks would have the added benefit of facilitating:

- ▶ Movement between T-25/30/46 and the SIG South Gate, Argo Yard, and the southern Duwamish MIC.
- ▶ Movements between T-25/30/46 and the SODO area via S. Horton.
- ▶ Movements between T-5/18 and the SIG South Gate via S. Hanford.

Measures to maintain fluidity for truck traffic on E. Marginal Way may also include improvements to the intersections at S. Hanford (Exhibit PI-16, accessing the SIG South Gate), S. Horton (Exhibit PI-13, accessing the SODO area), and SW Spokane (accessing the freeways).

The vulnerability and complexity of traffic moving on the west end of S. Atlantic St. between Alaskan Way and 1st Ave. implies a potential need for event-period traffic control measures. A combination of manual traffic control and selective diversions may be able to protect the ability of port trucks to move between the SIG North Driveway and Alaskan Way during the 4–8 PM peak pre-event congestion periods. Manning the intersections at Alaskan Way and S. Atlantic, S. Atlantic and the North SIG Driveway, and the “Little h” ramp may be required to control the traffic.

These and other measures would likely be most effective if combined with a system of notices for event-related detours and traffic controls. Drayage firms and their drivers are generally responsive and resourceful. Given timely notice both the firms and the drivers would be better able to plan their trips to either avoid the affected periods or operate most efficiently during those periods.

Non-Port Truck Impacts

Overview

The development of the proposed Seattle arena on the SoDo site (Alternative 2 in the Seattle Arena Draft EIS - DEIS) is expected to result in traffic delays to both port and non-port trucks. Delays to port trucks were analyzed in a separate working paper.

Less is known about the non-port trucks. The main information source regarding non-port trucks is the traffic analysis presented as Appendix E to the DEIS. That Appendix contains extensive intersection truck counts, which have been supplemented and updated in separate data compilations made available by Transpo. Tioga subtracted the estimates for 2030 port trucks from the 2030 estimates for all trucks to derive a set of 2030 counts for non-port trucks. A sample of these intersection counts is shown in Exhibit PI-26. Because counts were taken at multiple locations along major routes, it is likely that trucks passing over most or all of the route are counted at multiple intersections.

Exhibit PI-28: Sample of DEIS Daily Intersection Counts

All Trucks (2030, subtracting ROS)								
Int		EB	WB	NB	SB	SEB	NWB	Total
1	1ST AVE AND MADISON ST	0	23	21	19			63
2	1ST AVE S AND RAILROAD N W	28	0	35	16			78
3	1ST AVE S AND S MAIN ST	0	0	19	10			29
4	1st Ave S/ S Massachusetts St	9	1	67	73			150
5	1st Ave S/S Atlantic St	36	32	42	42			152
6	1st Ave S/S Holgate St	0	5	74	102			181

Source: Supplemental data provided by Transpo

Cordon Entry Points

To avoid double-counting trucks that pass through multiple study intersections, Tioga attempted to define “cordon entry points” as shown in Exhibit PI-30. Truck trips into the SoDo study area through these points would not ordinarily be duplicated by other inbound trips. This approach, however, may miss truck trips wholly within the SoDo area, e.g. deliveries from a SoDo origin to a SoDo destination.

With the SoDo area bounded by E Marginal Way/Alaskan Way on the west, S Spokane St. on the South, and I5 on the east, there are relatively few arterial streets on which a significant volume of trucks passes to or from the area. Exhibit PI-30 shows the intersections and counts in the DEIS that most closely correspond to cordon points, and the total by direction.

- ▶ On the North, S Jackson forms an effective northern boundary, with 1st Ave S, 2nd Ave S, 5th Ave S, and 6th Ave S providing access. Southbound access is also provided from the I-90 off ramp on Edgar Martinez Way. The DEIS shows a total of 340 southbound truck counts at those intersections.
- ▶ On the East, I-5 and Airport Way S form the boundary, with S Forest St, S Holgate St, S Royal Brougham Way, S Dearborn St, and S Jackson St providing access. The DEIS shows a total of 168 westbound truck counts at those intersections.

- ▶ On the South, Access is via 1st Ave S, 4th Ave S, and 6th Ave S as they cross S Spokane St. The DEIS shows a total of 240 northbound truck counts at those intersections. Northbound trucks (185) also come into the area from Airport way S at 5th and Dearborn
- ▶ On the West, E marginal Way/Alaskan Way S form the boundary, with access at S Hanford St, S Atlantic St, and S Royal Brougham St. The DEIS shows a total of 176 westbound truck counts at those intersections.

Exhibit PI-29 summarizes these counts. The truck movements in pre-event hours will be affected. Freight trucks in urban areas typically concentrate their movements in a 12-hour span from about 6 AM to 6 PM, corresponding to commercial business hours. Exhibit PI-29 anticipates that those trucks will be evenly spread over the 12 hour spans, and that two hours, 4-6 PM, will see the major event impacts. Accordingly, Exhibit PI-27 allocates one sixth of the total to the affected 4-6PM pre-event period.

Exhibit PI-29: Summary of Estimated Non-Port Truck Trips to/from SoDo Area

Int	EB	WB	NB	SB	SEB	NWB	Total
Non-Port Truck Cordon Entries - Daily	176	168	240	340	0	185	1,109
Non-Port Truck Cordon Entries - 4-6PM	29	28	40	57	0	31	185

Source: Seattle Arena Draft EIS, Toga Analysis

Exhibit PI-30: SoDo Truck Entry Cordon Points and Counts

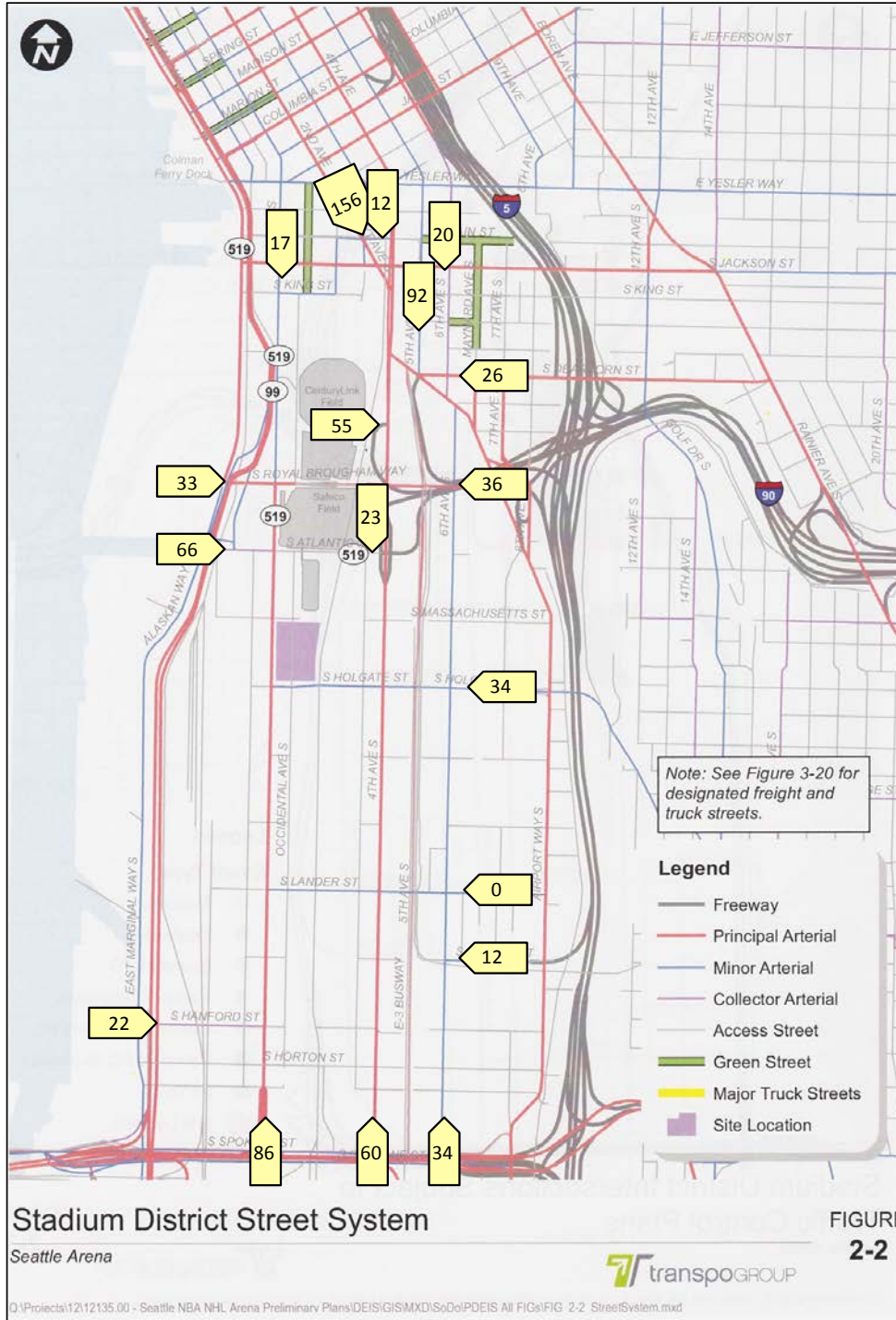


Exhibit PI-31: Study Area Non-POS Truck Counts

All Trucks (2030, subtracting POS)								
Int		EB	WB	NB	SB	SEB	NWB	Total
1	1ST AVE AND MADISON ST	0	23	21	19			63
2	1ST AVE S AND RAILROAD N WAY S	28	0	35	16			78
3	1ST AVE S AND S MAIN ST	0	0	19	10			29
4	1st Ave S/ S Massachusetts St	9	1	67	73			150
5	1st Ave S/S Atlantc St	36	32	42	42			152
6	1st Ave S/S Holgate St	0	5	74	102			181
7	1st Ave S/S Jackson St	0	21	21	17			59
8	1st Ave S/S Lander St	8	51	57	81			197
9	1st Ave S/S Royal Brougham Wy	33	9	43	38			123
10	1st Ave S/S Spokane St	109	34	86	93			322
11	1st Ave S/Yesler Wy	22	14	22	8			66
12	2ND AV ET S AND S MAIN ST	17	0	0	91	150	0	108
13	2ND AVE AND YESLER WAY	13	0	0	196			210
14	2nd Ave S Ext/S Jackson St	23	19	3	156			201
15	2nd Ave S/S Jackson St	9	24	11	12			56
16	4TH AVE S AND S MAIN ST	23	20	328	0			371
17	4th Ave S/Airport Wy S	0	147	110	192			449
18	4th Ave S/I-90 WB Off Ramp	55	0	71	143			269
19	4th Ave S/S Holgate St	25	8	55	120			208
20	4th Ave S/S Jackson St	32	77	278	0			387
21	4th Ave S/S Lander St	38	34	72	99			243
22	4th Ave S/S Royal Brougham Wy	8	80	26	154			269
23	4th Ave S/S Spokane St	26	43	60	82			213
24	4th Ave S/S Weller St	0	0	270	177			447
25	4th Ave/James St	11	14	166	0			191
26	4th Ave/Madison St	0	22	185	0			207
27	5th Ave S/Airport Way/S Dearborn St	0	16	60	94	21	185	170
28	5th Ave S/S Jackson St	47	48	64	92			251
29	5th Ave/James St	9	18	0	31			58
30	6th Ave S/Airport Wy S	74	36	98	0			208
31	6th Ave S/S Dearborn St	10	26	8	6			50
32	6th Ave S/S Forest St	1	12	22	26			62
33	6th Ave S/S Holgate St	29	34	31	15			109
34	6th Ave S/S Jackson St	53	59	2	20			134
35	6th Ave S/S Lander St	37	21	29	15			102
36	6th Ave S/S Royal Brougham Wy	38	18	134	51			241
37	6th Ave S/S Spokane St	48	105	34	30	0	0	217
38	6th Ave/James St	11	27	0	16			54
39	7th Ave S/S Dearborn St	11	47	36	0			94
40	7th Ave S/S Jackson St	53	48	12	2			114
41	8th Ave S/S Dearborn St	50	58	0	5			112
42	8th Ave S/S Jackson St	63	55	7	0			125
43	Airport Wy S(NB)/S Royal Brougham Wy	19	5	63	0			88
44	Airport Wy S/S Holgate St	12	0	12	93			117
45	Airport Wy S/S Lander St	21	0	13	80			114
46	Airport Wy S/S Royal Brougham Wy	52	31	0	55			138
47	Atlantc St/ Occidental Ave S	35	28	0	0			64
48	Atlantc St/Colorado Ave	56	35	12	13			116
49	Atlantc St/E Frontage St	66	83	0	45			194
50	Atlantc St/E Marginal Wy	4	30	75	21			130
51	E-3 Busway/S Royal Brougham Wy	92	61	84	24			261
52	Edgar Martiez Dr / E Rg Garage	22	18	0	0			40
53	Edgar Martiez Dr / W Rg Garage	22	18	0	0			40
54	Hanford St/E Marginal Way	22	28	62	63			175
55	Holgate St/ Occidental Ave S	22	12	2	2			39
56	I-5 NB/S Dearborn St	43	29	13	3			87
57	I-5 SB/S Dearborn St	37	26	0	23			86
58	I-90 off-ramp / Edgar Martiez Dr	27	3	0	19			48
59	I-90 on-ramp/Edgar Martiez Dr/4th Ave S	32	0	22	42			96
60	Lander St/ Occidental Ave S	36	53	1	3			93
61	Maynard Ave S/S Dearborn St	13	44	0	15			72
62	Maynard Ave S/S Jackson St	57	59	5	2			123
63	Occidental Ave/Massachusetts St	0	0	0	0			0
64	Royal Brougham Way/ Occidental Ave S	29	5	0	2			37
Total		1782	1873	3023	2829			9507
Non-Port Truck Cordon Entries - Daily		176	168	240	340	0	185	1,109
Non-Port Truck Cordon Entries - 4-6PM		29	28	40	57	0	31	185

Source: Seattle Arena Draft EIS, Tioga Analysis

Exhibit PI-32 draws on the corridor delay analysis in the DEIS to derive average delays for northbound, southbound, eastbound, and west bound trucks. These estimates would likely correspond to a worst-case scenario, as not all the trucks will travel the full distance of the affected corridors. Exhibit PI-32 further assumes that Case S1 will occur 100 times annually, Case S2 10 times, and Case S3 once to derive an annual delay per truck trip on each route and directional average.

Exhibit PI-32: Corridor Delays vs. No-Action Alternative

Corridor	Delay (minutes) vs. No-Action				Annual Totals	
	Direction	Case S1	Case S2	Case S3	Minutes	Hours
Annual Frequency		100	10	1		
1st Ave S - Railroad Way S to S Horton St	NB	4.6	7.0	5.8	539	9
	SB	1.2	1.4	1.5	133	2
	Avg.	2.9	4.2	3.6	336	6
4th Ave S - S King St to S Horton St	NB	2.2	3.1	3.1	252	4
	SB	2.7	2.5	2.5	298	5
	Avg.	2.4	2.8	2.8	275	5
	NB Avg.	3.4	5.0	4.4	396	7
	SB Avg.	1.9	2.0	2.0	215	4
S Atlantic St - I-90 to 1st Ave. S.	EB	0.5	0.9	0.9	58	1
	WB	1.6	5.0	5.2	215	4

Source: Seattle Arena Draft EIS, Tioga Analysis

Exhibit PI-33 then applies the estimated cordon trip counts to the delays on each directional route type and uses an average cost of \$48 per hour (derived from the EPA SmartWay drayage model) to estimate the annual delay cost to truck operators.

Exhibit PI-33: Estimated Annual Delay and Cost to Non-POS Trucks @ \$48/hr.

Annual Totals					
	Minutes	Hours	Cost	Trips	Total Cost
NB	396	7	\$317	71	\$22,441
SB	215	4	\$172	57	\$9,738
EB	58	1	\$47	29	\$1,370
WB	215	4	\$172	28	\$4,802
	137	2	\$109		
Total				185	\$38,351

Source: Seattle Arena Draft EIS, Tioga Analysis

Implications

The estimate in Exhibit PI-33 should reflect the additional cost to non-port freight trucking to and from the SoDo area as a result of event congestion. The actual additional cost will depend heavily on the actual pattern of truck trips and on the coping strategies adopted by truck drivers and dispatchers. Attempting to conduct “business as usual” during pre-event congestion would likely result in driver delays, added costs, and missed appointments. If truck operators chose to alter schedules and shipment patterns to avoid delays, they or their customers may incur other costs (e.g. overtime for shipping personnel) in the tradeoff.

As with the port trucks, potential recommendation measures would primarily consist of:

- ▶ Improved communications regarding upcoming events and traffic control measures to facilitate trucker operator planning.
- ▶ Traffic control measure or manning at critical intersections to keep trucks moving in congested pre-event hours.
- ▶ Selected upgrades to impacted intersections or alternate routes.

Real Estate and Land Use Analysis

The following section reviews the real estate context and performance near the proposed Seattle arena SoDo and Key Arena and Memorial Stadium sites. The Real Estate and Land Use section describes the current performance of real estate in the SoDo and Lower Queen Anne area, evaluates regulatory framework for development, reviews comparable sports venue case studies, and evaluates possible land use impacts from development of a new arena.

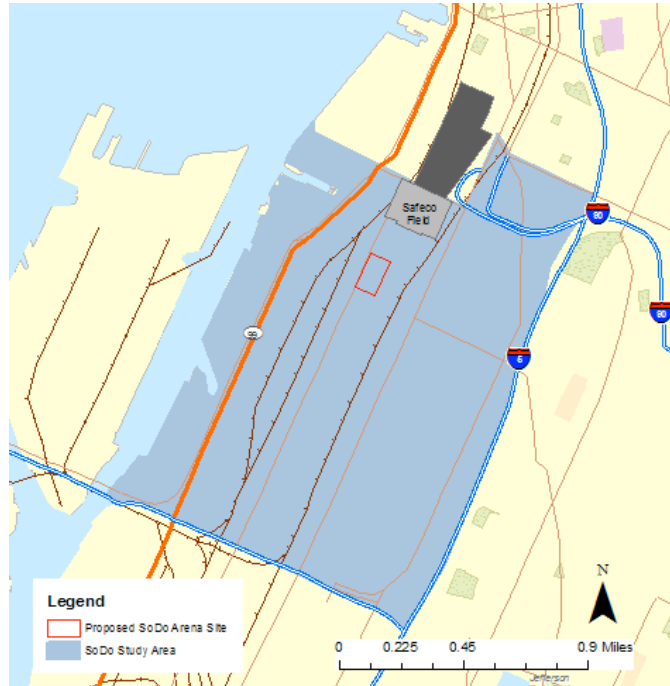
The real estate and land use section uses secondary proprietary data provided by CoStar to understand the current real estate inventory. CoStar is the nation's leading provider of commercial real estate information and maintains a comprehensive real estate database that is updated with regular calls to brokers, owners and developers of real estate product. Other secondary sources of data include InfoUSA and Hoovers Data business listings. Both these sources provide lists of existing businesses by industry category. Lists include additional information such as number of employees and estimated business revenues. Another secondary data source, LEHD OntheMap data is maintained by the US Census and provides small geography data on employment in place and by area of residence.

Secondary data sources were also supplemented with discussions with local industrial, retail, and residential real estate brokers working in the SoDo and Lower Queen Anne areas.

Real Estate and Land Use Study Areas

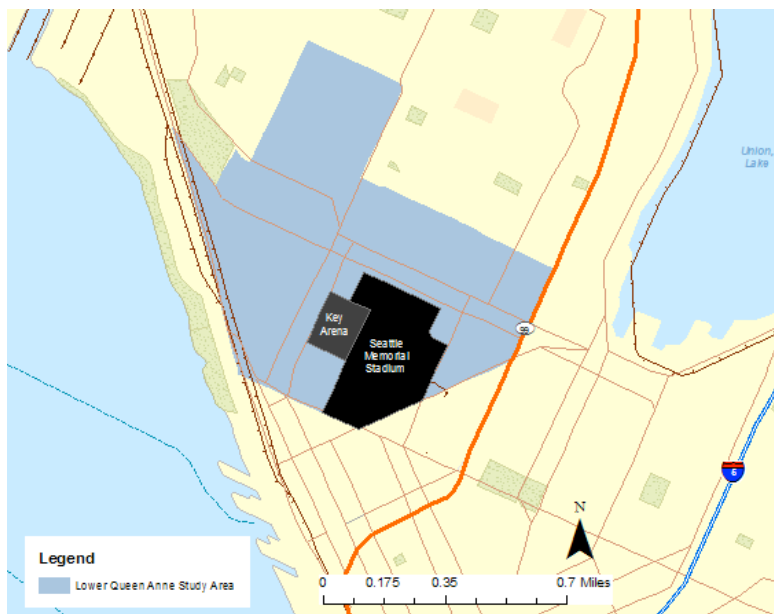
For purposes of this analysis, the study areas for the real estate and land use analysis include the SoDo Study Area for the proposed Seattle arena in SoDo and the Lower Queen Anne Study Area which includes the proposed Key Arena and Memorial Stadium sites. The City of Seattle Comprehensive Plan's Duwamish Manufacturing and Industrial Area generally extends from Royal Brougham on the north, south past Spokane Street to Brandon Street and is bounded by Elliott Bay on the west and the I-5 on the east. For this study, the SoDo Study Area was defined in line with the northern portion of the industrial area but is bounded by Spokane Street on the south. The City of Seattle Comprehensive Plan Uptown Urban Center was used to represent the Lower Queen Anne Study Area. The study areas are shown in the maps below.

Exhibit RE-1: Map of SoDo Study Area



Source: Pro Forma Advisors, City of Seattle, ESRI

Exhibit RE-2: Map of Lower Queen Anne Study Area

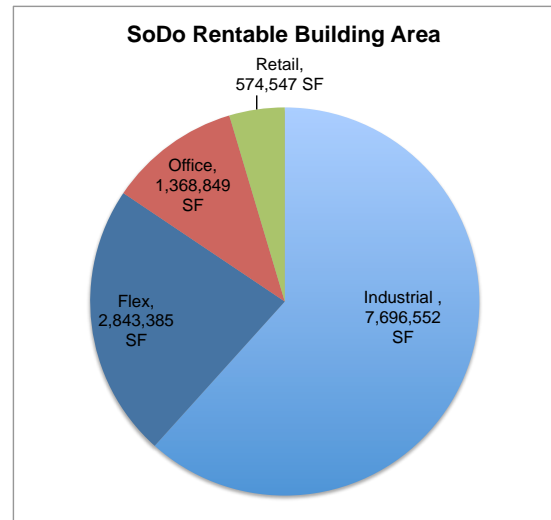


Source: Pro Forma Advisors, City of Seattle, ESRI

SoDo Study Area

The SoDo study area is made up primarily of industrial properties. As reflected in the pie chart below, industrial and flex space make up 84 percent of total commercial space within the SoDo study area. Office represents 11 percent of leasable space and retail only 5 percent.

SoDo stakeholders, including the nearby Port of Seattle, have concerns about the impact of a new proposed arena on industrial rents and property values in the SoDo area and, thus, the following analysis pays close attention to existing industrial trends with the previous sports venue additions of the Seattle Mariner's Safeco Field (opened July 1999) and the Seattle Seahawk's Century Link Field (opened July 2002). Real estate data is available only as far back as 2000 in most cases, so it is difficult to understand the direct impacts of the initial development of Kingdome and the addition of Safeco Field. However it is helpful to examine the overall changes in the study area across the last decade.



Industrial Trends

There currently is 7.7 million square feet of industrial rentable building area (RBA) in the SoDo study area. The table on the next page presents trend data for industrial properties within the SoDo study area.

Exhibit RE- 3: SoDo Study Area Industrial Trends

Period	# Bldgs	Total RBA	Total Vacant SF	Total Vacant %	Occupied SF	Total Net Absorption	RBA Delivered	RBA Under Const	Total Average Rate
2000	302	9,141,122	517,229	5.6%	8,653,482	-63,026	0	0	\$5.58
2001	298	9,057,122	518,976	5.7%	8,559,147	-98,252	0	0	\$7.48
2002	285	8,837,355	628,030	7.1%	8,250,237	-282,157	0	0	\$6.83
2003	280	8,592,102	682,825	7.8%	8,013,011	-227,773	0	7,518	\$5.82
2004	276	8,534,697	587,229	6.8%	7,986,845	21,508	7,518	5,460	\$6.14
2005	271	8,197,299	336,664	4.1%	7,890,298	-108,968	21,460	0	\$6.43
2006	272	8,207,989	268,923	3.3%	7,933,721	100,576	10,690	0	\$7.39
2007	270	8,160,502	225,720	2.8%	7,957,829	63,801	0	0	\$9.68
2008	270	8,160,502	177,622	2.2%	7,982,881	-104,236	0	0	\$11.72
2009	267	8,022,585	292,238	3.6%	7,767,327	-269,290	0	16,500	\$9.58
2010	265	7,884,525	286,693	3.6%	7,589,582	-155,708	16,500	0	\$9.01
2011	261	7,716,352	431,789	5.5%	7,394,743	-214,927	0	0	\$7.98
2012	260	7,696,552	404,658	5.3%	7,296,845	3,868	0	0	\$8.14
1Q2013	260	7,696,552	338,501	4.4%	7,358,051	53,341	0	0	\$8.59

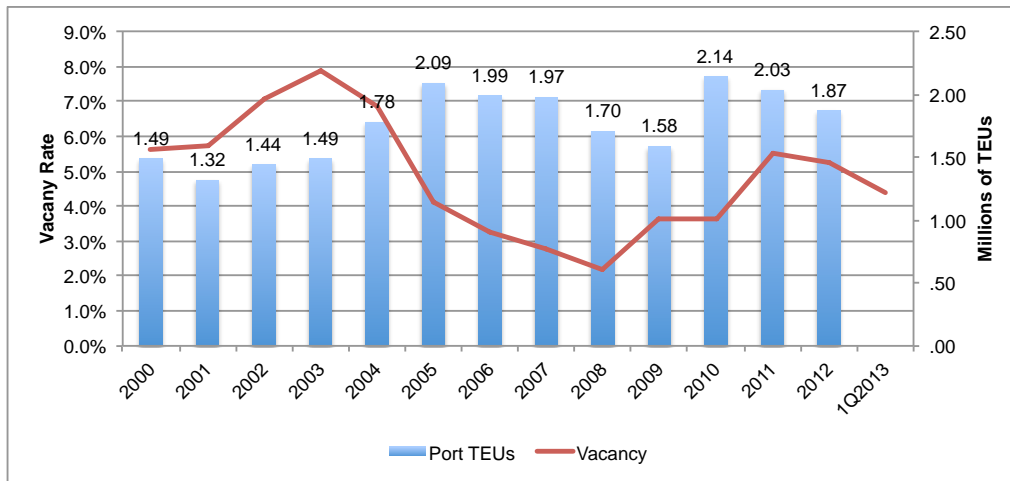
Source: CoStar

Vacancy

The performance of SoDo industrial businesses and properties are historically related the import and export volumes at the Port of Seattle. The figure below plots Port volumes (TEU's of imports and exports thought the Port) and vacancy rates of the industrial properties within SoDo.

The average industrial vacancy rates was a low 4.8 percent between 2000 and 2013. As to be expected vacancy rates have fluctuated inline with the productivity of the Port, though lagged by a year or two. Vacancy rates were approximately 5.6 percent in 2000 and rose to a peak of 7.8 percent in 2003. Throughout the 90's, Port volumes ranged between 1.45 and and 1.5 million TEUs, but fell to 1.3 million in 2001. Between 2001 and 2005 volumes grew briskly to 2.1 million TEUs. With the higher level of port cargo, occupancy increased and industrial vacancies fell to a low of 2.0 percent in 2008 before inching up slowly again.

Exhibit RE- 4: Port of Seattle Historical Import & Export Volume and SoDo Industrial Vacancy Rates



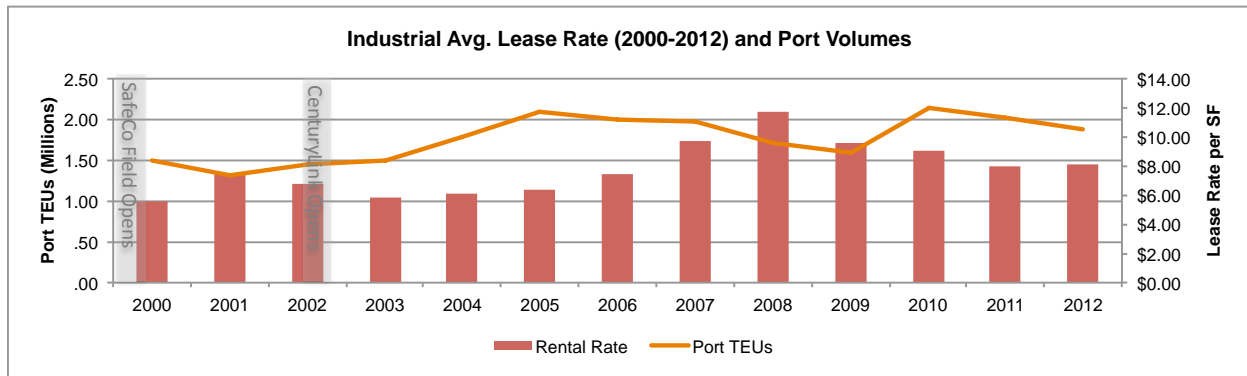
Source: Port of Seattle Marine Terminal Information System and CoStar

Lease Rates

Rental rates have grown from an annual average of \$5.60 per square foot of RBA, triple net, to a current rate of \$8.60 per square foot of RBA triple net, an increase of approximately 50 percent between 2000 and 2013. SoDo's rental rates were always at a premium to the overall MSA, which currently has an average lease rate of \$6.01 per square foot triple net, but this premium has grown from 10 percent to a premium of 40 percent above the MSA between 2000 and the 1Q2013. Between 2000 and 2005, with the development of Safeco and Century Link Fields SoDo lease rates still averaged \$6.50.

Rates grew substantially, starting in 2005, even as Port traffic began to fall. This growth in rates was likely due to general economic pressures as downtown users started to expand into the SoDo area.

Exhibit RE-5: SoDo Industrial Average Lease Rate and Port Volumes



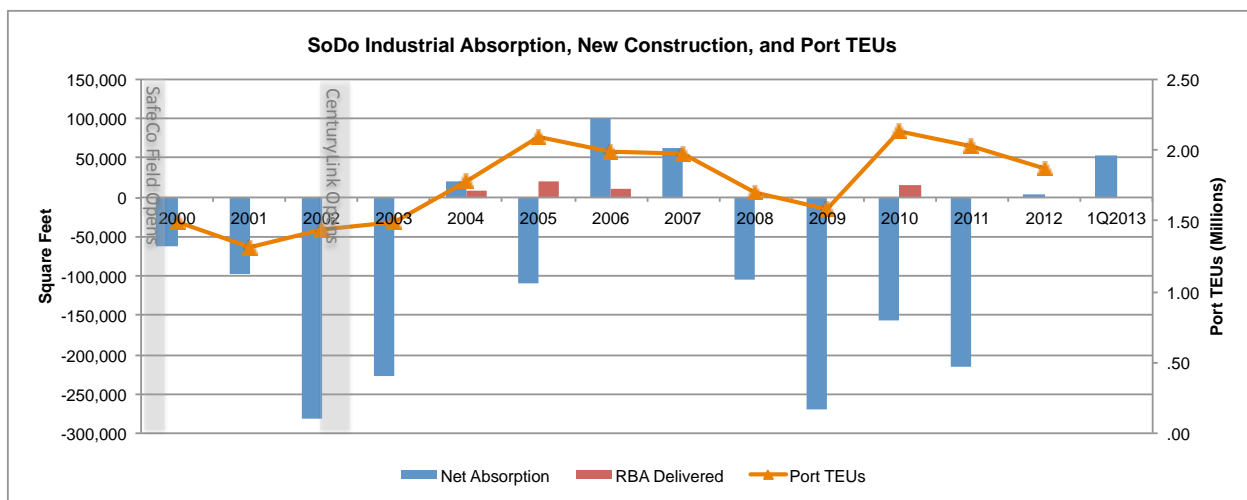
Source: CoStar and Pro Forma Advisors

Net Absorption

Net absorption is a measure of change in the amount of space occupied during a period. A positive net absorption means more space was leased than released and a negative net absorption means that more space was vacated than leased.

Between 2000 and 2013 1.3 million square feet of industrial space was vacated in the SoDo study area. As presented in the chart below, 2002 and 2003 had substantial negative absorption as well as between 2008 and 2011. The negative absorption in 2002 and 2003 follows the drop in Port cargo between 2000 and 2002 and overall slump in the economy. The negative absorption in 2008 and 2009 is also inline with a drop in Port cargo between 2008 and 2009, but as the Port recovered and rental rates grew there was additional negative absorption. This negative absorption also accounts for the removal of approximately 440,000 square feet of industrial space from the market during this period.

Exhibit RE-6: SoDo Industrial Absorption, Construction and Port TEUs



Source: CoStar

Change in Industrial Inventory

Only 56,000 square feet of new industrial space has been delivered to the market between 2000 and 2013.

During the same period, 42 buildings have been removed from the stock and total industrial space has contracted by 1.44 million, a total change of 16 percent. Almost half of the removed spaces are north of Edgar Martinez Drive⁹.

Many of these properties, 550,000 square feet, were removed in 2000 - 2003 which coincides with the development of CenturyLink Field, but also coincides with the 2000 Dot.com bust and a period where the Ports TEU's fell by 22 percent between 2000 and 2002. However, when Port volumes increased in 2005, development pressure on industrial space continued.

The SoDo industrial brokers interviewed all agreed that the SoDo has been losing industrial space, with at least one suggestion that this trend has been occurring for over 25 years. **Real estate brokers suggest that property values and rents have become expensive in the area due to the development and economics of Seattle as a whole, rather than as a direct result of the development of the sports venues within the SoDo neighborhood.** Industrial businesses are moving to Kent Valley because they need cheaper rents, greater acreage and because the area is equidistant from Tacoma and Seattle.

When asked how the development of existing stadiums changed the nature of the industrial market of North of Spokane Street several industrial brokers conveyed that not much of the change in the area was due to the stadiums and instead suggested that new development such as the Starbucks corporate office relocation to the Old Sears Building in 1993, the opening of the 107,000 square foot Home Depot retail store in 1992/1993 and the the school district headquarters relocation were greater catalysts for change. A number of brokers also mentioned that the light rail impacted the area, one mentioning how the light rail negatively impacted local businesses because it was at grade and a second describing how the light rail provided better access to the area and increased the area's intrinsic property value.

Industrial Flex Trends

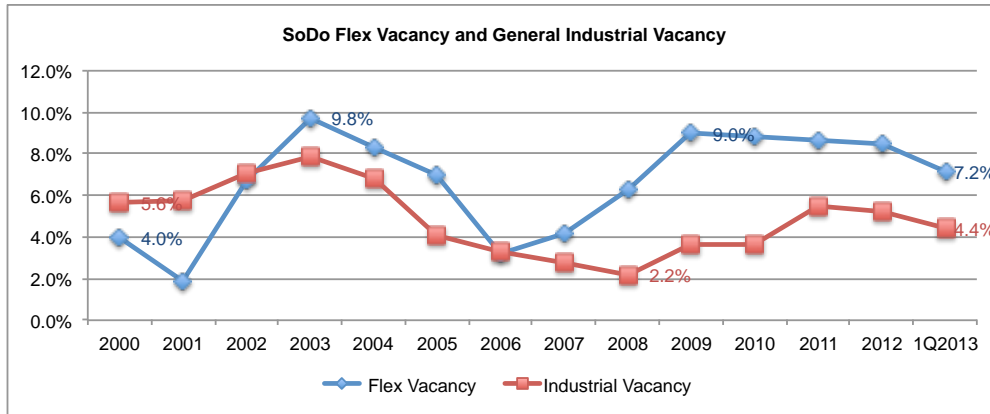
CoStar reports 2.84 million square feet of flex space. Flex space is defined by CoStar as an industrial building designed to be versatile. The building "may be used in combination with office (corporate headquarters), research and development, quasi-retail sales, and including but not limited to industrial, warehouse, and distribution uses".

The performance of flex space follows that of industrial. However, with the combination office and industrial uses, lease rates are higher for flex space. As a result vacancy rates have been higher as well. Four new flex buildings were delivered within the SoDo study area, containing 54,000 square feet of flex space between 2000 and 2012.

The following charts show the vacancy and lease rates of industrial flex spaces, relative to general industrial vacancy and lease rates.

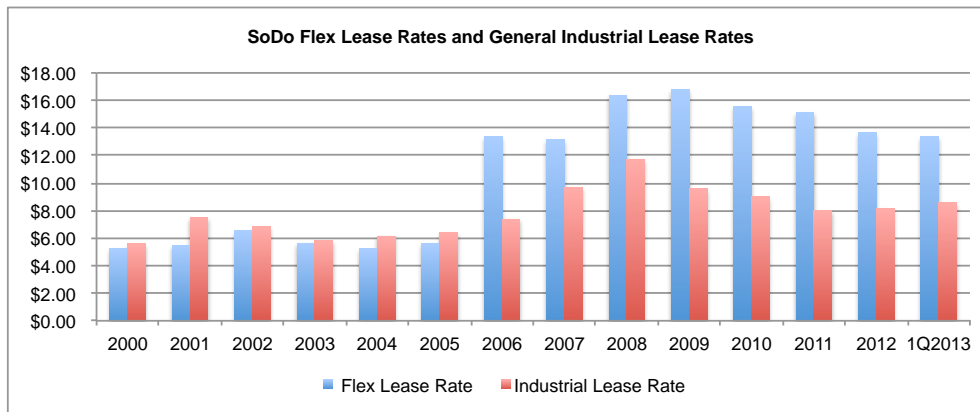
⁹ Approximately 440,000 square feet of industrial space was demolished at the Safeco Fields site. CenturyLink Field was built on the former Kingdome site.

Exhibit RE-7: SoDo Flex Vacancy and General Industrial Vacancy



Source: CoStar and Pro Forma Advisors

Exhibit RE-8: SoDo Flex Lease Rates and General Industrial Lease Rates



Source: CoStar and Pro Forma Advisors

Exhibit RE- 9: SoDo Study Area Industrial Flex Trends

Period	# Bldgs	Total RBA	Total Vacant SF	Total Vacant %	Occupied SF	Total Net Absorption	RBA Delivered	RBA Under Const	Total Average Rate
2000	19	2,811,104	111,170	4.0%	2,699,934	-140,970	0	0	\$5.24
2001	19	2,811,104	52,975	1.9%	2,758,129	69,870	0	0	\$5.48
2002	19	2,811,104	188,931	6.7%	2,622,173	-46,577	0	0	\$6.54
2003	19	2,811,104	274,273	9.8%	2,536,831	-152,507	0	23,143	\$5.64
2004	20	2,834,247	235,282	8.3%	2,598,965	85,323	23,143	0	\$5.22
2005	20	2,834,247	198,239	7.0%	2,636,008	85,107	0	0	\$5.63
2006	20	2,834,247	91,510	3.2%	2,742,737	27,744	0	0	\$13.40
2007	21	2,848,025	118,844	4.2%	2,718,847	-14,017	13,778	0	\$13.14
2008	22	2,860,025	178,613	6.3%	2,675,412	-90,253	12,000	0	\$16.38
2009	22	2,860,025	256,543	9.0%	2,603,482	-54,664	0	5,200	\$16.76
2010	22	2,843,385	251,307	8.8%	2,590,779	14,041	5,200	0	\$15.58
2011	22	2,843,385	246,371	8.7%	2,597,014	2,075	0	0	\$15.13
2012	22	2,843,385	241,065	8.5%	2,602,320	29,963	0	0	\$13.64
1Q2013	22	2,843,385	203,632	7.2%	2,639,753	13,514	0	0	\$13.41

Source: CoStar and Pro Forma Advisors

Industrial Properties

The following section analyzes the characteristics of the industrial properties in the SoDo area. For comparative purposes, we also include data from the broad Duwamish MIC area. It should be noted that the Duwamish MIC area is inclusive of the SoDo properties.

Industrial properties within the SoDo area are characterized by older, smaller buildings and smaller lots. According to brokers, the area is getting smaller infill tenant types and, with the high occupancy rates in the area, the only available properties are “old and outdated”.

Several brokers have described the available industrial north of Spokane Street as less functional product for larger modern manufacturing and distribution operations because buildings are smaller, multi-story buildings and are not well configured for larger uses. Newer manufacturing and distribution center industrial is typically 300,000 to 500,000 big box warehouses. While brokers describe how current industrial users are looking for buildings larger in size with truck access, trailer parking and more land, there are also a wide variety of industrial users who can take advantage of the smaller spaces within SoDo.

Industrial Building Types

CoStar categorizes industrial real estate by type. It should be noted that industrial type descriptions are based on the building as opposed to the specific use, i.e. it is possible for a manufacturer to work out of a building categorized as a warehouse. Nonetheless, the data presents useful information about the types of industrial real estate in the area and their general use.

Approximately two-thirds of the buildings in the SoDo study area are categorized as warehouse buildings and 28 percent categorized as manufacturing. The larger Duwamish MIC has a greater variety of building types including distribution and refrigerated/cold storage buildings. Almost half of the truck terminals are located in the SoDo study area, but the buildings are smaller than throughout the rest of the Duwamish MIC. SoDo study area truck terminals make up 22 percent of the total truck terminal space in the Duwamish MIC.

Exhibit RE-10: Industrial Building Type

Industrial Type	SoDo Study Area			Duwamish MIC		
	Properties	Rentable Building Area (RBA)	Share of RBA	Properties	RBA	Share of RBA
Distribution				10	1,103,054	4%
Food Processing				1	7,485	0%
Manufacturing	59	2,163,452	28%	259	9,986,453	32%
Refrigeration/Cold Storage				7	836,972	3%
Service	10	132,144	2%	28	337,390	1%
Showroom	3	34,488	0%	5	83,262	0%
Truck Terminal	13	405,448	5%	27	1,811,570	6%

Warehouse	174	4,952,020	64%	589	16,269,437	52%
Not Available	1	9,000	0%	7	1,014,307	3%
Total	260	7,696,552	100%	933	31,449,930	100%

Source: CoStar and Pro Forma Advisors

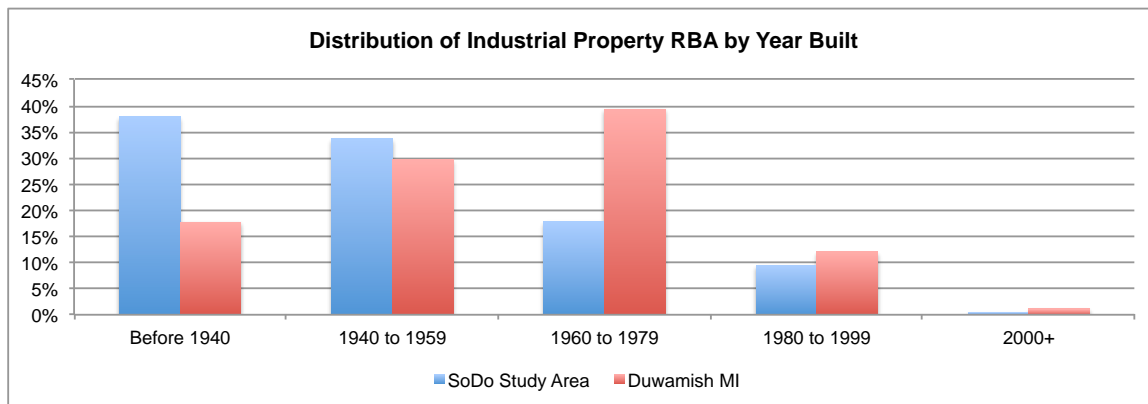
Building Age

The bulk of buildings within the study area were built between 1900 and 1960. Approximately 2.2 millions square feet of current stock was constructed after 1960. While a larger area, the complete MIC has almost eight times the amount of rentable building area, 16.6 million square feet, built after the 1960's relative to the SoDo area.

As shown, both in the SoDo Study Area and Duwamish MIC, older properties have higher vacancies than more recently built properties.

Exhibit RE-11: Industrial Buildings Year Built

Year Built	SoDo Study Area			Duwamish MIC		
	Properties	RBA	% Leased	Properties	RBA	% Leased
Before 1940	83	2,915,857	93.57	152	5,578,489	95.98
1940 to 1959	102	2,590,624	96.07	274	9,316,423	97.47
1960 to 1979	48	1,366,588	96.23	375	12,363,019	97.27
1980 to 1999	20	728,335	95.00	109	3,780,076	95.99
2000+	4	40,168	100.00	18	351,686	98.42
Not Available	3	54,980	100.00	5	60,237	80.00
Total	260	7,696,552	95.32	933	31,449,930	96.90



Source: CoStar and Pro Forma Advisors

Building Size

The table below presents industrial properties by size. In SoDo, the greatest amount of industrial space is in buildings that are 30,000 to 50,000 square feet in size, but 40 percent of all properties are smaller than 15,000 square feet. Approximately 70 percent of all properties are under 30,000 square feet.

In the Duwamish MIC, over 30 percent of all industrial space is found in 29 buildings that are larger than 150,000 square feet. 42 percent of rentable building space are in buildings larger than 100,000 square feet. Only 25 percent of rentable building area is in buildings smaller than 30,000 square feet.

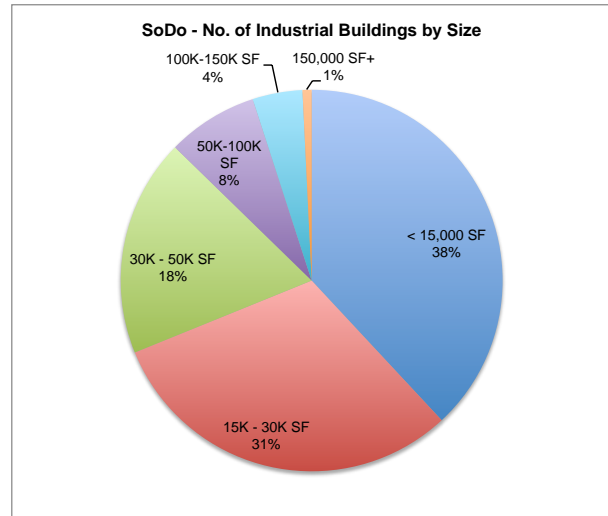
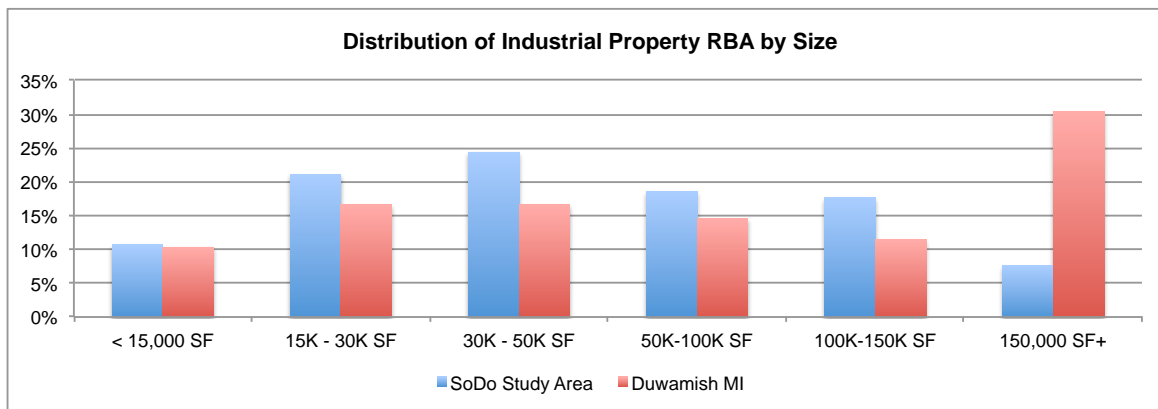


Exhibit RE- 12: SoDo and Duwamish MIC Industrial Properties by Size

Rentable Building Area	SoDo Study Area			Duwamish MIC		
	Properties	RBA	Avg. RBA	Properties	RBA	Avg. RBA
< 15,000 Square Feet (SF)	99	823,053	8,314	418	3,255,835	7,789
15,000 - 30,000 SF	80	1,627,875	20,348	252	5,223,476	20,728
30,000 - 50,000 SF	48	1,876,151	39,086	137	5,227,876	38,160
50,000-100,000 SF	20	1,426,281	71,314	67	4,572,054	68,240
100,000-150,000 SF	11	1,356,035	123,276	30	3,613,225	120,441
150,000 SF+	2	587,157	293,579	29	9,557,464	329,568
Total	260	7,696,552	29,602	933	31,449,930	33,708



Source: CoStar and Pro Forma Advisors

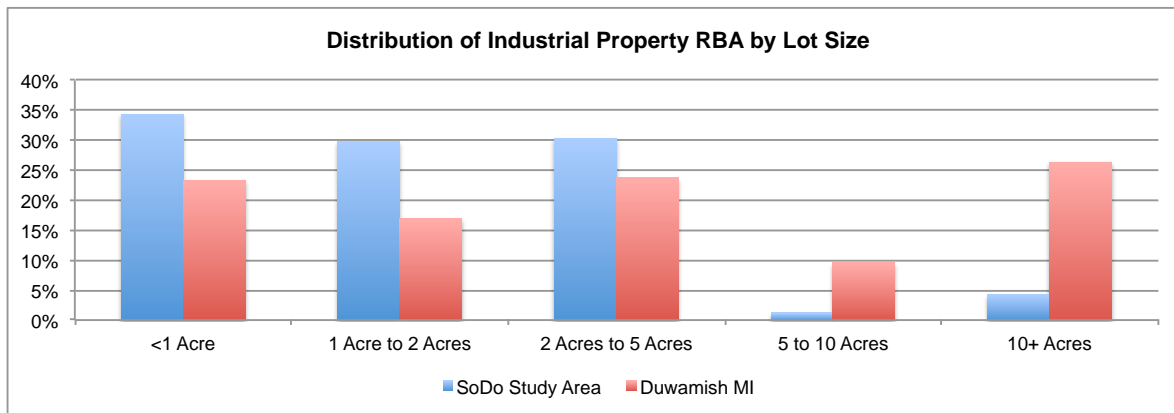
Industrial Property Lot Size

The table below shows the number of properties by lot size category and the average lot size. As shown in the table, in SoDo, while there are many more buildings on the lots smaller than an acre, total industrial space is fairly evenly split between lots of 1 acre or less, 1 to 2 acres, and lots 2 to 5 acres in size. Only 5 percent of RBA is located on acres of 5 acres are larger. In the Duwamish MIC, there is a much greater share of rentable building area on larger lots. 36 percent of the rentable building area is on lots that are 5 Acres or larger.

Exhibit RE- 13: Industrial Properties by Lot Size

Lot Size	SoDo Study Area			Duwamish MIC		
	Properties	RBA	Avg. Lot Size	Properties	RBA	Avg. Lot Size
<1 Acre	163	2,645,224	0.47	542	7,336,860	0.47
1 Acre to 2 Acres	58	2,296,032	1.43	167	5,333,074	1.40
2 Acres to 5 Acres	33	2,337,251	3.17	140	7,468,342	3.11
5 to 10 Acres	2	92,017	6.59	37	3,022,995	6.30
10+ Acres	4	326,028	10.59	47	8,288,659	194.94*
Grand Total	260	7,696,552	1.23	933	31,449,930	11.09

*16 of the 10+ acre properties within the Duwamish MIC are on one 565 Acre parcel.



Source: Costar and Pro Forma Advisors

Office and Retail Developments

Office and retail space has been expanding in the SoDo area, but still only makes up less than 20 percent of commercial properties in the study area.

Office

Commercial office space is currently approximately 1.4 million square feet of office space in the SoDo study area. Of this space, approximately 30 percent, 440,000 SF, was constructed after 2000 and the majority in 2010 or after.

Exhibit RE-14: Office Building Development

Year Built	No. of Buildings	Rentable Building Area (SF)
Before 2000	31	1,012,879
2000 - 2009	2	84,930
2010 - 2013	5	353,174
Demolished Buildings	4	82,134
Total	34	1,368,849

Source: CoStar and Pro Forma Advisors

The SoDo area was historically an industrial area, but in recent years growth from the downtown has spilled over to SoDo with creative and tech businesses looking for centrally located space in unique buildings. The corporate offices of Starbucks moved into the old Sears building in 1993 (whose lease is set to expire in 2015) and Zulily, the internet children's flash sale retail site moved into approximately 80,000 square feet near Starbucks in 2011. Much of the office conversion growth in the general vicinity has been north of Edgar Martinez Way/Atlantic Street on 1st Avenue and Occidental or around the Starbucks area, but since 2010 there have been a few buildings built south of Edgar Martinez Way.

Two major recent additions include the Stadium Innovations Center, a 170,000 square feet, 6-story LEED certified building built in 2010 and Home Plate Center. The Stadium Innovation Center was a speculative office building developed by American Life. Financed, at least in part, with less costly EB-5 investments, the office building had difficulty reaching full occupancy. Currently the building is approximately 60 percent leased. Home Plate Center Phase I, 1501 1st Avenue, is a 6-story approximately 150,000 square foot building currently under construction. Located at the southwest corner of Edgar Martinez Way and 1st Avenue (caddy corner to Safeco Field) this development is also reported at 60 percent leased.

Office absorption had not been particularly strong within the SoDo district before the development of the new properties in 2010, but absorption grew as developers looked to attract new businesses to the area with the larger Class A developments. Developers such as American Life are attempting to create a new office market within the SoDo area.

Exhibit RE-15: SoDo Office Trends

Period	# Bldgs	Total RBA	Total Vacant SF	Total Vacant %	Occupied SF	Total Net Absorption	RBA Delivered	RBA Under Const	Total Avg. Rate
2000	31	1,012,879	44,477	4.4%	968,402	-73,460	0	0	\$13.62
2001	31	1,012,879	52,171	5.2%	960,708	-8,695	0	26,930	\$15.16
2002	32	1,039,809	102,411	9.8%	937,399	-96	26,930	0	\$13.29
2003	31	1,025,283	60,852	5.9%	964,431	29,548	0	0	\$14.43
2004	30	984,455	71,019	7.0%	944,057	-36,544	0	0	\$10.74
2005	30	984,455	63,359	6.4%	921,097	-8,821	0	58,000	\$13.68
2006	31	1,042,455	55,225	5.3%	987,230	64,089	58,000	0	\$15.06
2007	31	1,042,455	65,051	6.2%	977,404	18,041	0	0	\$19.58
2008	31	1,042,455	60,976	5.8%	981,479	-13,126	0	173,758	\$19.88
2009	31	1,042,455	99,685	9.6%	942,770	-58,290	0	195,358	\$22.64
2010	34	1,217,053	288,641	23.5%	939,407	26,824	195,358	157,816	\$23.52
2011	33	1,211,033	296,427	24.4%	919,121	-1,211	0	347,418	\$24.49
2012	34	1,368,849	288,940	21.6%	1,040,456	108,896	157,816	189,602	\$30.52
1Q2013	34	1,368,849	251,793	18.4%	1,117,056	58,722	0	189,602	\$34.92

Source: CoStar

Exhibit RE-16: SoDo Retail Trends

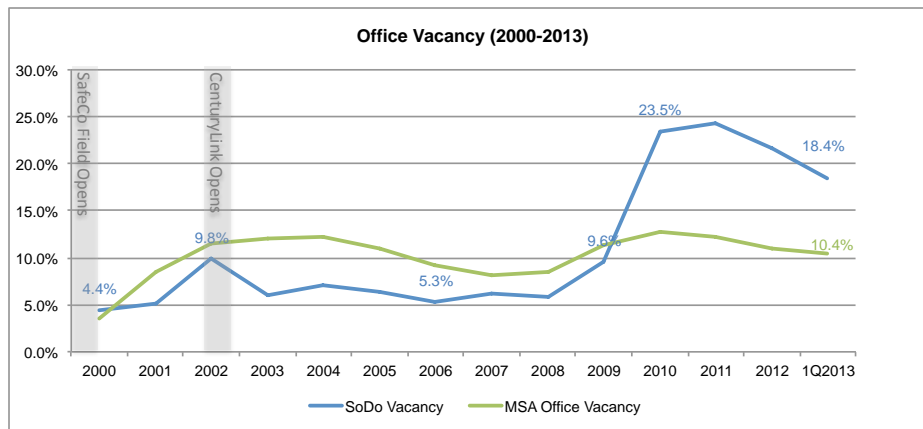
Period	# Bldgs	Total RBA	Total Vacant SF	Total Vacant %	Occupied SF	Total Net Absorption	RBA Delivered	RBA Under Const	Total Avg. Rate
2006	54	536,416	28,939	5.4%	507,478	-11,577	1,750	0	\$12.53
2007	54	536,416	31,027	5.8%	505,389	18,500	0	51,856	\$13.65
2008	54	570,072	22,677	3.9%	551,945	34,056	51,856	0	\$17.47
2009	55	571,247	40,158	7.0%	530,502	-50,223	1,175	3,300	\$18.47
2010	56	574,547	48,530	8.4%	526,017	23,775	3,300	0	\$16.27
2011	56	574,547	43,217	7.5%	531,330	7,099	0	0	\$15.63
2012	56	574,547	38,310	6.7%	536,237	13,326	0	0	\$15.67
1Q2013	56	574,547	27,525	4.8%	547,022	0	0	0	\$11.42

Source: CoStar

Rents and Vacancy

Between 2000 and 2013 the overall Seattle Office market had 42 million square feet of new office and absorbed only half of the new space, raising the vacancy rates throughout the market to an average of 10 percent. Vacancy rates within the SoDo study area were inline, but slightly better than the overall market in the early part of the last decade. However, the deliveries of new office space in 2010 made vacancy rates balloon from their previous decade average of 6.6 percent to vacancy rates above 20 percent.

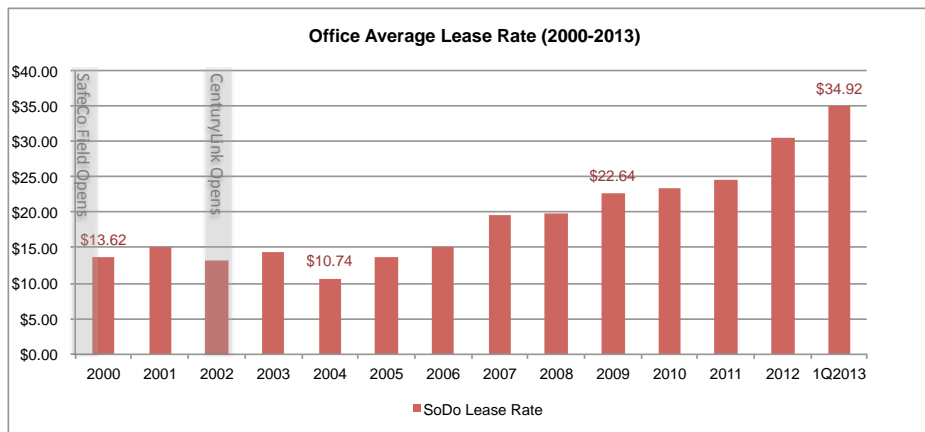
Exhibit RE-17: SoDo and MSA Office Vacancy



Source: CoStar and Pro Forma Advisors

While not part of Seattle's central business district, the SoDo area is part of the larger downtown office submarket. Average rental rates in the downtown submarket are \$29.06. In SoDo average rental rates have climbed from approximately \$14.00 in 2000 to almost \$35.00 in 2013. This is largely due to the new product available for lease in the area. It should be noted that given the high level of vacancies, lease rates are likely to be reduced.

Exhibit RE-18: SoDo Office Lease Rates



Source: CoStar and Pro Forma Advisors

Retail

The SoDo study area has approximately 575,000 square feet of gross leasable retail area in 56 buildings. The SoDo study area represents only 13 percent of the 5.8 million retail properties within the South Seattle downtown market.

Exhibit RE-19: Downtown South Seattle Retail Submarket 1Q2013 Snapshot

Downtown S. Seattle Retail Submarket	Total Retail (1Q 2013)
No. of Buildings	665
Total GLA	5,770,145
Vacancy (Total SF)	203,040
Vacancy Rate	3.50%
YTD Net Absorption	19,378
Quoted Rate	\$16.78

Source: CoStar

Most of the retail in the area is general freestanding retail. There are three reported strip centers in the area, containing 40,000 square feet of retail. In addition to general retail there are two reported auto dealership properties that make up approximately 90,000 square feet of leasable space.

Limited historical information is available for retail (only back as far as 2006), but reviewing the date of construction on individual properties reveals that approximately, 76,000 square feet of retail space has been added since 2000. The bulk of which was the 50,000 square foot BMW Dealer at 1002 Airport Way. Three retail locations have opened near the corner of Holgate Street and 1st Avenue, Krispy Kreme (9,900 SF), a bank (3,000 SF) and the Walker Street building, bringing retail growth south.

Exhibit RE-20: SoDo Retail Building Development

Year Built	No. of Buildings	Rentable Building Area (SF)
Before 2000	50	557,203
2000 - 2005	3	15,922
2005 - 2013	5	60,256
Demolished Buildings	2	58,834
Total	56	574,547

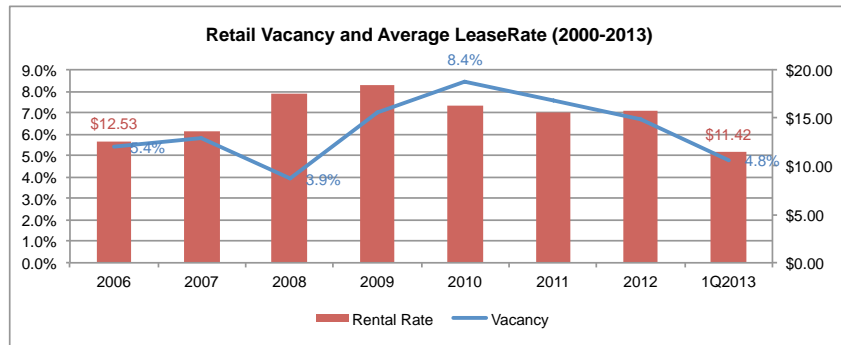
Source: CoStar and Pro Forma Advisors

Rent and Vacancy

Rental rates averaged almost \$16.00 between 2010 and 2013. Current rates are reported at \$11.40 per square foot, a drop from 2012. SoDo study area retail lease rates had been in line with the overall South Seattle downtown market, but are currently 30 percent lower than the average rate.

Between 2008 and 2010, 56,000 square feet of retail space was added, approximately 10 percent of the market. Vacancy rates were 5% in in 2006 and fell as low as 4 percent before the recession brought down consumer spending in the Seattle region. Vacancy rates inched up to 8.4 percent before falling back down to a current low of 5 percent.

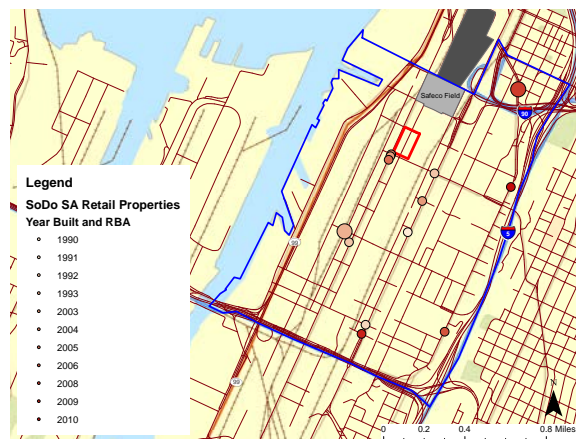
Exhibit RE-21: SoDo Retail Vacancy and Average Lease Rates



Source: CoStar and Pro Forma Advisors

Real estate brokers remind us that even before the development of Safeco and CenturyLink field many Stadium District supporting retail uses were already in place. The development of Kingdome (1976 - 2000) was the initial catalyst that turned the Stadium District area around from largely industrial to a semi-entertainment district, but generally north of Safeco. As shown in the maps, there has been growth in larger retail with the addition of the Home Depot and Starbucks on Utah Avenue. Smaller retail locations have grown along 1st Street near Holgate Avenue and interspersed along 4th Avenue. Also there has been growth of the auto dealerships closer to the freeway.

Exhibit RE-22: Retail Properties Built After 1990 and Sized by Rentable Building Area



Source: CoStar, ESRI, and Pro Forma Advisors

Residential

The SoDo study area is primarily a commercial area. There are currently no major residential projects within the SoDo study area and residential is expressly not permitted under the current zoning within the area.

Beyond SoDo Study Area

While there are no residential projects within the SoDo study area, there is a major project currently under construction north of CenturyLink Field worth noting. Phase I of the Stadium Place Project is currently under construction by developer the Daniels Real Estate Company, with project sponsor R.D. Merrill Company.

Located just west of King Street Station, a regional transit hub, and close to Union Station to the east and in a half-mile walking distance of the Washington State Ferry Terminals to Bremerton or Bainbridge Island, the Stadium Place Project is positioned as a transit-oriented development. In the Pioneer Square neighborhood and on the north edge of the Stadium District, commercial is positioned to meet the needs of both stadium event patrons as well as Pioneer neighborhood residents.

Phase I of the project includes 18,600 square feet of retail and two residential towers. Current conceptual plans for the project include a total of approximately 790 apartment units. Phase II of the project is planned to include a 23-story, 278-room hotel, and a proposed 170,000 square foot office building.

Rendering of Stadium Place Project



Source: Stadium Place Brochure, Daniels Real Estate Company.

While the strong downtown Seattle residential market may continue to put pressure to develop additional residential in the area., PFA concurs with feedback we received from real estate brokers that, even if allowed, residential units are not best suited for the SoDo area. In addition to the main factor that residential uses may be incompatible with existing industrial uses in the SoDo study area, the SoDo neighborhood also lacks the amenities and services, such as grocery stores, retail, neighborhood services and parks/open space, that are desirable to new residents.

Residential uses are more likely to occur on the north end of the Stadium Overlay District where there are better connections with downtown Seattle and residents can access the neighborhood-level amenities in Pioneer Square.

Planned and Proposed

SoDo Study Area

As shown below, there are only four recent permits for new construction developments over \$500,000 in value in the SoDo area. There are additional proposed projects within the SoDo area as well as additional projects smaller than \$500,000 or not considered new construction renovations. Key projects are described below.

Exhibit RE-23: New Construction Permits Issued

Permit Type	Address	Description	Value	Issue Date	Expiration
Construction	1501 1ST AVE S	Construct New Mixed Use Building (Home Plate), shell and core permit only for B offices (levels 4 - 7), occupy per plan.	\$41,151,845	08/09/12	02/09/14
Construction	2025 AIRPORT WAY S	Construct auto sales showroom and service garage(Autohaus-Mercedes Benz of Seattle) and occupy, per plans	\$6,217,932	08/30/12	02/28/14
Construction	701 S DEARBORN ST	New construction of a maintenance shop for new 1st Hill streetcar alignment along with a new parking deck to relocate parking displaced by construction of maintenance shop.	\$6,000,000	05/18/12	11/18/13
Construction	2729 6TH AVE S	Establish use as and construct new mixed use building with surface parking/occupy per plan.	\$1,943,488	07/26/12	01/26/14

Source: City of Seattle Permit Database and Pro Forma Advisors

Home Plate Center. As described in the office section, Home Plate Center Phase I was recently completed and Home Plate Center Phase II is currently under construction. Developed by American Life Inc., the two buildings will include a total of approximately 300,000 square feet of office and were developed for approximately \$155 million. Phase I was completed in May 2012 and Phase II is to be completed in May 2013 with a projected stabilized occupancy June 2014.

Mercedes Benz Showroom and Auto Dealerships. The SoDo area has become a new growth area for auto dealers within Seattle. The area now includes BMW, Mercedes Benz and there also are plans for Toyota and Honda to also move their dealerships to locations at South Holgate and Airport Way South in SoDo as well.

First Hill Streetcar Maintenance Facility. Construction of a maintenance shop for the First Hill Streetcar, planned to open in Spring 2014, and a parking deck to replace displaced parking.

Proposed Arena Ancillary Development. In addition to the arena property, the arena Developer owns additional lands in the proposed SoDo arena site vicinity that may be redeveloped or renovated in the future.

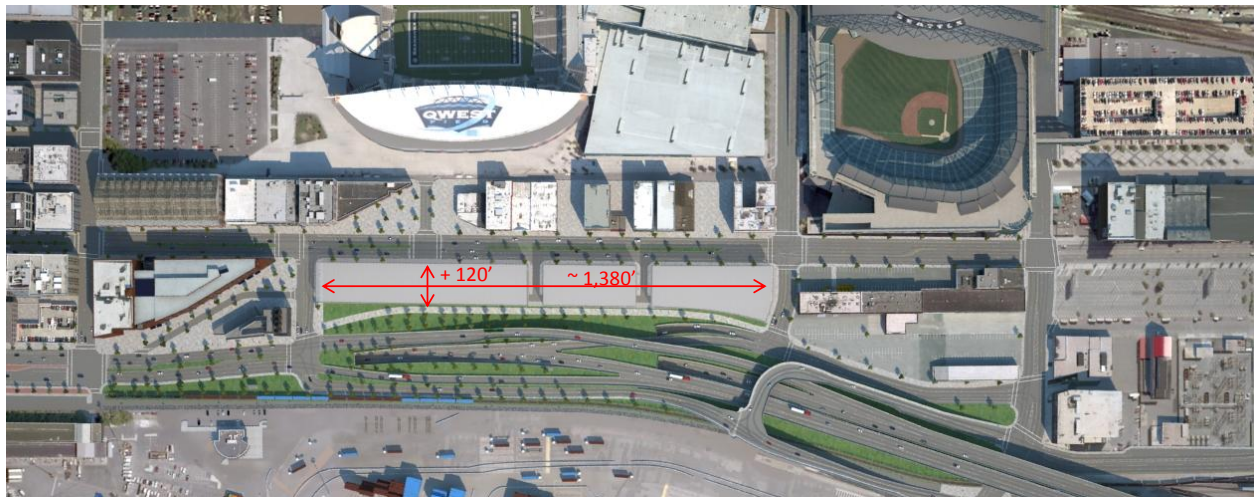
Beyond SoDo Study Area

Major projects within the vicinity of the proposed SoDo site, but outside of the SoDo Study area include the currently under construction Stadium Place and potential future development at the WOSCA site.

Stadium Place. As described above in the residential section Phase I of Stadium Place is currently under construction. Phase II will be developed with the market.

WOSCA Site. The WOSCA Site is a key opportunity site currently located within the current Stadium Transition Area Overlay District boundaries. The long, approximately 4 acre site, is located on the west side of 1st Avenue South between Railroad Way and Royal Brougham Way. A part of the site includes an industrial building while the balance is covered with the temporary alignment of SR-99. When the Alaskan Viaduct replacement project is completed the site will be freed for development. The City is currently working on a study of the Stadium District and development opportunities for this site are being considered as part of the study.

Exhibit RE-24: WOSCA Site



Source: City of Seattle, Stadium District Stakeholder Meeting Group #2 Presentation 03-26-13

Land Values

The table on the next page presents unimproved land in the SoDo area. CoStar reports 17 unimproved properties and only eight properties include recent sales information. Two of these properties have recently been improved or are currently under construction (the Stadium Innovation Center and Home Plate Center developments). Excluding these two properties there is a reported 46 acres of unimproved land.

There are a limited amount of recent land sales within the SoDo area. As shown, two earlier land purchases in 1998 and 2002 were approximately \$30 per square foot. Both of these land sales occurred while the Safeco Field and CenturyLink Field stadiums were under development.

Since 2008 there have been six land sales in the SoDo study area. During this period, land sales averaged \$120 per square foot. It should be noted that several of these sales were made by real estate investment firm called American Life who are the developer/owners of Home Plate Center and Stadium Innovation Center. The company purchased the land for these two development and also own land at 3100 S. Airport Way, the old Rainer Brewery. Excluding their land purchases, there were three sales since 2008 that averaged approximately \$96 per square foot.

Geographically, the three land sales south of Holgate Avenue averaged approximately \$104 per square foot and the three land sales north of Holgate Avenue averaged \$130 per square foot.

Exhibit RE-25: Reported SoDo Land Properties

Building Address	Location	Land Area (AC)	Secondary Type	Last Sale Date	Last Sale Price
1531 Utah Ave S	N. of Holgate St. (Stadium Innovation Center)	1.61	Industrial	10/6/1998	\$2,100,000
3410 2nd Ave S	S. of Holgate Street	0.35	Industrial	8/2/2002	\$497,407
3100 Airport Way S	S. of Holgate Street	0.37	Industrial	4/1/2008	\$1,800,000
1000 6th Ave S	N. of Holgate Steet	0.29	Commercial	6/30/2008	\$1,100,000
1501 1st Ave S	N. of Holgate (Home Plate Center)	2.21	Commercial	1/7/2010	\$17,760,000
1732 4th Ave S	N. of Holgate Steet	0.37	Industrial	6/30/2010	\$1,930,000
3100 Airport Way S	S. of Holgate Street	0.65	Commercial	3/20/2012	\$3,300,000
2918 1st Ave S	S. of Holgate Street	0.21	Commercial	12/31/2012	\$750,000
1201 1st Ave S	N. of Holgate Steet	0.02	Commercial	Not Available	Not Available
1740 1st Ave S	N. of Holgate Steet	1.04	Commercial	Not Available	Not Available
3225 3rd Ave S	S. of Holgate Street	0.20	Industrial	Not Available	Not Available
3400 6th Ave S	S. of Holgate Street	2.11	Industrial	Not Available	Not Available
2229 6th St	S. of Holgate Street	0.15	Commercial	Not Available	Not Available
Airport Way S @ Spokane Street	S. of Holgate Street	1.68	Industrial	Not Available	Not Available
S Hinds St	S. of Holgate Street	0.65	Industrial	Not Available	Not Available
500 S Lander St	S. of Holgate Street	1.58	Industrial	Not Available	Not Available
3300 E Marginal Way S	S. of Holgate Street	36.55	Commercial	Not Available	Not Available

Source: CoStar and Pro Forma Advisors

Industrial Property Values

Due to stakeholder concerns of the viability of industrial uses in SoDo, this analysis also reviews the industrial property sales within the SoDo Area. The chart below presents industrial properties' sales price per square foot of building and lot square feet annually, for reported properties.

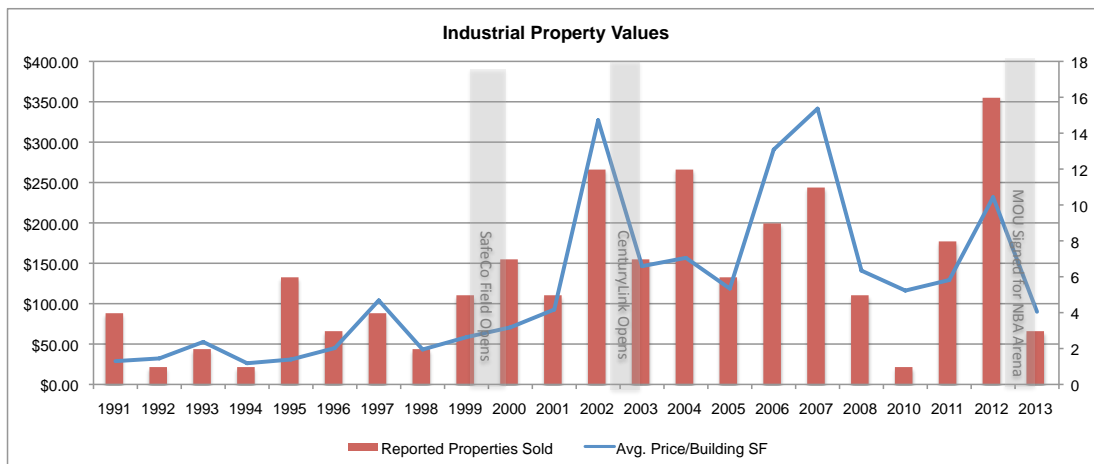
Industrial property prices have grown significantly across the last 20 years, but prices are cyclical and also depend on the properties sold. The average price of industrial lands grew by 240% from \$29.00 to \$70.00 between 1991 and 2000. Between 2000 and 2012 (a peak) prices grew by 330% from \$70.00 to \$231.00 per building square foot.

The weighted average price per square foot between 2000 and 2013 was \$139.00 per Building square foot, but as shown in the chart below there have been significant peaks in the average price per building square foot during high periods in the economy. As reflected in the chart below, the opening of Safeco field had limited impact on industrial prices. While the opening of CenturyLink Field coincides with a peak in industrial prices, the peak in 2002 and trough in 2003 is well in line with the dot.com boom and bust during this period. The greatest growth in prices occurred in 2001 - 2002 and between 2005 and 2008 with growth in the Seattle economy and as businesses, offices, breweries, and others looking for creative space expanded beyond downtown and into the SoDo area.

There was an uptick in industrial property sales values in 2012 with the announcement of the arena. Half of the properties sold during the period were purchased by Valiant Capital, a company of the arena developer. Two transactions, that same year, were made by American Life, the real estate investment firm who built Home Plate Center and Stadium Innovations.

Exhibit RE-26: Industrial Property Average Pricing

Period	Price per Square Foot of Building Square Feet
Weighted Average Price (1991 - 2000)	\$38.16
Weighted Average Price (2000 - 2013)	\$138.89



Source: CoStar and Pro Forma Advisors

Business Listings

The table below presents historical business data in the SoDo study area. Data points include 1997 (in advance of the new Safeco Field Stadium), 2000, 2005 (after the construction of CenturyLink Field in 2002) and current 2011 business and employment data¹⁰.

As shown, there have been notable changes in the make up of businesses within the district between 1997 and 2011. While the number of businesses have contracted from almost 780 to a little over 730, a decrease of 7.5 percent, overall, the SoDo study area has had a decrease in employment of less than 5 percent between 1997 and 2011. The most notable changes have been in the make up of businesses within the district.

Exhibit RE-27: SoDo Study Area Businesses

NAICS 2 -Digit Industry	1997		2000		2005		2011*	
	Firms	Employees	Firms	Emps.	Firms	Emps.	Firms	Emps.
Manufacturing	120	3,809	90	2,167	77	1,737	82	2,446
Wholesale Trade	186	3,177	133	2,116	128	1,496	141	1,712
Transportation and Warehousing	54	1,373	43	705	48	776	52	760
Construction	38	1,385	32	858	45	843	54	776
Retail Trade	107	1,710	101	1,708	129	1,959	100	1,341
Accommodation and Food Services	35	685	33	427	34	500	26	314
Other Services (except Public Administration)	49	638	30	1,377	50	1,564	44	403
Professional, Scientific, and Technical Services	75	562	68	580	79	513	69	532
Management of Companies and Enterprises	1	500	1	700	3	700	1	763
Health Care and Social Assistance	16	436	15	381	12	348	18	390
Real Estate and Rental and Leasing	26	330	23	175	19	89	39	345
Admin. and Support & Waste Mngm't Svc.	16	248	19	282	19	360	40	698
Finance and Insurance	18	121	19	379	14	226	10	70
Information	13	113	12	49	27	448	24	297
Public Administration	4	85	7	202	10	284	14	1,845
Arts, Entertainment, and Recreation	8	75	7	1,818	8	1,819	9	1,846
Educational Services	4	14	2	19	7	196	6	176
Utilities	1	4						

¹⁰ It should be noted that 2011 data was obtained from a different data source as the 1997 - 2005 data. The data points were reviewed and certain points adjusted to make them as comparable as possible. Such adjustments include the addition of key points to appropriate earlier data that were included in 2011 data and were in existence in the study area at earlier points.

Agriculture, Forestry, Fishing and Hunting	2	3					2	5
Unclassified	6	167	69	311	22	32		
Grand Total	779	15,435	704	14,254	731	13,890	731	14,719

*Hoovers Business Listing Data

Source: InfoUSA, Hoovers, and Pro Forma Advisors

3,400 jobs in industrial uses, defined as manufacturing, wholesale trade and transportation, have moved out of the area. It should be noted that the bulk of this change occurred between 1997 and 2000, likely when the entertainment uses supporting the Stadium District was first developed. In 2005, after the construction of CenturyLink Field, there were still similar departures of wholesale industries, but the departure of manufacturing was substantially less and transportation actually grew.

It is important to also consider external economic and real estate factors with these changes in SoDo. Manufacturing, was the largest category to lose employees in the area. Between 2002 and 2010 the City of Seattle lost approximately 27 percent of its employment in manufacturing¹¹ likely due to the loss of manufacturing nationwide with increasing globalization and the dynamics of an evolving real estate market in the City of Seattle as a whole. While the areas north of Spokane having lost 3,400 industrial jobs between 1997 and 2011, between 2002 and 2010 the full Duwamish MIC has lost 10,400 jobs and King County lost 5,400 jobs according to US Census LEHD On the Map data.

As mentioned by brokers many of the buildings in the SoDo study area were built in the early 1900's and are less functional than newer industrial buildings elsewhere in the area. Rather than losing these jobs, certain industrial companies may be moving to elsewhere in the MIC area or moving from the Duwamish MIC to other areas of King County, such as Kent Valley. It is not clear if these movements were accelerated by the development of the existing sports venues or from the changing real estate dynamics in the central Seattle area.

While there have been losses in industrial sectors, employment gains in the area have been seen in the arts, entertainment, and recreation sector, public administration and other service categories, such as information and administrative and support services. Much of this growth directly relates to the development of Safeco Field, the Seattle School District headquarters buildings and the growth and expansion of general office users into the area.

Surprisingly, the data reports departures in the number and employment within retail trade and accommodations and food service in the study area. Retail trade losses may be due to the fact that some wholesale type industrial uses may get categorized as retail as opposed to wholesale.

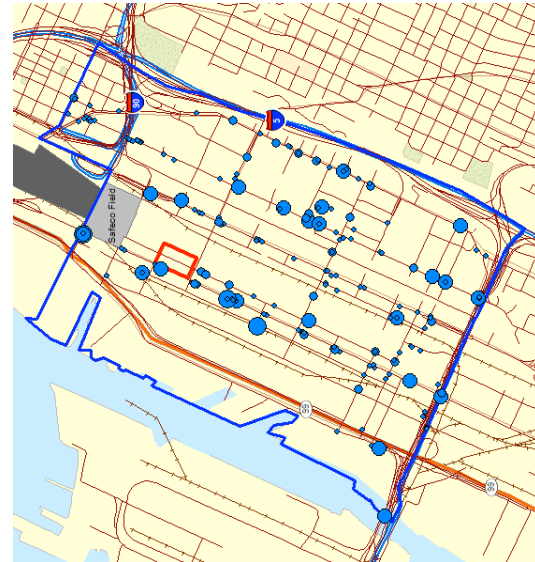
The figure below maps historical industrial employment by business location and employment size. Based on review of the maps, the areas north of Holgate Avenue have seen a greater share of decrease of industrial uses, but industrial departures, likely those based on the overall changing real estate dynamics in the area are also evident throughout the SoDo study area.

¹¹ US Census LEHD On the Map Employment Data

SoDo Study Area Map of Manufacturing, Wholesale Trade and Transportation Businesses

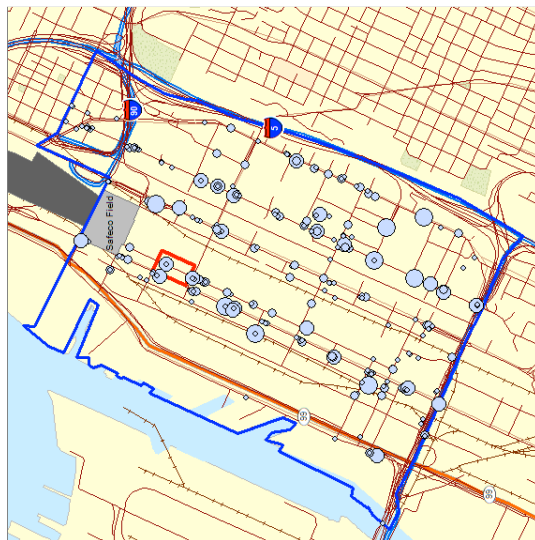


2005



2000

Source: InfoUSA, ESRI, and Pro Forma Advisors



1997

SoDo Conclusions

- ▶ The nature of the SoDo study area has been changing over the last 20 years. Across the last decade the SoDo study area has seen the addition of 443,000 square feet of office space and 76,000 square feet of retail commercial space. Industrial space has declined by 1.4 million square feet of rentable space.
- ▶ Industrial rents have increased significantly and industrial uses in the SoDo area are being converted into other uses. The pattern of these changes suggest these changes are occurring on the north end of the district, above Holgate Street.
- ▶ Industrial property values and SoDo raw land has escalated in value. However, this escalation in value does not appear to be solely related to the development of the new stadiums, but is a reflection of overall downtown real estate expansion pressures.
- ▶ Approximately 70 percent of all SoDo industrial rentable space is in buildings smaller than 30,000 square feet compared to only 25 percent of RBA throughout the full Duwamish MIC. Also there is a substantial amount of stock built after the 1960's in the Duwamish MIC relative to the SoDo area. As described by brokers in the area, the smaller older industrial properties in the SoDo area are not functional for larger industrial businesses, the smaller older industrial stock in SoDo will continue to hamper the capacity of the area for new, larger industrial uses.
- ▶ High office vacancy rates on spec office buildings in SoDo may dampen the conversion of industrial space to office space in the short term. However, the proximity of downtown Seattle will continue to apply pressure to the SoDo area for higher value property development.
- ▶ Small retail properties, with national credit tenants, have been growing south of Holgate Street, but total retail property additions between 2000 and 2013 remain at only 70,000 square feet, with much of that space in auto dealers.
- ▶ Real estate brokers suggest that property values and rents have become expensive in the area due to the development and economics of Seattle as a whole, rather than as a direct result of the development of the sports venues within the SoDo neighborhood. Many suggest that it was the addition of the Starbucks corporate office, the school district facilities, Home Depot and the light rail that have had the most significant impact in the SoDo study area.

Lower Queen Anne Study Area

The Lower Queen Anne study area is the core neighborhood surrounding the Key Arena and Memorial Stadium alternative sites. The Lower Queen Anne neighborhood has a mix of retail, office, residential, and, home to the Seattle Center, entertainment and tourist-oriented uses as well. This study explores the retail, office, multi-family, and hospitality commercial uses within the Lower Queen Anne study area.

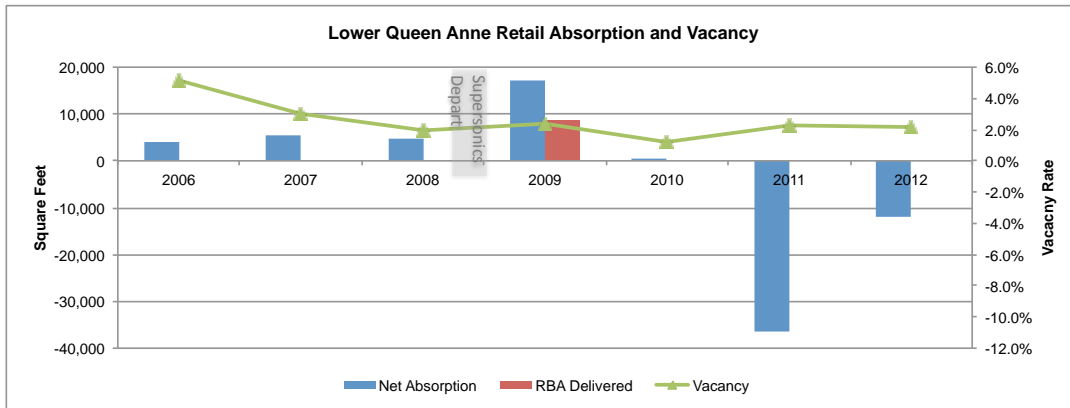
In this analysis, close attention is paid to the changes in development and real estate trends with the departure of the Seattle Supersonics from Key Arena at Seattle Center. It should be noted that while the area of analysis is focused on the Lower Queen Anne District, the South Lake Union area, northeast of the Lower Queen Anne area, has been booming with development. Amazon's new campus and growth in the area's bio-technology firms have spurred real estate growth in the South Lake Union area, with spill over effects in Lower Queen Anne. Around the Seattle Center there was also the recent development of the Bill and Melinda Gates Foundation and Visitors Center building and the addition of the Chihuly Garden and Glass exhibit at Seattle Center. Several real estate brokers confirm, that while the NBA departure from Key Arena impacted retail, real estate, technology, medical and outdoor industries are the key economic drivers of real estate development in the area.

Retail Trends

There is 800,000 square feet of retail gross leasable area in the study area. In 2008, the area lost one small property. Overall, leasable inventory peaked at 833,000 square feet in 2009 and 2010 but has declined by 30,000 square feet since then. Net absorption, a measure of space leased, was a positive through 2010 and then declined by 40,000 square feet since then. The negative absorption in 2011 in the chart below reflects a loosening of the market as well as the contraction of retail space in the study area.

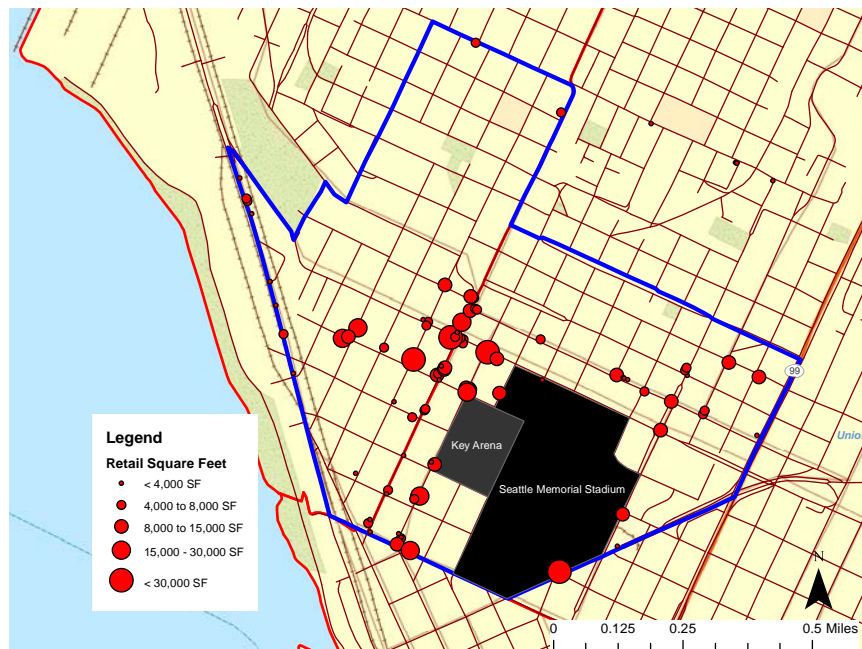
Exhibit RE-28: Lower Queen Anne Retail Trends

Period	# Bldgs	Total GLA	Total Vacant SF	Total Vacant %	Occupied SF	Total Net Absorption	RBA Delivered	RBA Under Const	Total Average Rate
2006	97	825,487	42,759	5.1%	786,819	3,852	0	0	\$23.52
2007	97	825,487	24,793	3.0%	800,695	5,409	0	0	\$33.34
2008	96	824,849	16,189	2.0%	809,139	4,589	0	0	\$33.21
2009	97	833,342	19,199	2.3%	807,774	17,171	8,493	0	\$27.11
2010	97	833,342	9,790	1.2%	823,552	407	0	0	\$21.46
2011	95	804,722	18,984	2.3%	800,048	-36,260	0	0	\$23.55
2012	94	798,672	17,268	2.2%	781,405	-12,050	0	0	\$26.52
1Q2013	94	798,672	17,778	2.2%	780,894	5,650	0	0	\$26.95



In the Lower Queen Anne District, retail is centered around Seattle Center, but, as shown in the map on the next page, the focal point is Queen Anne Boulevard between Republican Street and Roy Street.

Exhibit RE-29: Map of Lower Queen Anne Retail by Size

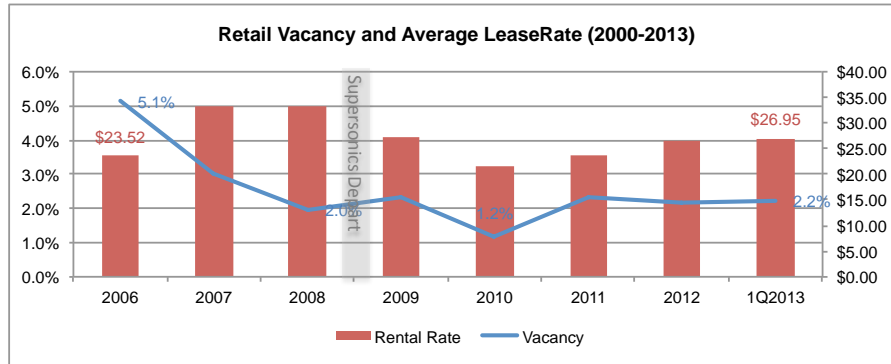


Source: CoStar, ESRI, Pro Forma Advisors

There are three larger neighborhood centers, such as the Market Place at Queen Anne anchored by the Metropolitan Market and Bartell Drugs, and two shopping centers categorized as strip centers in Lower Queen Anne. The balance of retail is generally smaller storefront and free standing retail.

Retail vacancy rates are fairly low in the Lower Queen Anne study area. Rates increased by 30 basis points between 2008 and 2009 when the Supersonics stopped playing at Key Arena, but quickly recovered and tightened in 2010. Vacancy rates have been steady at about 2.2 percent since 2010.

Exhibit RE-30: Lower Queen Anne Retail Vacancy and Lease Rates

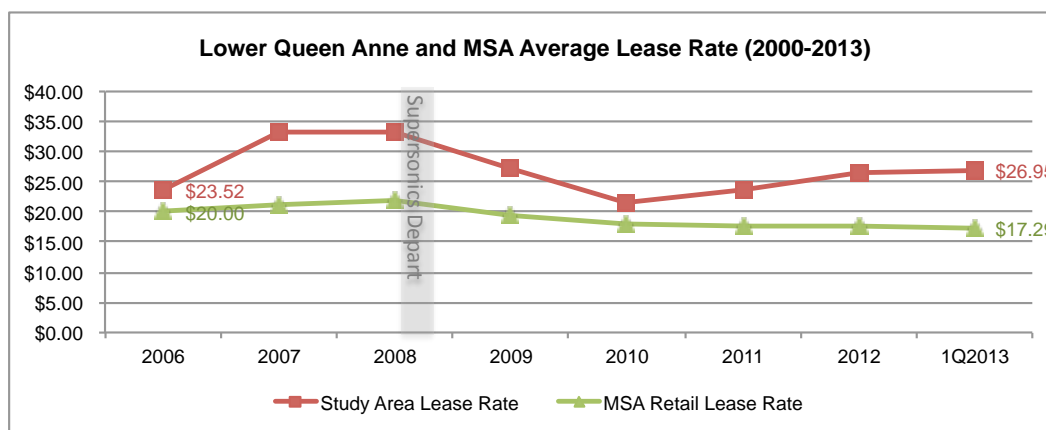


Source: CoStar and Pro Forma Advisors

As presented below, lease rates in the Lower Anne Queen study area and throughout central Seattle, are higher than the lease rates in the greater MSA. Retail lease rates in the area were impacted by both the recession and the departure of the NBA team. Throughout the MSA lease rates fell by almost 20 percent between 2008 and 2010, but within the Lower Queen Anne District lease rates fell by 47 percent, from a high of \$33.00 in 2008 to \$21.50 in 2010.

Brokers believe that the departure of the Sonics impacted local bars and restaurants in the neighborhood most significantly. One local retail broker estimated that overall retail sales were hurt by 10 to 20 percent after the departure of the NBA in Key Arena.

Exhibit RE-31: Lower Queen Anne and MSA Average Retail Lease Rates



Source: CoStar and Pro Forma Advisors

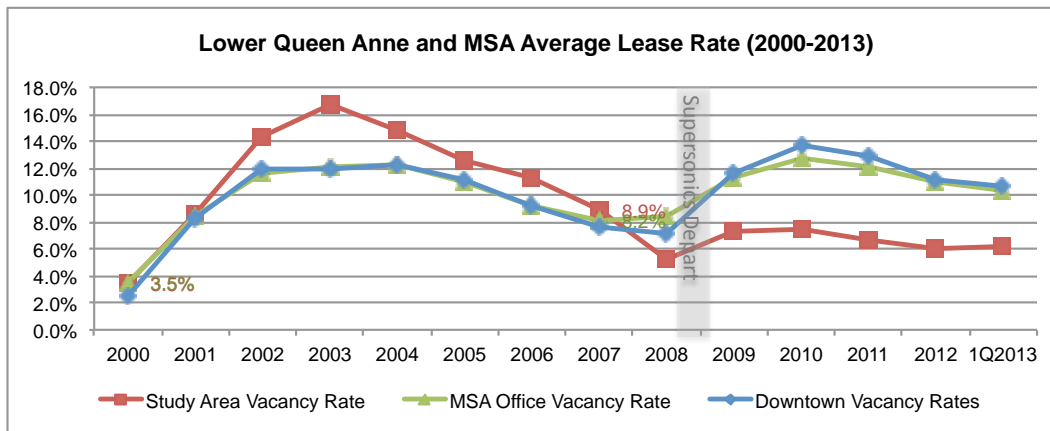
Office Trends

There is currently 2.49 million square feet of rentable office space in the Lower Queen Anne study area, approximately 3.4 percent of the 73.6 million-square foot downtown Seattle office market cluster¹².

While not within the boundaries of the Lower Queen Anne submarket, it is worth noting that Amazon.com has proposed a 3 million square foot 3-office tower development on three blocks in the Denny Triangle, on the edge of the South Lake office submarket but within the Belltown/Denny Regrade submarket. Real estate brokers believe this development will have a strong impact on the Lower Queen Anne real estate market, particularly in terms of residential (for new Amazon workers).

The Lower Queen Anne study area office space has outperformed the overall Seattle MSA market and, while rental rates in the area are lower compared to the overall downtown Seattle Market, the study area has also had higher occupancy and lower vacancy rates relative to the downtown market since 2007. Office vacancies were a low 3.5 percent but jumped to a peak of almost 17 percent in 2003 with the dot.com collapse, which was focused on the technology sector. Office vacancy rates have steadily fallen since 2003 and are currently at 6.3 percent. While it is not likely that there are any strong relationships between office and the departure of the NBA, any relationship between office and the departure of the NBA has been an inverse relationship, the office market has performed better since the departure and more office development has occurred.

Exhibit RE-32: Lower Queen Anne and MSA Average Office Lease Rates



Source: CoSta and Pro Forma Advisors

¹² This cluster includes the Central Business District, Ballard/U Dist, Belltown/Denny Regrade, Capitol Hill/Central Dist, Lake Union, Pioneer Sq/Waterfront, Queen Anne/Magnolia, and S Seattle submarkets.

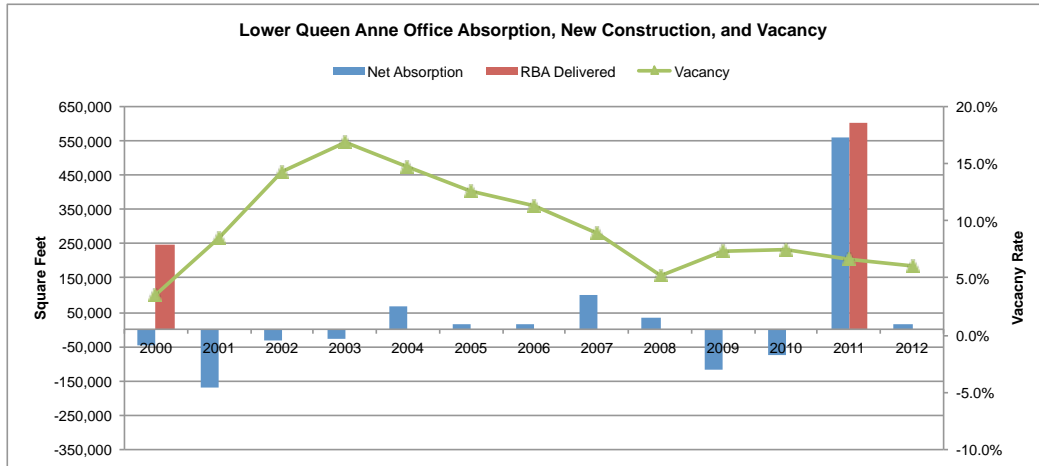
Exhibit RE-33: Lower Queen Anne Office Trends

Period	# Bldgs	Total RBA	Total Vacant SF	Total Vacant %	Occupied SF	Total Net Absorption	RBA Delivered	RBA Under Const	Total Average Rate
2000	89	2,084,257	72,210	3.5%	2,012,048	-48,011	244,775	0	\$26.23
2001	87	2,074,457	177,017	8.5%	1,897,440	-170,564	0	0	\$24.95
2002	87	2,074,457	296,301	14.3%	1,778,156	-32,981	0	0	\$21.50
2003	86	2,070,717	347,663	16.8%	1,723,054	-26,901	0	0	\$18.83
2004	85	2,066,891	305,943	14.8%	1,763,818	68,203	0	0	\$18.90
2005	85	2,066,891	259,588	12.6%	1,807,304	15,738	0	0	\$18.77
2006	85	2,066,891	234,338	11.3%	1,832,553	16,828	0	0	\$20.05
2007	85	2,066,891	183,189	8.9%	1,883,702	98,448	0	0	\$22.17
2008	84	2,064,024	108,294	5.2%	1,957,881	33,618	0	300,000	\$23.53
2009	79	1,971,231	147,099	7.3%	1,870,528	-117,521	0	600,000	\$21.40
2010	77	1,910,297	145,594	7.5%	1,791,872	-74,421	0	600,000	\$21.24
2011	77	2,493,108	152,737	6.6%	2,194,668	558,476	600,000	0	\$21.28
2012	77	2,493,108	149,400	6.0%	2,343,708	14,747	0	0	\$21.20
1Q2013	77	2,493,108	155,983	6.3%	2,337,125	-5,929	0	0	\$21.49

Source: CoStar and Pro Forma Advisors

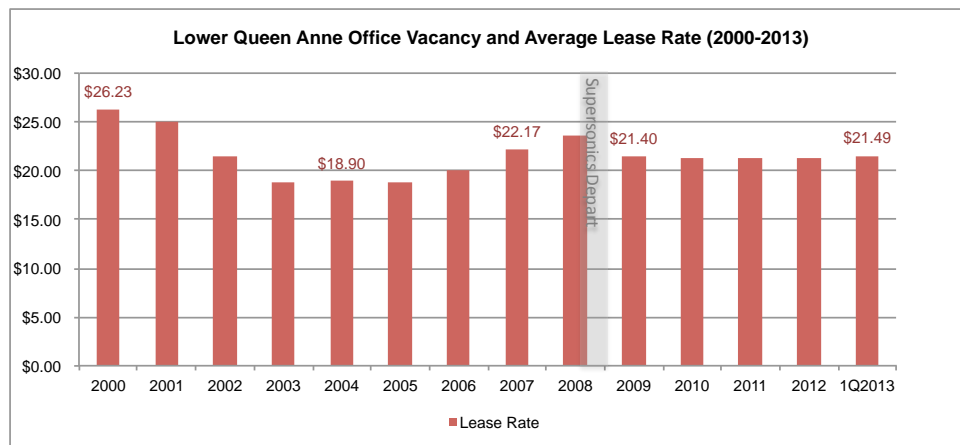
600,000 square feet of office space was delivered to the market in 2011, generating a roughly 30 percent increase in rentable building area. 560,000 square feet of this space was absorbed during the same year and vacancy rates declined further by 2013.

Exhibit RE-34: Lower Queen Anne Office Absorption, Construction and Vacancy



Lower Queen Anne's lease rates were as high as \$26.00 per square foot, full service, before the dot.com collapse, but dipped to a low of \$18.80 in 2005. Lower Queen Anne office lease rates have leveled off to a steady \$21.00 per square foot.

Exhibit RE-35: Lower Queen Anne Office Vacancy and Average Lease Rate



Multi Family Buildings

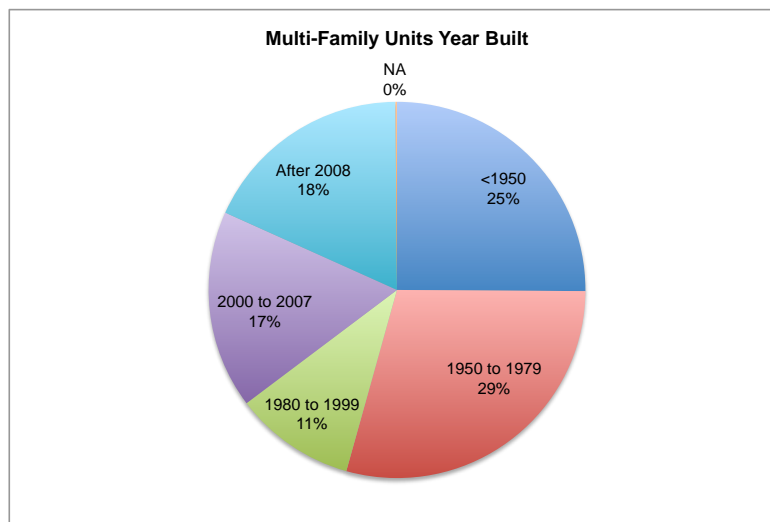
There has been substantial growth in the residential market in Lower Queen Anne District and more is expected with the development of the nearby new 3 million square foot Amazon corporate headquarters in the Denny Triangle (approximately 1 mile away from Seattle Center) and continued growth in the South Lake Union area.

CoStar reports 199 existing rental multi-family buildings containing 4,500 units in the Lower Queen Anne area¹³.

Since 2000, 21 buildings have been constructed in the area. Where as the majority of units in buildings built before 1980 were in low-rise buildings 4 stories and lower, the majority of units in buildings built after 2000 have been in mid-rise buildings above 4 stories. 35 percent of the existing multi-family unit inventory was added after 2000, with more than half of that number added in the approximate 5 years since 2008.

Exhibit RE-36: Lower Queen Anne Rental Multi-Family Buildings

Period built	No. of Buildings	Number of Units	Avg No. of Units per Bldg
<1950	84	1,134	14
1950 to 1979	69	1,321	19
1980 to 1999	17	469	28
2000 to 2007	12	769	64
After 2008	9	819	91
NA	8	6	1
Grand Total	199	4,518	23



Source: CoStar and Pro Forma Advisors

¹³ This figure includes approximately 64 percent of the 7,600 multi-family buildings in the Lower Queen Anne Study Area reported by ESRI using Census American Community Survey 2005 - 2009 data.

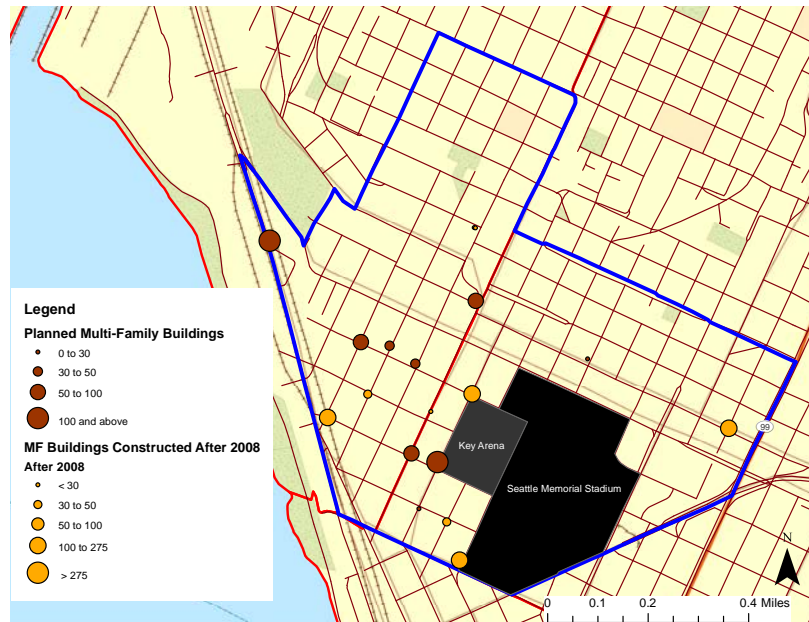
There are 9 residential buildings containing a projected 660 units currently proposed within the Lower Queen Anne study area. The Expo project (100 Republican Street) and the planned Astro Project (315 1st Avenue N) are the two largest projects within close proximity to Key Arena.

Exhibit RE-37: Planned Lower Queen Anne Rental Multi-Family Buildings

Planned Residential Buildings	Developer Name	Anticipated Year of Development	Number Of Units
509 1st Ave W	Gramor Development	2013	43
521 2nd Ave W	Isola Capital Management LLC	2013	33
717 3rd Ave N		2014	20
600 Elliott Ave W	Goodman Real Estate, Inc.	2013	124
306 Queen Anne Ave N	Gramor Development	2014	53
101 John Street	Indonesian Developments	2014	20
14 W Roy Street		2015	77
500 3rd Avenue W	Continental Properties	2014	76
315 1st Avenue N	SRM Development	2015	212
Total Units			658

Source: CoStar, CBRE, and Pro Forma Advisors

Exhibit RE- 38: Map of Recently Built and Planned Lower Queen Anne Multi-Family Buildings



Source: CoStar, ESRI, CBRE, Pro Forma Advisors

Hospitality

Seattle Center is one of the main attractions for visitors to the area. NBA visitors likely provided some support to local hotels, but the existing Seattle Center venues, and new additions such as the the Chihuly Garden and Glass exhibit, provide sufficient hotel demand to support the more than 800 hotel rooms in the area.

As shown in the table below, there are currently eight major hotels in the Lower Queen Anne District. Most of the existing hotels were built before 2000. With 180 rooms, the Mediterranean was built between 2000 and 2010. The Maxwell House is the newest hotel addition in the Lower Queen Anne District. Maxwell House is a well-regarded 139-room boutique hotel that opened up in the area in 2010 near the Seattle Center.

Exhibit RE-39: Lower Queen Anne Hotels

Building Name	Building Address	Rooms	No. Of Stories	Rentable Building Area
Maxwell Hotel	300 W Roy St	139	5	111,856
The Mediteranian	425 Queen Anne Ave N	80	6	117,738
Comfort Suites/ Four Points Sheraton	601 Roy St	158	4	122,942
Homewood Suites	206 Western Ave W	161	6	155,602
Hampton Inn & Suites Downtown	700 5th Ave N	198	4	154,300
Inn at Queen Anne	505 1st Ave N		3	33,744
The Marqueen Hotel	600 Queen Anne Ave N	58	3	38,489
Civic Center Motel	615 Valley St		2	6,241

Source: CoStar and Pro Forma Advisors

Industrial and Flex Real Estate

The Lower Queen Anne study area is primarily retail, office, and tourist-related. There is only a limited amount of industrial and flex space. The area holds 160,000 square feet of industrial space in 17 buildings and 67,000 square feet of flex space in 3 buildings. The table below presents the summary of industrial and flex building real estate performance.

Exhibit RE-40: Lower Queen Anne Industrial and Flex Summary

Lower Queen Anne	Industrial	Flex
First Quarter 2013 Snapshot		
No. of Buildings	17	3
Rentable Building Area (SF)	160,361	66,436
Vacancy (SF)	0	5,970
Vacancy Rate	0%	9.0%
Lease Rate	\$12.00	\$12.30
2000 - 1Q2013		
Net Absorption	17,412	-11,670
RBA Delivered	0	\$0.00

Source: CoStar

Lower Queen Anne Conclusions

- ▶ The presence of the NBA team at Key Arena helped to buoy retail lease rates in the Lower Queen Anne District and their departure had a negative impact on retail lease rates. However, existing retail remained occupied after the departure of the NBA, at lower rates, and some properties were converted to other uses.
- ▶ The office market in the Lower Queen Anne District has had higher occupancies relative to the Seattle MSA and downtown business cluster since 2007. The office market was not negatively impacted by the departure of the NBA team and has, in fact, expanded and performed better than other areas of the City, inline with growth in the Seattle technology sector.
- ▶ Multi-family development has grown substantially in Lower Queen Anne in recent years, as mentioned above this is primarily due to overall real estate growth in the greater area. However, brokers also suggested that perhaps the departure of the Sonics provided the opening for new redevelopment and residential growth in the area.
- ▶ With exception to retail, the area has seen more real estate development than the period in which the NBA played at Key Arena.

Regulatory Framework

In considering the potential real estate and land use impacts of a proposed new arena in the SoDo study area, it should be noted that any potential development impacts of the proposed Seattle arena will occur in the context of the existing planning and regulatory frameworks.

For a description of this framework, please refer to Chapter 3.10, Regulatory Framework, in the Seattle Arena Draft EIS.

Case Studies

This section reviews case studies of comparable sports venues and their impacts on their local area. The two detailed case studies include Pepsi Center Arena in Denver, Colorado, and the Wells Fargo Arena in South Philadelphia, Pennsylvania. Other venues reviewed include PetCo Park in San Diego, California.

Pepsi Center was selected because the area includes three sports venues, Pepsi Center Arena and two stadiums, Coors Field and Sports Authority Mile High Center, within a 2-mile area also adjacent to downtown Denver. The sports venues, in particular Coors Field, has been touted as one of the prime examples of how sports venues can help to spark development in an area. Though a stadium rather than an arena, PetCo Park, was also surveyed to understand the high level development impacts that can be supported with a sports venue. Differences from arenas rather than stadiums are also mentioned.

Philadelphia's Wells Fargo Arena provides an understanding of the opposite side of the spectrum from the Denver case. The Wells Fargo Arena is set in a sports complex that includes an NFL stadium and baseball stadium. Similar to SoDo the sports complex is located near to historically industrial areas near a port. However, the sports complex is 3.5 miles away from the Philadelphia central business district in South Philadelphia.

Pepsi Center Arena and Denver Sports District

The Pepsi Center Arena is located in Denver's lower downtown (Lodo) area, approximately one mile west of the downtown area and one mile southwest of Coors Field. The immediate area is dominated by Elitch Gardens to the west (an amusement park), and the Auraria Campus to the south, which is composed of three educational institutions: the Community College of Denver, Metropolitan State University of Denver, and University of Colorado Denver.

Sports Teams in Denver

Denver is a major sports market, with professional baseball and football teams in addition to the NBA basketball and NHL hockey tenants at the Pepsi Center.

The Pepsi Center is equidistantly located to the Sports Authority Field and Coors Field, both of which are located within one mile of the arena. This concentration of venues – and their collective location within the general downtown area of Denver – is often cited as one of the primary reasons for the market's 'success' in sports team-driven redevelopment. This is in contrast to markets such as Phoenix, where the lack of a true 'downtown' and concentration of activity has dispersed the potential gravity effects of new development.

Venue	Pepsi Center	Sports Authority Field at Mile High	Coors Field
Location	1000 Chopper Circle	1701 Mile High Stadium Circle	2001 Blake Street
Opened	Oct-99	Sep-01	Apr-95
Team	Denver Nuggets, Colorado Avalanche	Denver Broncos	Colorado Rockies
Cost	\$160 million	\$401 million	\$300 million
Capacity	21,000	76,000	50,500

Development of Pepsi Center Arena

The arena cost \$160 million, and occupies 45 acres of land area. The 5-level arena seats 21,000, and comprises 675,000 square feet of built area. The arena holds 200 events a year, and employs 1,000 people.

Rationale

The project was built to provide an arena for the Denver Nuggets (NBA) and Colorado Avalanche (NHL), while making use of dilapidated former railroad grounds of the Southern Pacific Railroad. The site was originally acquired by the Denver Urban Renewal Authority (DURA), lacked basic infrastructure, and was severely contaminated.

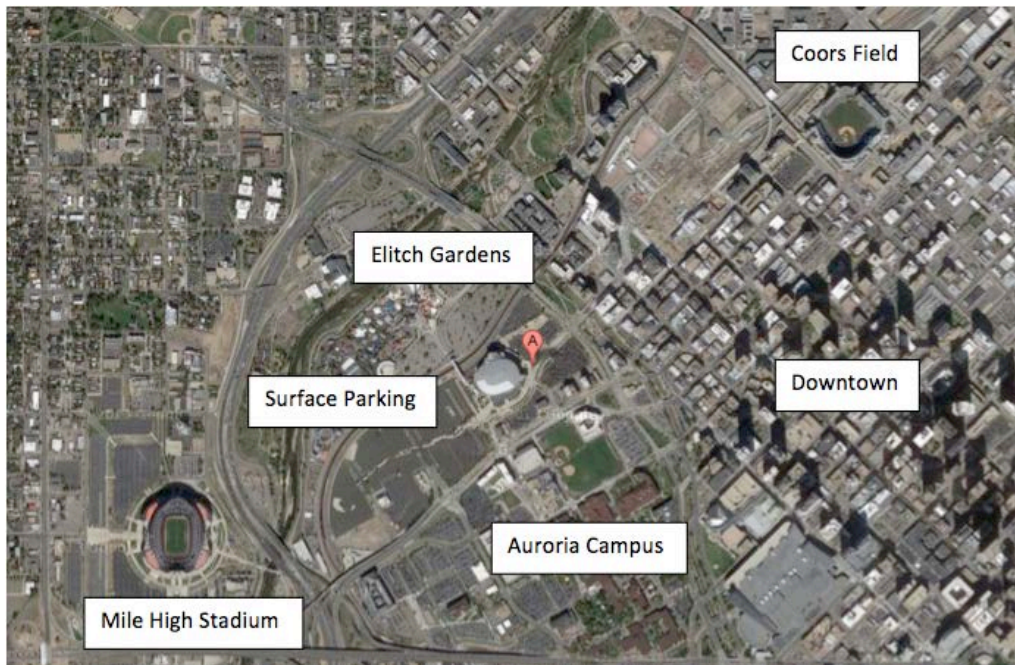
Financing

Tax increment financing (TIF) was used to fund site demolition, environmental remediation, and other site improvements totaling \$36.5 million. An additional \$4.5 million in City funds was used to construct infrastructure.

Denver Sports Venue Impacts

The impact of the Pepsi Center Arena is difficult to isolate from other venues in the immediate area. Coors Field completed construction in 1995, just four years before the Pepsi Center. Coors Field is the sports venue primarily lauded for helping to redevelop downtown Denver, as opposed to Pepsi Center. There has been limited new development surrounding Pepsi Center.

Exhibit RE-41: PepsiCo Center and Surrounding Downtown Denver Venues



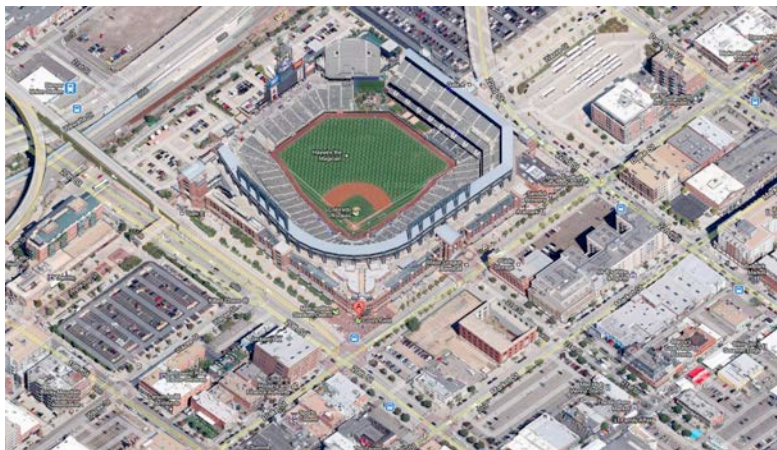
Source: Googlemaps and Pro Forma Advisors

Much of the potential impact of the Pepsi Center has been shared with the neighboring attraction venues, most notably Coors Field. Preceding the opening of the Pepsi Center by four years, Coors Field is more highly integrated into the Northeast Downtown Area, and has had a greater measurable impact on the surrounding community than the Pepsi Center.

Within a year of Coors Fields completion housing units, retail and restaurants in the area of the stadium doubled and after it opened the stadium's "economic influence was estimated at \$195 million a year."¹⁴

- ▶ This is partially due to design; the Northeast Downtown Area has been operating under the framework of a general strategy that assigned a mixed-use designation to the Ballpark District from the outset, and fostered supporting retail uses surrounding the stadium.
- ▶ As part of this overall framework, among other measures, designers did not grant the stadium its initial request for the maximum number of parking spaces. This limitation drove the use of existing parking lots and garages – and pedestrian traffic to and from the ballpark. The City encouraged pedestrian-friendly links between the downtown and the stadium and purposefully leveraged this foot traffic to promote greater exploration and spending in the Northeast Downtown district¹⁵.
- ▶ The area immediately surrounding Coors Field did not hem in the Pepsi Center – as the latter was by the universities and Elitch Gardens.
- ▶ In addition to design, the greater ancillary development impact of Coors Field is also likely an effects of both a higher capacity at Coors Field and a greater number of annual visitors – approximately 3 million to Pepsi Center's 2 million.

Coors Field



Source: GoogleMaps

¹⁴ Jaffe, Eric. "How to Build a Successful Downtown Stadium," The Atlantic Cities, March 2012.

¹⁵ Gest, David. "Stadium as Catalyst? Thing Again," Panorama.

As noted above, there has been limited new development around Pepsi Center Arena. The Pepsi Centers value was primarily in cleaning up the dilapidated railroad site. Coors Field, which has higher attendance and was designed with pedestrian-orientation in mind, is more highly credited for increasing the vitality in the area.

Surrounding Businesses

Existing businesses within a half-mile of Pepsi Center were analyzed and data on these businesses is shown on the next page. The accommodations and food service, and health care and social assistance categories dominate the immediate half-mile area. While the number of business establishments exhibits a more dispersed pattern, these two categories account for more than 70 percent of the employment base in the immediate area, and nearly 80 percent of taxable sales.

Food service establishments include the several clustered in and around the Pepsi Center, and in the Auroria Campus. The Health Care and Social Assistance category includes the cluster of businesses located just north of Cherry Creek, immediately north of the arena.

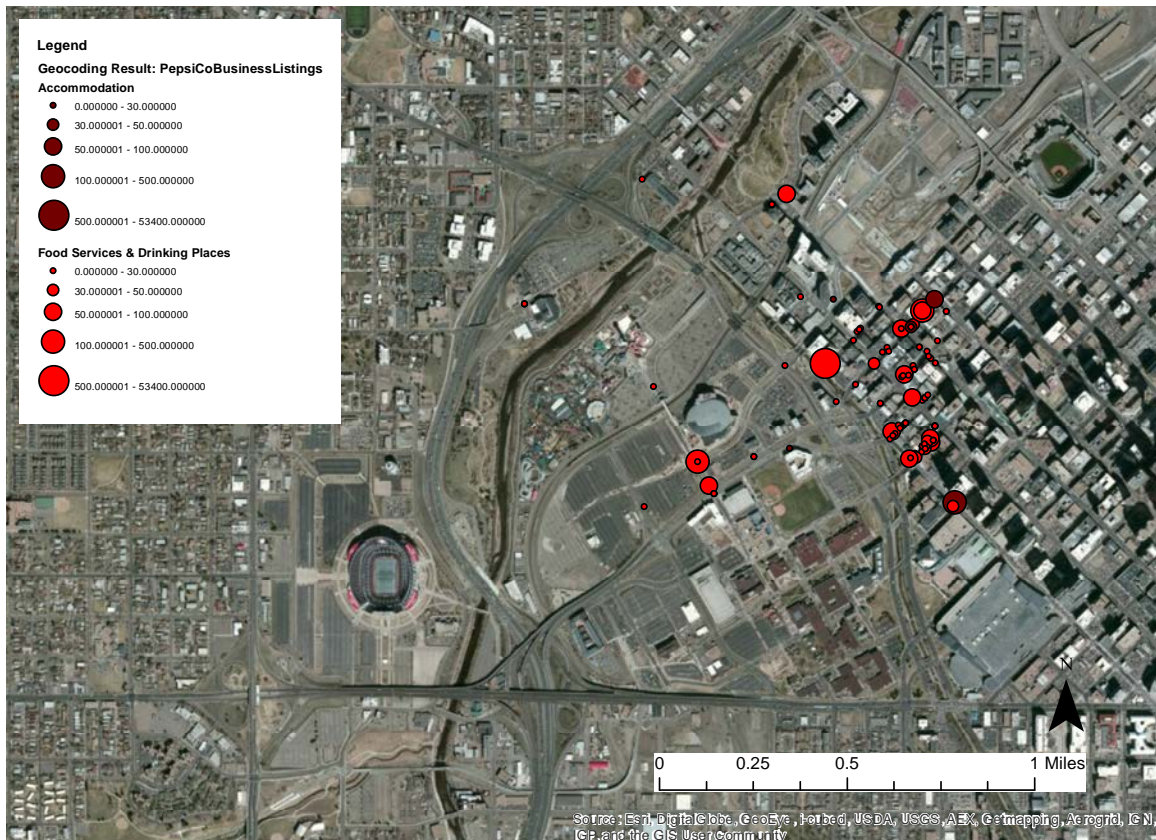
As shown in the aerials of Pepsi Center, a significant share of the area is covered by surface parking lots, limiting the ancillary development around the arena. The figure on the next page maps the accommodations and food service businesses within a half-mile of the arena. Accommodations in the area are located equidistant between the Pepsi Center and Coors Field. There is a limited amount of retail outside of Pepsi Center; the majority of the food service is integrated into the downtown neighborhood.

Exhibit RE- 42: Existing Businesses within 0.5 Miles of Pepsi Center Arena

	Firm Count	Employees	Revenues	Distribution		
				Firms	Emps.	Revenue
Accommodations and Food Service	149	40,822	\$2,908,041,000	14%	31%	20%
Administrative Support and Waste Management and Remediation Services	43	275	\$39,342,000	4%	0%	0%
Arts, Recreation and Entertainment	24	785	\$53,763,000	2%	1%	0%
Construction	36	279	\$106,459,000	3%	0%	1%
Educational Services	9	315	\$125,948,000	1%	0%	1%
Finance and Insurance	77	749	\$372,924,000	7%	1%	3%
Health Care and Social Assistance	54	53,855	\$8,230,225,000	5%	41%	57%
Information	41	347	\$105,613,000	4%	0%	1%
Management of Companies and Enterprises	1	2	\$3,266,000	0%	0%	0%
Manufacturing	16	2,038	\$839,608,000	1%	2%	6%
Mining	14	148	\$52,554,000	1%	0%	0%
Other Services (except Public Administration)	65	428	\$14,197,000	6%	0%	0%
Professional, Scientific, and Technical	188	2,822	\$444,551,000	17%	2%	3%
Public Administration	7	942	\$0	1%	1%	0%
Real Estate, Rental, and Leasing	67	566	\$375,634,000	6%	0%	3%
Retail Trade	104	1,122	\$120,727,000	10%	1%	1%
Transportation and Warehousing	6	27	\$216,070,000	1%	0%	1%
Utilities	2	1,006	\$273,824,000	0%	1%	2%
Wholesale Trade	22	23,098	\$218,004,000	2%	17%	1%
Other	163	3,117	\$54,337,000	15%	2%	0%
Grand Total	1088	132,743	\$14,555,087,000	100%	100%	100%

Source: CoStar and Pro Forma Advisors

Exhibit RE- 43: Map of Retail and Accommodation Businesses Surrounding Pepsi Center



Source: InfoUSA and Pro Forma Advisors

Real Estate Characteristics

With the renovation of the surrounding area, industrial inventory has steadily fallen, from approximately 500,000 square feet of built area in 2000 to less than 100,000 square feet at the beginning of this year. During the same period, office product has increased from 2 million to over 3.5 million square feet. A total of nearly 800,000 square feet of retail inventory has been added in the market since 2006.

Office space is at a premium in this market, due to its close proximity to downtown. Industrial inventory has decreased in tandem with occupancy rates, as tenants have left the area. The drastic increase in office inventory has been accompanied by a corresponding increase in tenants, with only a mild decrease in overall occupancies.

Exhibit RE- 44: Market Characteristics (0.5 mile radius)

Type	2000	2005	2012	Change (2000-2012)
Inventory (SF)				
Industrial	488,996	426,068	80,009	-408,987
Retail	NA	NA	770,457	770,457
Office	1,923,414	2,231,165	3,786,387	1,862,973
Occupancy (%)				
Industrial	98%	91%	79%	-19%
Retail	NA	NA	98%	NA
Office	95%	96%	93%	-2%
Rental Rates*				
Industrial	NA	\$0.46	NA	NA
Retail	NA	NA	\$1.53	NA
Office	\$2.01	\$1.39	\$2.57	28%

*Rental Rate data is limited for smaller geographies.

Source: CoStar and Pro Forma Advisors

Broader Market Impacts

A two-mile radius encompasses much of Denver's downtown districts, including the Denver central business district with over 40 million square feet of office product and all three sports venues, Pepsi Center, Coors Field, and the Sports Authority Stadium.

On this broader scale, office space has grown by 2.9 million square feet, while industrial space has contracted by 2.4 million square feet. Retail, only reported between 2006 and 2013, contracted since 2006, but this is likely due to the great recession.

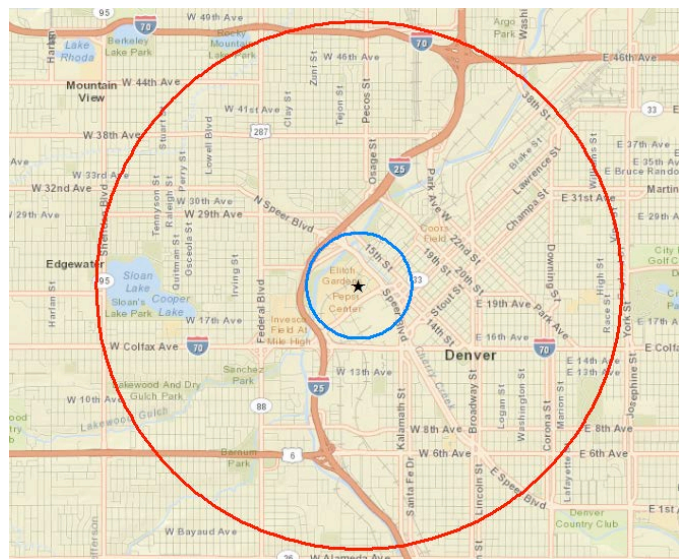
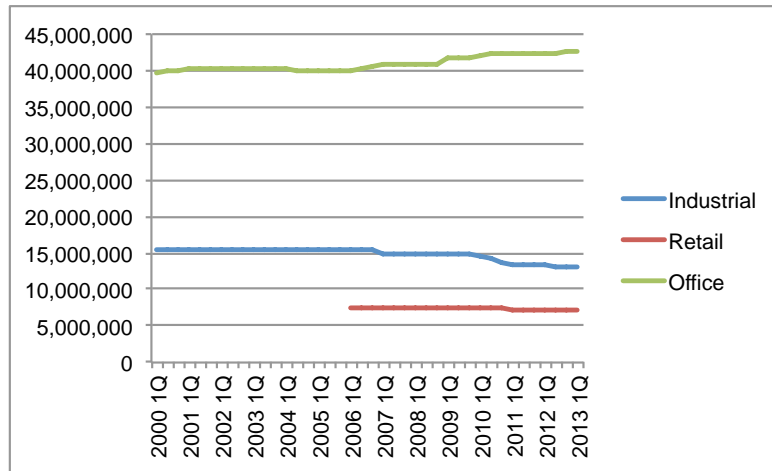


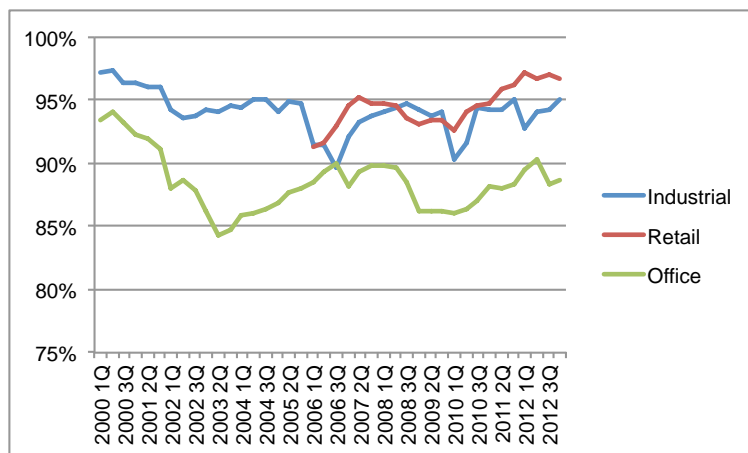
Exhibit RE-45: SF of Inventory by Product Type (2 mile radius)



Source: CoStar and Pro Forma Advisors

The larger two-mile market area has experienced fluctuations in industrial and office occupancy rates, but retail product has seen a steady increase during the time period for which data is available, from the low 90s to nearly 97 percent.

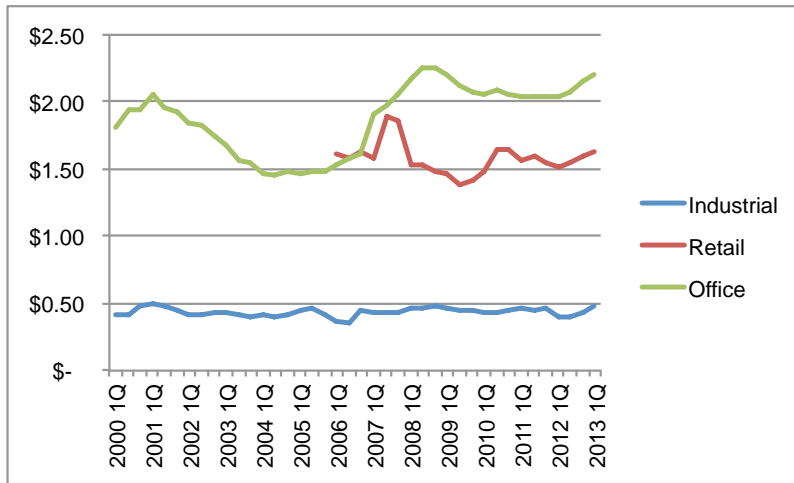
Exhibit RE-46: Occupancy by Product Type (2 mile radius)



Source: CoStar and Pro Forma Advisors

Rental rates were impacted by the economics of the Great Recession. It is interesting to note that industrial rates were less impacted relative to retail and office uses, and despite the growth in the downtown area, the sports venues have not escalated the industrial rental rates.

Exhibit RE-47: Rental Rates by Product Type (2 mile radius)



Source: CoStar and Pro Forma Advisors

Wells Fargo Center Arena and the South Philadelphia Sports Complex

The South Philadelphia Sports Complex is the current home of Philadelphia's professional sports teams. It is the site of the Wells Fargo Center Arena, Lincoln Financial Field, Citizens Bank Park, and a retail/entertainment center Xfinity Live!

It is an example of a sport facility that complements a larger economic development effort rather than existing as the sole driver of revitalization. The overall Sports Complex is part of a larger district, Lower South Philadelphia, that is devoted not only to the sports facility area, but to a large public park, a port district and transportation facility, a refinery and a decommissioned navy shipbuilding yard that has recently transitioned to become the home a burgeoning tech and corporate business park.

Unlike the proposed SoDo and Key Arena/Memorial Center sites, the Wells Fargo Center is not in or near the City's downtown. Instead it is approximately 3.5 miles to the south of the downtown in an area has traditionally been dominated by port, industrial and distribution uses to the east and west of the Sports Complex area, the Navy shipyards to the south and a residential/commercial neighborhood to the north. Construction of I-76 and I-95 freeways in the late 1950's, improved vehicular transportation and access to the area but also resulted in major physical barriers which isolate the area for other areas of the City.

The Wells Fargo Center and South Philadelphia Sports Facility Complex

The contemporary Sports Facility area consists of three sporting venues:

Venue	Wells Fargo Center	Lincoln Financial Field	Citizens Bank Park
Opened	1996	2003	2004
Team	Philadelphia Flyers (NHL), Philadelphia 76ers (NBA), Philadelphia Wings (NLL), and Philadelphia Soul (AFL)	Philadelphia Eagles (NFL) and Temple Owls (NCAA football)	Philadelphia Phillies (MLB)
Capacity	20,300	68,500	43,650

The co-location of four sports teams/venues in the same complex is due in part to the area's historic location as an entertainment destination. The South Philadelphia Sports Complex was once home to the condemned John F. Kennedy Stadium (1926-1992), the multi-purpose Veterans Stadium (NFL and MLB) and the Spectrum Arena (NBA/NHL). These earlier arenas and stadiums were replaced with the current more efficiently-designed modern facilities that freed up land area for synergistic development opportunities.

The City is the sole landowner of the property in this area and all future growth is planned for the land area owned by the City. The Sports Complex uses a master plan-based special purpose zoning district, Sports Stadium (SP-STA). The master plan is defined by long-term leases between the City and managers of the sports complex.

Exhibit RE-48: Orientation Map to the Lower South Area



Source: City of Philadelphia, Lower South District Plan

The Lower South Area

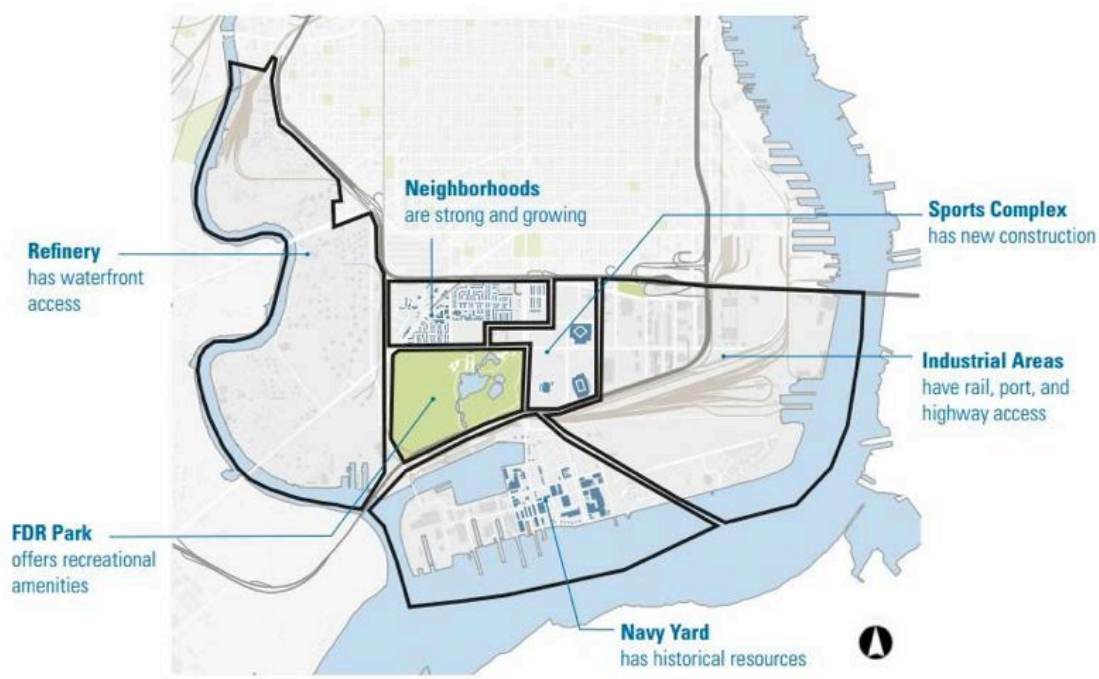
Lower South, covering 6.6 square miles, is very different than other districts in the City because it is primarily non residential in character and broken into large, distinct areas with limited access and use. There are nearly three times the number of people employed here than residents. As both an employment center and entertainment hub, the district is a major and growing economic driver in the region.

Much of Lower South's legacy of vast properties and large-scale use is tied to its early development as an industrial and military hub located far from the populous city center on land unsuitable for other uses.

In recent years, Lower South has experienced both population and employment growth despite the closure of the Navy Yard in 1996 as an active military base. Most of this growth has come from the repurposing of naval sites for civilian housing (Siena Place and the Reserve at Packer Park) and modern industrial, port, and office uses at the Navy Yard itself. Today Lower South has six distinct areas: the refineries, the Navy Yard, sports complex, FDR Park, the residential neighborhoods, and the port and food distribution area.

All of these areas have clear boundaries created by infrastructure such as streets, highways and freight rail lines. The Wells Fargo Center and the other Sports Complex venues are bounded by 21,000 surface parking spaces that isolate the venues from the other areas within Lower South.

Exhibit RE-49: Key Planning Areas in Lower South Philadelphia



Source: City of Philadelphia, Lower South District Plan

The Sports Complex Impacts

Existing Arena and Sports Complex Impacts

Up until 2012, limited development occurred in the Lower South area as a result of the development of the sports venues in the South Philadelphia Sports Complex. The Wells Fargo Center Arena and other venues failed to attract a significant amount of ancillary retail, restaurant, hospitality or entertainment uses within the greater Lower South Philadelphia area. This is believed to be a result of the surface parking lots of the area with the sports complex isolated from the neighborhoods as well as a result of the distance of the venues from downtown.

However, in recent years the City of Philadelphia is making purposeful efforts to leverage the foot traffic and infrastructure of the Sports Complex. The Xfinity Live center was purposefully developed in the Sports Complex by the City of Philadelphia to serve the restaurant and entertainment needs in the area.

Xfinity Live! - Entertainment Retail Center

Xfinity Live! (formerly Philly Live!) is a dining and entertainment complex located at the corner of 11th and Pattison Avenue on a parking lot of the South Philadelphia Sports Complex previously occupied by the Spectrum arena. The first structure in the complex is a beer garden style center with five bars and restaurants surrounding an internal open market space and an adjacent large outdoor patio concert venue.

The first phase opened in March 2012 and includes a 60,000-square foot cluster of businesses, enclosed with a 40,000-square foot outdoor event space and access to 20,000 parking spaces. The cost for the initial phase is an estimated \$50 million. It is anticipated that a later phase will add 290,000 square feet that will include a music performance space, additional restaurants and shops, and a 300-room hotel.

Further, recognizing the high attendance at events, the existing Broad Street Line subway station, and the large amounts of available land currently used as surface parking, the City wants to redevelop the Sports Complex area as a transit-oriented project(TOD) with additional residential, and mixed-use projects.

Exhibit RE-50: Proposed Infill for Sports Complex Site



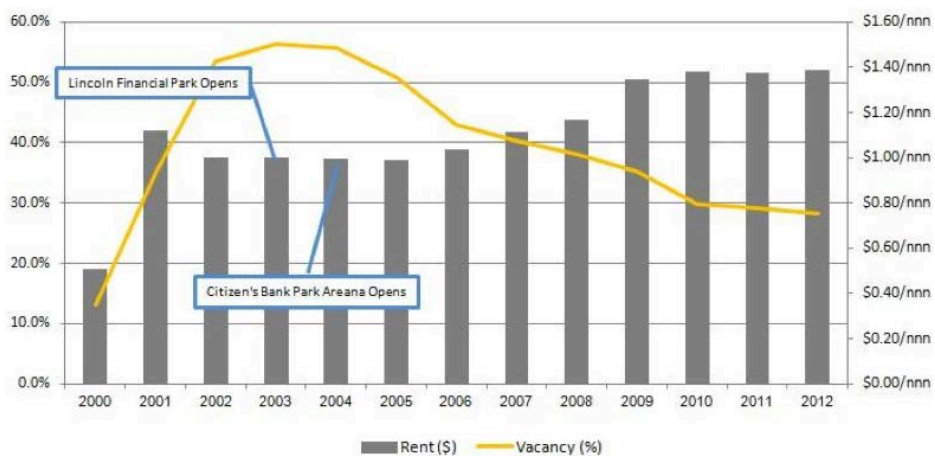
Economic Development in the Areas Surrounding the Sports Complex

The Navy Yard, located directly south of the Sports Complex area was an important naval shipyard of the United States for over a century. It is now a large industrial park that includes a commercial shipyard. The City of Philadelphia became the landlord and owner of The Navy Yard in March 2000. A comprehensive master plan was developed in 2004 to turn the former industrial yard to a mixed-use campus.

The Navy Yard is currently home to 120 companies with 10,000 employees and the campus continues to expand and develop. Clothing manufacturer Urban Outfitters consolidated its Philadelphia headquarters on the site, while Tasty Baking Company, makers of Tastykakes, has moved their bakery to the 26th Street side of The Yard. Other companies there include Iroko Pharmaceuticals, Rhoads Industries, Efficient Buildings Hub (EEB Hub), RevZilla Motorsports, and Mark Group, Inc. Pharmaceutical giant GlaxoSmithKline is currently building a 205,000-square-foot building in The Navy Yard's Corporate Center.

The figure below shows a timeline of office vacancies and average space rent for the area within one mile of the Sports Complex. While this may include some small office spaces in the neighborhoods located to the northwest of the sports areas, it is mostly comprised of office space located in the Navy Shipyard Business Park.

Exhibit RE-51: Office Occupancy Metrics Since 2000



Source: CoStar

Since 2000, the Navy Yard has added more than 460,000 square feet of office space to existing inventories. At the same time, vacancies have decreased and rents increased, indicating a healthy market, especially in the recent down economy. The increase in office rents in the area as well as a decrease in vacancy roughly correlates with the opening of the new stadium and arena complexes. However, the timing is also in line with the development of the Navy Yard Master Plan document and efforts by the City to locate large tenants in the newly created business park. While the sports complex may have contributed to the positive economic climate for development in the area, it is not the sole source of stimulus within the Lower South district.

Nonetheless, the redevelopment the Navy yard as a business park has been a success and is likely to continue. Future development is planned for the area abutting the southern end of Sports Complex, which is unfortunately separated from the Navy Yard by the I-95 Delaware Expressway (see Figure 5).

Exhibit RE-52: Planned Development - Navy Yard Site



Source: City of Philadelphia, Lower South District Plan

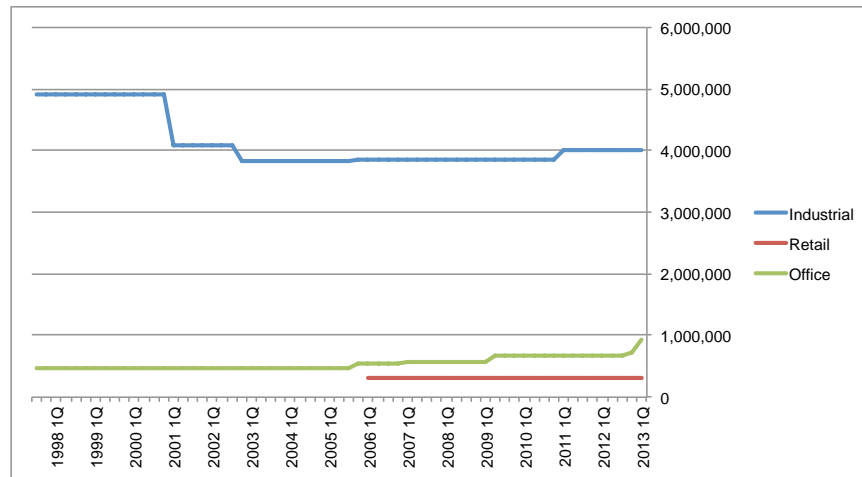
Industrial Developments

The sports venues within the Sports Complex have not pushed out industrial uses in Lower South. There has been loss of industrial inventory within the Lower South area, but this is inline with city-wide losses in industrial jobs.

The table below presents changes in industrial stock and occupied space between 1998 and 2013. Overall industrial real estate stock has decreased by 19 percent. However, across the city of Philadelphia industrial employment, defined as manufacturing, wholesale trade, and transportation, has decreased by 12 percent.

When examining these trends closer it is interesting to note that there is little change in the industrial inventory after the opening of the new Wells Fargo Arena in 1996. There are change in inventory in the couple of years before the opening of Lincoln Financial Field and Citizen's Bank Park which expected higher attendance than the arena.

Exhibit RE-53: Industrial, Retail, and Office Inventory within 1-Mile of Wells Fargo Center



Source: CoStar

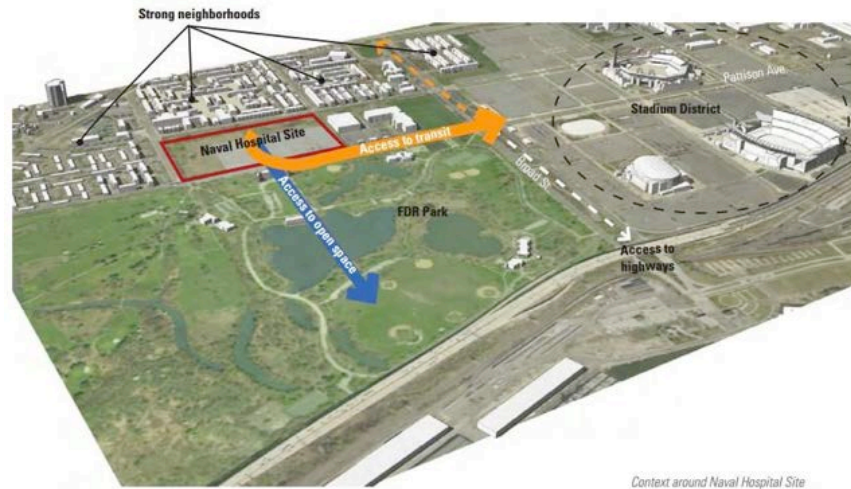
Retail Developments

Until the recent addition of the Xfinity Live! complex in 2012, retail inventory within the Lower South district consisted entirely of neighborhood serving stores located primarily in the Packer Park area to the northwest of the sports complex. The area currently has 314,000 square feet of leasable retail area with an ongoing vacancy rate of only 3 to 4 percent. Despite this the area appears to be a stabilized market catering to the local population. Because of the location of the sports complex and it's unique site plan, (facilities set in the middle of a sea of parking) there is very little pedestrian interaction between the sporting areas and the residential neighborhood.

Residential Uses

The Lower South has had some recent residential development however. Between 2003 and 2007, 230 new townhomes were built in a development known as Packer Park West. Beginning in 2008 and continuing, 313 luxury townhomes have been built in a development known as Sienna Place. The relative location of this area to the Stadium District can be seen in Fig 6. The new project is not the Sports Complex area, but is included within the existing neighborhood.

Exhibit RE-54: Packer Park Neighborhood



Context around Naval Hospital Site

Source: City of Philadelphia, Lower South District Plan

Wells Fargo Center and South Philadelphia Sports Complex Conclusions

The South Philadelphia Sports Complex alone was not a catalyst for economic development, but the venues in combination with purposeful redevelopment efforts are bringing new development to the area. The Stadium District has been highly successful as a destination, but land planning and transportation infrastructure issues have effectively isolated its impact on surrounding areas. The Xfinity Live!, a relatively new “outside the gate” entertainment-retail complex is off to a good start attracting large crowds even when there are no events scheduled for the day. But it is located within the larger Stadium District site area, which is largely self contained and provides little revitalization impact on the nearby neighborhood.

Nonetheless, it is likely to provide an anchor for future development on the site which will include additional retail, entertainment and hotel uses as well as medium-density housing oriented for easy access to the City’s rail network.

Additional Case Studies

PetCo Park

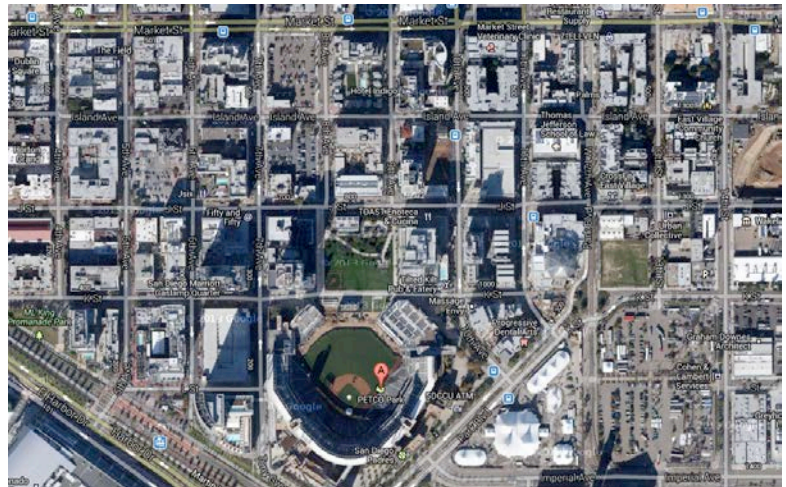
Though a single stadium development, the success of PetCo Park in revitalizing a challenged neighborhood in San Diego, makes the PetCo Park development worth quick review. PetCo Park is located in an industrial neighborhood, but in an area characterized as blighted and dangerous, not a successful industrial area like SoDo.

PetCo Park Development

The area selected for PetCo Park, the East Village neighborhood, was a former industrial area that was filled with abandoned warehouses and empty lots. East Village was located near the popular Gaslamp District and the convention center, but itself consisted of parking lots, warehouses, and outdoor storage yards and was considered a cash drain to

the city, with businesses that required subsidies to remain¹⁶. The City of San Diego had an interest to redevelop this downtown area.

Venue	PetCo Park
Neighborhood	East Village
Location	On waterfront, Harbor Dr., west of the I-5
Opened	2004
Team	San Diego Padres
Cost	\$474 million
Capacity	42,500
2012 Attendance	2,123,721



Impact of PetCo Park

With an interest to redevelop the area, the City required the Padres, as part of their agreement, to secure private development in the area. The memorandum of understanding required that the developers of the arena be the master developers of a stadium district that included:

- ▶ 150-room extended stay hotel,
- ▶ 700 additional hotel rooms, with associated parking,
- ▶ Office complexes of at least 600,000 square feet, with associated parking,
- ▶ Retail development of at least 150,000 square feet,
- ▶ Additional parking of approximately 2,238 stalls.

Approximately \$4.25 billion has been committed on the ball park and in the area since 2007. \$4 billion is private money. \$1.6 billion has been spent as of 2012¹⁷. JMI Real Estate, an entity created by the owner's of the Padre eventually developed developed two hotels, sold most of other property to other developers.

It should be noted that that the ball park was the central focus of this redevelopment and that the park was contextually well designed to its urban surroundings and helped to create connections throughout the downtown. Architects and planners used a “dramatic” suspension bridge to connect the stadium to a high-end hotel and created a public park

¹⁶Gest, David. “San Diego Padres: PETCO Park As A Catalyst For Urban Redevelopment”. [Stanford GSB Case Study SPM27](#), 02/19/2008.

¹⁷ Weisberg, Lori and Roger Showley, “Padres Sold by What About the Land?” [UT San Diego](#), August 10th, 2012

beyond the center fields seats with views into the Padre's playing field, a free and popular amenity that encourages families to spend an afternoon downtown¹⁸.

As a result of the direct requirement by the City, JMI developed two hotels and several properties to meet the conditions of the MOU. Combined with the strong housing market in California before 2007, PetCo Park and these developments attracted additional investment. As of 2007, there were 3,040 residential units built (with an additional 5,273 units pending) in the East Village. 594 of the units built in the area were low income and another 241 low-income units were in process. There were 747 hotel rooms built (430 pending) , 546,670 SF of commercial space, 727,000 under construction, 3,000 parking spaces, 650 under dev in the East Village¹⁹.

JMI Realty have been very involved in the Ballpark District. Their development projects include:

- ▶ Hotel Solamar– a 235-room Kimpton boutique hotel
- ▶ Omni San Diego Hotel and The Metropolitan Condominiums– a four-star, 511-room hotel and 38 luxury condominiums with direct access to PETCO Park via a pedestrian sky bridge;
- ▶ Ballpark Village - an urban, master-planned “village” with more than 3.2 million square feet of mixed-use development located on 7.1 acres adjacent to PETCO Park
- ▶ East Village Square - a three-city block urban, master planned mixed-use development including a high-rise residential tower, 275,000 square feet of office space and 130,000 square feet of retail
- ▶ Island Village - a four-city block urban, master planned residential project;
- ▶ East Village District Plant - a 10,000-ton chilled water facility; and Candy Factory and Schiefer & Sons - two historic buildings recently retrofitted by JMI Realty²⁰.

Exhibit RE-55: JMI Developments in the PetCo Park Area

John Moores' development legacy

JMI Realty, Padres owner John Moores' real estate company, helped develop hotels, offices, retail and residential projects around Petco Park.



Source: Excerpt from Weisberg, Lori and Roger Showley, "Padres Sold by What About the Land?" UT San Diego, August 10th, 2012.

¹⁸ Gest, David. "Stadium as Catalyst? Think Again." Panorama, pgs. 36 - 38.

¹⁹ Gest, David. "San Diego Padres: PETCO Park As A Catalyst For Urban Redevelopment". Stanford GSB Case Study SPM27, 02/19/2008.

²⁰ www.jmirealty.com

Land values in the Ballpark District reportedly increased from \$40 to \$400 per square foot in 2008, before the recession²¹.

Case Study Conclusions

Pepsi Center Denver

- ▶ Sports venues located in downtown Denver, Colorado, are touted as the prime example of how sports venues can help to revitalize downtown, but even in this example it is clear that much of the redevelopment occurred as a result of the Coors Field Stadium, rather than Pepsi Center Arena. Coors Field is better integrated into downtown than Pepsi Center Arena, but also generates higher attendance. Much of the retail and hospitality developments are oriented to Coors Field.
- ▶ While noting the barrier created by Pepsi Center's surface parking, this example suggests that an arena generates less ancillary development impact relative to the stadiums.
- ▶ This case study, as well as Philadelphia, suggest that the location of parking, specifically where you have the visitors walking from to arrive at the sports venue, can impact where supporting real estate development occurs.

Wells Fargo Center and South Philadelphia Sports Complex

- ▶ Demonstrates how design of an area impacts the real estate/economic impacts produced in the area. The Wells Fargo Center and other sports venues are surrounded by a significant amount of parking that separates the complex from other areas. This shows how barriers can be used where desired to limit growth.
- ▶ The Wells Fargo Center and South Philadelphia Sports Complex demonstrate that sports venues alone do not stimulate development. Located several miles from downtown Philadelphia, the Sports Complex has not stimulated significant growth in the area. Instead only through current specific revitalization efforts have the sports venue created ancillary development.
- ▶ This example demonstrates that sports venues and industrial uses can exist in close proximity. While there has been contraction in the industrial market, primarily from economic factors, changes in the market were not "tipped" by the arena and were more likely to be tipped with the redevelopment of the stadiums that have greater attendance figures.

PetCo Park, San Diego

- ▶ Demonstrates the capacity of a well-designed sports venue to improve a neighborhood, capture private investment, and increase property values.
- ▶ As noted in other case studies, it reminds us that revitalization does not occur directly by the development of a sports venue alone, but instead by purposeful efforts made by the public and private entities.

²¹ Gest, David. "San Diego Padres: PETCO Park As A Catalyst For Urban Redevelopment". Stanford GSB Case Study SPM27, 02/19/2008.

Potential Real Estate Changes in the SoDo District with the Proposed Arena

There are a number of factors that will impact real estate changes in the SoDo area in the short, mid-term, and long-term. Based on conclusions in the overall Land Use Analysis section, we make the following observations and projections regarding the potential real estate impacts of a proposed Seattle arena in SoDo:

Ongoing Industrial Trends and Real Estate Pressure

As shown in the SoDo real estate and land use section, there have been ongoing losses in industrial real estate and businesses in the SoDo study area. There were increases in losses, particularly north of Holgate Street, as a result of the stadiums (which includes the direct replacement of industrial space on the existing stadium sites) when Safeco Field and Century Link Field were developed. However, there has been a greater acceleration of that loss since 2005 which appears to be a result of the economic growth and real estate expansion of downtown. The new arena will also replace existing industrial space and may impact industrial spaces within the Stadium Overlay District, but, based on the case studies, as a third sports venue and an arena with lower attendance projections, the arena's impact will not be as significant as the existing stadiums' impacts on development. The existing trend of gentrification within the SoDo area is likely to occur with or without the development of a new arena and, with appropriate regulatory policies and enforcement of those policies, the development impacts of the arena can be focused in particular areas of SoDo.

Revitalization with Sports Venues Typically Results from Purposeful Efforts

It is important to point out that the development of an arena, alone, is not likely to spur development in the area. In the cases where sports venues helped to redevelop and catalyze development in an area, the sports venues were typically stadiums and there were intentional efforts made by jurisdictions to support development growth in the area, e.g. Denver's Coors Field vs. Pepsi Center and the requirements written into the PetCo Park MOU. In cases where there was not an intentional effort to spur growth, and even in cases where there were ineffective efforts, the development of a new arena often did not change the development path of the area, such as in the case of Philadelphia's Wells Fargo Center Arena or for other arenas such as Phoenix's US Airways Center and Houston's Reliant Park.

Physical Barriers Can Help to Limit Unwanted Impacts

In the main case studies, Denver and Philadelphia, the arenas had less impact in the area because they were isolated from the neighborhoods by a sea of parking. The proposed SoDo site will not be surrounded by surface parking, but the proposed arena at the SoDo site (and close by vicinity) will still have natural barriers to growth including the BNSF tracks to the east and the north SIG Yard, approximately two blocks to the west. Actual development is likely to be limited to north of Holgate Street along 1st Avenue and north of the arena on Occidental, based on current regulations within the Stadium Overlay District.

Spinoff Retail Estimates

Based on projections of offsite arena visitor spending, the table below estimates the amount of restaurant and bar square footage (resulting from visitor food service and beverage), general retail square footage (resulting from offsite souvenir and retail purchases), and hotel rooms are directly supported in the City of Seattle by arena events. Accommodations are likely to be more focused towards the general arena vicinity, if available, while retail and restaurant spending may be more

likely to occur throughout the City. Based on this assumptions, we estimate the capture rate of accommodations in the arena vicinity is 70 percent while the restaurants and retail represent approximately 50 percent.

Exhibit RE-56: Estimates of Arena Visitor-Supported Development in the Arena Vicinity

Lodging	Estimated Offsite Spending in Seattle ¹	Estimated Avg. Room Price	Est. Room Nights	Rooms Supported @ Est. Occupancy of 75%	Arena Area Capture Rate	Arena Supported Rooms in Immediate Area
Lodging	\$9,618,188	\$160	60,114	220	70%	154

Retail and Entertainment	Estimated Offsite Spending in Seattle ¹	Estimated Sales PSF	Estimated SF	Arena Area Capture Rate	Arena Supported Real Estate in Immediate Area (SF)
Souvenirs/Gifts/Retail	\$11,456,432	\$400	28,641	50%	14,321
Food/Beverage	\$12,668,893	\$550	28,793	50%	14,397
Entertainment	\$3,657,846	\$400	11,431	30%	3,429
Total	\$27,783,171		68,865		32,146

¹City of Seattle Offsite spending estimates from Economic Impact section.

Source: Pro Forma Advisors

The larger Stadium District and a focused entertainment retail area are likely to generate additional non-arena visitors that will support additional square feet, but the analysis of offsite arena visitor spending provides a benchmark understanding for the ancillary development directly supported by the arena operations. The table above shows support for 150 rooms in the arena vicinity. In the SoDo area these rooms could be satisfied within the two planned hotels in the north lot Stadium Place project. The arena Developer has proposed retail in the SoDo area in the range of 30,000 to 60,000 square feet in addition to office and residential uses. Actual retail developments and ancillary development will be dependent on the SoDo ability to brand itself as a dynamic entertainment district beyond arena events.

Ancillary Developments Best Located in Areas That Can Serve All the Stadium District Sports Venues

Ancillary retail and accommodations to support a proposed arena at the SoDo site are best located in an area that can serve the two stadiums as well as the arena. Approximately 30 to 40 percent of the foot traffic generated between the sports venues will be attending the arena. It is in the City's best interest to focus the ongoing development of an entertainment district in areas immediately adjacent to the proposed SoDo site or north of the arena.

Residential Uses Conflict with Port Uses

Currently residential is not allowed within the SoDo area because these uses often conflict with Port and Port-related industrial uses. As described by brokers in the area, SoDo does not have the amenities to be a strong residential area. Given the economic importance of the Port the City should carefully consider the limitation of residential uses within the proposed arena area.

A SoDo Arena Coexisting with Industrial Development

The arena will bring additional retail uses and foot traffic to SoDo, but, as shown by the case studies, a development of an arena alone is not the main catalyst for development. The proposed arena can co-exist with high performing industrial development. However, there are greater ongoing property value pressures in the SoDo area due to its proximity to downtown Seattle and efforts need to be made to protect the industrial developments in the area from both the operational traffic impacts of the arena and to limit/regulate the capacity of the area to transition into higher performing uses.

Appendices

Economic Impact Methodology

This analysis evaluates the one-time construction impact and ongoing gross economic impact of a proposed NBA and NHL arena for all scenarios. Given concerns raised by SoDo stakeholders, the analysis also evaluates the net economic impacts for Scenario A. As described in the Economic Impact Overview section the ongoing net economic impacts consist of (1) the gross arena impacts and account for (2) substitution impacts, and impacts on the Port and Port related industrial businesses within the SoDo area. Additional tangible and intangible impacts are also discussed.

The following section describes the overall analysis framework and the methodology used to estimate each of the impacts.

Geography

For purposes of this analysis the City of Seattle and King County are the geographic areas of analysis.

Key Assumptions

The following are key assumptions:

1. The timing of development is evaluated at full build-out, with an assumed stabilized year of 2018 for the arena development. Revenue estimates are adjusted to reflect 2013 dollars.
2. All currency figures, except where otherwise noted, are in 2013 dollars.
3. Jobs include players, management, full time, and part time event employees and staff. Jobs are not are not full time equivalent.

Gross Arena Impacts Methodology

The gross arena impact analysis quantifies: (1) the one-time construction impacts generated by the construction of the arena; and (2) the ongoing annual economic impacts generated as a result of the ongoing operations of the arena.

The IMPLAN program uses enhanced input-output tables, which reflect historical purchases and sales made between businesses and their suppliers within a region, to estimate the re-spending of an initial change (direct impact) within a geography. **There are two main approaches to estimating the multiplier effect (indirect and induced impacts) and total impacts, the “Industry Change Approach” and the “Analysis by Parts” or expenditure approach.**

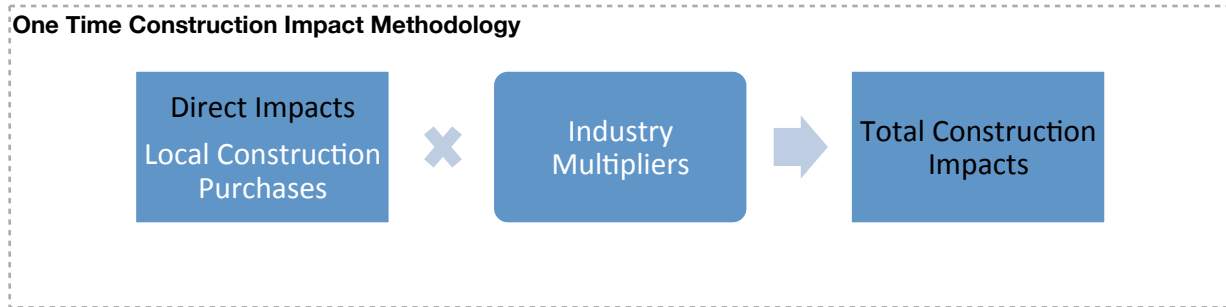
In the Industry Change Approach, model-produced industry multipliers are applied to the total initial change to estimate total impacts. This approach works well when the initial change aligns with a standard industry found in the geography. However, when the activity being evaluated is new or its general spending patterns differs from the standard industry's, the “Analysis By Parts” approach can be used to tailor the multiplier effect based on a project's specific spending pattern.

In the Analysis by Parts approach, rather than applying the multipliers to the initial change, such as the ticket revenues generated by the arena, multipliers are applied to the second round purchases, i.e. the local arena's business and employee expenditures. The application of the multipliers to the second round purchases produces the indirect and

induced effect. The initial change is then added to the indirect and induced impacts to estimate total impacts within the region.

One-Time Construction Impacts

An “Industry Change” approach is used to estimate construction impacts. In the Industry Change approach, final-demand purchases made in the geography, represent the direct impact generated by the project. The appropriate industry multipliers are applied to the direct impact to estimate the total impact (direct, indirect, and induced impacts). Construction impacts are estimated based on the overall estimated construction cost. The IMPLAN program is used to estimate the industry multipliers and the resultant total construction impacts.



Estimating Construction Direct Impacts

Total construction costs of \$390 million for the arena facility were provided by the Developer. Direct impacts represent only purchases made within the region. The hard and soft costs of developing the Project are considered direct impacts within the local area, but the share of fixtures, furnishing and equipment purchases in the area must be estimated separately.

Fixtures, furnishing, and equipment (FF&E) line items were estimated using data provided by the Developer, review of CenturyLink Field and Safeco Field major purchases, and PFA's understanding of the market. FF&E were then broken down into component costs based on whether the items are expected to be purchased wholesale or directly from the manufacturer. The IMPLAN model includes estimates for the locally purchased percentage of each industry within each geography. This data was reviewed, but given that many of these large fixtures are specialized equipment the IMPLAN model estimates were reduced as appropriate.

Direct construction earnings and jobs impacts are estimated through IMPLAN based on overall construction costs and FF&E purchases.

Construction costs are assumed to be the same for all alternatives.

Estimating Indirect and Induced Construction Impacts

The IMPLAN program is used to estimate total construction impacts. Direct inputs are inputted into the software and the program provides a summary of the total (direct, indirect, and induced) impacts.

While the level of detail necessary to do an Analysis by Parts approach for the construction impacts was not available, the IMPLAN commercial construction industry multipliers used for this analysis was adjusted to account for data that is available²².

Ongoing Annual Impacts

The Project will generate gross economic impacts directly from onsite operations of the arena as well as from arena visitor's offsite spending.

Arena Onsite Impacts

The Analysis by Parts Approach, as described above, was used to estimate annual ongoing economic impacts of the arena. This approach allows the multiplier effect to be customized to the specific spending pattern anticipated at the proposed arena.

As described above, rather than applying multipliers to the initial final demand change (the direct impacts), the multipliers are applied to locally purchased goods, services, and labor. Using IMPLAN, multipliers are applied to the local purchases, producing the indirect and induced impacts. The direct impact is then added back to the indirect and induced impacts to estimate total impacts.

Direct Arena Impacts

The direct impact of the arena is the total final demand change generated by the arena. On a gross analysis, the final demand generated is the total revenues generated by the arena. Direct impacts arise from the arena's ticket, food and beverage, and parking revenues generated by visitor spending as well as media and other team revenues.

Some economists argue that the geography does not receive the full impact of this final demand change because NBA & NHL players, which are a significant share of expenditures, may not live locally and their incomes immediately leak out of the economy. In this analysis, **the indirect and induced impacts account for the leakage of 80 to 85 percent of Player's salaries out of the geography and, to remain conservative, PFA has also excluded the non-local portion of players' salaries from the direct impacts.**

Direct jobs are the total jobs supported by arena onsite operations. Direct jobs include players, NBA & NHL team staff, facilities permanent staff, and event staff. As described in the Operating Revenues section, direct jobs were estimated based on NBA & NHL average team size, average facilities staffing, and anticipated event attendance.

Direct earnings are the total earnings generated by the proposed arena less the non-local player's salaries. As described in the Projections section, earnings were estimated based on staffing levels and data from comparable facilities. Players salaries are estimated based on average players salaries with assumptions for recent bargaining agreement changes.

²² Architectural and engineering is one of the top purchases made by the commercial facility construction industry. The IMPLAN construction industry production function was edited to account for the fact that a specialized sports facility architect, who is not local, was utilized to design the arena.

Indirect & Induced Impacts

Indirect and induced impacts are determined based on the locally purchased goods, services, and labor in the Analysis by Parts Approach.

Estimated arena expenditures are categorized as wage and non-wage expenditures. Non-wage expenditures are adjusted based on the anticipated share of each purchase that are made locally. Estimates for the regionally purchased share of each commodity type are based on geographically-specific estimates in the IMPLAN model, but are adjusted (typically downward) to account for anticipated spending patterns for the proposed arena.

Goods purchased for concessions and merchandise have been margined into their key cost components to account for a difference in purchase prices and producers prices²³. Only the portion of the retail or wholesale margin or transportation costs made in the local region are included within local purchases.

Taxes & Licenses as well as the Rent/Lease Payment are excluded from the local purchases, as they do not generate second round changes in demand for private goods and services in the economy.

The share of workers who live locally is used as a proxy for the share of facility, event, and team staff wages that are spent locally. The locally purchased share of labor purchases were estimated using Census Bureau On the Map LEHD employment data, shown in the table below. This data estimates the share of employees by work place that are local (residents) vs. the number of employees that commute from other geographies. In the economic analysis, approximately 30 - 37 percent of team, event, and facility staff are expected to live within the City of Seattle. Given that the On the Map data likely includes employment of businesses located closer to other counties than the Project, the analysis assumes that 70 to 90 percent of the staff will reside in King County.

City and County Share of Resident Employees

Share of Geography Employees that Reside in the Geography	
City of Seattle	37.2%
King County	66.8%

Source: Census On the Map LEHD Inflow/Outflow Data and Pro Forma Advisors

Players are expected to be in the Seattle area throughout much of their season. The regular basketball season is approximately 28 weeks. Accounting for away games as well as assuming Players are not in town on the weekends, players must still spend approximately 100 days in the area, approximately 27 percent of the year in Seattle. In actuality, many players often choose to take up residence in their team's local area and may be in the region throughout the year. Without a survey it is difficult to estimate the share of players' salaries that are spent in the local area. For this analysis, we assume that 15 to 20 percent of player's annual salaries are spent locally.

Wage expenditures are appropriated into cash wages, payroll taxes, health and insurance benefits and retirement benefits, such as a 401K. Payroll taxes and retirement benefits are excluded from the model, because they do not

²³ IMPLAN inputs must be at producers' prices. Unlike other industries, where the producer is selling directly to their end user, i.e. a bakery makes the bread and sells to its customers, sales made by retail stores must be adjusted to account for final demand use at producers prices rather than purchase prices.

generate additional private output in the economy, and health and insurance benefits are applied to the appropriate industry multipliers.

Non-wage and wage local purchases are inputted into IMPLAN and IMPLAN estimates the total indirect and induced impacts generated by the local purchases. Indirect and induced impacts are provided in terms of output, earnings, and jobs.

Total Onsite Impacts

Indirect and induced output, earnings, and job impacts are added to the adjusted direct output, earnings, and jobs impacts to determine total arena output, earnings, and jobs impacts.

Arena Offsite Impacts

Offsite impacts evaluate the impacts produced by visitors' offsite spending. Offsite spending includes visitor spending at offsite locations, such as food and beverage spending before or after the game, parking and auto expenditures on the way to the game, and accommodations for those who are coming from long distances to see a NBA/NHL game or major concert.

Offsite spending equates to revenue for restaurants, hotels, parking lots, and other industries throughout the City and County. The Industry Change Approach is used to estimate the total impacts as shown below.

Direct Offsite Impacts

To estimate direct impacts, the amount of visitor spending that occurs within the City of Seattle and King County must be estimated.

The share of spending that is local is based on both the origin of residents and the context of each of the venues. Certain spending categories are expected to occur closer to the venue, such as parking, entertainment, souvenirs/gifts, and accommodations, while others such as auto travel, bus travel or likely to happen at the place of origin.

Similar to concessions and merchandise sales in the arena, retail purchases need to be margined to properly account for the share of the output that occurs in the geography. Through the IMPLAN software we account for only the retail store (margin) portion of the purchase for both the Souvenirs/Gifts/Retail category and gas purchases under the Auto Travel category.

Offsite earnings and jobs impacts are estimated by IMPLAN.

Total Offsite Impacts

The local offsite visitor revenues are inputted into IMPLAN and the software program estimates the total impacts (direct, indirect, and induced).

Total Annual Ongoing Impacts

Total onsite and offsite impacts are aggregated to represent total annual ongoing impacts.

Substitution Impact Methodology

To get a comprehensive understanding of the impact of the Project, the economic analysis looks not only at new gross economic impacts of the proposed arena, but also evaluates any shifts in demand, substitution impacts, that may occur between existing entertainment spending and the Project.

The substitution methodology and analysis is described in detail in the Substitution Impacts section following the Arena Economic Impacts section.

Port and Related Industrial Business Impact Methodology

PFA has been tasked with evaluating potential impacts to the Port of Seattle and related SoDo industrial businesses as a result of the proposed arena. Potential impacts are expected to be generated as a result of traffic.

A Port Impact and Industrial Business Impact section, that quantifies potential traffic impacts from a proposed arena and discusses additional impacts, follows the Economic Impact section. The methodology for the Port impacts and related SoDo industrial business is described in detail in the Port and Industrial Business Impact section.

Results from this Port and Industrial Business section provide the base for the direct Port and industrial business impacts. Using the Revenue Approach, additional indirect and induced impacts are generated from the direct Port and industrial business impacts.

Additional Impact Considerations

In addition to impacts that will be integrated into the net economic impact for the proposed SoDo, additional impacts will be evaluated. These impacts include potential intangible impacts of the arena, and potential land use implications.

MWBE Impacts

The MWBE Impacts are the impacts generated to minority and women-owned businesses as a result of the proposed arena. These impacts were considered but could not be estimated at this time.

Quality of Life Considerations

The Additional Impact section examines how development of the arena might influence broader perceptions of the region, including the value of living in or visiting the area.

Real Estate/Land Use Considerations

A separate Real Estate and Land Use section describes the current performance of real estate in the SoDo and Lower Queen Anne areas and evaluates possible land use impacts from development of the new arena.

One Time Construction Impacts
A-1: Direct Construction Impacts
 Seattle Economic Impact
 10-412.01

Scenario A

Stadium Facility Construction Costs	Purchases	Description	Local Purchase Adjustment		Local Purchases	
			City of Seattle	King County	City of Seattle	King County
Construction	\$350,000,000	Construction of Other Non-Residential Structures	100%	100%	\$350,000,000	\$350,000,000
Fixtures, Furnishing and Equipment						
Equipment (Direct from Manufacturer)						
Scoreboard/Visual	\$9,000,000	Sign manufacturing	0%	0%	\$0	\$0
Sound/Audio	\$2,500,000	Audio and video equipment manufacturing	0%	0%	\$0	\$0
Furniture and Equipment (Wholesale)	\$18,500,000					
Wholesale Purchase Component	\$2,405,000	Wholesale trade distribution services	20%	35%	\$481,000	\$835,250
Transportation Component	\$1,110,000	Transportation Services	10%	28%	\$111,000	\$308,400
Goods Manufacturing						
Food Service Equipment	\$5,265,000	Other commercial and service industry machinery manufacturin	5%	15%	\$263,250	\$789,750
Seating	\$3,240,000	Institutional furniture manufacturing	0%	0%	\$0	\$0
Floor, Office, Telecom, Furniture	\$6,480,000	Office furniture and other millwork manufacturing	0%	2%	\$0	\$135,626
Fixtures (Wholesale)	\$10,000,000					
Wholesale Purchase Component	\$1,500,000	Wholesale trade distribution services	30%	60%	\$450,000	\$892,500
Transportation Component	\$400,000	Transportation Services	15%	48%	\$60,000	\$190,400
Goods Manufacturing						
Mechanical	\$3,045,000	All other miscellaneous manufactured products	1%	10%	\$30,450	\$304,500
Electrical	\$2,610,000	Electronic capacitor, resistor, coil, transformer, and other induct	10%	27%	\$261,000	\$704,700
Lighting/Telecom	\$3,045,000	Lighting fixture manufacturing	1%	2%	\$30,450	\$60,900
Total Development Costs	\$390,000,000				\$351,687,150	\$354,222,026

Source: Pro Forma Advisors, Developer, IMPLAN

One Time Construction Impacts
A-2: Gross Economic Impact - Total Construction Impacts

Seattle Economic Impact

10-412.01

CITY OF SEATTLE IMPACTS

Construction Impacts	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Output	\$351,426,135	\$128,941,279	\$480,367,414
Earnings	\$215,588,974	\$50,186,960	\$265,775,934
Employment	2,335	863	3,199

Source: Pro Forma Advisors

KING COUNTY IMPACTS

Construction Impacts	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Output	\$354,222,011	\$179,177,884	\$533,399,895
Earnings	\$216,549,252	\$71,992,710	\$288,541,961
Employment	2,349	1,220	3,570

Annual Ongoing Impacts
A-3: Onsite Impacts - Arena Expenditures
 Seattle Economic Impact
 10-412.01

Scenario A Expenditures	Purchases	Description	Local Purchase Adjustment		Local Purchases	
			City of Seattle	King County	City of Seattle	King County
Facility Operations / General and Administrative						
NON-WAGE EXPENDITURES						
General and Administrative						
Ticket/Club Seat Sales and Service Expenses	\$4,250,000	Promotion of spectator sports	75%	90%	\$3,187,500	\$3,825,000
Suite Sales and Services	\$1,300,000	Promotion of spectator sports	75%	90%	\$975,000	\$1,170,000
Sponsorship Sales and Services	\$1,900,000	Sales comm., Promotional mtrl, Food srvc & Merch. gifts	75%	85%	\$1,431,872	\$1,624,099
Marketing, PR, CR Creative	\$1,800,000	Advertising and related services	80%	85%	\$1,440,000	\$1,530,000
Travel	\$135,000	Local Transportation and Air Travel	59%	75%	\$79,000	\$101,000
Entertainment	\$45,000	Local meals	85%	95%	\$38,250	\$42,750
Accounting and Tax Accounting	\$240,000	3rd party Accounting, tax, payroll services	75%	80%	\$180,000	\$192,000
Equipment Leases	\$100,000	Commercial machinery and equipment rental and leasing	56%	76%	\$56,000	\$76,000
Telephone	\$720,000	Telecommunications	50%	95%	\$360,000	\$684,000
Service and Finance Charges	\$80,500	Fees, credit card fees, and bank fees	20%	30%	\$16,100	\$24,150
Supplies, Postage and Dues	\$429,000	Office supplies, Postage, Magazines, membership, org. dues	45%	65%	\$193,050	\$278,850
Legal and Professional	\$500,000	Legal Services	80%	95%	\$400,000	\$475,000
Repairs & Maintenance	\$100,000	Arena Ops. machinery & equipment repairs&maintenance	60%	96%	\$60,000	\$96,000
Rent/Lease Payment	\$2,000,000	- Excluded -				
Utilities	\$2,100,000	Electricity and Water	100%	100%	\$2,100,000	\$2,100,000
Taxes & Licenses	\$1,583,000	- Excluded -			\$0	\$0
Insurance	\$900,000	General liability, workers compensation	40%	60%	\$360,000	\$540,000
Other Expenses	\$630,000	Business support services	60%	90%	\$378,000	\$567,000
Concessions - Costs of Goods Sold						
	\$6,287,760	Food, Beverage, F&B Supplies Manufacturing	20%	25%	\$1,257,552	\$1,571,940
	\$920,160	Wholesale Trade (Margins)	80%	90%	\$736,128	\$828,144
	\$460,080	Truck Transportation	55%	80%	\$253,044	\$368,064
Merchandise - Cost of Goods Sold						
	\$1,578,500	Apparel, Accessories, Footwear, Paper Merchandise	5%	10%	\$78,925	\$157,850
	\$338,250	Wholesale Trade (Margins)	80%	90%	\$270,600	\$304,425
	\$338,250	Truck Transportation	55%	80%	\$186,037.50	\$270,600
Repairs and Maintenance of the Facility (3rd Party)	\$1,500,000	Maintenance and repair of non-residential structures	75%	95%	\$1,125,000	\$1,425,000
TOTAL FACILITY NON-WAGE EXPENDITURES	\$30,235,500				\$11,254,772	\$13,325,849
WAGE EXPENDITURES						
Team/Event Staffing	\$8,623,000	Household Spending Change, Health care benefits	35%	85%	\$3,018,050	\$7,329,550
Personnel (Including Payroll Taxes and Benefits)	\$13,127,000	Household Spending Change, Health care benefits	37%	90%	\$4,856,990	\$11,814,300
TOTAL FACILITY WAGE EXPENDITURES	\$21,750,000				\$7,875,040	\$19,143,850
Team Expenses						
NON-WAGE EXPENDITURE						
Team Travel	\$7,650,000	Air and auto travel, Ground transport, Meals, and Lodging	21%	28%	\$1,606,500	\$2,142,000
Other Team Costs	\$3,163,000	Physicians, uniforms, business expenses, etc.	39%	52%	\$1,242,582	\$1,642,874
Player Insurance	\$6,300,000	League Office insurance (Not Local)	0%	0%	\$0	\$0
Total Non-Wage Expenditure	\$17,113,000				\$2,849,082	\$3,784,874
WAGE EXPENDITURE						
Player Salaries (Net Escrow/Tax)	\$102,615,000	Household Spending Change	15%	20%	\$15,392,250	\$20,523,000
Taxes and Benefits - Players	\$7,158,000					
Health and Insurance Benefits	\$1,338,906	Insurance and Medical Sectors	15%	20%	\$200,836	\$267,781
Payroll Taxes and Retirement Benefits	\$5,819,094	- Excluded -				
Team Salaries and Benefits - Coach Etc.	\$13,601,000	Household Spending Change, Health care benefits	30%	72%	\$4,025,896	\$9,792,720
Total Wage Expenditure	\$123,374,000				\$19,618,982	\$30,583,501
TOTAL TEAM EXPENDITURES	\$140,487,000				\$22,468,064	\$34,368,375
TOTAL ANNUAL ONSITE EXPENDITURES	\$192,472,500				\$41,597,876	\$66,838,074

Source: Pro Forma Advisors and IMPLAN

Annual Ongoing Impacts
A-4: Offsite Impact - Local Purchases

Seattle Economic Impact

10-412.01

Offsite Impacts
Scenario A

Spending Categories	Est. Purchases	Description	Local Purchase Adjustment		Local Purchases	
			City of Seattle	King County	City of Seattle	King County
Arena Visitors						
Lodging	\$12,824,250	Hotels and motels	75%	90%	\$9,618,188	\$11,541,825
Souvenirs/Gifts/Retail ¹	\$12,729,369	Retail Margin- Gen. Merch., Clothing, Sport goods etc.	90%	100%	\$11,456,432	\$12,729,369
Bus	\$519,706	Transit & ground passenger transportation	30%	40%	\$155,912	\$207,883
Parking	\$9,177,382	Other personal services	100%	100%	\$9,177,382	\$9,177,382
Auto Travel	\$9,276,459	Retail Margins - Gasoline stations	10%	50%	\$927,646	\$4,638,229
Food/Beverage	\$15,836,116	Food services and drinking places	80%	90%	\$12,668,893	\$14,252,505
Entertainment	\$4,572,307	Museums, historical sites, zoos, & parks	80%	90%	\$3,657,846	\$4,115,077
Total Arena Visitor Spending	\$64,935,590				\$47,662,299	\$56,662,270
Travelling Performers						
Lodging	\$845,600	Hotels and motels	95%	100%	\$803,320	\$845,600
Local Travel	\$151,800	Car rental and ground transport	95%	100%	\$144,210	\$151,800
Food and Beverage	\$328,500	Food services and drinking places	95%	100%	\$312,075	\$328,500
Total Travelling Performer Visitor Spending	\$1,325,900				\$1,259,605	\$1,325,900
Total Offsite Spending	\$66,261,490				\$48,921,904	\$57,988,170

¹The determination of impacts includes only the retail margin portion of purchases.

Source: Pro Forma Advisors and IMPLAN

Annual Ongoing Impacts
A-5: Gross Economic Impact - Total Impacts Scenario A

Seattle Economic Impact

10-412.01

CITY OF SEATTLE IMPACTS

	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Onsite Impacts			
Output	\$156,655,523	\$39,675,417	\$196,330,939
Earnings	\$57,901,250	\$15,449,392	\$73,350,642
Employment	1,005	338	1,343
Offsite Impacts			
Output	\$41,166,693	\$20,332,599	\$61,499,292
Earnings	\$21,564,964	\$8,182,850	\$29,747,813
Employment	565	138	702
Annual Ongoing Impacts			
Output	\$197,822,215	\$60,008,016	\$257,830,231
Earnings	\$79,466,214	\$23,632,241	\$103,098,455
Employment	1,570	476	2,045

Source: Pro Forma Advisors

KING COUNTY IMPACTS

	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Onsite Impacts			
Output	\$161,786,273	\$71,568,657	\$233,354,930
Earnings	\$63,032,000	\$28,331,225	\$91,363,225
Employment	1,005	\$575	1,580
Offsite Impacts			
Output	\$46,286,846	\$33,499,823	\$79,786,669
Earnings	\$25,080,347	\$13,681,613	\$38,761,959
Employment	667	227	894
Annual Ongoing Impacts			
Output	\$208,073,118	\$105,068,481	\$313,141,599
Earnings	\$88,112,347	\$42,012,838	\$130,125,185
Employment	1,672	802	2,473

Annual Ongoing Impacts
B-1: Onsite Impacts - Arena Expenditures
 Seattle Economic Impact
 10-412.01

Scenario B Expenditures	Purchases	Description	Local Purchase Adjustment		Local Purchases	
			City of Seattle	King County	City of Seattle	King County
Facility Operations / General and Administrative						
NON-WAGE EXPENDITURES						
General and Administrative						
Ticket/Club Seat Sales and Service Expenses	\$5,100,000	Promotion of spectator sports	75%	90%	\$3,825,000	\$4,590,000
Suite Sales and Services	\$1,300,000	Promotion of spectator sports	75%	90%	\$975,000	\$1,170,000
Sponsorship Sales and Services	\$1,900,000	Sales comm., Promotional mtrl, Food srvc & Merch. gifts	75%	85%	\$1,431,872	\$1,624,099
Marketing, PR, CR Creative	\$2,340,000	Advertising and related services	80%	85%	\$1,872,000	\$1,989,000
Travel	\$135,000	Local Transportation and Air Travel	59%	75%	\$79,000	\$101,000
Entertainment	\$45,000	Local meals	85%	95%	\$38,250	\$42,750
Accounting and Tax Accounting	\$288,000	3rd party Accounting, tax, payroll services	75%	80%	\$216,000	\$230,400
Equipment Leases	\$120,000	Commercial machinery and equipment rental and leasing	56%	76%	\$67,200	\$91,200
Telephone	\$792,000	Telecommunications	50%	95%	\$396,000	\$752,400
Service and Finance Charges	\$104,650	Fees, credit card fees, and bank fees	20%	30%	\$20,930	\$31,395
Supplies, Postage and Dues	\$557,700	Office supplies, Pstg., Magazines, membership, org. dues	45%	65%	\$250,965	\$362,505
Legal and Professional	\$600,000	Legal Services	80%	95%	\$480,000	\$570,000
Repairs & Maintenance	\$160,000	Arena Ops. machinery & equipment repairs&maintenance	60%	96%	\$96,000	\$153,600
Rent/Lease Payment	\$2,000,000	- Excluded -				
Utilities	\$2,730,000	Electricity and Water	100%	100%	\$2,730,000	\$2,730,000
Taxes & Licenses	\$1,679,000	- Excluded -			\$0	\$0
Insurance	\$1,080,000	General liability, workers compensation	40%	60%	\$432,000	\$648,000
Other Expenses	\$759,000	Business support services	60%	90%	\$455,400	\$683,100
Concessions - Costs of Goods Sold						
	\$6,287,760	Food, Beverage, F&B Supplies Manufacturing	20%	25%	\$1,257,552	\$1,571,940
	\$920,160	Wholesale Trade (Margins)	80%	90%	\$736,128	\$828,144
	\$460,080	Truck Transportation	55%	80%	\$253,044	\$368,064
Merchandise - Cost of Goods Sold						
	\$1,578,500	Apparel, Accessories, Footwear, Paper Merchandise	5%	10%	\$78,925	\$157,850
	\$338,250	Wholesale Trade (Margins)	80%	90%	\$270,600	\$304,425
	\$338,250	Truck Transportation	55%	80%	\$186,037.50	\$270,600
Repairs and Maintenance of the Facility (3rd Party)	\$1,500,000	Maintenance and repair of non-residential structures	75%	95%	\$1,125,000	\$1,425,000
TOTAL FACILITY NON-WAGE EXPENDITURES	\$33,113,350				\$13,365,617	\$15,769,449
WAGE EXPENDITURES						
Team/Event Staffing	\$9,485,000	Household Spending Change, Health care benefits	35%	85%	\$3,319,750	\$8,062,250
Personnel (Including Payroll Taxes and Benefits)	\$13,127,000	Household Spending Change, Health care benefits	37%	90%	\$4,856,990	\$11,814,300
TOTAL FACILITY WAGE EXPENDITURES	\$22,612,000				\$8,176,740	\$19,876,550
Team Expenses						
NON-WAGE EXPENDITURE						
Team Travel	\$7,650,000	Air and auto travel, Ground transport, Meals, and Lodging	21%	28%	\$1,606,500	\$2,142,000
Other Team Costs	\$3,163,000	Physicians, uniforms, business expenses, etc.	39%	52%	\$1,242,582	\$1,642,874
Player Insurance	\$6,300,000	League Office insurance (Not Local)	0%	0%	\$0	\$0
Total Non-Wage Expenditure	\$17,113,000				\$2,849,082	\$3,784,874
WAGE EXPENDITURE						
Player Salaries (Net Escrow/Tax)	\$102,615,000	Household Spending Change	15%	20%	\$15,392,250	\$20,523,000
Taxes and Benefits - Players	\$7,158,000					
Health and Insurance Benefits	\$1,338,906	Insurance and Medical Sectors	15%	20%	\$200,836	\$267,781
Payroll Taxes and Retirement Benefits	\$5,819,094	- Excluded -				
Team Salaries and Benefits - Coach Etc.	\$13,601,000	Household Spending Change, Health care benefits	30%	72%	\$4,025,896	\$9,792,720
Total Wage Expenditure	\$123,374,000				\$19,618,982	\$30,583,501
TOTAL TEAM EXPENDITURES	\$140,487,000				\$22,468,064	\$34,368,375
TOTAL ANNUAL ONSITE EXPENDITURES	\$196,212,350				\$44,010,421	\$70,014,374

Source: Pro Forma Advisors

Annual Ongoing Impacts

B-2: Offsite Impact - Local Purchases

Seattle Economic Impact

10-412.01

Offsite Impacts

Scenario B

Spending Categories	Est. Purchases	Description	Local Purchase Adjustment		Local Purchases	
			City of Seattle	King County	City of Seattle	King County
Arena Visitors						
Lodging	\$13,997,061	Hotels and motels	75%	90%	\$10,497,796	\$12,597,355
Souvenirs/Gifts/Retail ¹	\$13,877,957	Retail Margin- Gen. Merch., Clothing, Sport goc	90%	100%	\$12,490,161	\$13,877,957
Bus	\$565,735	Transit & ground passenger transportation	30%	40%	\$169,720	\$226,294
Parking	\$9,970,005	Other personal services	100%	100%	\$9,970,005	\$9,970,005
Auto Travel	\$10,083,877	Retail Margins - Gasoline stations	10%	50%	\$1,008,388	\$5,041,938
Food/Beverage	\$17,234,050	Food services and drinking places	80%	90%	\$13,787,240	\$15,510,645
Entertainment	\$4,973,884	Museums, historical sites, zoos, & parks	80%	90%	\$3,979,107	\$4,476,495
Total Arena Visitor Spending	\$70,702,568				\$51,902,417	\$61,700,689
Travelling Performers						
Lodging	\$845,600	Hotels and motels	95%	100%	\$803,320	\$845,600
Local Travel	\$151,800	Car rental and ground transport	95%	100%	\$144,210	\$151,800
Food and Beverage	\$328,500	Food services and drinking places	95%	100%	\$312,075	\$328,500
Total Travelling Performer Visitor Spending	\$1,325,900				\$1,259,605	\$1,325,900
Total Offsite Spending	\$72,028,468				\$53,162,022	\$63,026,589

¹ The determination of impacts includes only the retail margin portion of purchases.

Source: Pro Forma Advisors and IMPLAN

Annual Ongoing Impacts
B-3: Gross Economic Impact - Total Impacts Scenario B

Seattle Economic Impact

10-412.01

CITY OF SEATTLE IMPACTS

Onsite Impacts	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Output	\$165,830,217	\$42,535,132	\$208,365,349
Earnings	\$58,763,250	\$16,636,428	\$75,399,678
Employment	1,086	366	1,452

Offsite Impacts

Output	\$44,709,580	\$22,088,096	\$66,797,676
Earnings	\$23,436,711	\$8,888,865	\$32,325,577
Employment	614	150	764

Annual Ongoing Impacts

Output	\$210,539,796	\$64,623,228	\$275,163,025
Earnings	\$82,199,961	\$25,525,293	\$107,725,255
Employment	1,700	516	2,216

Source: Pro Forma Advisors

KING COUNTY IMPACTS

Onsite Impacts	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Output	\$170,960,967	\$76,013,380	\$246,974,346
Earnings	\$63,894,000	\$30,141,041	\$94,035,041
Employment	1,086	615	1,701

Offsite Impacts

Output	\$50,282,098	\$36,400,703	\$86,682,801
Earnings	\$27,261,788	\$14,865,692	\$42,127,480
Employment	725	247	972

Annual Ongoing Impacts

Output	\$221,243,064	\$112,414,083	\$333,657,147
Earnings	\$91,155,788	\$45,006,733	\$136,162,521
Employment	1,811	862	2,673

Annual Ongoing Impacts
C/D-1: Onsite Impacts - Arena Expenditures
 Seattle Economic Impact
 10-412.01

Scenario C and D

Expenditures	Purchases	Description	Local Purchase Adjustment		Local Purchases	
			City of Seattle	King County	City of Seattle	King County
Facility Operations / General and Administrative						
NON-WAGE EXPENDITURES						
General and Administrative						
Ticket/Club Seat Sales and Service Expenses	\$4,250,000	Promotion of spectator sports	75%	90%	\$3,187,500	\$3,825,000
Suite Sales and Services	\$1,300,000	Promotion of spectator sports	75%	90%	\$975,000	\$1,170,000
Sponsorship Sales and Services	\$1,900,000	Sales comm., Promotional mtrl, Food svc & Merch. gifts	75%	85%	\$1,431,872	\$1,624,099
Marketing, PR, CR Creative	\$1,800,000	Advertising and related services	80%	85%	\$1,440,000	\$1,530,000
Travel	\$135,000	Local Transportation and Air Travel	59%	75%	\$79,000	\$101,000
Entertainment	\$45,000	Local meals	85%	95%	\$38,250	\$42,750
Accounting and Tax Accounting	\$240,000	3rd party Accounting, tax, payroll services	75%	80%	\$180,000	\$192,000
Equipment Leases	\$100,000	Commercial machinery and equipment rental and leasing	56%	76%	\$56,000	\$76,000
Telephone	\$720,000	Telecommunications	50%	95%	\$360,000	\$684,000
Service and Finance Charges	\$80,500	Fees, credit card fees, and bank fees	20%	30%	\$16,100	\$24,150
Supplies, Postage and Dues	\$429,000	Office supplies, Postage, Magazines, membership, org. dues	45%	65%	\$193,050	\$278,850
Legal and Professional	\$500,000	Legal Services	80%	95%	\$400,000	\$475,000
Repairs & Maintenance	\$100,000	Arena Ops. machinery & equipment repairs&maintenance	60%	96%	\$60,000	\$96,000
Rent/Lease Payment	\$2,000,000	- Excluded -				
Utilities	\$2,100,000	Electricity and Water	100%	100%	\$2,100,000	\$2,100,000
Taxes & Licenses	\$1,583,000	- Excluded -			\$0	\$0
Insurance	\$900,000	General liability, workers compensation	40%	60%	\$360,000	\$540,000
Other Expenses	\$630,000	Business support services	60%	90%	\$378,000	\$567,000
Concessions - Costs of Goods Sold						
	\$6,287,760	Food, Beverage, F&B Supplies Manufacturing	20%	25%	\$1,257,552	\$1,571,940
	\$920,160	Wholesale Trade (Margins)	80%	90%	\$736,128	\$828,144
	\$460,080	Truck Transportation	55%	80%	\$253,044	\$368,064
Merchandise - Cost of Goods Sold						
	\$1,578,500	Apparel, Accessories, Footwear, Paper Merchandise	5%	10%	\$78,925	\$157,850
	\$338,250	Wholesale Trade (Margins)	80%	90%	\$270,600	\$304,425
	\$338,250	Truck Transportation	55%	80%	\$186,037.50	\$270,600
Repairs and Maintenance of the Facility (3rd Party)	\$1,500,000	Maintenance and repair of non-residential structures	75%	95%	\$1,125,000	\$1,425,000
TOTAL FACILITY NON-WAGE EXPENDITURES	\$30,235,500				\$11,254,772	\$13,325,849
WAGE EXPENDITURES						
Team/Event Staffing	\$8,623,000	Household Spending Change, Health care benefits	35%	85%	\$3,018,050	\$7,329,550
Personnel (Including Payroll Taxes and Benefits)	\$13,127,000	Household Spending Change, Health care benefits	37%	90%	\$4,856,990	\$11,814,300
TOTAL FACILITY WAGE EXPENDITURES	\$21,750,000				\$7,875,040	\$19,143,850
Team Expenses						
NON-WAGE EXPENDITURE						
Team Travel	\$7,650,000	Air and auto travel, Ground transport, Meals, and Lodging	21%	28%	\$1,606,500	\$2,142,000
Other Team Costs	\$3,163,000	Physicians, uniforms, business expenses, etc.	39%	52%	\$1,242,582	\$1,642,874
Player Insurance	\$6,300,000	League Office insurance (Not Local)	0%	0%	\$0	\$0
Total Non-Wage Expenditure	\$17,113,000				\$2,849,082	\$3,784,874
WAGE EXPENDITURE						
Player Salaries (Net Escrow/Tax)	\$102,615,000	Household Spending Change	15%	20%	\$15,392,250	\$20,523,000
Taxes and Benefits - Players	\$7,158,000					
Health and Insurance Benefits	\$1,338,906	Insurance and Medical Sectors	15%	20%	\$200,836	\$267,781
Payroll Taxes and Retirement Benefits	\$5,819,094	- Excluded -				
Team Salaries and Benefits - Coach Etc.	\$13,601,000	Household Spending Change, Health care benefits	30%	72%	\$4,025,896	\$9,792,720
Total Wage Expenditure	\$123,374,000				\$19,618,982	\$30,583,501
TOTAL TEAM EXPENDITURES	\$140,487,000				\$22,468,064	\$34,368,375
TOTAL ANNUAL ONSITE EXPENDITURES	\$192,472,500				\$41,597,876	\$66,838,074

Source: Pro Forma Advisors and IMPLAN

Annual Ongoing Impacts
C/D-2: Offsite Impacts - Local Purchases

Seattle Economic Impact

10-412.01

Offsite Impacts
Scenario C and D

Spending Categories	Est. Purchases	Description	Local Purchase Adjustment		Local Purchases	
			City of Seattle	King County	City of Seattle	King County
Arena Visitors						
Lodging	\$12,824,250	Hotels and motels	75%	90%	\$9,618,188	\$11,541,825
Souvenirs/Gifts/Retail ¹	\$13,578,633	Retail Margin- Gen. merch., Clothing, Sport goods	90%	100%	\$12,220,770	\$13,578,633
Bus	\$519,706	Transit & ground passenger transportation	30%	40%	\$155,912	\$207,883
Parking	\$5,908,868	Other personal services	100%	100%	\$5,908,868	\$5,908,868
Auto Travel	\$9,276,459	Retail Margins - Gasoline stations	10%	50%	\$927,646	\$4,638,229
Food/Beverage	\$15,350,437	Food services and drinking places	80%	90%	\$12,280,349	\$13,815,393
Entertainment	\$4,588,358	Museums, historical sites, zoos, & parks	80%	90%	\$3,670,686	\$4,129,522
Total Arena Visitor Spending	\$62,046,712				\$44,782,420	\$53,820,354
Travelling Performers						
Lodging	\$845,600	Hotels and motels	95%	100%	\$803,320	\$845,600
Local Travel	\$151,800	Car rental and ground transport	95%	100%	\$144,210	\$151,800
Food and Beverage	\$328,500	Food services and drinking places	95%	100%	\$312,075	\$328,500
Total Travelling Performer Visitor Spending	\$1,325,900				\$1,259,605	\$1,325,900
Total Offsite Spending	\$63,372,612				\$46,042,025	\$55,146,254

¹ The determination of impacts includes only the retail margin portion of purchases.

Source: Pro Forma Advisors and IMPLAN

Annual Ongoing Impacts
C/D-3: Gross Economic Impact - Total Impacts Scenario C and D

Seattle Economic Impact

10-412.01

CITY OF SEATTLE IMPACTS

	Onsite Impacts	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Onsite Impacts				
Output		\$156,655,523	\$39,675,417	\$196,330,939
Earnings		\$57,901,250	\$15,449,392	\$73,350,642
Employment		1,005	338	1,343
Offsite Impacts				
Output		\$37,822,325	\$18,719,658	\$56,541,984
Earnings		\$19,900,417	\$7,523,433	\$27,423,850
Employment		550	126	676
Annual Ongoing Impacts				
Output		\$194,477,848	\$58,395,075	\$252,872,923
Earnings		\$77,801,667	\$22,972,825	\$100,774,492
Employment		1,555	464	2,019

Source: Pro Forma Advisors

KING COUNTY IMPACTS

	Onsite Impacts	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Onsite Impacts				
Output		\$161,786,273	\$71,568,658	\$233,354,930
Earnings		\$63,032,000	\$28,331,225	\$91,363,225
Employment		1,005	575	1,580
Offsite Impacts				
Output		\$42,928,832	\$31,195,027	\$74,123,859
Earnings		\$23,436,277	\$12,732,134	\$36,168,411
Employment		652	211	863
Annual Ongoing Impacts				
Output		\$204,715,105	\$102,763,685	\$307,478,790
Earnings		\$86,468,277	\$41,063,359	\$127,531,636
Employment		1,657	786	2,443

Appendix G

Response to Comments

Common Responses

Contents

1. Public vs Private Project; Range of Alternatives	CR-1
2. Project Objectives	CR-1
3. Concurrent Event Scheduling	CR-1
4. Parking	CR-1
5. Mitigation Measures	CR-1
6. Mitigation Measures - Traffic	CR-2
7. Mitigation Measures – Pedestrian Access	CR-2
8. Consistency with Plans and Policies	CR-2
9. Un-adopted Plans and Policies.	CR-2
10. Street Vacation Policies	CR-3
11. Secondary and Cumulative Impacts.	CR-3
12. Gentrification	CR-3
13. Adaptive Traffic Control	CR-3

1. Public vs Private Project; Range of Alternatives

The range of alternatives to be considered in an EIS is different for a private project than for a public project. As stated in the DEIS (p.2-4), a private project is “any proposal primarily initiated or sponsored by an individual or entity other than an agency.” Because the proposed Arena was initiated by a private entity, ArenaCo, would be financed primarily by ArenaCo, and would be constructed and operated by ArenaCo, it is a private project for purposes of the alternatives analysis required by SEPA.

SMC 25.05.440 (D) (4) prescribes the range of alternatives that are to be included in an EIS for a private project: *When a proposal is for a private project on a specific site, the lead agency shall be required to evaluate only the no-action alternative plus other reasonable alternatives for achieving the proposal's objectives on the same site. Further, alternative sites may be evaluated if other locations for the type of proposed use have not been included or considered in existing planning or zoning documents.* (emphasis added)

Accordingly, this FEIS includes alternatives for development of the project on the proponent's site in SODO. And to help inform the City and County's decision whether to participate in the ArenaCo project, the EIS also includes a discussion of other locations (KeyArena and Memorial Stadium), as authorized by this ordinance, even though no proposal exists to build the Arena at those locations. SMC 25.05.440, and not rules applicable to the determination of lead agency status, SMC 25.05.922 et seq, defines the range of alternatives to be considered in an FEIS.

2. Project Objectives

As stated in the FEIS summary, the proponent's (ArenaCo) objective is to build and operate a spectator sports facility on its property located at 1700 1st Avenue S. in Seattle. The City and County's objective is to determine whether to participate in ArenaCo's proposal to build and operate that facility; neither the City or County proposes to independently build and operate a spectator sports facility.

3. Concurrent Event Scheduling

The evaluation of the proposed Arena does not assume that venues would be able to reschedule events. Instead three event cases are evaluated for each Action Alternative including an Arena event only (Case S1), an Arena event and another sporting event (Case S2 - Arena and Mariners game), and an Arena event, Mari-

ners game, and Event Center event (Case S3) (see Appendix E, Section 1.3.1.4). Given the potential variability in attendance and capacity of nearby facilities, the FEIS analysis provides a revised Case S3 to reflect a combined attendance of 72,500. This analysis has been updated throughout the report addressing all transportation elements previously evaluated in the DEIS. The results are similar to the previous Case S3 evaluation, as a relatively minor increase in peak hour trip generation is anticipated. For the multiple event scenarios that include an attendance of 72,500, traffic associated with Safeco Field was assigned to the Safeco Field and Century Link Field facilities as is the case today.

4. Parking

The DEIS assumed parking in the Safeco Field and Century Field parking areas was available (Arena-only scenario). The FEIS includes a sensitivity analysis (Section 3.8.2.12) that documents the parking impacts of the proposed arena assuming that parking at these facilities is not available for users of the arena. If these facilities were not available, there would be approximately 4,500 fewer parking spaces within the study area (see Section 3.8.2.12. A review of both weekday and weekend conditions shows without these parking facilities there would be further reliance on the expanded study area (i.e., the CBD).

The DEIS and FEIS provide a comprehensive parking analysis, which reviews parking supply as well as existing and future utilization (see Section 3.8.2.8). Consideration was given to the loss of parking supply with the proposed Arena and other future development in the study area. The FEIS has been revised to present two scenarios in which the parking code can be met including: 1) through shared parking agreements with existing parking facilities, and 2) the South Warehouse site.

5. Mitigation Measures

Except for mitigation measures that ArenaCo has agreed to implement as part of its project, decisions establishing mitigation measures, including the nature, amount and responsibility for mitigation, are made when substantive actions regarding the proposed project occur following issuance of this FEIS, such as issuance of development permits. The level of detailed analysis required by the comment, including the technical feasibility and economic practicability of potential mitigation measures, is not required in an EIS.

6. Mitigation Measures - Traffic

The FEIS outlines specific mitigation measures intended to mitigate the impacts of the projects (Section 4.0 of Appendix E). This includes specific improvements to be constructed by the applicant as well as pro-rata contributions to regional improvement projects including ITS Next Generation improvements and the planned Lander Street grade separation. Consistent with other venues in the area, the project also will be subject to a comprehensive Transportation Management Plan (TMP) that includes demand reduction strategies, performance targets, and pre/post event traffic control requirements.

7. Mitigation Measures – Pedestrian Access

The FEIS identifies and evaluates two mitigation options to address the pedestrian-access issues identified in the DEIS (Section 4.0 of Appendix E) that could address potential property trespass. The first option includes the construction of a pedestrian bridge across the tracks and connecting to the Arena. Holgate would remain open to vehicles and would be controlled during pre/post event conditions via manual traffic control. The second option also assumes closure of Holgate to pedestrians, but instead of a pedestrian bridge, would implement shuttles from King Street Station to the Arena, pedestrian improvements to the south along 1st Avenue, and pedestrian improvements along Lander Street across the tracks. The applicant has committed to the construction of a pedestrian bridge, however the design details and approvals from BNSF and Amtrak are still to be developed. If the Arena is approved and ready to be open before the pedestrian bridge is completed, the applicant would implement the shuttle system and pedestrian improvements as noted above. The shuttle system would remain in place until the bridge is open for use. In addition to the pedestrian bridge and shuttle system, other area improvements would include pedestrian-scale lighting and sidewalk improvements where deficient.

8. Consistency with Plans and Policies

As stated in the DEIS (p. 3.10-1), an EIS is to include a “summary” of existing land use regulations and plans and the extent to which a proposal may be consistent or inconsistent with them, “as appropriate.” SMC 25.05.440(e)(4).

The comment asserts that allowing ArenaCo’s proposed stadium is inconsistent with numerous policies contained in a variety of plans and other documents. However as stated in the DEIS (p. 3.10-1), the consistency analysis described in SMC 25.05.440 applies only when the analysis is “appropriate.” Consistency analysis may be “appropriate” in the context of a use not clearly permitted under existing zoning, but is not appropriate and not required when, as here, the proposed arena use is clearly and specifically permitted under a Growth Management zoning code.

Pursuant to RCW 36.70B.030, whether to allow a type of land use in a zone is a “fundamental land use planning choice” that is made when the development regulation allowing such uses is adopted, and that legislative policy decision may not be re-opened in the context of review of a subsequent project proposal for such a use. As stated in RCW 36.70A.030 (3), “[D]uring project review, the local government or any subsequent reviewing body shall not reexamine alternatives to or hear appeals on the items identified in subsection (2) of this section, except for issues of code interpretation.” Subsection (2) includes whether a “type of land use is permitted at the site.” This prohibition includes project review under SEPA¹.

The Seattle City Council decided to allow spectator sports facilities as a land use permitted outright within the zone when the Council adopted the Stadium Transition Area Overlay zoning district. That development regulation was specifically adopted to implement Comprehensive Plan policy GD-P20, and neither that policy or the overlay zone which implements it were appealed on the grounds that those legislative decisions were inconsistent with the various plans, policies and documents identified in the comment, or for any other reason.

The project level consistency analysis requested in the comment is not “appropriate” under SMC 25.05.440 because it is not permitted under RCW 36.70B.030. Therefore, it is not necessary or appropriate to include such an analysis in this FEIS.

9. Un-adopted Plans and Policies

The referenced plans or planning processes have not been adopted by the Seattle City Council, and the consistency analysis requested by the comment applies only to adopted plans.

¹ “In enacting RCW 36.70B.030 ...the legislature finds that:

(1) Given the extensive investment that public agencies and a broad spectrum of the public are making and will continue to make in comprehensive plans and development regulations for their communities, it is essential that project review start from the fundamental land use planning choices made in these plans and regulations. If the applicable regulations or plans identify the type of land use ... these decisions at a minimum provide the foundation for further project review unless there is a question of code interpretation. The project review process, including the environmental review process under chapter [43.21C](#) RCW and the consideration of consistency, should start from this point and should not reanalyze these land use planning decisions in making a permit decision.” Ch. 347 Laws of 1995, sections 404 and 405.

10. Street Vacation Policies

Application of street vacation policies occurs in the context of the City Council's action on the street vacation petition. The FEIS provides a general summary and discussion of street vacation criteria and considerations.

11. Secondary and Cumulative Impacts

The EIS includes an analysis of the proposed Arena's impacts and includes, among the other information considered, pending permits and approvals for the area. It is also acknowledged that ArenaCo owns additional properties within and outside of the Stadium Overlay District. However, no development has been proposed for those properties. ArenaCo has not applied for any permits for additional development and has not proposed rezoning or other actions to facilitate such development, e.g., the LA entertainment district concept. While the EIS acknowledges the possibility of cumulative and secondary impacts associated with the potential future development of those properties, *see e.g.* Table 1-3, the quantitative extent of any such impact cannot be meaningfully determined at this point given the absence of an actual proposal, and accordingly such analysis would be remote and speculative in nature. As the DEIS indicates, if further development is subsequently proposed in the project vicinity, it would be subject to a site specific evaluation under SEPA and Land Use Code development and use regulations.

12. Gentrification

The Economic Impact Analysis (included as Appendix F to the FEIS) evaluated the impacts in SoDo of the previous sports facilities to understand the potential implications of the proposed Arena (Pro Forma Advisors LLC (Pro Forma)). The analysis shows that there have been major changes in value and rents in the SoDo market, but these do not align with the opening of the existing sports facilities. Based on Pro Forma's review of rents and property values, increases occurred in 2000 – 2002 in line when CenturyLink Field opened, but the greatest increases came between 2005 and 2008 with the growing overall Seattle economy. Based on this review and the comparables reviewed by Pro Forma, Pro Forma believes there may be pressure on industrial uses in the immediate blocks around the proposed arena, but still in the confines of the Stadium Overlay District, and that there will be limited displacement due to the new proposed arena beyond the Stadium Overlay District.

13. Adaptive Traffic Control

Adaptive control is more efficient than on-street personnel for traffic control, as it operates as a system, accounting for the overall traffic needs by corridor, or by subarea, and also reacts to vehicle demand. This is not to say that traffic control personnel will not be required, but their function will be focused on pedestrian safety and intersection clearance.

The Seattle Arena mitigation would be a comprehensive, multimodal program focused on an interconnected set of actions to enable maximization of available street capacity while ensuring safe and effective multimodal operations. The overall approach leverages SDOT's existing and planned transportation and parking management systems to support conditions during event ingress and egress periods.

This approach will implement systems (including sensors and variable signs) that will support positive and active traffic management, aligned with a pre-developed event access and egress plan. The objectives of the systems are to:

- balance parking demand both north and south of the stadiums
- balance inbound and outbound event travel demand, using available capacity
- improve real-time travel time monitoring and reporting (via DMS and the web) on key corridors to support informed trip, mode, and route choices
- provide rail crossing delay information, to support pedestrian load management and improved circulation for all modes, including freight
- provide required traffic signal control devices to support pedestrian and traffic management in a manner that supports a safe multi-modal system

The detailed traffic control plans would be developed prior to the opening of the Arena.

Agencies

Contents

City of Des MoinesA-1

City of Normandy ParkA-2

Port of Seattle.....A-3

Washington State Major League Baseball Stadium
Public Facilities DistrictA-55

Seattle Public UtilitiesA-62

Seattle Public UtilitiesA-65

Washington State Department of Transportation.....A-73

State of Washington House of RepresentativesA-75

Washington State Public Stadium Authority and
First & Goal IncorporatedA-77

City of Des Moines



ADMINISTRATION
21630 11th AVENUE S, SUITE A
DES MOINES, WASHINGTON 98198-6398
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City of Des Moines

1. Comments are noted. This EIS includes an analysis of the economic impacts on industrial jobs. See Appendix F Economic Impact Analysis.

September 30, 2013

Mr. John Shaw
Senior Transportation Planner, City of Seattle
700 5th Avenue, Suite 2000
PO Box 34019
Seattle, Washington 98104-4019

Dear Mr. Shaw,

I am writing you regarding the City of Seattle Draft Environmental Impact Statement for the Seattle Arena.

The Seattle Arena is a recreational facility, and as such should not be placed at the very center of Port operations where it will have a negative impact on jobs. It is very important that alternative sites be proposed.

The fact that there are stadiums located in the vicinity now adds to the expense and difficulty of getting our Washington State goods to market. The proposed arena should not compound the existing problem. These jobs are vitally important for the residents of our communities, and this is an unnecessary burden.

It is important that the EIS take job losses fully into account. This type of decision costs the people at the margin of the economy their livelihoods. These types of negative impacts are easily overlooked in the process, but fall heavily on our poorest residents. Those who have limited skills and job options are the ones who pay the price when opportunities are reduced.

The EIS report must quantify these impacts or provide mitigation comments that resolve the issues.

Respectfully,

Marion Yoshino

Marion Yoshino
Economic Development Manager

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City of Normandy Park

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The EIS report must quantify these impacts or provide mitigation comments that resolve the issues.

Respectfully,

Marion Yoshino

Marion Yoshino

Council Member

1



September 30, 2013

Via e-mail and regular mail

City of Seattle, Dept. of Planning and Development
Attn: John Shaw, Senior Transportation Planner
700 5th Ave, Suite 2000
P.O. Box 34019
Seattle, WA 98124-4019
Via e-mail: John.Shaw@Seattle.Gov

Re: **Comments on the Draft EIS (DEIS) for Proposed Seattle Arena
DPD project #3014195**

Dear Mr. Shaw:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the Seattle Arena. As noted below and in the attached matrix, Attachment A, the port is concerned with numerous potential negative effects on marine cargo and industrial uses and activities in south Elliott Bay, adverse effects of which may be irreversible, due to the proposed arena. These impacts will harm our ability to create and sustain jobs in the maritime and industrial sectors, ultimately weakening our region's economy.

The Port of Seattle Commission has also outlined its concerns in a letter to Seattle Mayor Mike McGinn, Attachment B.

Summary of the Port of Seattle's Comments on the DEIS

Port of Seattle marine cargo facilities in south Elliott Bay are critically located in the center of the city's maritime and industrial area and are essential to the region's trade and shipping economy. Port cargo terminals, related marine industrial uses, and surrounding industrial locations in the Duwamish industrial area rely on existing and future improvements of public and private infrastructure. The "Regional Transportation Hub" (Attachment C) demonstrates that the proposed arena's site is located amidst land devoted to Port uses (dark blue for port terminals, rail yards, warehouses and transloading facilities) and passenger transportation facilities (green for Metro, Sound Transit commuter and light rail, and Amtrak). Along with investments by other stakeholders supporting the industrial and maritime sector, the Port has invested more than \$1 billion in the past 15 years to redevelop, improve, and increase the utility and efficiency of

Port of Seattle

1. Comment noted. See detailed responses to comments included in Attachment A to the Port of Seattle comment letter below.
2. Comment noted.

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marine shipping facilities in south Elliott Bay and in the Duwamish Manufacturing/Industrial Center (MIC) to support international trade and export Washington goods.

As part of the Port's Century Agenda, a twenty-five year vision, we intend to increase marine cargo volume to 3.5 million TEUs (twenty-foot equivalent units) and significantly increase the value of export cargo creating thousands of new jobs in the region through re-investment in export/import shipping and transportation needs. The present and long-term future economic health and sustainability of cargo facilities and the surrounding industrial area must not be jeopardized. Present marine cargo and industrial area uses and activities in south Elliott Bay are a principal contributor to the city, and the region's economy, including:

- The City of Seattle's Manufacturing and Industrial Sector accounts for 36% of the city's annual sales tax receipts and 38% of the City's total B&O tax revenue.
- Two-way trade flowing through the Port of Seattle, valued at \$38.4 billion in 2012, depends on efficient port facilities as an essential gateway for international trade.
- Port of Seattle container terminals support 30,000 direct jobs.
- The marine-cargo business adds \$3 billion to our economy annually.
- Approximately 100,000 jobs are located in south Elliott Bay, comprising 80% of Seattle's industrial area, with an annual payroll exceeding \$2.5 billion.
- According to the Washington Council on International Trade, 4 in 10 jobs in Washington depend on international trade.

Attachment A, "Port of Seattle's Matrix of Comments on Arena Draft EIS," includes an extensive number of issues the Port has identified in review that emphasize deficiencies with the DEIS analysis that must be addressed before the City makes further decisions regarding this project. This cover letter emphasizes the most critical matters raised by locating a sports and entertainment arena in an existing industrial area. The table/matrix has many additional substantive comments that the City should have addressed in the DEIS and should respond to in the Final EIS (FEIS).

The DEIS considers five alternatives. Two of the Arena alternatives under consideration are located in the SoDo neighborhood, which is part of the designated Duwamish Manufacturing/Industrial Center (MIC), and at the junction of heavy vehicle and rail freight infrastructure critical to marine cargo and industrial use. The DEIS fails to provide sufficient information for elected officials to make an informed decision to locate the proposed arena in SoDo for the following reasons.

1. The SoDo location would encourage further incursion of incompatible land uses into the industrial area, a decision that is counter to prior policies established to protect Seattle's port and industrial facilities. This situation would be exacerbated by the probable significant adverse effects created by the project for which the DEIS does not offer sufficient mitigation. The negative effects of this project will jeopardize the future of the Port of Seattle.
2. The DEIS identifies substantial direct and secondary impacts from the proposed development, but fails to adequately evaluate potential negative effects, and does not

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3. See specific responses to Attachment A below.
4. Comment noted.
5. See Common Response #5 Mitigation Measures.
6. See Common Response #11 Secondary and Cumulative Impacts

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include numerous additional potential adverse effects. Irreversible impacts which cannot be mitigated (negative project effects which cannot be avoided or minimized) are associated with incompatible land use, increased acute and chronic traffic congestion, and substantial negative effects on rail operations and public safety. The Port of Seattle asserts that some of the impacts cannot be mitigated and will create severe effects on the Port of Seattle, which the DEIS does not address.

3. Because the City improperly characterized the Arena project as a private project, instead of a public project, the DEIS fails to fully evaluate alternative sites (including sites outside of Seattle) that would have likely avoided impacts to the industrial area.
4. However, if Seattle chooses to approve the SoDo location, then the proponent must be required to implement extensive mitigation in order to off-set and minimize many of the identified negative effects to traffic and freight mobility. Necessary mitigation actions are not adequately identified in the DEIS and specific implementation commitments are not identified. Since necessary mitigation actions are not adequately identified and specific implementation commitments are absent, decision makers cannot reach conclusions regarding mitigation given the current level of analysis provided.

Land Use Issues

The DEIS fails to adequately discuss and analyze consistency of the proposed arena with applicable land use plans, including the City's Comprehensive Plan.

The Growth Management Act (GMA) requires the City to conform to its requirements. RCW 36.70A.040(1). The purpose of the City's Land Use Code is "to protect and promote public health, safety and general welfare through a set of regulations and procedures for the use of land which are consistent with and implement the City's Comprehensive Plan." Seattle Municipal Code Section (SMC) 23.02.020(A). The contents of the DEIS are required to include

A summary of existing plans (for example: land use and shoreline plans) and zoning regulations applicable to the proposal, and how the proposal is consistent and inconsistent with them...

SMC 25.05.440(E)(4)(a). The DEIS did not discuss how locating a new arena in SoDo would be inconsistent with applicable plans such as the City of Seattle Comprehensive Plan (specifically related to the Container Port Element and other container port references), regional freight mobility plans, the Duwamish Manufacturing/Industrial Center Neighborhood Plan and other relevant plans and policies.

One of the main purposes of a draft EIS is to help decision-makers choose among alternatives. SMC 25.05.440(D)(3)(e). These decisions should take into account which of the alternatives has the least probable significant adverse environmental impacts, either as a result of the scope of the proposal, or as a result of proposed and required mitigation. SMC 25.05.440(D)(3)(f). Local, state, and regional entities and their stakeholders put significant time and effort to provide plans and policies for future land use for their constituencies. The decision made on the proposal

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7. See Common Response #1 Public vs Private Projects; Range of Alternatives
8. See Common Response #5 Mitigation Measures and Common Response #6 Mitigation Measures – Traffic.
9. See Common Response #8 Consistency with Plans and Policies

described in this DEIS will have substantial impact on a major economic hub in the region and thus demands a robust and objective discussion of concerns that the Port of Seattle, as submitted to the scoping process on November 30, 2012.

At a minimum, the following land use policies and adopted plans and recommendations should have been included in the DEIS land use analysis:

1. City of Seattle Comprehensive Plan, including the Container Port Element, Land Use element (Section B-4, Industrial Areas) and Industrial Use Policies
2. Greater Duwamish Manufacturing and Industrial Center Neighborhood Plan
3. Seattle Planning Commission, "Review of the Proposed Sport Arena in the Duwamish Manufacturing and Industrial Center," July 2012"
4. Seattle Planning Commission, "Future of Seattle's Industrial Lands," 2007
5. Seattle Center Century 21 Master Plan
6. Key Arena Subcommittee Report
7. Port of Seattle Century Agenda, 2012
8. Port of Seattle Seaport Shoreline Plan, 2008
9. King County Countywide Planning Policies
10. Puget Sound Regional Council VISION 2040
11. Container Port provisions of the Growth Management Act (GMA), 2009

All of these plans and policies are relevant to the discussion and analysis of the proposal in the DEIS, yet only two were given consideration; the DEIS provided a cursory review of the City of Seattle Comprehensive Plan and the Seattle Center Century 21 Plan. Since the latter mainly applies to Alternatives 4 and 5, the DEIS actually contains more extensive plan consistency review for the Seattle Center sites than for the SoDo site, which is identified as the preferred alternative. Since the preferred alternative proposes to locate the arena in SoDo, there is a greater need for reconciliation of the proposal with adopted plans for SoDo than with adopted plans for Seattle Center. The City adopted the Seattle Center Century 21 Master Plan which includes a goal of attracting an NBA team to the Key Arena site. The DEIS should acknowledge this goal and provide analysis of how locating an NBA team in the SoDo area is consistent or inconsistent with the existing Seattle Center Century 21 Master Plan and provide analysis of impacts for not adhering to this goal.

The DEIS failed to analyze whether the proposal was consistent with the King County Countywide Planning Policies (CPPs).

CPPs

The CPPs provide a countywide vision and serve as a framework for each jurisdiction to develop its own comprehensive plan, which must be consistent with the overall vision for the future of King County. A regional concern and major objective of the Countywide Planning Policies is the protection and management of resource lands, including manufacturing and industrial:

"Manufacturing/Industrial Employment Centers are key components of the regional economy. These areas are characterized by a significant amount of manufacturing, industrial, and

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advanced technology employment. They differ from other employment areas, such as business/office parks in that a land base and the segregation of major non-manufacturing uses are essential elements of their operation.”

The Duwamish Manufacturing/Industrial Center is a designated center in the CPPs. Here, the DEIS failed to consider whether the proposal to locate the arena in SoDo is consistent with the King County CPPs. Since the arena is proposed to be located in King County and King County has committed to contributing significant financing toward the arena, the DEIS should have analyzed the consistency of the proposed arena’s location with the CPPs.

The DEIS failed to adequately analyze the consistency of the proposal with the City’s Comprehensive Plan policies.

The GMA requires the City to conform to its requirements. RCW 36.70A.040(1). The purpose of the City’s land use code is to implement the comprehensive plan. SMC 23.02.020(A). In addition to reducing sprawl and focusing the development of necessary infrastructure in urban centers, the GMA defines Regional Manufacturing and Industrial Centers as having statewide importance under GMA.

Industrial Areas, Land Use Goals, City Comprehensive Plan - The proposal to locate the arena in SoDo contradicts a number of the City’s Comprehensive Plan policies and elements. For example:

LUG24: Preserve industrial land for industrial uses and protect viable marine and rail-related industries from competing with non-industrial uses for scarce industrial land. Give special attention to preserving industrial land adjacent to rail or water-dependent transportation facilities.

Section B-4 Industrial Areas, Goal LUG24. The proposal to locate the arena in SoDo will create new pressures to gentrify industrial land near Terminal 46 and Terminal 30 and convert scarce industrial land for commercial uses.

Container Port Element, City Comprehensive Plan - In 2009, the Washington State legislature amended the GMA to require a “port element” be added to GMA comprehensive plans because

...container port services are increasingly challenged by the conversion of industrial properties to nonindustrial uses, leading to competing and incompatible uses that can hinder port operations, restrict efficient movement of freight, and limit the opportunity for improvements to existing port-related facilities.

It is the intent of the legislature to ensure that local land use decisions are made in consideration of the long-term and widespread economic contribution of our international container ports and related industrial lands and transportation systems, and to ensure that container ports continue to function effectively alongside vibrant city waterfronts.

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RCW 36.70A.085 (legislative findings (2) and (3)). The City of Seattle adopted the container port element of the comprehensive plan with a number of policies designed to respond to the legislature's findings. See City of Seattle Ordinance #123854, Container Port Element, Land Use CP 1- 18. For example, Land Use Policy, CP 3 provides

Discourage non-industrial land uses, such as retail and residential, in industrially-zoned areas to minimize conflicts between uses and to prevent conversion of industrial land in the vicinity of cargo container terminals or their support facilities.

The proposal to locate the arena in SoDo is inconsistent with CP 3 as well as the other land use policies in the port element because it would encourage new non-industrial land uses in this area, create conflicts between the arena and neighboring industrial uses, and encourage the conversion of industrial land near Terminals 30 and 46.

2008 Port of Seattle Seaport Shoreline Plan - The Port of Seattle Seaport Shoreline Plan was developed in 2008 to identify the long term business goals for each of the Port properties in the Seattle Harbor. The plan expresses the Port's commitment to maintain industrial uses on all Harbor Island-area properties including Terminal 30 and 46 near the Proposed Project. The DEIS neglects to discuss this important land use plan or acknowledge that locating the proposed Seattle Arena in SoDo would be contrary to this plan.

Port of Seattle Century Agenda - The Century Agenda is a 25-year vision developed by the Port of Seattle. In addition to providing for the aggressive cargo growth goal mentioned previously, the Century Agenda also endeavors to help anchor industrial land use in the region to prevent sprawl to areas that have not already developed a sufficient level of supporting infrastructure.

Seattle Planning Commission Reports - Two reports by the Seattle Planning Commission speak directly to the need to preserve industrial land as scarce resource. "The Future of Seattle's Industrial Lands," July 2007, deals with the citywide issue of loss of industrial land. "Review of the Proposed Sports Arena in the Duwamish Manufacturing and Industrial Center," July 2012 speaks to the Proposed Project in particular and finds that it creates land use conflicts. It is ironic that these two plans were generated by the City, yet ignored in the DEIS.

Duwamish Manufacturing and Industrial Center Neighborhood Plan - The Duwamish Manufacturing and Industrial Center Neighborhood Plan was adopted in 2000 and is an appendix to the Seattle Comprehensive Plan. It concludes that the viability of the Center is threatened by pressure to develop non-industrial uses within it. Despite the Plan being developed with extensive stakeholder participation, the DEIS ignores the conclusions of this important planning document and proposes to locate the arena, which is a non-industrial use, within the Plan area.

The DEIS fails to adequately analyze how the proposed arena is consistent with existing land uses.

The DEIS fails to provide an analysis that is sufficiently robust to enable the public to understand why the City believes the SoDo site is the preferred alternative. The DEIS analysis touches on some of the important questions listed below, but in a non-cohesive way:

10. See Section 3.6 Land Use

11. Comment noted. The information requested in the comment is included in the EIS and in appendices.

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- To what extent do the different site alternatives contradict these same existing land use and other policies for the area?
- To what extent does the proposed use preclude other uses or encourage related development? What impact will the proposal have on current uses? How do the alternatives differ in their impact on the operation of current uses?
- To what extent do the different alternatives displace existing businesses or uses, and can such displacement be mitigated?
- How do alternatives compare in their impacts of the area and to what extent can those impacts be mitigated?

Substantive and Organization Deficiencies - The DEIS separates the overall discussion and analysis by including a section called the “Regulatory Framework” in addition to the Land Use section, even though both sections appear to cover Land Use. As a result of this segmentation, the reader is forced to go back and forth between the two sections to piece together information on existing land use, affected environment, impact analysis, and proposed mitigation. In addition, much information related to land use is actually found in the Economic Impact appendix. The inclusion of land use issues in three different sections of the DEIS forces the reader to review all three sections in order to find enough information to consider whether the land use analysis is complete, whether the information is internally consistent, and then to reach conclusions as to a preferred alternative. Table 1-1 provides an opportunity to summarize land use information from the separate sections to form conclusions, but is not successful in doing so.

As a result of the deficiencies described above, the DEIS fails to adequately address many of the major land use plans and other policies for the area. Many of the essential issues and questions stated above are not discussed with sufficient depth to reach any conclusion as to a preferred alternative in the DEIS. Moreover, the DEIS fails to offer a conclusion as to whether the project proponent will implement mitigation that could reduce or eliminate the probable significant adverse impacts of the proposal. In short, the DEIS fails in its most essential purpose which is to provide a decision-maker with the necessary information to reach an informed decision.

The DEIS Land Use section should be thoroughly revised to include a detailed analysis of the proposal’s compatibility with existing and project land uses and plans, the City’s comprehensive plan and the required analysis of consistency under the GMA. RCW 36.70B.040. The DEIS land use analysis should have addressed the types of existing land use; level of development, such as units per acre or other measures of density; infrastructure, including public facilities and services needed to serve the development; and characteristics of the development, such as development standards.

Locating the arena in SoDo will induce new and competing land uses that will raise the value of land in the existing industrial district and threaten the viability of existing industrial uses.

SEPA requires that the likely adverse cumulative impacts of the proposal be considered in the DEIS. SMC 25.05.792 (3)(c). The cumulative impacts of the proposal are the “past, present, and reasonably foreseeable impacts” of the proposal. 40 C.F.R. 1508.7. Among the cumulative impacts that the DEIS should have considered, but failed to consider, are the reasonably

12. Comment noted.

13. Comment noted.

14. Comment noted. See Common Response #8 Consistency with Plans and Policies and Common Response #11 Secondary and Cumulative Impacts

15. See Common Response #11 Secondary and Cumulative Impacts

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foreseeable cumulative impacts of land use changes that locating the arena in SoDo would likely induce. The pattern of new uses raising the value of land in existing industrial districts due to projects such as the present proposal has been documented in numerous locations (Seattle Planning Commission, "Future of Seattle's Industrial Lands," 2007). Alternatives 2 and 3 will likely catalyze new commercial development and contradicts the assertion that locating the arena in SoDo is compatible with applicable plans.

Locating the arena in SoDo will induce land use changes between the proposed arena location and WSA Properties LLC's neighboring properties.

Various newspaper articles have reported on ArenaCo representative Chris Hansen's interest in an "entertainment district" near the proposed arena

Hansen outlined his vision for the area around Seattle's existing professional sports stadiums in the SoDo neighborhood, where he wants to build a professional basketball arena. "That's plenty of space," said Hansen. He said the district would go "hand in hand" with his arena plans, and he pointed out that his consultants are discussing the district with the operators of Safeco Field and CenturyLink Field. Hansen said he won't be building the entire district, but wants to help create it. "We would be very happy if other people can make some money off of it too. We just want to make sure it's done right." *Puget Sound Business Journal*, 10/16/2012.

While the DEIS speaks to ownership of other properties by ArenaCo, and notes that no development has been proposed for these properties, (p. 3.6-5), Mr. Hansen's comments show that it is reasonably foreseeable that ArenaCo purchased these neighboring properties in order to redevelop them for entertainment uses to support the arena.

The analysis should have included the nearby land holdings of WSA Properties LLC, the development of the properties listed in Exhibit RE-23 "New Construction Permits Issued" in the Economic Impact appendix (p. 122), and other projects in the vicinity that are currently undergoing permit review at the City DPD (reference Comment 11 attached). The analysis should have also included the construction permits issued or currently being processed by the City of Seattle in the areas of the alternatives including the 44,000 sq. ft. mixed-use development proposal at 2225 1st Avenue South, the 5-story office building 1526 1st Avenue South, the 15,000 sq. ft. of retail and office building at 2727 6th Avenue South and any other newly permitted projects in the immediate vicinity of any of the alternatives. The analysis should have further listed other major projects for the area including the major transportation improvements proposed for the Seattle waterfront and the regional public transportation system. With the inclusion of appropriate development proposals, the cumulative impacts would have been better analyzed. In addition, the DEIS incorrectly states the arena is "north of the industrial center," when in fact it is proposed for location within the Duwamish MIC.

Locating the arena in SoDo will induce land use changes to the Greater Duwamish MIC.

16. See Common Response #11 Secondary and Cumulative Impacts and Appendix F Economic Impact Assessment

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The DEIS also neglects to consider the likely adverse cumulative impacts for Alternatives 2 and 3, of developing another large spectator sports facility adjacent to the two existing facilities, in the industrial center. If the proposed arena is located in SoDo, land uses outside the Stadium Transition Area Overlay District (STAOD) would likely change to serve the expanding needs and more commercial character of the Stadium District. As noted already, these land uses would conflict with the Industrial-Commercial and General Industrial character of the Port and the Greater Duwamish MIC (P. 1-54).

Acknowledging the pressure of these competing land uses, the DEIS suggests that stricter land use controls could be developed to protect against the incursion of incompatible uses on industrial areas. Instead of attempting to develop new land use controls to address the problem, the DEIS should have acknowledged the inherent conflict that the proposed stadium presents with the existing industrial uses. The better approach, which would be consistent with SEPA's directives to first avoid creating probable adverse environmental impacts, would be to avoid the siting the arena in SoDo so that the pressure to introduce competing land uses is not created. Meanwhile, the land use studies called for in the City/ County/ArenaCo Memorandum of Agreement would accelerate the incursion of incompatible uses because the proposed staff recommendations of the Stadium District Land Use Advisory Committee call for allowing hotels and residential in a portion of the STAOD.

Economic Impacts

The DEIS fails to adequately identify, quantify, and evaluate the likely adverse cumulative economic impacts of the proposal.

Economic Impact Analysis - The Economic Impact Analysis does not adequately quantify and evaluate the potential negative effects on Port and marine cargo operations and business. Although insufficient for decision-making purposes, the DEIS includes a general statement regarding the Port's competitiveness, compared with other alternative west coast export/import gateways:

To the extent that higher trucking costs and reduced trucking reliability adversely affect customer and carrier perceptions, the Port's competitive position could be diminished and the threat of carrier or cargo diversion increased. While that risk cannot be reliably quantified, the realities of port competition and the importance of customer and carrier perceptions suggest that appropriate measures to minimize the adverse impacts be considered. (Appendix F, p. xxi)

There would be additional potential impacts if Port carriers perceived reliability issues in the area and shifted cargo away from the Port of Seattle or moved to another location.

(Appendix F, p. 57). Seattle and other US West Coast ports are battling for market share in an increasingly competitive global marketplace. Ports in Canada, as well as the US Gulf and East Coasts, are expanding facilities, deepening berths, and offering tax breaks and other incentives to lure Asian cargo. At the same time, the shipping industry is consolidating into a few large

17. See Common Response #11 Secondary and Cumulative Impacts

18. Comments noted. Impacts to freight mobility have been updated. See Appendix F Economic Impact Analysis

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consortiums, and building significantly larger ships which require major investments by ports in deeper berths and larger cargo-handling cranes.

To compete successfully, Seattle must continue to offer shippers low-cost, efficient service with a minimum of delays in moving cargo to and from vessels, rail yards and trucks. Increased street congestion slows cargo movement; redevelopment and gentrification can lead to loss of port-dependent warehouse and distribution operations. From direct experience, marine terminal operators have expressed substantial concern about the impact of the proposed sports arena on their operations.

Without quantification, the information in the DEIS is insufficient. No mitigation is identified, nor has any mitigation committed to in the DEIS. Additional risks related to rising industrial land values and rents, gentrification, industrial conflicts with residential uses, and impacts of operational traffic, are articulated on page xxix, and discussed in Port comments 34-41, Economics, Attachment A.

An “Implications” section relates to mitigation (Appendix. F, p. 102) of the risks raised in the Economics section. Commitments to potential mitigation actions, essential to decision-making are absent, however. For example, there are no commitments to potential mitigation measures including: (1) improved communications regarding events; (2) specific event traffic control measures; (3) specific freight vehicle and rail traffic control measures to protect freight corridor movement trucks moving; and, (4) upgrades and structural improvements for specific intersections and alternative routes. The DEIS includes minimal statements illustrating potential steps to improve an unreliable transportation system in SoDo that would result from the present proposal. These small measures lack sufficient detail and are insufficient to fully off-set and mitigate the adverse impacts associated with the new arena.

Vehicle Traffic, Freight Mobility, Rail, and Pedestrian Impacts

Locating the proposed arena in SoDo will result in probable significant adverse traffic, freight mobility, rail, and pedestrian impacts which cannot be mitigated.

In Table 1-4, Summary of Significant Unavoidable Adverse Impacts, all of Traffic Volumes, Traffic Operations and the Freight and Goods Movement sections (p. 1-57) state that traffic delays would increase on event days due to Arena event traffic. While not quantified, these impacts were determined to be a significant unavoidable impact.

The vacation of Occidental Avenue to construct the Arena presents an irreversible loss of street capacity, which will forever affect traffic movements in SoDo. Currently, in the area sandwiched between the railroad facilities, there are only two north-south streets that connect between S Lander Street and SR 519: 1st Avenue S and Occidental Avenue S. The other north-south street, Utah Avenue S, has already been vacated in the segment just north of S Lander Street. If there is an incident on 1st Avenue S north of Holgate Street, there would be no escape for traffic. Therefore, vacation of Occidental Avenue will further degrade SoDo's grid system and make the system less resilient to incidents. In addition, the transportation analysis has only

19. Comment noted.

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evaluated impacts during the PM peak hour; however, the loss of capacity would affect all hours of the day and all days of the year, whether there is an event or not.

A new arena in SoDo will increase traffic volumes and congestion. While the volumes and congestion levels may be similar to conditions that occur for events today, the arena would increase the number of days that industrial and Port traffic would be affected. Of particular concern is the potential for dual or triple events at the three sports venues, which have substantial effect on the Port (see further detail in Comment 4 below). Will the proponent agree to not allow events to be scheduled in the proposed Arena when other sport events are scheduled? How would such an agreement be memorialized and how would the City enforce it? Such a condition should be made a condition of the Master Use Permit for the proposal.

The traffic analysis evaluated the PM peak period only; it failed to evaluate other periods, including the post-event egress period from the arena. Other critical potential traffic effects, which are essential to a thorough DEIS evaluation include: (1) effect of recirculating vehicles as motorists look for parking in a crowded system; (2) assumptions for traffic effects resulting from signal optimization (a mitigation measure requiring particular funding commitments); (3) potential for increased traffic on streets due to traffic diversion from a tolled SR99 bored tunnel; and, (4) lengthened freight travel times due to police officer traffic control of stopping pedestrian crossings, or un-managed pedestrian flows blocking intersection turning movements. As traffic volumes grow at the Port, the ability to accommodate increases in container throughput using existing marine terminal facilities may depend on extending hours of operations (i.e., extending gate operations and site access hours). The EIS does not analyze impacts of Arena traffic egress on extended port operational hours, particularly evening hours of operation as a non-structural means of deriving increased value from existing marine cargo infrastructure. The EIS does not provide mitigation for the potential that demand for Arena parking could impact SoDo overnight truck parking (ref p. 1-30).

The DEIS fails to describe impacts to the rail system from loss of rail storage area, risk of system shut down in the case of a train/pedestrian accident, and a potential for restrictions on transport of hazardous materials (reference Attachment A, comments 25-28). The availability and reliability of rail transportation is a critical link in marine export/import and industrial logistics supply chains. The DEIS should have identified, appropriate mitigation, if such mitigation can be developed.

Alternatives

The DEIS is inadequate because it erroneously considered the arena as a private, rather than a public, project.

The SEPA rules provide

When the proposal involves both private and public activities, it shall be characterized as either a private or a public project for the purposes of lead agency designation, depending upon whether the primary sponsor or initiator of the project is an agency or from the

20. Existing traffic use of Occidental Avenue S has been documented and an analysis of potential impacts included in Section 3.8 Transportation and in Appendix E.
- 20 Cont. 21. Traffic impacts have been documented in Section 3.8 and in Appendix E. The evaluation of the proposed Arena does not assume that venues would be able to reschedule events. Instead three event cases are evaluated for each Action Alternative including an Arena event only (Case S1), an Arena event and another sporting event (Case S2 - Arena and Mariners game), and an Arena event, Mariners game, and Event Center event (Case S3) (see Appendix E, Section 1.3.1.4). Given the potential variability in attendance and capacity of nearby facilities, the FEIS analysis provides a revised Case S3 to reflect a combined attendance of 72,500. This analysis has been updated throughout the report addressing all transportation elements previously evaluated in the DEIS. The results are similar to the previous Case S3 evaluation, as a relatively minor increase in peak hour trip generation is anticipated.
22. The FEIS also includes an expanded analysis of the post-event conditions (see Appendix E, Section 2.6.4.5). The FEIS includes an evaluation of the AM and mid-day peak hours for purposes of the no-street vacation alternative (Appendix E, Section 2.10).
- With respect to overnight truck parking, additional field observations were conducted in the immediate vicinity of the Arena and determined that only one truck was observed to be parked overnight. Overnight truck use varies depending on the level of Port or event activity. Most events typically end by 11 p.m. and overnight parking is likely to be available after this time.
- The forecast traffic volumes were based on the Alaskan Way Viaduct EIS. This considers future development in the study area consistent with land use plans and shifts in travel patterns related to major transportation improvements.
23. The Arena project will not affect rail storage. Mitigation has been proposed for pedestrian access to avoid pedestrian use of Holgate Avenue S before and after events.
24. See Common Response #1 Public vs Private Project; Range of Alternatives.

private sector. Any project in which agency and private interests are too intertwined to make this characterization shall be considered a public project. WAC 197-11-928.

The proposed arena is a public project because the public will provide financing in the amount of \$200 million to acquire the arena after it is constructed, because the City and County will lease the arena back to ArenaCo and because of the diversion of \$200 million from the city's tax base to repay bonds.

The distinction between private and public proposals is important because SEPA rules create different responsibilities for agencies depending upon whether the proposal is private or public. If private, the lead agency must consider the "no action" alternative and other reasonable alternatives. See WAC 197-11-440(5)(d). For this DEIS, the City has confined its consideration of alternatives to the ArenaCo property in SoDo, the Key Arena, and Memorial Stadium.

For public proposals, lead agencies are responsible for considering the reasonable off-site alternatives to the proposal. "Reasonable alternatives" are those actions capable of attaining or approximating the proposal's objectives but at a lower environmental cost or decreased level of environmental degradation. WAC 197-11-440(5)(b) and 786. As a consequence of the City erroneously identifying the proposal as a private proposal, the City failed to consider any alternative sites outside the City of Seattle, even though King County is a party to the MOU.

The DEIS fails to adequately analyze the alternatives to locating the arena in SoDo.

Moreover, the alternative sites selected within the City of Seattle were unrealistic and poorly analyzed. The "process for identifying and screening the locations for comparative environmental analysis" in Appendix A of the DEIS confined the criteria for identifying and screening alternative sites to the size of the site area (6 acres), the adequacy of the facility size (seating capacity and floor plate size), and the applicable zoning. Appendix A at A-1. Then, the DEIS analyzed the "impacts of relocation or repurposing," access to mass transit, and final screening. This narrow approach failed to analyze the possible alternatives in light of the probable adverse significant impacts as required by WAC 197-11-440(6)(a). This meant that the probable significant adverse environmental impacts of the proposed arena upon the Port's maritime industrial uses in the SoDo area were largely ignored by the City in its consideration of alternative sites. This approach further led to the consideration of such unrealistic sites as the newly constructed Bill and Melinda Gates Foundation Building, the Mariners stadium, and the Port of Seattle grain terminal property at Terminal 86

In addition, the concept that Key Arena could work as a hockey venue is lightly discarded because "...the floor plate is not large enough..." The document provides no official citation, analysis or reference for concluding that the Key Arena could not be remodeled to accommodate the NHL rink size and attendance standards; it simply states that it would be precluded. If there is adequate information to make such a conclusion, then it should be added to this analysis or cited so that the reader understands the evidence for the statement. One key source may be the Key Arena Subcommittee Final Report. The Report should be referenced in the EIS and analyzed to gain information from the extensive analysis that was accomplished on the proposals to remodel Key Arena and their report findings should be included in this DEIS analysis.

25. See Common Response #2 Project Objectives. Between 2004 and 2008, Seattle Center studied how the KeyArena could be remodeled to meet current NBA standards. There have been diverse opinions by various NBA ownership groups as to whether this study, "NewArena Imagine the Future" (SRG Partnership Inc and Threesixty Architecture, January 2008) successfully met current NBA building standards. Because the current basketball seating bowl was to be retained, the enhanced KeyArena described in the 2008 study did not meet NHL standards.

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There is also no clear distinction between the differences and purposes of Alternatives 2 and 3. How were the impacts different in any significant way? These two alternatives are essentially the same. The comparison of alternatives is generally insufficient and fails to meet the standard established by SEPA rules (see WAC 197-11-440(5)). Even if the contention is accepted that this is a “private” proposal, there is not adequate evaluation of other reasonable alternatives for achieving the proposal’s objectives at the same site (WAC 197-11-44-(5)(d)).

The DEIS analysis of the Seattle Center site alternatives is inadequate and biased since it applies different assumptions for the Seattle Center site alternatives than it applies for the SoDo sites.

These different assumptions include

- Primary parking area assumed for the Seattle Center is substantially smaller than assumed for the SoDo site resulting in a conclusion that makes the impact for Seattle Center seem worse than SoDo.
- Future parking supply increases in the Seattle Center neighborhood are not included in the analysis but are included for SoDo site, again making the parking impact at the Seattle Center seem worse than SoDo.
- Denny Way is described as a barrier to walking near the Seattle Center sites by virtue of its two-way traffic and high traffic volume. That same analogy is **not** applied to the many busy arterials in SoDo, including SR 519, 1st Avenue S, 4th Avenue S, S Lander Street and others, nor is crossing the railroad tracks listed as a barrier.
- Transit services are excluded from the Seattle Center sites analysis as being too distant, including light rail at Westlake Center. Yet, Westlake Center is nearly as close to the Seattle Center as the International District station is to the SoDo site (about 5200 feet vs. about 5000 feet); and
- The number of events that could occur at the SoDo site could be limited by event management requirements imposed as a result of proximity to Safeco Field and CenturyLink Field; limitations would not likely be as restrictive for the Seattle Center option and the Pro Forma analysis should consider the differences in Arena revenue if such restrictions are imposed at the SoDo site.

Unmitigated Significant Adverse Traffic Impacts

The proposed mitigation in the DEIS for pedestrian impacts at the S Holgate Street railroad crossings is inadequate and significantly increased safety risks.

If the City of Seattle chooses to approve the SoDo location for the arena after reviewing the environmental documents, then the proponent must be required to implement extensive mitigation to lessen some of the impacts. Since necessary mitigation actions are not adequately identified and specific implementation commitments are absent, decision makers cannot reach conclusions regarding mitigation given the current level of analysis provided.

The EIS summary text on page 1-47 states that “*Increased active traffic and pedestrian management during pre-and post-event conditions to assist in helping pedestrians navigate the*

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26. The difference between Alternatives 2 and 3 is the number of seats to be included in the Arena, with different traffic impacts. The applicant, ArenaCo, has proposed an Arena to be located in SoDo. There are no proposals for a new arena to be located at Seattle Center. However, the size of facilities and uses considered at both sites are the same.

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27. Seattle Center parking analysis in the FEIS has been updated to reflect revised primary and expanded study area boundaries (described in Appendix E Section 3.8.1.1 and included throughout Appendix E Section 3.8). These revised boundaries are consistent with the walking distances presented for the Stadium District and reflect the Uptown, Uptown Triangle, Denny Triangle, Belltown and South Lake Union neighborhoods as the primary study area and the CBD as the expanded study area.

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28. The SoDo site would require either new parking or agreements within existing parking facilities to meet Land Use Code requirements.

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30. The analysis of traffic impacts for the Seattle Center sites includes the use of available transit.

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31. Comment noted.

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32. See Common Response #7 Mitigation Measures – Pedestrian Access.

many railroad crossing points along with enhance surface management of railroad crossing through the implementation of additional crossing gates for pedestrians together with the development of wider sidewalks to accommodate surges in pedestrian demands before and after events and the associated pedestrian queuing.” However on page 1-34 of that same summary the text stated, “The S. Holgate Street corridor has multiple at-grade rail crossings closely spaced in the immediate vicinity of the site and pedestrian gates may not be feasible or appropriate.” The potential surges in post-event pedestrian flows as well as the number of train crossings and potential blockage times have been substantially underestimated (see detail in attached comments). Therefore, the potential safety implications have also been understated.

In addition to the potential tragedy that can occur with conflicts between pedestrians and railroad equipment, increased, un-managed pedestrian traffic can result in substantial adverse impacts to existing rail operations and result in future rail operational changes, including limitations in use, reduction in rail marshaling area, and potential costly future rail line and rail crossing improvements. BNSF, Amtrak and Sound Transit rail equipment crosses Holgate Street round the clock. Just one pedestrian accident at any of the many railroad crossings would create a significant disruption to freight and passenger rail services along what is the state’s primary rail corridor. Stopping or delaying freight operations on this corridor to deal with an accident would affect Port operations. If the Arena project intends to rely on parking supply and transit services located east of the railroad tracks, but does not commit to constructing a pedestrian bridge at Holgate Street, significant adverse impacts to pedestrian safety and rail operations would likely occur. Such significant adverse impacts would increase the potential likelihood that the BNSF Railway and/or Amtrak move to close Holgate Street to all crossing traffic, a scenario that would have further significant adverse impacts to overall traffic circulation in the neighborhood. For these reasons, the pedestrian bridge must be included as a mitigation measure, not as an option to be “considered.”

Additional dual event scenarios created by the proposed arena are unacceptable significant adverse environmental impacts; an event management strategy must be adopted to prevent these risks.

The transportation section evaluated various combinations of event cases, and implies that those cases are similar to the large events that already occur at CenturyLink Field. The largest events that now occur at CenturyLink typically occur on a Sunday and have limited effect on the Port. When a large event does occur on a weeknight, such as a Monday Night Football game or a large soccer match, it severely disrupts Port operations beginning with disruptions of freight traffic by midday. With the expectation that over 120 events per year at the new Arena could have 10,000 or more attendees, there would be many more weeknights each year that experience dual events. The Port is also already substantially affected by daytime events, which is why the Mariners are limited to the number of day games that can occur per year.

The Port understands the logistical difficulties of managing events at multiple arenas. The Mariners for example have no control related to their daily game schedule. Yet the basketball and hockey schedules would be set before baseball. An event management agreement must include sufficient detail and commitments for implementation. Key elements of an event management agreement include:

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- 33.** The evaluation of the proposed Arena does not assume that venues would be able to reschedule events. Instead three event cases are evaluated for each Action Alternative including an Arena event only (Case S1), an Arena event and another sporting event (Case S2 - Arena and Mariners game), and an Arena event, Mariners game, and Event Center event (Case S3) (see Appendix E, Section 1.3.1.4). Given the potential variability in attendance and capacity of nearby facilities, the FEIS analysis provides a revised Case S3 to reflect a combined attendance of 72,500. This analysis has been updated throughout the report addressing all transportation elements previously evaluated in the DEIS. The results are similar to the previous Case S3 evaluation, as a relatively minor increase in peak hour trip generation is anticipated.

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- a) Seek to reschedule to a different day large (14,000 or more attendees) weeknight events at the Seattle Arena when they would otherwise occur concurrent with a major league sporting or concert event at either of the other two stadiums,
- b) If rescheduling to a different day is not possible, then the event start time at the new Arena must be changed to begin at least one hour later in the evening than the other concurrent event, and
- c) Under no circumstances shall the scheduling conflict be resolved by changing the start time of one or more events to occur before 4:00 P.M. on a weekday because of the impact on freight traffic.

Addressing the inadequate sidewalk on 1st Avenue S between S Atlantic Street and S Massachusetts Street could substantially affect traffic operations of the 1st Avenue S/S Atlantic Street intersection.

The EIS determined that the existing sidewalk on 1st Avenue between S Atlantic Street and S Massachusetts Street would experience “severely restricted” operations with just an event at the Arena. As with the S Holgate Street crossing, we believe that the peak pedestrian flows used to reach this conclusion were likely underestimated.

The existing sidewalk on the east side of 1st Avenue S between S Massachusetts Street and S Atlantic Street already extends to the property line, and near the intersection with S Atlantic Street narrows to as little as 6-feet due to the adjacent northbound right-turn-only lane. Unless the project were to acquire the adjacent property and demolish existing buildings, it is not likely possible to widen that sidewalk without taking some of the street width now dedicated to traffic flow. Loss of a right turn lane to Atlantic Street to accommodate a wider sidewalk is unacceptable to the Port and would exacerbate already poor traffic operations through our key regional access point. The DEIS does not adequately evaluate pedestrian circulation and associated effects on vehicle movement in the area. In particular, the effect of peak egressing pedestrian volumes, combined with other events in the 1st Avenue S area must be evaluated. It is essential that single and combined pedestrian volumes do not lead to proposed foot-traffic improvements that create a permanent loss of traffic capacity due to the loss of traffic lanes on 1st Avenue S.

Examples of appropriate mitigation if the SoDo site is pursued despite insufficient analysis of probable adverse traffic impacts in the DEIS.

- A. Comments 25-30, attached, reflect Transportation Mitigation that must be included. Comments 8-9, attached, reflect mitigation related to Land Use. Additionally, the Economic Impact Analysis suggests a series of ideas to improve the perception of reliability of transportation operations: improved communications regarding events and traffic control measure, traffic control measures to keep trucks moving, and selected upgrades to impacted intersections or alternate routes (appendix. F, p. 102). These mitigation commitments should be added to Table 1.2, Mitigation.
- B. Attachment D provides a table (prepared in advance of the DEIS) of recommended Performance Measures to evaluate concerns, and Potential Mitigation if the performance demonstrated in the transportation analysis is not acceptable.

34. SDOT is in the process of developing a streetscape plan for this section of 1st Avenue S which would provide for wider sidewalks similar to those that exist adjacent to Safeco Field.

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35. See responses below to Port of Seattle Attachments.

36. Comment noted. See response to Attachment D below.

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- C. To comply with the MOU's requirement to assess the economic impacts, the EIS should disclose the total cost of all mitigation, and provide a comparison among the alternatives. This analysis should detail who is responsible for cost, and whether the commitment would be for the full cost or a share of the cost. In addition, any reduction in revenue associated with event scheduling restrictions that would limit the number of events should also be disclosed.

Conclusion

The Port of Seattle remains opposed to locating the Seattle Arena in the SoDo neighborhood, and after review of the Seattle Arena DEIS, finds that it is incompatible with prior policies established to protect Seattle's port and industrial facilities. Thus, even with mitigation, the change in land use and the further gentrification of the area associated with this project cannot be mitigated and will have long-term consequences on the operation of the Port and supporting facilities such as the rail yards and warehouse/cross-dock facilities. Alternative sites were not fully evaluated which would avoid impacts to this industrial area, leaving too many unanswered questions about the project, its impact to the Port of Seattle, and the economic activity that the Port supports. Our final overarching concern is the lack of definition and commitment to the long list of "potential" mitigation measures for the project.

As they review this proposal, Seattle and King County elected leadership will be faced with important choices about whether they will strengthen or undermine the port and industrial community that on a citywide basis account for \$5 billion in annual sales and one-third of the city's retail tax revenue, and which has been the basis for our economic success for generations. We believe the choice that best meets the long-term economic needs of our community is to protect and constantly re-invest in and improve maritime and industrial activities and to follow policies that will preserve harbor access for those uses that cannot exist elsewhere. City and regional decision makers must receive objective, detailed and comprehensive analysis of project effects and outcomes through the EIS. The Draft EIS falls far short in providing regional decision makers with the critical information they need to make wise judgments about this project.

Thank you for the opportunity to provide input into the DEIS. We would be happy to work with your staff in development of the Final EIS process, in particular with regard to our comments above. Please do not hesitate to call Geri Poor at (206) 787 3778 or Joseph Gellings at (206) 787 3368 if you need any further information.

Sincerely,



Geraldine H. Poor
Regional Transportation Manager

37. See Common Response #5 Mitigation Measures.

38. Comments noted.

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Attachments:

- Attachment A: Port of Seattle's Matrix of Comments on Arena Draft EIS, 9/30/13
- Attachment B: Port of Seattle Commission letter, Comments on the Draft EIS for
Proposed Seattle Arena, 9/30/13
- Attachment C: Regional Transportation Hub, 9/10/13
- Attachment D: Transportation Analysis Needs for New Arena EIS, 8/7/12

cc: City of Seattle: Sugimura, Foster, Hauger
Port of Seattle: Beckett, Styrk, Graves, Akiyama, Goodwin, Jones Stebbins, Merritt,
Meyer, Blomberg, Gellings, Hanson, Gedlund, Guthrie, Wolf

Port of Seattle’s Matrix of Comments on Arena Draft EIS (9/30/13)

Page numbers are for reference only and the comment may apply to more than one location in the DEIS. If the comment applies to information in multiple locations, such as in the DEIS and the Technical Appendix, it should be corrected in all applicable locations.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
APPLICATION OF SEPA RULES			
1	Throughout	<p>Public vs. private project – The DEIS erroneously identifies the arena as a private rather than a public project. The SEPA rules provide:</p> <p>When the proposal involves both private and public activities, it shall be characterized as either a private or a public project for the purposes of lead agency designation, depending upon whether the primary sponsor or initiator of the project is an agency or from the private sector. Any project in which agency and private interests are too intertwined to make this characterization shall be considered a public project.</p> <p>WAC 197-11-928.</p> <p>The City and County have already contracted with the proponent, ArenaCo, to contribute significant public financing in the amount of \$200 million to acquire the arena after it is constructed. Then, the City and County will lease the arena back to ArenaCo. Interlocal Agreement, arena development, financing, acquisition, and operation (ILA), paragraph 5(b) and (c), dated October 8, 2012. The Memorandum of Understanding (MOU) between the City, the County and WSA Properties III (ArenaCo) also sets forth the business terms and conditions for the City-County financing structure for the proposed arena. See MOU, Seattle Sports and Entertainment Facility, paragraph 10, dated October 8, 2012. Because the City and County have already contracted with ArenaCo to provide significant public financing to purchase this arena, the City has erred in characterizing the arena proposal as a private proposal. The significant roles played by the City and County in financing this project also makes their interests “too intertwined” under the SEPA rules to fairly characterize the project as a private project.</p>	The project must be characterized and treated as a public project in the application of SEPA.
2	Throughout	<p>Improper consideration of alternatives - The distinction between private and public proposals is important because the SEPA rules create different</p>	The EIS must consider reasonable off-site alternatives

- 39. See Common Response #1 Public vs Private Project; Range of Alternatives
- 40. See Common Response #1 Public vs Private Project; Range of Alternatives.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
3	Throughout	<p>responsibilities for agencies depending upon whether the proposal is private or public. If the proposal is private, the lead agency must consider the “no action” alternative and other reasonable alternatives. See WAC 197-11-440(5)(d). For this DEIS, the City has confined its consideration of alternatives to the ArenaCo property in SoDo, the Key Arena, and Memorial Stadium.</p> <p>For public proposals, lead agencies are responsible for considering the reasonable off-site alternatives to the proposal. Weyerhaeuser v. Pierce County, supra. “Reasonable alternatives” are those actions capable of attaining or approximating the proposal’s objectives but at a lower environmental cost or decreased level of environmental degradation. WAC 197-11-440(5)(b) and .786. As a consequence of the City erroneously identifying the proposal as private proposal, the City failed to consider any alternative sites outside the City of Seattle.</p> <p>Here, the DEIS failed to consider any off-site alternatives outside the City of Seattle, even though King County is a party to the MOU. Because the proposed arena is a public proposal, the DEIS should have considered off-site alternatives located outside the City of Seattle. Since King County is a party to the MOU, it would have been appropriate and reasonable for the City to evaluate alternatives in King County. As a party to the MOU and ILA, King County could have assisted the City with evaluating appropriate off-site alternatives.</p> <p>Moreover, the alternative sites selected within the City of Seattle were unrealistic and poorly analyzed. The “process for identifying and screening the locations for comparative environmental analysis” in appendix A of the DEIS confined the criteria for identifying and screening alternative sites to the size of the site area (6 acres), the adequacy of the facility size (seating capacity, floor plate size), and the applicable zoning. Appx A at A-1. Then, the DEIS analyzed the “impacts of relocation or repurposing,” access to mass transit, and final screening. This narrow approach failed to analyze the possible alternatives in light of the probable adverse significant impacts as required by WAC 197-11-440(6)(e). This meant that the probable significant adverse environmental impacts of the proposed arena upon the Port’s</p>	<p>to the proposal, including alternatives outside the City of Seattle.</p>
			<p>In the screening of alternative sites, the EIS must evaluate the compatibility of the nearby uses and other adverse environmental impacts of the proposed arena on neighboring uses.</p>

41. See Common Response #1 Public vs Private Project; Range of Alternatives.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
4	Throughout	<p>maritime industrial uses in the SoDo area were largely ignored by the City in its consideration of alternative sites. This approach further led to the consideration of such unrealistic sites as the newly constructed Bill and Melinda Gates Foundation Building, the Mariners stadium, and the Port of Seattle grain terminal property at Terminal 86.</p> <p>After dismissing these unsuitable sites, the DEIS narrowed the options to Key Arena, Memorial Stadium, and the ArenaCo site in SoDo. Although the DEIS purported to examine the compatibility of these sites, its approach was crabbled because it focused primarily on height and bulk of the neighboring structures instead of the compatibility of the nearby uses and other adverse environmental impacts of the proposed arena on neighboring uses. Appendix A, A-7 and A-8. Again, the City ignored the elements of the environment as a means of analysis and erroneously concluded that the ArenaCo site in SoDo was the best alternative.</p> <p>The City Department of Planning and Development requires that the EIS contain a "No Vacation" alternative. The only analysis for a "No Vacation" alternative is in the EIS in a portion of the Transportation section for the analysis of the No Action Alternative. The proponent will need to provide a copy of the Draft and Final EIS with vacation/no vacation alternatives analyzed for all elements of the environment – not just a portion of the transportation analysis. The EIS is not in compliance with Seattle Municipal Code without a "No Vacation" alternative.</p>	<p>Provide a "No Vacation" alternative for the EIS as an additional alternative with a full analysis of the existing conditions, identification of potential impacts and identify mitigation as appropriate.</p>
5	Throughout	<p>The EIS does not make use of the EIS's that were prepared for the CenturyLink football stadium and the Safeco Field baseball stadium to allow the environmental review to build off of the existing impacts and mitigation analyzed and provided for these two major sports facilities in the area. Analysis of whether the calculations and analysis were accurate as to real conditions would provide a good context to formulate appropriate mitigation commitments for the size of a proposed large sports facility.</p>	<p>Refer to the <i>Washington State Major League Baseball Stadium Project DEIS and FEIS</i> and the <i>Football / Soccer Stadium and Exhibition Center DEIS and FEIS, 1998</i>. Review the mitigation measures associated with impacts similar to those that will be created by the proposed arena. Commit to equal or higher mitigation levels for equal or higher adverse impacts</p>

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- 42. The ‘no vacation’ alternative is a consideration for the City in reviewing the street vacation proposal. Information concerning the traffic impacts of vacating a portion of Occidental Avenue S is included in this EIS.
- 43. Comment noted. New analysis has been prepared for this EIS.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
6	EIS Summary Section 1	Summary is so general that it does not accurately portray the information and analysis provided by the DEIS. Most of the section is a description of the proposal, rather than an analysis of impacts and mitigation. The tables are acceptable, but in many cases, especially related to required mitigation measures, and to secondary and cumulative impacts, there is no clear relationship to the analysis in the text. The document would be greatly improved if all of the tables in Section 1 included a reference to the DEIS section on which they are based, since there is not necessarily a corresponding analysis and conclusion within the body of the text.	from the arena. Provide correlation between Section 1 and corresponding reference in the body of the DEIS.
LAND USE			
7	Page 3.6-1	3.6.1.1 The DEIS states in the Existing Land Use section that "The Seattle Comprehensive Plan 2004-2024 job target for the Greater Duwamish is to add new 9,750 jobs." However, there is no correlating statement in the Impacts section to show how Alternative 2 or 3 would impact that job target either in a positive or negative way.	Provide information in the Impacts section that shows how Alternatives 2 or 3 would impact the Comprehensive Plan job target for the Duwamish.
8	Page 3.6-1	3.6.1.1 The DEIS states in the Existing Land Use section that "The primary employer is the Port of Seattle. Port-related businesses also account for a substantial number of jobs.....Port and industrial-related job growth is the goal for development in this area." However, there is no correlating statement in the Impacts section to show how Alternative 2 or 3 would impact Port-related businesses.	Provide information in the Impacts section that shows how Alternative 2 or 3 would impact Port-related businesses.
9	Page 3.6-4	3.6.1.3 The DEIS states "Land use impacts of the street closure are minimal since the uses related to that street would be demolished in construction of the Proposed Project or Alternative 3." Wouldn't the impact be the complete loss of the existing uses since they would not be demolished but for the Alternative 2 or 3?	Provide information on why the description of the impacts as "minimal" is appropriate given there would be a complete loss of the existing uses.
10	Page 3.6-5	Alternative 2 and 3's location relative to the port and the traffic network creates a direct impact on the viability of the port through deteriorated access to port terminals caused by arena traffic and the vacation of Occidental Avenue. Traffic becomes a land use issue when a zone allowing commercial uses with significant traffic generation surrounds an industrial zone. This must be mentioned here.	Provide information on how allowing commercial uses with significant traffic generation will impact the industrial zone.

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- 44. The summary tables in Section 1 of the EIS are organized by element of the environment, and labeled by element of the environment, in the same order that the elements of the environment are presented in Section 3 Environmental Analysis. The summaries of potential mitigation measures and secondary and cumulative impacts come from the discussion included within each element of the environment. For example, potential mitigation measures summarized for geology at the SoDo site in Summary Table 1-2 come from Section 3.1 Geology. See Subsection 3.1.1.4 Mitigation Measures under Section 3.1.1 Stadium District Alternatives – Alternatives 2 and 3 in Section 3.1 Geology.
- 45. See Appendix F Economic Impact Analysis.
- 46. See Appendix F Economic Impact Analysis.
- 47. Uses north of Massachusetts St would remain.
- 48. See Transportation Analysis included in Section 3.8 of the FEIS, Appendix E Transportation and updated truck impact analysis included at the beginning of Appendix F Economic Impact Analysis.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
11	Page 3.6-5	This is a good discussion of the efforts to reconcile the conflicting land use goals of industry protection and meeting the needs of stadium users. However the listed actions are all things that occurred in the past and are part of Existing Conditions and therefore this discussion does not belong in the Mitigation section. After moving the discussion, a new item should be added: the 2007 Industrial Lands ordinance (which significantly limited the amount of commercial development allowed in industrial zones).	Move the information on listed actions that have already occurred to Affected Environment or Existing Conditions and only list actions that are mitigation for impacts in the Mitigation section. Add the 2007 Industrial Lands Ordinance to the list of Existing Conditions.
12	Page 3.6-5	The Mitigation items listed are past actions and should be listed as part of Existing Conditions. The Mitigation section should identify future actions necessary to mitigate for impacts from Alternatives 2 and 3.	Based on the commercial- industrial land use conflicts mitigation must include 1) limitations on concurrent events in the three spectator sports facilities, 2) restrictions on daytime events, and 3) land use code changes that will mitigate the arena's role in catalyzing more commercial development in and near the Duwamish MIC.
13	Page 3.6-5	The stifling effect of increased property values in an industrial district is well established. This is an impact caused by Alternatives 2 and 3. Their role in catalyzing further commercial development that must be mentioned here.	Discuss how Alternatives 2 and 3 impact further commercial development in the area.
14	Page 3.6-5, Section 3.6.1.5	The DEIS states "ArenaCo owns additional properties within and outside the Stadium Transition Overlay District. No development has been proposed for those properties, however development of the Proposed Project or Alternative 3 could induce the redevelopment of those properties for commercial uses designed to support the Proposed Arena or stadiums. New development would be subject to a site specific evaluation under SEPA and Land Use Code development and use regulations." Although there may not be specific plans ready for potential development of the properties, there should be an analysis of the conceptual uses of the properties and potential impacts and required mitigation. In addition, there is no mention of	Provide a cumulative impacts analysis that includes the potential development of additional ArenaCo properties within and outside the Stadium Transition Overlay District, all permitted projects in the vicinity awaiting construction and projects that are pending permits from the City.

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49. Comment noted.

50. Comment noted.

51. See Appendix F Economic Impact Analysis.

52. The potential impacts from the Arena are primarily related to traffic and transportation impacts. The traffic and transportation analysis (Section 3.8 of the FEIS and Appendix E) include the estimated transportation impacts of known and anticipated development.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
15	3.6-6	ongoing development in the area surrounding the proposed project site. There should be a cumulative impacts analysis that includes all projects in the vicinity that are currently undergoing permit review at the City DPD. The undermining of the port-related businesses and other industrial base near Alternatives 2 and 3 are in conflict with adopted Comprehensive Plan growth targets for such jobs is a significant unavoidable adverse land use impact that must be mentioned here.	Provide information discussing the impacts to port-related and other industrial base business job targets listed in the Comprehensive Plan from Alternatives 2 and 3.
16	3.8-115	The EIS's comparisons to a 940,000 sf hypothetical development are flawed in that the development concept does not comply with use or dimensional code standards. It exceeds the 3.0 FAR limit for the Stadium Transition Area Overlay District (STAOD). Here the EIS is referencing the development concept put forward by the applicant in the Design Review Board materials for the Street Vacation Petition. That document, dated 3/12/13, on page 13 describes the development as retail, office, and residential. Residential is not allowed categorically in the STAOD.	Please make the correction to the square footage and re-analyze impacts in the DEIS based on the correct figure.
17	3.10-1	Placing so much discussion of land use in the Regulatory Framework section instead of the Land Use section is confusing and impacts the document's readability.	Combine the information from Regulatory Framework section into Land Use section.
18	3.10-3	Per above comment the broader discussion may need to be moved back to the Land Use Section but the reference to the MOU-mandated land use studies must be augmented with information on the emerging conclusions of those studies. In particular the study has led to a preliminary recommendation to allow hotels throughout the STAOD and residential in a portion of the STAOD which creates new impacts that must be mentioned.	Provide information on the conclusions of the MOU-mandated land use studies. Provide specific information on impacts that may result from allowing hotels throughout the STAOD and residential in a portion of the STAOD.
19	3.10-3	The statement is made that Comprehensive Plan policies "...have no application to the Proposed Project..." based on spectator sports facilities being an allowed use in the Stadium Transition Area Overlay District. By law, the Comprehensive Plan forms the basis for development regulations. The fact that a use is allowed does not preclude environmental analysis of projects incorporating the use and reviewing Comprehensive Plan policies is a valid means of identifying impacts. Comp Plan Goal LUG-24 is salient and	Provide environmental analysis of impacts on surrounding land use from Alternatives 2 and 3 in relationship to the goals of the Comprehensive Plan.

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53. See Appendix F Economic Impact Analysis.

54. FEIS analysis for the no-vacation option was revised to reflect a building potential of up to 750,000 sf office and 60,000 sf of retail space (see Section 2.10 of Appendix E). Development assumptions for the no vacation option were provided by the applicant.

55. Comment noted.

56. See Common Response #8 Consistency with Plans and Policies..

57. See Common Response #8 Consistency with Plans and Policies.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
20	Page 2-3, Section 2.3.1 zoning, paragraph 2	should be mentioned here. "The applicant is not proposing to build new attendee parking but instead to share existing parking with other facilities." Per SMC 23.74.008, footnote 1. "Parking required for a spectator sports facility or exhibition hall is allowed and shall be permitted to be used for general parking purposes or shared with another such facility to meet its required parking." This section does not eliminate the need to provide required stadium-associated parking.	The DEIS narrative should include what parking would be required both by code and to meet the anticipated facility needs. It should further assess whether existing facilities are adequate or additional parking is needed, and whether there would be adverse impacts which can be avoided or mitigated by the proponent.
21	Page 3.6-1, Section 3.6.1.1. Entire section	The DEIS text does not include a complete and accurate description of the existing environment related to the land use elements, nor does it provide a thorough analysis of how the proposal would comply with existing land use plans and to estimated population, growth, and other critical factors. No mention is made, nor is analysis provided of multiple Port and City land use and comprehensive plans and policies that would protect the industrial uses in the area. The analysis is selective in citing only those policies that could be interpreted to support a third arena within the overlay district, when a third arena was never part of the planning discussions. The proposal is inconsistent with the following: <ul style="list-style-type: none"> Land Use Element: LUG24, LUG 26, LUG27, LUG28, LU 140, LU148, LU160, LU161, and LU169. Container Port Element: CP1, CP2, CP3, CP4, CP5, CP6, CP7, CP8, CP9, CP10, CP11, CP12, and CP14. 	Include a thorough and comprehensive narrative and analysis of existing land use plans. Include analysis of consistency with port development and transportation plans, all sections of the City comprehensive plan that apply to the site, and how the proposal fits with GMA mandated goals for preservation of industrial uses and job sectors. The analysis fails to comply with requirements of the SEPA rules; see WAC 197-11-440(6)(d)(i).
22	Page 3.6-1, Section 3.6.1.1., paragraph 4	"There has been an annual decline in covered employment...since the high of 67,728 in 2008. This section implies that declines in employment since 2008 are part of a normal natural trend, when this decline is more likely attributed to the recession which followed 2008.	Revise this section to include longer trends, and current trends related to port-related businesses.
23	Page 3.6-4, Section 3.6.1.3, paragraph 1	"No land use impacts during construction are anticipated..." What is the basis for this conclusion? There is no analysis provided. With an estimated two year construction period, and potential associate disruptions, there is a	Provide a factual or analytical basis for the conclusion.

September 30, 2013

Page 7 of 29

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58. The FEIS presents the demand based analysis for SEPA purposes (see Appendix E Section 2.8). Code required parking will be determined during the MUP review. It is anticipated that code-required parking would be met through provision of approximately 100 parking spaces on-site as well as either shared parking agreements with existing parking facilities or construction of a new parking garage on the South Warehouse site (see evaluation in Appendix E Section 2.12). The parking demand analysis has been updated to reflect the revised Case S3 (72,500 attendees) as well as a sensitivity analysis for Case S1 without the use of the Safeco Field and CenturyLink Field parking facilities (see Appendix E Section 2.8). The evaluation shows that Arena parking could be accommodated in the study area; however, as event attendance increases or parking supply decreases, it would become more difficult to find parking in the area and the reliance on parking further from the site would increase.
59. See Common Response #8 Consistency with Plans and Policies.
60. Comment noted.
61. Construction impacts are acknowledged and described in the FEIS. The land uses would not change.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
24	Page 3.6.4, Section 3.6.1.3, paragraph 4	potential for existing businesses and uses to be affected. “Land use impacts of the street closure are minimal since the uses related to that street would be demolished...” The Port does not agree with this statement regarding Occidental Avenue, since the street closure will have significant transportation impacts on the entire industrial area. See transportation comments.	Provide discussion/analysis of impacts (direct, long term, cumulative) to land uses in the surrounding area due to elimination of this key corridor.
25	Page 3.6-5, Section 3.6.1.4 and 3.6.1.5. Entire section	The listed measures are not mitigation but existing and applicable land use policies. No mitigation measures have been identified related to the impacts of the current proposal. While it is acknowledged here that ArenaCo “...owns additional properties within and outside the Stadium district, the cumulative impacts of such likely development is unspecified and mitigation measures are not identified. The Port does not agree that the contemplated future uses would be considered as providing support services for industrial and maritime businesses in the area. In fact, these businesses will be negatively impacted by the proposal and analysis of these impacts is missing here.	Identify / provide a commitment to funding & implementation of adequate mitigation of the identified impacts, which include a significant conversion of industrial uses to commercial, retail & mixed use development. This analysis fails to comply with the requirements of SEPA rules, WAC 197-11-440(6)(a), (d) & (e).
26	Fact Sheet page iii, Proposed Action	The proposed action description is remiss in excluding the fact that the proposal proposes 60-65 additional events (that may be non-sport related).	The description of the proposed action should clearly state that the purpose of the arena is not just for a sports facility but also for other events and provide some description of the types of events expected to occur, the times of those events and analysis of potential environmental impacts.
27	Table 1-1, pg. 1-36, Alternative 2	As previously noted, the use of 940,000 sf office development is flawed. “By 2030, the Arena and street vacation would degrade intersection operations along 1 st Avenue S. As compared to a 940,000 sf office development that could be allowed under the current zoning” The DEIS use of a 940,000 sf office development is flawed. It exceeds the 3.0 FAR limit for the Stadium Transition Area Overlay District.	The DEIS analysis should use the appropriate FAR limit for the hypothetical development.
28	Table 1-2, pg. 1-43, Land Use	Land Use, Operation, “No mitigation measures are required” The DEIS has not conducted a thorough analysis of existing land use plans and policies. Therefore, it is not appropriate to conclude whether mitigation measures	The DEIS land use or regulatory framework sections should analyze all relevant local, state

September 30, 2013

Page 8 of 29

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62. See discussion of transportation impacts from the closure of Occidental Avenue S in Section 3.8 Transportation and in Appendix E Transportation.
63. See Common Response #5 Mitigation Measures.
64. Section 2.4.3 and Figure 2-4 of the FEIS identify the potential of 60 – 65 additional events and show that they could occur throughout the year with a slightly higher concentration in November and December. The traffic and transportation analysis includes the potential impacts of the traffic and transportation that may result from these additional events.
65. FEIS analysis for the no-vacation option was revised to reflect a building potential of up to 750,000 sf office and 60,000 sf of retail space (see Section 2.10 of Appendix E). Development assumptions for the no vacation option were provided by the applicant.
66. Comment noted. As stated in the DEIS (p. 3.10-1), an EIS is to include a “summary” of existing land use regulations and plans and the extent to which a proposal may be consistent or inconsistent with them, “as appropriate.” RCW 36.70B.030.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
		are required at this time.	& regional plans/policies include the City's Comprehensive Plan, PSRC VISION 2040, King County Countywide Planning Policies, Seattle Planning Commission's "Review of the Proposed Sport Arena in the Duwamish Manufacturing and Industrial Center", Port of Seattle Century Agenda, Seattle Center Century 21 Master Plan, Key Arena Subcommittee Report, Container Port provisions of the State Growth Management Act (GMA), Greater Duwamish Manufacturing & Industrial Center Neighborhood Plan & City's industrial area policies.
29	Table 1-3, pg. 1-54, Land Use Summary of Secondary and Cumulative Impacts	"Land uses outside of the Stadium Transition Area Overlay District would likely change to serve the expanding needs and more commercial character of the Stadium District in contrast to the industrial-commercial and general residential character of the Port of Seattle and the Greater Duwamish MIC." This statement discloses that the proposal will likely have an adverse impact on the Port of Seattle and the Greater Duwamish MIC. It does not conclude whether it will be significant or not. However, Table 1-2 listing mitigation states that no mitigation is required. Regardless of whether the proposal is in compliance with existing land use codes, it is the responsibility of the SEPA review to provide another level of review over and above the regulatory requirements. The SEPA review must objectively analyze whether there is going to be a significant adverse impact to the environment. In this case, it is an impact to existing industrial land uses. "Arenaco owns additional properties within and outside Stadium District Overlay District" should be "Stadium Transition Overlay District"	The DEIS should go beyond stating that the proposal is or is not in compliance with local, state and federal regulations and respond to the question of whether there is a significant adverse impact to industrial land uses and propose mitigation to reduce those impacts as appropriate if there are impacts.
30	Table 1-3, Land Use	"Arenaco owns additional properties within and outside Stadium District Overlay District" should be "Stadium Transition Overlay District"	Make correction.
31	Table 1-3, Land Use	"Arenaco owns additional properties within and outside Stadium District Overlay District. No development has been proposed for those properties,	Provide a conceptual environmental review of the

- 67. Comment noted. As stated in the DEIS (p. 3.10-1), an EIS is to include a "summary" of existing land use regulations and plans and the extent to which a proposal may be consistent or inconsistent with them, "as appropriate." RCW 36.70B.030.
- 68. Text has been revised.
- 69. Comment noted. As stated in the DEIS (p. 3.10-1), an EIS is to include a "summary" of existing land use regulations and plans and the extent to which a proposal may be consistent or inconsistent with them, "as appropriate." RCW 36.70B.030.
See Common Response #11 Secondary and Cumulative Impacts.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
		<p>however development of the Proposed Project or Alternative 3 could induce the redevelopment of those properties for commercial uses designed to support the Arena or stadiums. It is appropriate and reasonable in this SEPA review to provide a conceptual review of redevelopment of those properties within this DEIS for the proposed arena. Leaving the analysis out of the DEIS for these additional properties does not provide a full impact analysis of the proposed development proposal in terms of secondary or cumulative impacts.</p> <p>In addition, the analysis should include all of the properties listed in Exhibit RE-23 New Construction Permits issued in the Economic Impact appendix on page 122.</p> <p>The analysis should also include the construction permits issued or currently in process by the City of Seattle in the areas of the alternatives including the 44,000 sq ft mixed-use development proposal at 2225 1st Avenue S, the 5-story office building 1526 1st Avenue S, the 15,000 sq ft of retail and office building at 2727 6th Avenue S and any other newly permitted projects in the immediate vicinity of any of the alternatives.</p>	<p>additional properties and include analysis in the secondary and cumulative impact sections.</p> <p>Include the project listed in Exhibit RE-23 and other recently permitted projects that are located in the general vicinity of the alternatives in the SEPA analysis.</p>
32	2.6 Alternatives Considered But Not Advanced, pg. 2-6	<p>The DEIS does not provide any citation or reference to provide evidence of why the KeyArena cannot be remodeled to accommodate NBA and NHL events. If there is documentation available, it should be cited for the reader to review.</p>	<p>Provide information with citation for reader to understand why a remodeled KeyArena would not work for this project.</p>
33	2.6 Alternatives Considered But Not Advanced, pg. 2-6	<p>The DEIS provides Appendix A as a list of locations that were considered but not advanced for further study. The criteria used to determine alternatives to consider were not reasonable as the resultant list indicates. The list is limited to locations within the City of Seattle.</p>	<p>There are other sites that could serve as alternatives that may have less environmental impacts. Understanding that the location would need to meet the purpose and needs of the proposed action, the DEIS needs to provide a full explanation of why sites outside the City of Seattle were not considered. For example, a prior proponent of</p>

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70. See Common Response #2 Project Objectives. Between 2004 and 2008, Seattle Center studied how the KeyArena could be remodeled to meet current NBA standards. There have been diverse opinions by various NBA ownership groups as to whether this study, “NewArena Imagine the Future” (SRG Partnership Inc and Threesixty Architecture, January 2008) successfully met current NBA building standards. Because the current basketball seating bowl was to be retained, the enhanced KeyArena described in the 2008 study did not meet NHL standards.

71. See Common Response #1 Public vs Private Project; Range of Alternatives.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
34	2.7. Benefits and Disadvantages of Delaying Project Implementation, pg. 2-6	"The disadvantage of delaying construction may be to delay or reduce the likelihood of the presence of an NBA and NHL team in Seattle, with the resulting loss of the jobs and economic stimulus that major sports facilities can provide." The Port agrees that a disadvantage would be to reduce the likelihood of the presence of an NBA or NHL team in Seattle. However, the DEIS did not present an analysis sufficient to state how the potential resulting loss of jobs and economic stimulus that the Ports and industrial lands bring to the area compares to how much a major sports facility can provide.	an arena located a site in the City of Renton that might have worked. Even though the proponent does not own a property outside the site for Alternative 2 or 3, including a site for analysis outside of the city could provide a clear comparison of an impact analysis of in-city vs. out of city environmental impacts. The DEIS should provide a more thorough review and conclusion in regard to how Port and industrial lands will fare in tandem with the proposed action in terms of jobs and economic stimulus. If there will be an equal loss of stimulus from the Port and industrial lands, it is not clear that it is detrimental to delay the proposed action.
TRANSPORTATION			
<i>Analysis of Seattle Center vs. SoDo Alternatives</i>			
35	Many	Different assumptions applied for analyses of the Seattle Center site alternatives than for the SoDo site alternatives resulted in an unfair and biased portrayal of impacts for the Seattle Center alternatives. These are highlighted in the following comments.	The EIS must present a fair and unbiased analysis for the alternatives.
35a	Appendix E Table 1-2 vs. Table 1-4	Cumulative event attendance potential not fairly disclosed for the Seattle Center sites. Table 1-2 presents a good summary of how the new arena would affect cumulative attendance in SoDo. There is no similar table for the Seattle Center. The table that describes existing Seattle Center events	Table 1-4 must be amended to include the same attendance ranges for the Seattle Center sites as were provided for the

- 72. Comment noted. See Economic Impact Analysis included as Appendix F.
- 73. Comment noted. See responses to comments on Appendix E below.
- 74. DEIS explains the difference between the nature of current events at the Seattle Center versus the Stadium District as well as the difference in the context requiring a different methodology to determine the event cases. The SoDo area experiences more large-scale events than the Seattle Center as illustrated in Tables 1-2 and 1-4 contained in Section 1.3.2 of Appendix E.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
35b	Appendix E Fig 2-5 vs. Fig 3-3	(Table 1-4) has ranges that are so large at the upper end, that the various alternatives cannot be compared. Available transit is not fairly evaluated for the Seattle Center sites. Link Light Rail service is not mentioned as a potential transit option for the Seattle Center sites, likely because it was deemed to be too distant from the site. However, the "International District Station" is described as a viable transit option for the SoDo site. That station is about 5,000 feet walking distance from the SoDo site along a route with many deficiencies as noted by the text (page 2-61), while Westlake Station is about 5,200 feet from the Seattle Center site along routes with good sidewalks, lighting, and no capacity restrictions such as stairs. Since the distance is about the same, the potential for riders to use these stations should be treated equally. It is noted that the SoDo site is closer to the Lander Street station (about 3,500 feet), but that walking route is in even worse condition than the route to the International District Station in terms of surface and light levels and requires crossing the railroad tracks at grade. In addition, one of the primary origin/destinations for Arena attendees, the Eastside, cannot be reached by trains that serve the Lander Street or Stadium District stations. This latter fact should be mentioned in the description of transit facilities for SoDo.	SoDo sites. The same parameters must be used to describe available transit for each site.
35c			The EIS should disclose that the Eastside will not be accessible from the Lander Street and Stadium District stations.
35d	Same as above	Available transit is not fairly evaluated for the Seattle Center sites. The transit figures for the two sites do not show the same level of information. For SoDo, Figure 2-5 of the EIS shows bus stops (even those as far away as Beacon Hill). For Seattle Center, major elements of the transit system are missing including all bus stops, the future Rapid Ride E Line, and transit routes along Fairview Avenue N. These should be shown on the figure as well as included in the transit analysis.	Transit figures and text must show the same level of information for the alternatives.

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- 75. Trip generation for the Stadium District site was revised to reflect consistent assumptions regarding transit mode splits between the Stadium District and Seattle Center alternatives (Appendix E Section 1.3.1.4 and 2.0).
- 76. The transit capacity analysis was not conducted at a stop level; instead it focused on regional destinations including the eastside.
- 77. Figure 3-3 in Appendix E has been updated to reflect consistent information between Seattle Center and SoDo related to transit facilities.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
35e	Figure 2-94 vs. Figure 3-64	Primary parking area is not fairly evaluated for the Seattle Center sites. For parking impacts, the "primary study area" evaluated for the SoDo sites extends north to Columbia St (about 5,500 feet from the northwest corner of the site) to S Spokane St (about 5,500 feet from the southwest corner of the site), and then from Alaskan Way to I-5. There were no "barriers" described that would hinder parking for event patrons. However, for the Seattle Center site, the "primary study area" for parking was constrained to the area north of Denny Way and it was stated that, "Parking in the Denny Regrade requires crossing Denny Way to access it. High traffic volumes on Denny Way reduce the desirability of parking compared to locations immediately east or west of the Seattle Center." (page 3-130). This is less than 1,000 feet distance from the Key Arena site and about 1,400 feet from the Memorial Stadium site. There was no mention in the SoDo area about the similar barriers of high volume arterials such as 1 st Avenue S, 4 th Avenue S, S Atlantic St or S Lanier St, or mention about the barrier associated with crossing the railroad tracks on Halgate St.	Additional information should be provided in the EIS related to the location of facilities and quantity of parking assumed to be used for each of the site alternatives under different operating conditions, and to accurately depict how far from the sites those parking facilities are located. The "barriers" should be treated equally for the alternative sites.
35f	Appendix E page 3-137	Parking supply available for event attendees is not fairly presented for the Seattle Center sites. The parking supply available in the SoDo neighborhood accounted for new parking associated with dozens of proposed development projects. However, at the Seattle Center, the text mentions that "over 8,000 additional parking spaces will be developed with over 65 percent of those spaces located in the SLU neighborhood... However, to be conservative, no additional parking supply was assumed under the No Action Alternative." (page 3-137). It is noted that the entire SLU neighborhood (west of Interstate 5) is closer to the two Seattle Center sites than the 5,500 foot primary parking study area assumed for SoDo. Excluding these spaces from the Seattle Center analysis does not present a fair comparison among alternatives.	Additional information should be provided in the EIS related to the future parking supply assumed to be available for each alternative, and the location of that supply. The assumptions used to determine whether to include future increases in parking supply should be treated equally among the alternatives.
35g	EIS page 1-31	Summary related to parking is not fairly presented for Seattle Center sites. With the differences in primary parking areas described above, and the omission of future parking supply near the Seattle Center, the EIS Summary Table conveys that parking near the Seattle Center would be worse than near the SoDo sites. This is not the case.	The analysis must be corrected to treat the likely walking areas and parking supply for the various sites in an unbiased manner.

Traffic Analysis

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78. Seattle Center parking analysis in the FEIS has been updated to reflect revised primary and expanded study area boundaries (described in Appendix E Section 3.8.1.1 and included throughout Appendix E Section 3.8). These revised boundaries are consistent with the walking distances presented for the Stadium District and reflect the Uptown, Uptown Triangle, Denny Triangle, Belltown and South Lake Union neighborhoods as the primary study area and the CBD as the expanded study area.

79. The parking methodology in the DEIS and FEIS is consistent for both the Stadium District and Seattle Center Alternatives. DEIS Section 2.8.1.3 notes that for the Stadium District "no additional parking supply was assumed under the No Action Alternative" and Section 3.8.1.3 makes this same statement for the Seattle Center Alternatives (as noted in the comment). The discussion of parking for both the Stadium District and Seattle Center note that additional parking would be constructed in the study areas with future development. However, since it is unclear if the additional parking constructed by other developments would be made available to the public, no new parking was assumed for the Alternatives analysis and parking supply was assumed consistent with existing conditions within both the primary and expanded study areas. This results in a potentially conservative estimate of the future parking supply for each study area.

See also response to your following comment, which describes how the Seattle Center primary and expanded study areas have been revised consistent with the Stadium District assumptions.

80. Seattle Center parking analysis in the FEIS has been updated to reflect revised primary and expanded study area boundaries (described in section 3.8.1.1 and included throughout section 3.8). These revised boundaries are consistent with the walking distances presented for the Stadium District and reflect the Uptown, Uptown Triangle, Denny Triangle, Belltown and South Lake Union neighborhoods as the primary study area and the CBD as the expanded study area.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
36	Throughout	The traffic analysis only evaluated the PM peak period. It failed to evaluate other periods including the peak egress period when extensive police-officer control and traffic management occurs. The Affected Environment section acknowledged that Port gates could operate at night in the future in response to growth at the Port. In addition, although the arena would not likely generate traffic during the morning or midday peak hours, the vacation of Occidental Ave S would affect traffic during those time periods.	The EIS must evaluate periods other than the PM peak hour, including the peak egress period. The adverse effect of the Occidental Avenue S vacation should also be evaluated for the AM and midday peak hours.
37	Appendix E Table 2-40 & 2-41	The freight corridor travel time analysis performed for the EIS does not account for additional delay experienced on the freeways related to increased event congestion. Nor does the analysis account for increased delay associated with excess circulation to find available parking, with police-officer control of traffic, or with rerouting of traffic that can occur before and after events.	The EIS must account for delay on I-5 as well as additional delay associated with excess circulation and event-related traffic control.
Holgate Street Railroad Grade Crossing			
38	Appendix E Table 2-8	Peak egress pedestrian flows are substantially underestimated. The text states that the analysis of peak pedestrian flows were performed for the peak 15-minute egress period. However, in Table 2-8, the peak flow for egressing pedestrians along S Holgate Street under condition S1 (only an event at the Arena) was presented as 2,220 pedestrians per hour or 555 pedestrians during the peak 15 minutes. Figure 2-41 (for the same condition) shows the post-event pedestrian volume on the north side of S Holgate Street as 1,795 pedestrians. Therefore, the peak flow rate assumed represents only 30% of the total egress traffic (555/1,795). The rate above is about half of what prior studies of the stadiums in SoDo have assumed. Analysis performed for the <i>Football / Soccer Stadium and Exhibition Center DEIS – Appendix M-1 (The Transpo Group, January 15, 1998, page 65)</i> documented that “pedestrian counts taken at football games in September and October, 1997 corroborated the methods used to estimate pedestrian flows in previous analyses in the Kingdome area...the letting out of an event, or the break, shows just under 90 percent leaving in the hour after the break—just over 70 percent in the first half-hour. The peak 15-minute period accounts for about 55-60 percent of the departures.” Likewise, the pedestrian analysis performed for the original	All of the pedestrian analysis, including the analysis of sidewalk capacity and railroad crossings must be redone using the previously documented egress assumption that 60% of the total egress demand occurs in the peak 15-minutes after an event. Rail blockages of the non-mainline tracks must also be included in this analysis.

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81. The FEIS also includes an expanded analysis of the post-event conditions (section 2.6.4.5). The FEIS includes an evaluation of the AM and mid-day peak hours for purposes of the no-street vacation alternative (section 2.10).
82. The DEIS summarized traffic operations in the vicinity of the SoDo and Seattle Center project sites. As described, regional freeway impacts are not anticipated to worsen during peak hour conditions but to instead increase the length of time that congested conditions occur (Appendix E, Sections 2.6.2.4, 2.6.3.4, & 2.6.4.4). Potential travel time impacts to freeway facilities are anticipated to be similar to travel time increases observed during event days under existing conditions (Appendix E, Figure 2-90)

Visitors to the proposed arena were proportionally assigned to parking lots throughout the study area instead of to the nearest parking lot. This methodology captures the effect of excess circulation (appendix E Section 2.5.1).
83. FEIS pedestrian analysis (see Appendix E, Section 2.3) has been updated to reflect revised forecasts, further information related to proposed post-event Arena door flows and egress distribution, and refinements in sidewalk widths and capacity.

Additional data were collected for a 7-day period and included the documentation of rail activity on the mainline tracks and non-revenue activity on the adjacent tracks (see Appendix E, Section 2.7.2.2). Data were collected for the periods of 6AM to 11PM when Arena related traffic may be present once constructed. Forecast rail activity was updated to reflect the updated existing rail volumes (see Appendix E Section 2.7.3.2). The pedestrian and vehicle analysis has been updated to reflect the revised rail traffic data and forecast.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
39	EIS Page 3.8-42 and Appendix E page 2-78	<p>Safeco Field EIS (Washington State Major League Baseball Stadium Project Environmental Impact Statement, Draft, May 29, 1996, page 3-336) had documented that 60% of the total egress demand occurs in the peak 15 minutes after an event. Therefore, the peak pedestrian flows assumed for the new Arena analysis are likely half of what should be realistically assumed.</p> <p>Comments below related to Rail Impacts, which indicate that the volume of train crossing activity and gate closure times have also been underestimated, must also be included in the updated pedestrian analysis.</p> <p>Inadequate mitigation proposed for pedestrian impacts at the S Holgate St railroad crossings. Table 2-8 describes the potential pedestrian accumulation at the railroad crossing on S Holgate St. As previously described, the peak pedestrian flows on this route were underestimated (by about half), therefore, it is expected that the queue space needed for pedestrians during a train crossing would be nearly double what was assumed.</p> <p>However, even with the lower volumes assumed in the EIS, the analysis disclosed substantial pedestrian queues could form during a train crossing. The freight analysis determined that the average blockage in the year 2030 could be 21 minutes. At that level of delay, the analysis determined that 3,930 sq ft of queue area would be needed. If the street were improved with a typical 12-foot wide sidewalk, that queue would extend 330 feet back from the rail crossing (further if one accurately accounted for buffers at the edge of the sidewalk and obstructions). This analysis depicted the future rail lines along S Holgate Street and showed the limited queue space between the tracks. If this length of queue were to form from the BN Railway's mainline, it would extend across Amtrak yard tracks, with serious safety and railroad operational impacts. The mitigation measures in that section list "surface street improvements or pedestrian bridge on S Holgate St;" however, the pedestrian bridge is not listed in the mitigation summary. In fact, the summary section on Page 1-34 stated that "pedestrian gates may not be feasible or appropriate."</p>	<p>The project must either commit to fully fund construction of a new pedestrian bridge on S Holgate Street or disclose the unfunded public liability.</p>

84. See Common Response #7 Mitigation Measures - Pedestrian Access

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
40		If this project does not commit to building a pedestrian bridge across the railroad tracks on S Holgate St, will that obligation fall to the public? And if no bridge is built, who will bear the liability of the safety issues created by the additional pedestrians? These issues and the potential unfunded liability must be addressed in the EIS. Need for Pedestrian Bridge at S Holgate St Rail Crossing: In addition to the issues raised above about pedestrian safety along S Holgate Street, it should be noted that similar pedestrian and vehicular safety issues were addressed at the S Royal Brougham Way and SR 519 railroad crossings by grade-separating that crossing. In order to avoid, after-the-fact street and rail line design impediments, it is critical that the Holgate Street Pedestrian bridge must be required to be built before a new Arena is open.	The project must be required to build the Holgate Street Pedestrian Bridge before the new Arena is open.
Adverse Effects to 1st Avenue S			
41	Appendix E page 2-76	Fully disclose the impact of the inadequate sidewalk on 1 st Avenue S between S Atlantic Street and S Massachusetts Street. The pedestrian analysis in Table 2-7 noted that existing sidewalk on 1 st Avenue between S Atlantic Street and S Massachusetts Street would experience "severely restricted" operations with just an event at the arena. As described in the above comment, the peak pedestrian flows used to reach this conclusion were likely underestimated. The existing sidewalk on the east side of 1st Avenue S between S Massachusetts Street and S Atlantic Street already extends to the property line, and near the intersection with S Atlantic Street gets as narrow as 6-foot due to the adjacent northbound right-turn-only lane. Unless the project were to acquire the adjacent property and demolish existing buildings, it is not likely possible to widen that sidewalk without taking some of the street width now dedicated to traffic flow. Loss of that right turn lane to accommodate a wider sidewalk is unacceptable to the Port and would exacerbate already poor traffic operations through our key regional access point.	The EIS must disclose the change in traffic operations that could occur at the 1st Avenue S/S Atlantic Street intersection if the northbound right turn lane were removed to accommodate a wider sidewalk. That analysis should address the impact during all peak hours (AM, midday and PM) as well as without and with event conditions.
42	Appendix E Table 2-7	Analysis obscures data and assumptions about pedestrian impacts. Additional information is needed in this table to cross check the assumptions made about pedestrian flows and existing facility widths. As	Table 2-7 should be redone to show the assumptions made about pedestrian volumes and

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- 85. See Common Response #7 Mitigation Measures - Pedestrian Access
- 86. The FEIS includes an updated pedestrian analysis including revised forecasts and width for the 1st Avenue S sidewalk between S Atlantic Street and S Massachusetts Street (see Appendix E, Section 2.3). As noted in the text, Occidental Avenue provides a parallel pedestrian route option to 1st Avenue. Thus, actual impact may be less than described. Removal of the eastbound right-turn lane is not recommended as this condition only exists during peak pedestrian flow volumes anticipated during post event conditions. Additionally, the removal of the right-turn lane conflicts with the City's plan to extend the length of the northbound right-turn lane.
- 87. Appendix E in the FEIS includes a revised pedestrian analysis, the presentation of additional material, and updated Table 2-7 (see Appendix E, Section 2.3). The analysis summarized in the figures and tables presented in the FEIS are based on the widths shown in the table. These widths were assumed to apply for the length of the roadway segment but are based on the narrowest practical width of sidewalk observed during field visits.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
Vacation of Occidental Avenue			
43	Appendix E Section 2.10	Vacation would eliminate only alternative route to 1st Ave S. The EIS analysis must acknowledge the impact that the vacation of Occidental Ave S would have to the neighborhood's street grid. There are only two north-south streets that connect between S Lander St and SR 519: 1st Ave S and Occidental Ave S. The other north-south street, Utah Ave S, has already been vacated in the segment just north of S Lander St. Since traffic through this corridor is sandwiched between railroad facilities with no east-west escape, vacation of Occidental Ave will further degrade SoDo's grid system and make the system less resilient to incidents. Overestimate impact of the No Action Alternative. The analysis performed for No Street Vacation assumes that 940,000 sf of commercial space could be constructed on the sites if the street were not vacated. There is no documentation of this size development. Given that most, if not all, of the project's parking would need to be above grade due to water table issues, it is highly unlikely that any development could reach the maximum allowed FAR before reaching the height limit. Occidental Avenue S is often used by motorists to escape a long train blockage on S Holgate Street. The City of Seattle's <i>South Holgate Street Railroad Crossing Study, Phase II, Final Report</i> (Fehr & Peers, January 2010) recommended adding U-turn routes so that vehicles waiting for a train could choose an alternative route.	The EIS must discuss how the vacation of Occidental Avenue would affect the grid continuity in SoDo and affect the reliability of the transportation system.
44	Appendix E Section 2.10		Detailed information related to the development that could occur under the No Action/No Vacation condition should be provided.
45	No analysis provided		The EIS must disclose how arena and the vacation of Occidental Avenue S would address allowing vehicles to escape a train queue.
Lack of Parking and Secondary Impacts			
46	Appendix E Section 2.8.4 Parking Impacts	Parking within the primary study area would be over utilized, creating secondary impacts as motorists circulate to find available or cheaper parking. Extreme congestion now occurs during large events at CenturyLink field that would be similar to those for a dual or triple event condition. The EIS traffic operations analysis does not fully disclose the impact of dual events because it does not consider the additional circulation caused by the lack of parking. Even with parking guidance, motorists are likely to circulate	A sensitivity analysis should be performed to show the potential effect of excess circulation through key intersections.

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88. The FEIS includes additional analysis evaluating the impacts associate with the Occidental Street vacation (see Appendix E, Section 2.10) based on the collection of additional data during the weekday AM, mid-day, and PM peak hour. This analysis considered the level of activity and basic functionality of the roadway during these periods. The analysis also considered traffic volumes along Occidental Avenue, south of Holgate Street to assess its role in the local transportation system, and to help assess the overall impact of the loss of the parallel travel route to 1st Avenue due to the street vacation.
89. FEIS analysis for the no-vacation option was revised to reflect a building potential of up to 750,000 sf office and 60,000 sf of retail space (see Section 2.10 of Appendix E). Development assumptions for the no vacation option were provided by the applicant.
90. The FEIS includes ITS mitigation strategies (Section 4.0 of Appendix E) to help alert drivers of train crossing closures. This is anticipated to reduce the likelihood of drivers needing to make U-turns. Other improvements are also presented as well as pro-rata contributions to regional improvement projects (including ITS Next Generation improvements) and the planned Lander Street grade separation.
91. The traffic assignment utilized for the technical analysis does not rely on an assignment of vehicles to the closest lot. Instead traffic is assigned to the area parking proportionally from all regional inbound routes (i.e. I-5, I-90, local streets north and south of the arena; Appendix E Sections 2.5.1.4 and 2.5.1.5). This methodology captures the effect of excess circulation.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
47	Appendix E Section 2.8.4 Parking Impacts	seeking cheaper parking when dual events increase demand and thus the price to park. Although it is hard to quantify, sensitivity analysis should be performed to show the potential effect of excess circulation through key intersections. Parking within the primary study area would be over utilized, creating secondary pedestrian and/or transit impacts as event attendees need to travel into financial district or retail district to park. The analysis presented on Figures 2-116 and 2-118 shows that parking in the CBD would be needed to support dual event conditions. Because the secondary parking area is about a mile from the arena site, it could create secondary impacts as those who park in the CBD use transit to access it. That secondary impact was not discussed in the transit impacts section.	Some of the event attendees who park in the retail core and financial district should be included as transit riders in the transit impacts analysis.
48	p. 1-30	The DEIS Summary comments that Arena parking may displace overnight SoDo truck parking.	Please quantify level of impact, and the remedy or mitigation for this impact.
Rail Impacts			
49	Section 2.7.2.2 Rail Crossing Delay	The EIS does not disclose findings from two prior studies that have been performed for the S Holgate Street railroad crossings: one by WSDOT (<i>S Holgate Street Railway Crossing Closure Traffic Study</i> , 2003) and another by the City of Seattle (Fehr & Peers, <i>South Holgate Street Railroad Crossing Study, Phase II, Final Report</i> ; January 2010). These studies evaluated the potential to close S Holgate Street to all vehicular and pedestrian traffic, and what improvements would be needed to keep the street open. The Port is very concerned that increased vehicular and pedestrian conflicts associated with the arena would increase pressure to fully close the street.	The EIS must acknowledge prior studies that have evaluated S Holgate Street and assess the potential to exacerbate vehicular and pedestrian safety on this corridor.
50	Section 2.7.2.2 Rail Crossing Delay	The EIS relied on recent data from the <i>Coal Traffic Impact Study</i> to determine the number of at-grade crossings and delay per crossing. However, that study only evaluated the effect on the BNSF mainline tracks. It does not include crossings or delays that occur on all of the secondary tracks that cross S Holgate Street. The <i>South Holgate Street Railroad Crossing Study, Phase II, Final Report</i> included more detailed information about the number of crossings, the blockage time, and more importantly, the amount of time the gates were	The traffic and pedestrian analysis performed in the EIS must be updated to include all of the rail crossings on S Holgate Street, not just those on the BNSF mainline. Higher average blockage rates should also be evaluated for evening event conditions.

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92. There would be some event attendees who would park or already be in downtown Seattle who would take transit, walk, or another mode to an event. Presently, this occurs for events at Safeco Field and CenturyLink filed. The increased demand for transit can result in increased congestion on transit and longer distances to walk to connect to transit. The number of event attendees walking or taking transit is likely to be highest closer to event start-time after 6 PM, which is beyond the evening peak commute time. Some capacity exists on southbound transit routes through Downtown Seattle during this time period. The new Arena would increase the frequency that this condition occurs.
93. Additional field observations were conducted in the immediate vicinity of the Arena and determined that only one truck was observed to be parked overnight. Overnight truck use varies depending on the level of Port or event activity. Most events typically end by 11 p.m. and overnight parking is likely to be available after this time.
94. Impacts associated with increased traffic due to the Arena were evaluated within the DEIS and FEIS. Additional data were collected for a 7-day period and included the documentation of rail activity on the mainline tracks and non-revenue activity on the adjacent tracks (see Appendix E, Section 2.7.2.2). Data were collected for the periods of 6AM to 11PM when Arena related traffic may be present once constructed. Forecast rail activity was updated to reflect the updated existing rail volumes (see Appendix E, Section 2.7.3.2).
95. Additional data were collected for a 7-day period and included the documentation of rail activity on the mainline tracks and non-revenue activity on the adjacent tracks (see Appendix E, Section 2.7.2.2). Data were collected for the periods of 6AM to 11PM when Arena related traffic may be present once constructed. Forecast rail activity was updated to reflect the updated existing rail volumes (see Appendix E, Section 2.7.3.2).

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
51	Appendix E Section 2.7 Freight & Goods Movement	<p>closed (down) at the crossings. In 2009, the study determined that the railroad gates on S Holgate St closed an average of 112 times per day during the weekdays and 79 times during the weekends. During the weekday, the total time that the gates were closed to stop traffic was 4 hours and 50 minutes per day. This is much higher than the number of crossings reported in the EIS for just the BNSF mainline. That same report found that the average minutes per hour the gate was closed was 12 minutes; however, the average closure time per hour during the evening period (6 to 10 PM) was 17 minutes, significantly higher than the 24-hour average. There were also times when the gates were closed for more than 30 minutes. The traffic and pedestrian analysis performed in the EIS must be updated to include all of the rail crossings on S Holgate St, not just those on the BNSF mainline. Higher average blockage rates should also be evaluated for evening event conditions.</p> <p>Adjacent rail use areas: Rail lines and facilities east of the proposed site are committed to passenger service (Amtrak and Sound Transit) and adjacent freight rail operations. Portions of this rail marshaling area have contracted in recent years due to previous stadium development. The proposed use may further reduce rail line capability in this area, creating secondary negative effects on rail operations, including essential rail sidings and spurs used for non-passenger service. Freight line facilities are essential to the port and it is imperative that sufficient information is available to determine if the proposal will further reduce or impede rail capacity. In particular, a pedestrian bridge in the area could require alteration of rail lines in order to locate structural bridge supports and maintain necessary clearances and barrier-free area between rail lines and the new obstruction. This could diminish existing rail line capacity, require substantial re-routing, and foreclose future improvements.</p>	<p>The EIS must provide additional information analyzing potential effects on rail facilities, including secondary rail operational effects.</p>
52	Appendix E Section 2.7 Freight & Goods Movement	<p>New Arena effect on hazardous materials shipments via rail: The EIS should address how the SoDo site alternative, adjacent to working rail yards and tracks, would affect the ability to transport petroleum, pressurized gas, or other hazardous materials on those tracks.</p>	<p>The EIS should address how the SoDo site alternative, adjacent to working rail yards and tracks, would affect the ability to transport petroleum, pressurized gas, or other hazardous materials on those</p>

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- 96. See Common Response #7 Mitigation Measures - Pedestrian Access.
- 97. Rail shipment of hazardous materials occurs under existing conditions. Impacts and mitigation to hazardous material movement within the study area would be similar to those for the existing baseball and football/soccer facilities based on a similar proximity of the rail lines to the proposed basketball/hockey facility the same as those identified for all freight movement. No significant impact to rail operations is anticipated.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
<i>Transportation Mitigation</i>			
53	EIS Page 1-45	Dual event scenarios are unacceptable, and there must be a firm commitment to an event management strategy that will prevent them. The transportation section evaluated various combinations of event cases, and implies that those cases are similar to the large events that occur in CenturyLink Field today. The largest events that now occur at CenturyLink typically occur on a Sunday and have limited effect on the Port. When a large event does occur on a weekday, such as a Monday Night Football game or a large soccer match, it severely disrupts Port operations starting midday. With the expectation that over 120 events per year at the new Arena could have 10,000 or more attendees, there will be many more weeknights per year that experience dual events. The traffic operations and travel time analyses performed for this scenario do not account for the fact that during large events more vehicles circulate repeatedly through the neighborhood looking for parking. This is evidenced by the fact that vehicle exiting I-5 onto the ramps to SR 519 often back up onto the mainline during a large event. In addition to delay on local arterials, freight would also experience increased delay on the regional highways, particularly Interstate 5 and Interstate 90. If there is no firm commitment to event management, then the full level of delays must be disclosed in the analysis, including the increased delay through traffic experience on I-5 and I-90, as well as additional delay caused by excess circulation to parking (see below), and delay associated with post-event traffic management protocols.	The project must commit to an event management strategy that will: a) Seek to reschedule to a different day/large (14,000 or more attendees) weeknight events at the Seattle Arena when they would otherwise occur concurrent with a major league sporting or concert event at either of the other two stadiums, b) If rescheduling to a different day is not possible, then the event start time at the new Arena must be changed to begin at least one hour later in the evening than the other concurrent event, and c) Under no circumstances shall the scheduling conflict be resolved by changing the start time of one or more events to occur before 4:00 P.M. on a weekday.
54	EIS Page 1-45	Some of the mitigation measures presented as "optional" with the phrase "could be..." should be changed to firm commitments in order to obtain the performance evaluated in the EIS. On page 1-49, the summary states, "For Alternative 2 and 3, consider working with SDOT to upgrade the traffic control equipment at signalized intersections in the Stadium District to increase its reliability through improving communications with SDOT traffic control center and utilizing current Adaptive Traffic Control technology."	The project must either fully commit to upgrading signal equipment and help fund the traffic control center or revise the analysis to eliminate the assumption that the signals will be optimized.

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98. The multiple event scenario included in the FEIS has been increased to reflect a 72,500 attendee level (Section 1.3.1.4 and throughout Section 2 of Appendix E Transportation Report).

The traffic assignment utilized for the technical analysis does not rely on an assignment of vehicles to the closest lot. Instead traffic is assigned to the area parking proportionally from all regional inbound routes (i.e. I-5, I-90, local streets north and south of the arena; Sections 2.5.1.4 and 2.5.1.5 of Appendix E). This methodology captures the effect of excess circulation

99. See Common Response #6 Mitigation Measures – Traffic.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
55	EIS Page 1-49	These types of improvements are needed to "optimize" the signal timing to accommodate changes in traffic flow associated with events. Signal optimization was already assumed for the area intersections to assess the impacts of the projects as described in the note on page 2-162 of Appendix E. "Some routes show a small improvement in travel time as a result of the signal timing optimization procedures..." Likewise, the Arena should commit to the Parking Guidance System that "provides direction and information regarding parking availability to those drivers who do not pre-purchase parking. This system could notify drivers as to the location and number of spaces available in public and event garages...reducing excess circulation." There is a high potential for excess circulation due to the lack of parking in the SoDo area, which would exacerbate traffic operations. However, no additional circulation was assumed during dual events. Therefore, this mitigation should be included in order to achieve the performance presented in the EIS.	The project should commit to implementing a Parking Guidance System for area parking garages.
56	EIS Page 1-45	Commit to Port of Seattle Protocols for Freight Access - The transportation analysis was limited to the PM peak hour. However, it was acknowledged that the Port terminal gates as well as the rail yards can be open at night. A route between the Port and the rail terminals as well as between those terminals and Interstate 5/90 via SR 519 must remain open and available before, during and after events.	The project must commit to Port of Seattle Protocols to retain freight access through the SR 519 and 1 st Avenue S corridors whenever the Port gates are open.
57	EIS Page 1-49	Commit to funding higher staffing level at the City's Traffic Control Center - SDOT's traffic control center is not staffed 24/7. Additional staffing will likely be required to accommodate more event days per year. These additional staff members are necessary to make other elements of the mitigation program function, including dynamic message signs and monitoring of traffic cameras to respond to congestion, parking and traffic incidents.	ArenaCo should commit to funding for additional staff.
58	EIS Page 1-47	A pedestrian bridge over the railroad tracks at Holgate Street MUST be included as mitigation. This text states that "Increased active traffic and pedestrian management during pre-and post-event conditions to assist in helping pedestrians navigate the many railroad crossing points along with enhance surface management of railroad crossing through the implementation of additional crossing gates for pedestrians together with the development of wider sidewalks to accommodate surges in pedestrian	The project must commit to fund and construct a pedestrian bridge across the railroad tracks on S Holgate Street before the Arena is open.

- 100. Your comment is noted. See Common Response #4 Parking.
- 101. The FEIS has identified protocols as a potential mitigation measure.
- 102. Your comment is noted. See Common Response #3 Concurrent Event Scheduling and Common Response #13 Adaptive Traffic Control.
- 103. See Common Response #7 Mitigation Measures - Pedestrian Access.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
		<p><i>demands before and after events and the associated pedestrian queuing."</i> However on page 1-34 of that same summary the text stated, <i>"The S. Holgate Street corridor has multiple at-grade rail crossings closely spaced in the immediate vicinity of the site and pedestrian gates may not be feasible or appropriate."</i></p> <p>In addition, we believe that the potential surges in post-event pedestrian traffic have been substantially underestimated. The potential safety implications have been understated. Just one pedestrian accident at any of the many railroad crossings would create a significant disruption to freight and passenger rail services along what is the state's primary rail corridor. If this project does not commit to constructing the pedestrian bridge, that need could fall to the public's responsibility. Worse yet would be the potential that the BNSF Railway or Amtrak move to close S Holgate Street to all crossing traffic, a scenario that would have significant adverse impacts to overall traffic circulation in the neighborhood. For these reasons, the pedestrian bridge must be included as a mitigation measure, not as an option to be "considered."</p>	
ECONOMICS (Appendix F - Economics Report)			
59	xxviii-xxix	Reference is made to the Sports Complex in Philadelphia that "only through current specific revitalization efforts of Xfinity Live! have the sports venue created ancillary development". Under PetCo Park, the report notes "catalytic development around PetCo Park, including the hotel, office complex and retail were required as a part of the MOU between the City and stadium developer". The true intent of the developer is for an entertainment center in addition to an arena. These additional effects should be considered in the Seattle Arena traffic analysis. This will greatly compound the traffic congestion along all routes serving the Port and industrial area but in addition, the introduction of a hotel into this area could lead to reduction of service or closure of SIG.	Consider the additional effects of entertainment events in the traffic analysis and state mitigation commitments in the case of adverse environmental impacts.
60	22	On-site parking was not included in the revenue analysis for the SoDo site, which is reasonable since neither the City nor the proponent would control the parking supply. However, any revenue analysis for Alternatives 4 and 5 should include potential revenue at City-owned facilities.	Include a revenue analysis for Alternatives 4 and 5.

September 30, 2013

Page 22 of 29

103
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104. Ancillary development was not required as part of the Seattle Arena MOU. The project being considered for environmental review is solely the proposed Arena.
105. On-site parking revenues were not included as direct revenues to the proponent for the SoDo site or the alternate sites. Parking was included, as appropriate, for all sites with applicable funds for Alternative 4 and 5 city owned parking facilities reverting to the City or facility owner and not the proponent. In all cases associated revenue flows and related impacts were addressed.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
61	54	Report notes that half of the exports are agricultural products, "chiefly from Washington State". Please note that nearly all of these products arrive by truck and a high portion moves through the impacted area. This impact seems to be excluded from the port impact analysis.	Provide analysis of the impacts to trucks carrying agricultural products in the economic analysis if traffic congestion is a factor.
62	57	Report notes that "there could be additional potential impacts beyond those quantified in this section in the case that the proposed arena causes reliability issues to an extent that triggers carriers or customers to move cargo or operations to other ports". The recent renewal of the Hanjin lease at T46 illustrates that carriers and shippers are becoming increasingly concerned about the impacts of redevelopment in the north SoDo area. The placement of an arena and the likely addition of an entertainment center in the overlay zone will greatly exacerbate this situation. It could also cause the southern limit of the stadium overlay zones to move farther south. This could cause a loss of container business, and this should be quantified.	Provide quantitative analysis of a potential loss of container business that could result from Alternatives 2 and 3.
63	59	Report states: "reliability of goods movement may also be a significant potential risk with the development of an arena". We concur and believe that the additional risks be quantified.	Provide quantitative analysis of potential impacts to the reliability of goods movement in the vicinity of all of the Alternatives.
64	59	Report notes "property values do not directly impact economic activity and are not included in economic impact analysis". Increasing property values have a direct impact on uses and can lead to a shift from industrial to non-industrial uses. Further, the introduction of the arena (and entertainment center) will cause additional impacts outside of the Stadium Overlay zone, leading to increased displacement of industrial uses to the south and east.	Provide quantitative analysis of the potential impacts from increasing property values and their impacts that could lead to a shift from industrial to non-industrial uses.
65	60	Report states: "there would be additional potential impacts if Port carriers perceived reliability issues in the area and shifted cargo away from the Port of Seattle or move to another location." We concur and these impacts	Include the potential impacts that could lead to increased displacement of industrial uses to the south and east. Provide quantitative analysis of potential impacts if Port carriers perceive reliability issues in the

Page 23 of 29

September 30, 2013

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106. All Port commodities were included in the analysis.

107. It is not possible to quantify potential losses of container business resulting from Alternatives 2 and 3.

Competitive Risk to the Port. Several parties cited potential competitive risks to the Port from traffic congestion. These risks are explained in the Economics analysis, on pages 90–92 and 94–95 (Appendix F). Commenters express a desire for quantification, however, which is not feasible within the current state of the art. As noted, due to the small number of relevant decision makers, the large number of decision variables, the lack of accurate information on future reliability, and the large role of perception in the outcome, there is no dependable method to estimate either the degree of risk or the volume of cargo at risk. "What if" scenarios suggested in the comments (e.g. Cerf page 8, "...Seattle could lose 100% of that business", or Cerf p. 9, "If only 5% of the agricultural shipments are lost...") are inherently speculative. As suggested on p. 95–96 of the analysis, a more productive approach may be measures that maintain the fluidity of truck routes and minimize any adverse impacts on reliability.

108. It is not possible to quantify the impacts of the reliability of goods movement. See Response to Comment 107 above.

109. As real estate researchers, Pro Forma Advisors acknowledges that industrial businesses tend to locate in lower land price areas. By the nature of the industry, industrial users tend to perform business activities that are land or space intensive and do not need premium land locations relative to uses such as retail and residential and thus land value and rents are important to industrial users. This is also why historically industrial uses tend to, of their own accord, either be located or move to the edges of cities where there is plentiful affordable available land. General urban economics also suggests that land further away from the core of an urban center is less expensive and land closer to urban centers will be more expensive.

1. Our review of comparables and academic studies/articles identified that in certain cases, sports facilities can be a catalyst for change in an area (which would draw higher value land uses), but this is not the case for all sports facilities. Our review of comparables illustrated that to achieve significant catalytic development, public and private players typically made development a specific goal of the project. This is not the intention outlined in the Seattle MOU for the proposed arena.

2. We looked specifically how rents and property values changed with the opening of Safeco Field and CenturyLink Field.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
66	71	should be quantified. Reports states "although much of the trade moves to and from the Port by rail." This statement and the analysis of impacts seems to under-estimate the number of trucks that are engaged in Port traffic in the affected area even if the final movement is by rail. A growing share of imports is now transloaded from ocean containers to domestic containers. There are transload operations that are located just east and south of the arena location. Traffic would move from the terminal to the transloader, with an empty return to the terminal and a domestic container to the rail yards. Likewise, exporters truck their containers from Eastern Washington through the area to reach T46 and T25/30 and some export cargo is loaded from bulk railcar to ocean container for export. Prior analyses performed by the Port account for the trips that begin and end at the Port terminals, but not for ancillary trips that might be generated by these transloaders back to the rail yards or to other non-Port locations. These ancillary movements need to be quantified. Further, if the transloaders close these operations, then there would be an additional drayage cost for all of the affected movements. These do not appear to be captured.	Quantify the ancillary movements to account for the trips that begin and end at the Port terminals. Provide quantified analysis of additional drayage cost for all the affected movements if transloaders close these operations.
67	74	Report estimates that with night gates that 11% of traffic would move in "event vulnerable time period" with night gates. Although this estimated forecast came from the Port of Seattle, new data from the Ports of Los Angeles and Long Beach indicate that approximately 19% of gate moves occur between 4pm and 8 pm and 32% occur between 3pm and 9pm. Therefore, the impact could be three times the magnitude for the traffic that is quantified in the economic impact report. The report ignores the delays that would occur on game days on I-5, I-90, and other roads used by arena visitors.	Update the analysis to account for the new information provided from Ports of Los Angeles & Long Beach to account for the impact on traffic. Provide analysis of impact to Port traffic & operations from delays that would occur on game days on I-5, I-90, & other roads used by arena visitors.
68	79	The report assumes that S. Atlantic Street is open during Mariner game days but indicates that delays could be larger if it is not. This should be quantified.	Provide quantitative analysis of potential impacts from traffic delays if S. Atlantic Street is not

September 30, 2013

Page 24 of 29

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See Common Response #12 Gentrification.

The City of Seattle is currently going through a planning process to further protect the industrial areas located outside of the Stadium Overlay District. A proposed arena is likely to bring additional retail uses and foot traffic, but this is likely to be located within the Stadium District overlay area. The arena itself and this retail development may directly displace current industrial uses in the Stadium Overlay District, but our analysis does not suggest that the proposed arena will significantly increase lease rates and property values throughout the study area.

110. It is not possible to provide quantify potential impacts if carriers shift cargo to another location due to perceived reliability issues.

See Response to Comment 107 above.

111. It is not possible to quantify additional drayage cost for all the affected movements if transloaders close these operations since the required transloader movement data is not available

Transloading. The Port and other parties have expressed concern that truck trips to and from import or export transloaders in the SODO area have not been included in the analysis. The analysis has captured transloader movements to the extent possible from the available data. Movement between transloaders and port terminals would be reflected in gate counts and projections provided by the Port. We used a Port-provided multiplier of 2.2 to allow for ancillary repositioning, empty container, and bobtail tractor movements as well as actual gate entries and exits. Movements between transloaders and domestic points would be reflected in truck counts provided by Transpo.

112. Comparisons with Southern California. In its item 67, the Port notes that the Ports of Los Angeles and Long Beach have a higher percentage of truck moves in the evening hours. That difference, however, is due to the PierPASS program, which assesses substantial fees for truck moves during the day shift. In the absence of plans for such measures at the Port of Seattle, the estimates provided by the Port and used in the analysis should be a better basis for evaluation.

113. There are no plans to close S. Atlantic Street as a result of the SoDo Arena. Impacts to the Atlantic Street corridor are disclosed for all cases and Mitigation Measures are identified for the Arena impacts taken as a whole. These include manual traffic control at intersections along Atlantic Street, similar to how it is handled for current events.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
69	81	Report states: "the greater risk could be gridlock in the segment of S Atlantic..." This impact should be quantified.	open during Mariner game days. Provide quantitative analysis of potential risks of gridlock in the segment of S. Atlantic Street. Revise as appropriate.
70	90	Port doesn't collect dockage and wharfage.	Explain why the risks could not be quantified. These risks should be quantified and provided in the EIS.
71	94	Report states: "Stadium District traffic that left these terminals less than fully competitive would handicap the Port and reduce its potential for economic development. These risks could not be quantified in the report." These impacts should be quantified.	Provide quantitative analysis of how the impacts from a threat of a shift would likely reduce long-term Port and terminal operator revenue as a result of lower negotiated rates.
72	95	Report states: "threat of a shift would likely reduce long-term Port of Seattle and terminal operator revenue as a result of lower negotiated rates." This is a likely result and should be quantified.	Provide relative mitigation costs of alternative sites.
73	Economics	To comply with the MOU's requirement to assess the economic impacts, the EIS should disclose the total cost of all mitigation, and provide a comparison among the alternatives. This analysis should detail who is responsible for cost, and whether the commitment would be for the full cost or a share of the cost. In addition, any reduction in revenue associated with event scheduling restrictions that would limit the number of events should also be disclosed.	
AIR QUALITY AND GHG EMISSIONS			
74	Air Quality, section 3.2	There is no analysis to substantiate claims that the operation phase of the various alternatives will not cause adverse air quality impacts. There is no analysis to substantiate claims that "incremental increases in traffic emissions likely would be small", as well as claims that the project alternatives will cause no significant unavoidable adverse impacts to air quality. It is clear from the traffic analysis that significant traffic congestion will be created, and especially during multiple stadium events. Localized impacts from project-induced traffic should be analyzed, i.e. by "hot spot" modeling of intersections where the Level of Service (LOS) is predicted to worsen as a result of the project.	Provide quantitative analysis to substantiate claims that the operation phase of the alternatives and secondary impacts of the alternatives will not cause adverse air quality impacts. At a minimum, include an analysis of localized impacts

September 30, 2013

Page 25 of 29

113 Cont. | 115 | 116 | 117 | 118 | 119

114. The potential impacts to Atlantic Street have been documented for a range of event scenarios, including dual and triple events. While the frequency of event days in the area are forecast to increase, the level of additional congestion to be managed via manual traffic control at key locations (through the Transportation Management Plan) is not expected to significantly increase due solely to the component of demand associated with the Arena itself. In addition to the Transportation Management Plan, which includes demand reduction and demand management elements, the Arena may participate in other area improvements, as described in the Physical Improvements section of the discussion of mitigation, including paying a prorata share of a long-recognized area project, the Lander Street Overcrossing (of the railroad tracks), which would provide additional east-west capacity for all vehicles throughout the day, with or without event conditions occurring. Also see Common Response #13.

115. Wharfage and Dockage.

The Port states (item 70) that it does not collect wharfage and dockage. The Port's current Terminals Tariff No. 5 (effective 7/10/2013) provides for wharfage and dockage fees. However, these fees may have been superseded by specific agreements with ocean carriers or terminals. The analysis should have said, "The Port receives fees for use of the dock ('dockage') and for the volume of cargo handled ('wharfage'), or equivalent fees under a confidential contractual agreement." Since the actual agreements are assumed to be confidential, we cannot verify the terms or terminology used therein.

116. Competitive Risk to the Port.

Several parties cited potential competitive risks to the Port from traffic congestion. These risks are explained in the analysis, on pages 90–92 and 94–95. *Commenters express a desire for quantification, however, which is not feasible within the current state of the art.* As noted, due to the small number of relevant decision makers, the large number of decision variables, the lack of accurate information on future reliability, and the large role of perception in the outcome, there is no dependable method to estimate either the degree of risk or the volume of cargo at risk. "What if" scenarios suggested in the comments (e.g. Cerf page 8, "...Seattle could lose 100% of that business", or Cerf p. 9, "If only 5% of the agricultural shipments are lost...") are inherently speculative. As suggested on p. 95–96 of the analysis, a more productive approach may be measures that maintain the fluidity of truck routes and minimize any adverse impacts on reliability.

117. All port terminal revenues are, to our knowledge, confidential. Only the Port is in a position to estimate any impacts.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
75	Greenhouse Gas Emissions, Section 3.2 & Appendix C	The DEIS does not provide a substantive or accurate analysis of GHG impacts associated with the project, particularly of operations and traffic congestion impacts, nor does it provide any comparison of greenhouse gas emissions associated with each alternative. The use of the King County DEES SEPA GHG Emission Worksheet is an inadequate tool for estimating GHG emissions from this project. The King County worksheet includes a caveat that it "...should not be used to estimate GHG emissions from large, complex projects, such as urban planned developments, major infrastructure projects, or projects that required an Environmental Impact Statement (EIS)." King County also provides notes that the worksheet has not been updated since 2007 and "...should be used with caution." Consequently the analysis drastically underestimates the actual associated emissions, particularly since the King County tool only includes a generic tool for estimated emissions for project-associated vehicle trips and does not analyze for emissions created by traffic congestion or from regional increases in VMT due to longer-distance trips from a dispersed fan base. Ecology's GHG guidance for analysis of GHG emission in SEPA reviews clearly requires that the analysis include both vehicle emissions once the project is complete and vehicle trips generated by the project during construction and operation, including those of employees, customers, vendors, or residents. See http://www.ecy.wa.gov/climatechange/docs/sepa/20110603_SEPA_GHGintermalguidance.pdf	The EIS must include an accurate and complete disclosure of GHG emissions associated with construction and operation of the project for each alternative. An accurate analysis, which includes the impacts of emissions associated with congestion, will likely raise the projected emissions substantially over 25,000 MTCO2e. In which case, per Ecology SEPA guidance, the EIS must provide a quantitative analysis of emissions and mitigation measures to reduce emissions by 11% below what emissions would have been without those measures (BAU).
76	Page 3.2-3	On June 17, 2013, Seattle City Council adopted Resolution 31447, formally adopting Seattle's 2013 Climate Action Plan. The Climate Action Plan is	The EIS should provide analysis of whether the proposed project

September 30, 2013

Page 26 of 29

119
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118. Potential economic impacts from the development of a new Arena are discussed in the Economic Impact Analysis included as Appendix F to the EIS.
119. As described in Section 3.2 Air Quality, in urban areas of the Puget Sound, motor vehicles are the largest source of air emissions. Over the last two decades, many pollutant levels have declined, and air quality has generally improved. This improvement has occurred with the increase in traffic volumes described in Section 3.8.
120. Operational impacts under the Proposed Project would be attributable to vehicular traffic during events. Event traffic would primarily emit CO, precursors of ozone, particulate matter, and GHGs from vehicles. Highest event emissions would likely occur during a weekday peak hour with additional traffic arriving at the Arena. The Proposed Project would include traffic mitigation to reduce volumes and congestion, and to encourage transit use, which would reduce traffic emissions of air pollutants during events. See Section 3.8 Transportation.
- The GHG worksheets include a transportation component to account for vehicle emissions.
- The City of Seattle and King County do not require direct mitigation for greenhouse gas emissions with the exception of effects of transportation. Transportation mitigation measures are described in Section 3.8.
- Ecology's guidelines are applicable only to projects where Ecology is the SEPA lead agency: *"Guidance for Ecology Including Greenhouse Gas Emissions in SEPA Reviews: The purpose of this document is to assist Ecology staff in determining which projects should be evaluated for greenhouse gas emissions and how to evaluate those emissions under SEPA when Ecology is the lead agency."*
- As stated on page 3.2-1, motor vehicles are the largest source of air emissions, and pollutant levels have declined over the last 2 years. This is largely due to vehicle inspection programs, changes in gasoline, and improvements in combustion design.
121. As described on page 3.2-7 of the FEIS, the Proposed Project would be designed to reduce its GHG emissions. The Arena would be designed and operated to meet or exceed green building and sustainability practices, which would reduce its overall carbon footprint and would help the City of Seattle to achieve its goal of being carbon neutral.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
		composed of recommended actions to be taken to meet Seattle's goal of becoming carbon neutral by 2050. The EIS does not provide information as to whether the proposed project would make it more difficult or less difficult for the City to meet its goals as a result of the proposed project action. The EIS states that the Plan has a wide range of GHG-reduction strategies and outlines some operational features that could be included in the proposal but it does not commit to any of these features.	would make it more difficult or less difficult for the City to meet its carbon neutral goals and thereby create an adverse impact to the environment. The EIS should commit to specific operational features that would meet the carbon neutral goals if the analysis shows that these features are needed to mitigate for adverse impacts.
NOISE			
77	EIS Section 3.5	The associated and ancillary development expected to follow the development of an additional stadium (bars, restaurants, commercial uses) will create a need to reduce unwanted sounds at the venue. Animated crowds within a purported industrially developed land use area will want to reduce noise impacts from existing noise source including traffic, loading-dock operations, rail yard and trains, overhead aircraft and trucks serving the industrial and Port uses. This inherent conflict will require management of commercial expectations as to level and type of noises expected both in and around the arena and related development. New development should be required to acknowledge and accept existing industrial noise conditions as part of any land use application and not be allowed to make complaints as to the nature and character of noise conditions unless the emitters are non-compliant with the Seattle noise code.	The DEIS should commit to the following mitigation: <i>New development is required to acknowledge and accept existing industrial noise conditions as part of any land use application and not be allowed to make complaints as to the nature and character of noise conditions unless the emitters are non-compliant with the Seattle noise code.</i>
78	3.5.1	"Noise from crowds outside of a spectator sports facility or from traffic going to or from a spectator sports facility are not typically included in a noise analysis of a facility." This is an erroneous statement. Noise from these sources are environmental impacts and do affect the natural conditions of the site. The facility will generate significant noise levels from related traffic and crowds entering and leaving the site that must be evaluated in order for a complete EIS. These noise levels should be	Provide quantitative analysis of the noise levels relative to a baseline and model the increase in noise relative to existing conditions for the duration of typical events.

September 30, 2013

Page 27 of 29

Design and operational features could include:

- Efficient lighting fixtures, in both interior and exterior
- Bicycle and pedestrian improvements, which would reduce the number of vehicles and their exhaust emissions
- Measures to encourage transit use and car pools during events
- Parking for bicycles
- Electric car infrastructure
- LEED (Leadership in Energy and Environmental Design) Silver or higher certification
- Solid waste reduction during events
- Water conservation and reuse fixtures
- Promoting solar use where possible, and using alternative energy sources
- Onsite stormwater management and treatment

122. Comment noted. The Arena is an indoor facility and noise impacts during the events will be confined within the building structure. As noted in the EIS, noise from crowds outside of a spectator sports facility or from traffic going to or from a spectator sports facility are not typically included in a noise analysis of a facility.

123. Comment noted. The Arena is an indoor facility and noise impacts during the events will be confined within the building structure. As noted in the EIS, noise from crowds outside of a spectator sports facility or from traffic going to or from a spectator sports facility are not typically included in a noise analysis of a facility

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
		evaluated relative to a baseline and to model the increase in noise relative to existing conditions for duration of typical events. Finally the impact should be compared to the local noise code, relative to potential receivers and whether the noise increase are compatible to the ambient acoustic environment. Additionally, how the arena fits into the existing environment and its impacts to existing businesses and land uses both individually and cumulatively must be evaluated.	The impact should be compared to the local noise ordinance, relative to potential receivers and to discern if the noise increase is compatible to the ambient acoustic environment. Evaluate how the arena fits into the existing environment and what its potential noise impacts may be to existing businesses and land uses both individually and cumulatively.
79	3.5	As with above, ground vibration is noted in this section, with the potential for negative effects in adjacent areas. In addition, only construction-related noise effects are evaluated. From an operational perspective, heavy truck traffic in adjacent ROW areas may be a negative long-term effect. Also, industrial area noise may have potential for adverse effects on performance uses at the completed arena.	Provide analysis of potential noise impacts from heavy truck traffic in adjacent ROW areas. Provide analysis of how industrial area noise may have potential impacts on performance uses at the completed arena.
80	3.5-4	Ground vibration and construction noise evaluations should include analysis of future operations and potential for negative effects due to existing and continuing industrial area uses and activities.	Provide analysis of future operations and potential for negative noise impacts due to existing & continuing industrial area uses and activities.
81	3.5-6	3.5.2.6: Discussion of secondary noise impacts includes changes in use due to arena induced economic growth. This section does not consider the potential for "inverse" or off-site secondary noise impacts.	Provide analysis of the potential for "inverse" or off-site to arena secondary noise impacts.
OTHER			
82	Section 3.4, Geology & Soils	Generally, the report focuses on technical matters relating to predicted liquefaction & earthquake hazards. The information is limited to description of conditions important to construction of the proposed arena, including	Provide analysis of how vibration related construction impacts raise an "inverse" issue

September 30, 2013

Page 28 of 29

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- 124.** Construction noise is described in the EIS along with applicable noise regulations and recommended mitigation measures.
- 125.** Construction noise is described in the EIS along with applicable noise regulations and recommended mitigation measures.
- 126.** Cumulative changes to noise levels are discussed in Section 3.5.3.6.
- 127.** The foundation and structural design for the Arena will account for the potential of off-site vibration that could affect the Arena.

#	Location in EIS or Appendices	Comment	EIS Action / Remedy / Mitigation Required
		vibration effects on adjacent structures. Absent from the analysis & evaluation is information describing a complete facility, located in unstable, filled industrial area. The potential for off-site vibration effects due to adjacent transportation uses & activities to negatively affect the arena must be included. Adjacent heavy industrial vehicle & rail traffic may result in vibration in a completed arena structure. Such existing conditions require detailed analysis.	that would impact an arena constructed in Alternative 2 or 3.
83	3.1-13	Third bullet: Indicates that construction truck traffic may result in "annoying" off-site ground movement. The DEIS notes off-site ground movement and vibration due to construction traffic. Existing heavy freight and rail transportation produces similar "annoying" ground movement.	Provide analysis and evaluation of this existing condition relating to operation of a future area facility in Alternatives 2 and 3.
84	Section 3.3, Water:	Similar to 3.1, vibration in liquefaction-prone soils is noted as a potential adverse effect on buried storm water, sewer & water supply utilities. It may be that a constructed facility would be adversely affected by truck vibration.	Provide analysis of how a constructed arena may be adversely affected by freight truck vibration.
85	3.3-3	First para, storm water discussion does not indicate location of discharge for storm water in area of project. This is via sub-grade, large diameter utility lines passing under Terminal 46 and discharging beneath existing apron facilities at site. The potential for adverse effects and changes in this essential storm water infrastructure requires analysis.	Indicate the location of the discharge for stormwater in the area of the project for Alternatives 2 and 3.
86	Section 3.4, Scenic Resources	This section does not acknowledge height and mass of adjacent marine industrial landscape and potential for change.	Acknowledge the height/mass of the adjacent marine industrial landscape & potential for change. Describe potential impacts & mitigation as appropriate.
87	Section 3.7, Historic and cultural resources	The evaluation distinguishes between structures 25-50 years old and greater than 50 years old. No primary or secondary matters include port properties. Historic shoreline plot is incorrect.	Provide analysis of primary & secondary matters including Port properties. Correct the historic shoreline plot.

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- 128. The facility is being designed to withstand common vibration.
- 129. The facility is being designed to withstand common vibration.
- 130. Stormwater collection from the SoDo site is described in Section 3.3 Water. Table 3.3-1 of the Final EIS identifies the anticipated stormwater from the SoDo Arena site to be approximately 1 million gallons less than existing stormwater flows.
- 131. Information has been added to the discussion of the No Action Alternative.
- 132. The comment did not identify Port properties to be included, nor are there any Port properties adjacent to either the SoDo or Seattle Center sites. The comment also did not indicate what was incorrect about the historic shoreline plot included in Section 3.1 Geology as provided by the Alaska-Yukon-Pacific Exhibition in 1909.



September 30, 2013

Mayor Mike McGinn
City of Seattle
700 5th Ave, Suite 2000
P.O. Box 34019
Seattle, WA 98124-4019

Re: **Comments on the Draft EIS for Proposed Seattle Arena**

Dear Mayor McGinn:

After reviewing the Draft Environmental Impact Statement (DEIS) on the proposed SoDo arena, the Port of Seattle Commission remains deeply concerned that this project is a threat to middle-class jobs -- in Seattle, but also throughout the region. As an agency charged with creating opportunity and family-wage job growth, the Port of Seattle believes that it is a profound mistake to trade middle-class employment and a diversified tax base for the indeterminate economic value of an additional sports and concert venue in the city.

The long-term health of our city's maritime and industrial jobs base is at stake. These businesses and jobs are what help anchor our urban middle class. Fifty thousand people work in SoDo every day. The state's manufacturers and agricultural producers depend on this area to get \$10 billion in products to markets across the country and around the world. The economic impacts that must be considered ripple way beyond SoDo. Seattle's manufacturing and industrial businesses provide more than one-third of the city's sales tax receipts and B&O tax revenue. Not only are arena proponents risking SoDo's full-time, middle class jobs, they are also gambling with city finances.

To be sure, the Port Commission remains a solid supporter of the prospect of NBA basketball and NHL hockey coming to the region. We do believe that in the right venue, these sports franchises would attract more tourism and economic activity to our community. But we conclude that the cost of an arena in the proposed SoDo location is simply too high when considering the impact on the middle class. We must seriously consider other locations that

133

maximize the benefits of an arena while minimizing the economic impacts on our community, something this DEIS fails to do.

This DEIS erroneously approaches the issue as though this arena is a private project, rather than a public project that will receive \$200 million in taxpayer financing and, after construction, be owned by the public. For public projects, the city is required under the law to consider a broader range of alternatives and should have considered sites outside Seattle. Instead, the arena proponents seem prepared to use millions of dollars in public financing for a private purpose while hoping to avoid consideration of the full range of alternative sites. Frankly, the analysis before us describes numerous benefits of the arena, but fails to acknowledge obvious costs to the public. This DEIS was a cursory review of the impacts an additional sports venue would have on existing activities in SoDo. The analysis of alternative arena sites was biased in favor of the SoDo site. This ignores precedents established during planning and construction of Safeco and CenturyLink, and does the public a disservice.

The DEIS acknowledges that the competitive position of the port and maritime businesses could be diminished due to traffic concerns, but the impact is not reasonably quantified and no remedy is specified. The estimated additional impact – 4 minutes per truck – is so narrowly defined that it lacks all credibility. Existing data show that current stadium traffic does lead to congestion. Before a Friday night Mariners’ game, the Washington State Department of Transportation has identified an increase of westbound I-90 traffic of 20 to 30 percent between 3pm and 5pm. Area businesses, schools and communities are struggling with the current level of congestion. Regional leaders continue to work to shore up our fragile transportation and transit systems.

Despite the impacts we know will occur, the funds needed to address those impacts have not been adequately identified to prevent job losses at existing businesses. We know the public cost to reduce these traffic impacts will be enormous, even hundreds of millions of dollars. The DEIS suggests an incomplete list of transportation mitigation options, but does not identify necessary funding or demonstrate they provide a remedy. The city may need new signal timing investments, new highway access and new east-west vehicle and pedestrian overpasses to relieve the additional pressure. The 17 rail tracks immediately adjacent to the site are broadly acknowledged to be a serious safety concern to families attending arena events. Who pays for transportation improvements remains an open question.

Finally, we do not see the need to rush forward with a decision on an arena. Several larger reviews are underway to support this area’s continued prosperity. We can use these analytical insights to inform smart, collaborative approaches to SoDo’s current challenges, which will only worsen if we add a new arena to the mix. Also, to move forward with an Occidental Avenue street vacation and begin construction of a new arena is premature. The NBA has said they are

not contemplating expansion and the developer has no firm prospect of luring an existing team from another city.

We urge the city to begin the process anew. We must start over with a full consideration of the cumulative and secondary impacts on existing economic activities in our city, region and state. We must view this issue through the lens of the single largest challenge of our generation – the growth of middle-class jobs.

The community we all represent is served by a cooperative relationship between the city and port. We resolve to ensure that this project undergoes a full and complete review of the environmental and economic impacts. We look forward to working with the city to promote SoDo as home to family-wage jobs in manufacturing and maritime industries. We know you share our community’s priority to promote long-term economic growth and workforce diversity in Seattle.

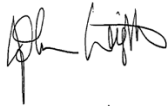
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Sincerely,

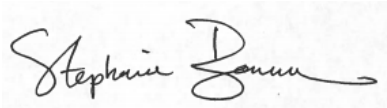
Port of Seattle Commission



Commissioner Tom Albro, President



Commissioner John Creighton, Vice President



Commissioner Stephanie Bowman



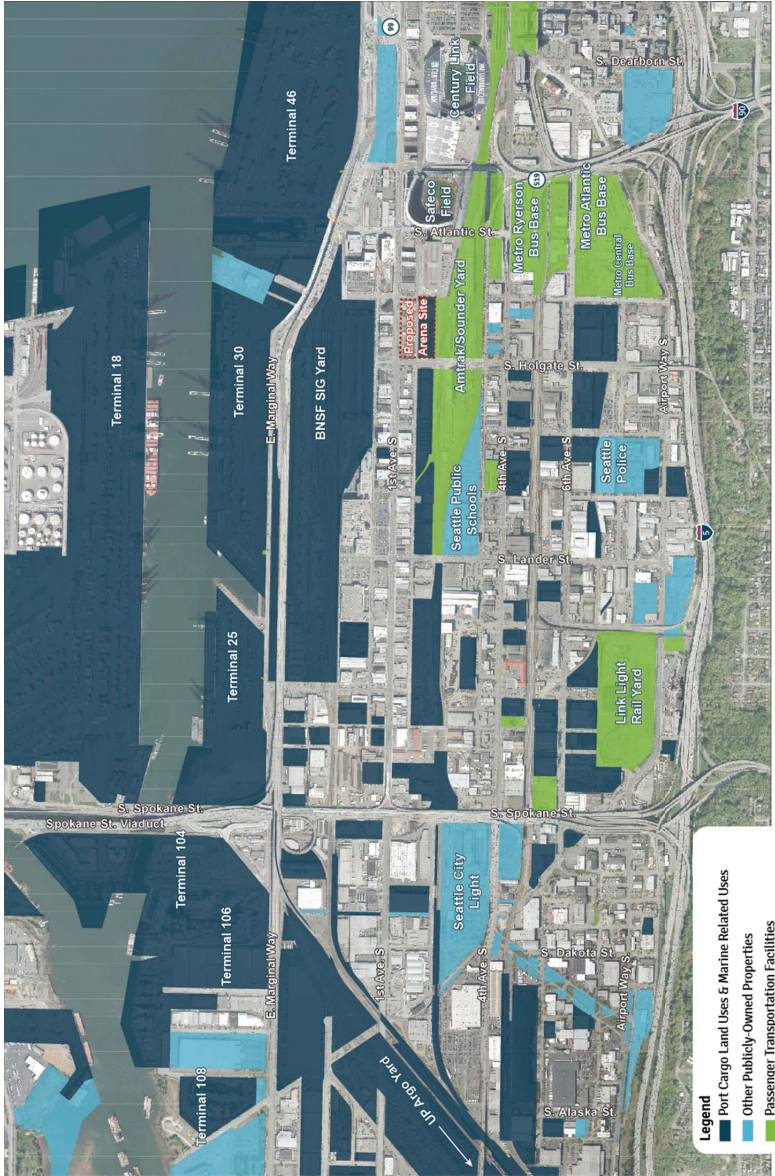
Commissioner Bill Bryant



Commissioner Courtney Gregoire

cc:

Seattle City Council
King County Executive Dow Constantine
King County Council
Governor Jay Inslee
Don "Bud" Hover, Director, Washington State Department of Agriculture
Brian Bonlender, Director, Washington State Department of Commerce
State Representative Judy Clibborn
State Senator Tracey Eide
State Senator Curtis King
John Shaw, Seattle Department of Planning and Development



Regional Transportation Hub

Land Devoted to Port Uses and Passenger Transportation Facilities

134 134. Comment noted.

Table 5. Transportation Analysis Needs for New Arena EIS

Concern	Performance measures to evaluate	Potential Mitigation if Performance is not acceptable
A. Effect on regional highways (I-5 and I-90)	<ul style="list-style-type: none"> • Net change in peak period and early afternoon travel time related to single event and concurrent event day. • Net change in annual vehicle hours of delay for base and banner year conditions. • Variability in delay created by event traffic. (a measure of system reliability) 	<ul style="list-style-type: none"> • Restrictions on concurrent events such as staggered starts or weekends only. • Improved signage to alternative routes
B. Effect on primary access routes to Port terminals	<ul style="list-style-type: none"> • Level of service analysis for key intersections in SoDo for the commuter peak hour, pre-event arrival peak, and post-event egress peak. The following should be evaluated: <ul style="list-style-type: none"> -- 1st Ave S/S Atlantic St -- 1st Ave S/S Mass. St -- 1st Ave S/S Lander St -- 4th Ave S/SR-519 Ramps -- 4th Ave S/S Holgate Street -- S Atlantic St/Colorado Ave/Little "h" cluster • Effect that rerouting event traffic to the Spokane Street Viaduct would have on access to Terminals 5 and 18 as well as to the SIG Yard. • Net change in delay related to single-event and concurrent-event day. • Net change in annual vehicle hours of delay for base and banner year conditions. • Variability in delay created by event traffic. (a measure of system reliability) 	<ul style="list-style-type: none"> • Restrictions on concurrent events such as staggered starts or weekends only. • Locate new parking to reduce traffic along the Port's primary routes (e.g., garage located east of tracks). • Event traffic management plans that provide priority for truck traffic. • Infrastructure improvements • Parking management measures and technologies that better allow attendees to find and pay for parking before events • Pedestrian access and control management measures that improve safety and traffic flow through key intersections • Same as above
C. Effect of street vacations	<ul style="list-style-type: none"> • Peak period and early afternoon level of service analysis for key intersections listed above to determine Net change in delay without and with the street vacations. • Net change in annual vehicle hours of delay for base and banner year conditions. • Variability in delay created by street vacation(s) and event traffic. (a measure of system reliability) 	<ul style="list-style-type: none"> • Same as above
D. Safety of RR Crossings	<ul style="list-style-type: none"> • Net change in pedestrians and vehicles crossing tracks at S Holgate Street. • Frequency and duration of train blockages at the at-grade crossings • Historic rail-vehicle and rail-pedestrian collisions in SoDo (all crossings) • Safety analysis of RR crossing • Pedestrian storage needs when waiting for a train • Effect of additional queues, delays or safety issues on the potential to close S Holgate Street during events or permanently 	<ul style="list-style-type: none"> • Safety enhancements including improved side-walks, gates, lights, pedestrian landings and other features. • Active police management before and after events • Alternative east-west vehicle crossing • Grade-separated pedestrian crossing

August 7, 2012

135. Your suggested mitigation measures are noted.



WASHINGTON STATE
MAJOR LEAGUE BASEBALL STADIUM
PUBLIC FACILITIES DISTRICT

110 Edgar Martinez Drive South
P.O. Box 94445
Seattle, WA 98124
(206) 664-3076
www.ballpark.org

Washington State Major League Baseball Stadium Public Facilities District

1. Comment noted

September 30, 2013

City of Seattle
Department of Planning and Development
Attention: John Shaw, Senior Transportation Planner
700 Fifth Avenue, Suite 2000
P.O. Box 34019
Seattle, WA 98124-4019

Re: Comments on the Draft Environmental Impact Statement for the Proposed Arena
Project Nos. 3014195 and 3014293

Dear SEPA Responsible Official:

The Washington State Major League Baseball Stadium Public Facilities District (PFD) appreciates the opportunity to review and comment on the draft environmental impact statement (EIS) for the proposed NBA/NHL arena project (Proposed Arena). We commented on the scope of this EIS in November 2012. We look forward to seeing responses to all of our comments in the final EIS.

As you know, the PFD is the public entity that developed and owns Safeco Field. The PFD is responsible for overseeing this public asset and for ensuring that the public's investment in the ballpark is not compromised.

Safeco Field is located immediately to the north of the SoDo site alternative for the Proposed Arena evaluated in the draft EIS (Alternatives 2 and 3). In our scoping comment letter, we expressed our deep concerns about the SoDo site and the likely significant adverse impacts that would result from developing an arena at that location. The analysis in the draft EIS confirms our concerns, disclosing that an arena at the SoDo site would have "significant unavoidable adverse impacts" on all of the following:

- traffic volumes and operations
- freight and goods movement
- parking
- pedestrian safety and connections, and
- construction noise.

(See Draft EIS, Table 1-4, pp. 1-57 to 1-58) (Summary of Significant Unavoidable Adverse Impacts).

BOARD OF DIRECTORS

Charley Royer, Chair
Bob Wallace, Vice-Chair
Terrence A. Carroll
Joan Enticknap
Charles V. "Tom" Gibbs
Hyeok Kim
Dale R. Sperling

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Under the State Environmental Policy Act (SEPA) rules and the City of Seattle's own SEPA policies, these significant adverse impacts provide a basis for the City to deny permits and other approvals for construction at the SoDo site unless these impacts are mitigated. WAC 197-11-660 (1); SMC 25.05.660 and .665 A. 2. If reasonable mitigation measures are insufficient to mitigate these impacts, then development of an arena at the SoDo location should not proceed.

The PFD appreciates the lengthy analysis of environmental impacts contained in the draft EIS, but we remain concerned that the evaluation of (and project commitment to) mitigating impacts is inadequate. Unless the proposed mitigation measures are more fully developed in the final EIS, and the project proponent commits to implementing those measures, then we must conclude that an arena developed at the SoDo site will have significant adverse impacts on Safeco Field, our fans, and our tenant the Seattle Mariners.

Our concerns with the draft EIS, identified impacts, and potential mitigation measures are expressed in more detail below:

Site Alternatives: During scoping, we were pleased that the City committed to evaluating a range of site alternatives for the Proposed Arena. We are disappointed, however, with the range of alternatives ultimately evaluated in the draft EIS. The main body of the EIS evaluates three site alternatives while Appendix A only makes a cursory examination of other alternative sites. (See Draft EIS, Appendix A, which identifies 21 sites to be evaluated and then eliminates many of them because they do not meet basic criteria, such as site size and zoning, leading one to wonder why they were identified as candidate sites in the first place.) We believe that meaningful evaluation of additional site alternatives in the final EIS could lead to better choices. It would also help support the decision-making of the King County Council in determining whether it participates in this project, especially if other locations in King County are identified and evaluated.

Really? No New Parking? Under the City's land use code, a minimum of 2,500 parking spaces are required for a 20,000 seat arena. An 18,000 seat arena requires a minimum of 2,250 parking spaces. In 2012, the arena-commissioned feasibility study on traffic and parking concluded that a sold-out arena event would add "approximately 6,000 vehicles" to the SoDo area. In assessing parking availability it also assumed that approximately 1,500 "new" spaces would be provided by the arena and 2,000 potential spaces would be provided by "other" projects (presumably by parking covenant).

Since Safeco Field opened for play in 1999, there has been a cumulative loss of on-street and off-street parking in the SoDo neighborhood totaling more than 3,900 spaces. This loss was caused by various WSDOT, SDOT, and other projects, including the Alaskan Way Viaduct Replacement Project. This loss of parking continues to have a ripple effect that impacts the neighborhood and local businesses.

In late 2012, following nearly two years of study, the PFD and its neighbor to the north, the Washington State Public Stadium Authority (PSA), completed the Stadium District Concept Plan. The plan represents the PFD's and PSA's collective vision for what a Stadium District might become, over a ten-year period and beyond, to dramatically and positively impact its neighborhood. Among other things, the Concept Plan concludes that there is a need for a minimum of 2,000 new parking spaces in the Stadium District, *even before the new arena was proposed*. The addition of the arena to the stadium area and the parking demand it would generate would only increase the need for more parking.

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2. See Common Response #1 Public vs Private Project; Range of Alternatives
3. The FEIS presents the demand based analysis for SEPA purposes (see Appendix E, Section 2.8). Code required parking will be determined during the MUP review. It is anticipated that code-required parking would be met through provision of approximately 100 parking spaces on-site as well as either shared parking agreements with existing parking facilities or construction of a new parking garage on the South Warehouse site (see evaluation in Appendix E, Section 2.12). The parking demand analysis has been updated to reflect the revised Case S3 (72,500 attendees) as well as a sensitivity analysis for Case S1 without the use of the Safeco Field and CenturyLink Field parking facilities (see Appendix E, Section 2.8). The evaluation shows that Arena parking could be accommodated in the study area; however, as event attendance increases or parking supply decreases, it would become more difficult to find parking in the area and the reliance on parking further from the site would increase.

In fact, the construction of the arena and the street vacation of Occidental Avenue S. will result in the loss of more than 500 additional parking spaces (based on a recent count conducted by the Seattle Mariners). The draft EIS similarly concludes that at least 400 event parking spaces will be lost as a result of arena construction in SoDo. (Draft EIS, p. 3.8-104).

Despite all this prior work showing an existing need for new parking, the draft EIS continues to assume that “no new attendee parking would be built” for the arena and that “code required parking would be met through shared agreements with existing or new parking facilities not associated with the arena.” (Draft EIS, p. 3.8-100)¹. The consequences of not including event parking in the construction of the new arena are obvious, and they are confirmed by the draft EIS: *unavoidable significant adverse parking impacts in the neighborhood*. This includes “greater competition for parking with other area stakeholders, including commercial businesses in neighborhoods such as SoDo, Pioneer Square, and the International District.” (Draft EIS, Table 1-4).

Essentially, the Proposed Arena is shifting the burden of its decision not to provide any new event parking to all of its neighbors, including Safeco Field. As the draft EIS concludes, this is especially problematic when there are simultaneous events at the Proposed Arena and Safeco or CenturyLink Field. At those times, parking demand “exceeds the parking supply within the primary study area” and parking spills over into the Waterfront and Central Business District. (Draft EIS, p. 3.8-108).

None of the parking mitigation proposed in the draft EIS gets to the root of the problem—lack of adequate parking supply in the Stadium District—but instead focuses on various ways of shifting the parking burden. Proposed mitigation includes using “expanded on-street parking controls”, changing “parking rates and time limits”, establishing “covenant parking agreements”, “shared use parking protocols”, and other measures to promote, pre-sell, or share the existing parking supply. Rather than mitigating the significant impacts caused by the loss of parking, these measures simply shift the burden to the surrounding neighborhoods, local businesses and other existing uses in the Stadium District, Pioneer Square, and the International District.

While the PFJ supports the notion of shared parking facilities, the Safeco Field garage is fully committed to the Seattle Mariners under our lease with the team. It also provides shared, covenanted parking to CenturyLink Field and Event Center for football, soccer, flat shows, and other events at CenturyLink. As a result, the Safeco Field garage is simply not available during all the times that would be required to meet the City’s code requirements for shared parking with a SoDo arena.

The final EIS should analyze the impacts of the cumulative parking loss identified above and should ensure that adequate parking is provided for the new arena, including *new parking* for event attendees. If new structured parking is added to mitigate the significant adverse impacts of the Proposed Arena on parking loss and increased parking demand, then the final EIS should fully evaluate the impacts of that facility. That evaluation should include the impacts on traffic and transportation in order to ensure that the new parking facility’s size and location can be optimized.

Traffic and Transportation: The draft EIS confirms that development of an arena at the SoDo site will result in “significant unavoidable adverse impacts” on both traffic volumes and traffic operations. (Draft EIS, Table 1-4). The draft EIS concludes that traffic volumes in SoDo will “increase substantially over current levels” even without the arena. (*Id.*) If the arena is added to SoDo, high traffic volumes during peak conditions on event days would occur more frequently than ever before. Traffic volumes

¹ Recent design changes for the arena show that it will now include 60-70 on-site parking spaces for players, coaches, and arena staff.

4. See Common Response #6 Mitigation Measures – Traffic.

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on surrounding streets would increase anywhere from 3-22% during peak periods as a result of the arena project. (Draft EIS, Table1-1, p. 1-22).

For traffic operations, development of an arena in SoDo would result in a greater number of intersections operating at the worst levels of service (LOS): LOS E and LOS F. For arena only events, the number of intersections operating at LOS E/F would increase by 5 over the no-action alternative. For dual events (events at the arena and either Safeco or CenturyLink Field), an additional 7 intersections would operate at LOS E/F. For multiple events at all three locations, 21-25 of the study area's 66 intersections would operate at LOS E/F. As the draft EIS concludes, these represent significant adverse impacts on traffic operations. (Draft EIS, Table 1-4, p. 1-57).

As with the parking impacts discussed above, rather than directly mitigating these significant adverse impacts on traffic volumes, the draft EIS proposes a series of mitigation measures that rely on demand reduction strategies or vehicle management tools (using signage, electronic media, and other means) to orient vehicles to the appropriate route. Traffic operation mitigation measures include a wide set of potential measures many of which have been used successfully at Safeco Field (e.g., an event scheduling agreement, directional event signage, variable message signs, traffic control center improvements, traffic management plans, and construction management plans).

The PFD is concerned that these measures alone are not adequate to mitigate the significant adverse traffic impacts caused by a SoDo arena. Physical roadway improvements and other tangible measures will likely be required to ensure that adverse traffic impacts are appropriately mitigated.

The PFD is also concerned that the City ensure that when implementing proposed mitigation measures the cost of such mitigation is borne by the arena and is *not* shifted to the neighborhood. Safeco Field, CenturyLink Field, the Port of Seattle, and all of the surrounding local businesses currently deal with the effects of traffic congestion, and each has participated in financing solutions to address such issues, including the SR-519 roadway improvements (phases 1 and 2). Now the arena needs to step up and accept responsibility for mitigating the impacts caused by its development without shifting that burden to the existing uses.

The final EIS should identify with more specificity how certain proposed mitigation measures will be accomplished (including funding), and it should identify specific traffic and transportation improvements that would directly mitigate the significant adverse traffic volume and traffic operations impacts identified in the EIS. This could include specific plans for physical intersection improvements (striping, channelization, signaling, etc.) for those intersections failing LOS standards, along with order-of-magnitude cost estimates for such mitigation. This would provide additional information that allows the arena team and City/King County decision makers to more fully understand the full cost of developing an arena at the SoDo location. The final EIS should also include specific traffic reduction goals to be included in an arena traffic management plan along with requirements for measuring success in meeting those goals and back-up measures if the initial measures are not successful.

Pedestrian and Fan Safety/Pedestrian Connections: The draft EIS identifies several significant impacts to pedestrians resulting from constructing an arena in SoDo. There are multiple impediments to pedestrian connectivity and safe pedestrian travel along key travel routes to and from the arena, and the site's proximity to the active BNSF rail line and rail crossings at S. Holgate Street increases the potential for conflict between pedestrians and rail traffic.

The pedestrian connectivity issues are serious, with pedestrian flows in some areas near the SoDo site being "severely restricted" with pedestrians experiencing "crowded conditions". (Draft EIS, 3.8-41). Fortunately, these impacts can be mitigated by requiring that the arena complete the off-site

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5. See Common Response #5 Mitigation Measures

The FEIS outlines specific mitigation measures intended to mitigate the impacts of the projects (see Appendix E, Section 4.0). This includes specific improvements to be constructed by the applicant as well as pro-rata contributions to regional improvement projects including ITS Next Generation improvements and the planned Lander Street grade separation. The project also will be subject to a comprehensive Transportation Management Plan (TMP) that includes demand reduction strategies, performance targets, and pre/post event traffic control requirements.

6. See Common Response #6 Mitigation Measures – Traffic and Common Response #7 Mitigation Measures – Pedestrian Access.

pedestrian improvements needed to complete the missing sidewalk links, provide new sidewalks, and expand existing sidewalks where warranted. The project proponent should commit to these mitigation measures before the final EIS is issued in order to ensure that they will be completed as part of project construction. The final EIS should also provide more detail on area-wide sidewalk and other off-site improvements necessitated by the arena, including their locations and estimated costs.

The pedestrian/railroad conflict issue is both more serious and more difficult to solve. The draft EIS reveals that the problem is created by an existing lack of pedestrian queuing capacity at the SE corner of the SoDo arena site and an absence of pedestrian controls at the S. Holgate Street railroad crossing, which includes multiple, closely-spaced mainline and spur tracks. Even if appropriate controls were added, such as enhanced at-grade crossings, "accommodating the large storage needs" for pedestrians during post-arena event egress "would be difficult". (Draft EIS, p. 3.8-42). As a result, a pedestrian bridge is recommended as project mitigation.

We note that similar (although less severe) challenges were faced by the PFD and the Mariners with the development of Safeco Field. Ultimately, the railroad crossing at S. Royal Brougham Way was closed and a road and pedestrian overcrossing were provided. The PFD and the Mariners both participated financially in these improvements, along with other project partners to ensure that the project was completed. The overcrossing at Royal Brougham eliminated the pedestrian/railroad conflict and provided safe and secure pedestrian access to the ballpark from east of the tracks. A similar pedestrian overcrossing at S. Holgate Street should be evaluated in the final EIS.

While SEPA does not typically require that mitigation measures be evaluated in detail, the addition of a pedestrian bridge would be a substantial change to the proposal (perhaps requiring modifications to the arena design), and it could itself result in significant impacts. Accordingly, it should be discussed in detail, including estimated costs, in the final EIS. (See WAC 197-11-440(6)(c)(iv)).

Freight and Goods Movement: On event days, the draft EIS reports that delays to freight and goods movement can be expected to increase as a result of arena event traffic with the level of service at key freight intersections dropping to LOS E/F. Delays would increase further when multiple events are held at the arena and other venues. The draft EIS identifies these impacts as significant, but it only proposes programmatic measures to address them.

While we will defer to the Port of Seattle and others regarding the adequacy of the EIS impact analysis of freight and goods movement, we note again that it is important that the EIS identify specific mitigation measures and that the cost of these measures be borne by the arena and not by others.

Public Services and Utilities: The draft EIS evaluates the impact of the arena on public services and utilities and concludes that any impacts would not be significant. But as the Seattle Mariners and First and Goal, Inc. both point out, there is another dimension to this issue not yet evaluated. The teams are concerned that the addition of a third major event venue will significantly strain the availability of the police department to provide adequate trained staff for event traffic control, especially with overlapping events. These potential impacts should be evaluated in the final EIS.

Construction Noise: The draft EIS identifies unavoidable significant adverse noise impacts that would be caused by pile-driving at the SoDo site during arena construction. The final EIS should include as a mitigation measure potential limits on pile driving to off-season periods or to non-event days at Safeco and CenturyLink Fields. Such mitigation should be incorporated into the construction management plan for the site.

7. See Common Response #7 Mitigation Measures - Pedestrian Access

8. See Common Response #5 Mitigation Measures

The FEIS outlines specific mitigation measures intended to mitigate the impacts of the projects (see Appendix E, section 4.0). This includes specific improvements to be constructed by the applicant as well as pro-rata contributions to regional improvement projects including ITS Next Generation improvements and the planned Lander Street grade separation. The project also will be subject to a comprehensive Transportation Management Plan (TMP) that includes demand reduction strategies, performance targets, and pre/post event traffic control requirements.

9. See Common Response #13 Adaptive Traffic Control

10. See Common Response #5 Mitigation Measures

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Mitigation Planning: As we did during the scoping process, we would like to again offer our support to work with the City, the County, and the arena developer regarding mitigation planning for implementing this major public project. We learned a lot during the environmental review and project permitting for Safeco Field, including the needs of the surrounding neighborhood. The Mariners have also learned a lot over the years from Safeco Field's construction and subsequent operation, including what mitigation measures have been the most effective. We would be happy to share with the City what we learned.

Final EIS: Because of the length and complexity of the draft EISs for this project and the likelihood of substantial changes between the draft and the final, we ask that the City make available to commentors an electronic version of the final EIS that shows all of the changes made to the text of the final document in redline/strikeout form. Given that the City is no longer distributing hard copies of its environmental documents to the public, providing a redlined and a clean electronic version of the final EIS should not be difficult.

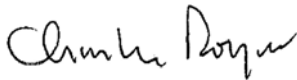
Seattle Mariners' Comments: We note that our tenant, the Seattle Mariners, prepared a separate comment letter. The PFD joins in the concerns and issues raised by the team.

Conclusions: As a spectator sports facility and pedestrian venue, the continued success of Safeco Field turns in large part on our baseball fans' and patrons' ability to access and park near our facility. If facility access or parking is compromised, the impacts on our tenant's operations are significant. As the draft EIS confirmed, a Proposed Arena in SoDo will have unavoidable significant adverse impacts that must be mitigated.

We remain concerned about the permanent impacts that would result from arena construction at the SoDo site, and we believe that the mitigation measures proposed in the draft EIS are too ephemeral and uncertain at this stage to ensure that significant adverse impacts will be mitigated. We believe that the final EIS must address these deficiencies by evaluating additional substantive measures designed to reduce impacts. In addition, the project design must be modified to incorporate these additional mitigation measures, including new event parking, physical transportation and intersection improvements, and commitments to participate in the construction of required improvements, such as an elevated pedestrian crossing of the BNSF railroad tracks at S. Holgate Street and other pedestrian improvements.

Again, we appreciate the opportunity to comment, and we look forward to continuing to work with the City as this project proceeds. If you have any questions, please call our Executive Director, Kevin Callan, at (206) 664-3076 or (206) 767-7800.

Sincerely,



Charley Royer
Board Chair

Cc: Via Email

Seattle Public Resources Center: PRC@Seattle.Gov
PFD Board Members
Kevin Callan, Executive Director

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11. Thank you for your offer.

12. For the ease of reading the document, the Final EIS has been prepared with a vertical line in the margin to indicate where changes to the DEIS text have been made, or additional information added.

13. Comment noted

14. Comment noted. Code required parking will be determined during the MUP review. It is anticipated that code-required parking would be met through provision of approximately 100 parking spaces on-site as well as either shared parking agreements with existing parking facilities or construction of a new parking garage on the South Warehouse site (see evaluation in Appendix E, Section 2.12). Pedestrian-access improvements have been identified and are included in the mitigation measures. See Section 4 of the Transportation Resource Report.

Harris, Johnny

From: Shaw, John
Sent: Monday, September 30, 2013 4:47 PM
To: PRC
Subject: FW: Arena DEIS Comments from SPU
Attachments: Seattle Public Utilities Comments.DEIS.docx; SPU Final Comments Occidental.pdf

For #3014195.

From: Stevens, Bryan
Sent: Monday, September 30, 2013 4:46 PM
To: Shaw, John
Subject: FW: Arena DEIS Comments from SPU

These were sent to me instead of you.

Sent with Good (www.good.com)

-----Original Message-----

From: Brennan, Michael
Sent: Monday, September 30, 2013 04:18 PM Pacific Standard Time
To: Stevens, Bryan
Cc: Jaeger, Mark
Subject: Arena DEIS Comments from SPU

Bryan, attached are the comments to the DEIS report, as well as the previously submitted comments for the proposed street vacation of Occidental Ave S. Please include both as comments to the DEIS.

Let me know if you have any questions/concerns.

Hope I'm not too late!

Mike

Seattle Public Utilities Comments

To

Draft Environmental Impact Statement for the Arena Project

Note: These comments are to supplement the previously submitted SPU comments for the proposed street vacation of Occidental Ave S. The street vacation comments shall also be incorporated into the final EIS.

P. 3.2-14, Water System (SPU) – There is a 16 inch cast iron watermain, constructed in 1917, on Occidental Ave S, within the project site boundaries. It will be impacted by the planned street vacation, and it's conveyance and service functions must be mitigated by the project.

Figure 3.3-1 Utilities in the Vicinity of Alternative 2 and Alternative 3 – The utilities maps show all of the sewer lines in the vicinity of the project as sanitary sewers. They are actually all combined sewers, including King County's 96" METRO trunk line. The only sewer lines classified as sanitary are on Occidental Ave S, north of Massachusetts St, where they become sanitary at the point where a storm drain exists and is available.

P. 3.3-3 Sanitary Sewer System (SPU and King County) – revise header to indicate the system is combined. It is important to understand that the sewer system includes stormwater flows, and sewer system performance is greatly influenced by rainfall events.

P. 3.3-4 Groundwater – add bullet to state that dewatering associated with excavations can cause ground subsidence and damage adjacent utilities, in the absence of mitigation measures, due to the presence of fill soils. Vibration and/or settlement monitoring could be required to protect utilities and other structures. Damage to underground utilities has occurred in the vicinity as a result of dewatering activities.

P. 3.3-4 Groundwater – add bullet to state that SPU's combined sewer system and storm systems also have limited capacity for accommodating dewatering flows. It should not be assumed that contaminated groundwater can be dewatered to the sewer system. A King County Discharge Authorization, as well as SPU approval, is required prior to discharging contaminated groundwater to the sewer system.

P. 3.3-4 Water System (SPU), first paragraph – The water availability certificate will identify any required water system improvements that are required under Seattle Municipal Code and SPU policy for development projects.

Seattle Public Utilities

1. See revised Section 3.3 Water main functions will be replaced by the applicant.
2. See revised Figure 3.1-1. The figure has been corrected per the comment.
3. The header on page 3.3-3 has been revised per the comment.
4. See revised Section 3.3.3.1 on page 3.3-4. A bullet has been added per the comment.
5. See revised Section 3.3.3.1 on page 3.3-4. A bullet has been added per the comment.
6. See revised page 3.3-4. The text has been added per the comment.

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P. 3.3-4 – Water System (SPU), paragraph 3 – “No major water facilities are planned to be removed or relocated as part of the development.” This is incorrect. The street vacation will decommission SPU’s 16 inch water feeder main, and this decommissioning must be mitigated by the project. See SPU’s street vacation comments and requirements.

P 3.3-5 Stormwater System (SPU), first paragraph – Due to the flat topography in the area, it could be difficult to discharge to the City 12 inch storm line on Occidental Ave S, without pumping.

P. 3.3-6 Stormwater System (SPU), top of page – since only the “first flush” stormwater discharges to the combined sewer, and higher flows discharge to the Duwamish River via the Kingdome CSO outfall, the possibility that water quality treatment of stormwater from the project is required should be considered. Under the current Stormwater Code, Green Stormwater Infrastructure requirements can only be applied as flow control mitigation, not as stormwater quality mitigation.

P. 3.3-7 mid page – the assumption that new/replace sewer mains would not be required to support the development of Alternative 2 or 3 will need to be confirmed through capacity analysis and system modeling. This is needed to protect SPU interests as well as King County METRO.

P. 3.3-8 Construction – add bullet that before temporary or permanent discharge of groundwater to SPU sewer system is allowed, the project will need to evaluate alternatives such as on-site treatment before discharging to sewer or storm drain facilities, depending upon the type and concentration of contaminants in the groundwater.

P 3.3-8 Construction – to the bullet on Ground vibrations, add that in addition to vibration monitoring, it may be necessary to establish baseline conditions for underground utilities, such as elevation data, leak surveys, and other means. Settlement monitoring and reporting may be required during dewatering and/or construction activities that generate high impacts or ground vibration.

P. 3.3-8 Operation – If contaminated soils and/or groundwater are encountered, special design considerations may be required in order to minimize hazards encountered later by SPU crews performing routing maintenance or repairs to water, stormwater, and sewer systems. SPU may also be required to utilize specialized safety equipment and PPE’s for maintenance.

P 3.3-8 Operation Water System (SPU) – Since the proposed vacation of Occidental Ave S will result in the decommissioning of SPU’s existing 16 inch cast iron feeder main, there may be short term operational changes during construction in order to

- 7. See revised text under “Water System”. The text has been revised per the comment.
- 8. See revised discussion on stormwater. The information has been added to clarify the potential difficulty.
- 9. Comment noted. A capacity analysis and system modeling would be performed as part of permitting approval for the project.
- 10. See revised discussion in text of Section 3.3. The information provided in the comment has been added to the text.
- 11. See revised text under “construction” in Section 3.3.1.4. The suggested information has been added.
- 12. See revised text under “operation” in Section 3.3.1.4. The information has been added to the bullet.
- 13. See revised text under “operation” in Section 3.3.1.4. The information has been added.
- 14. See revised text under “operation” in Section 3.3.1.4. The information has been added.

preserve fire flow and customer service, as well as longer term operational changes due to the relocation and possible upsizing of water feeder mains in the vicinity. Due to the high domestic demand for water that could be generated by the stadium project, it is not clear whether domestic demand will drive water system requirements, or fire flow. This will need to be analyzed in order to determine water system needs.

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Cont.



City of Seattle
Seattle Public Utilities

DATE: May 30, 2013
To: Moira Gray, Street Vacation Office
FROM: Carolyn Johnson, Senior Real Property Agent;
Seattle Public Utilities Street Vacation Reviewers
VACATION:
REVIEWED Proposed Vacation of Occidental Avenue South; Clerk File 312905

Seattle Public Utilities (SPU) has reviewed the proposed vacation, and has identified the following concerns and has the following conditions:

SPU Sewer & Drainage:

SPU currently has a 15" diameter main line sewer in Occidental Ave So., built in 1916 per Exhibit "A" vault plan number 66-92 (see attached).

Please see Exhibit "B" attached as side sewer cards 5157, 5158 and 5158-1 with the bubble number legend coinciding with conditions listed below.

1. Existing side sewers to be verified "live" and reconnect to the 15" PSS in Occidental Ave S south of S Holgate Street if it is sewage only.
2. Existing 15" PS pipe. SPU to relinquish ownership of pipe to the petitioner.
3. Existing catch basin/inlet. SPU to relinquish ownership of the drainage appurtenances to the petitioner.
4. Existing drain pipe. SPU to relinquish ownership of pipe to the petitioner.
5. Existing maintenance hole (MH). SPU to relinquish ownership of the structure to the petitioner.
6. Install a new MH a minimum of 5 feet north of the vacated property line. SPU to own and maintain the MH and the existing sewer line to the north of S Massachusetts Street. It'll be permissible for the Arena's new sewer connection to connect in this MH.
7. Plug existing pipe
8. Abandon and Fill existing pipe per City of Seattle Standard Specifications.
9. Abandon and Fill existing MH per City of Seattle Standard Specifications.
10. Verify existing sewer to be removed during Arena construction.

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Ray Hoffman, Director
Seattle Public Utilities
700 5th Avenue, Suite 4900
PO Box 34018
Seattle, WA 98124-4018

Tel (206) 684-5851
Fax (206) 684-4631
TDD (206) 233-7241
ray.hoffman@spu.seattle.gov

<http://www.seattle.gov/putd>

An equal employment opportunity, affirmative action employer. Accommodations for people with disabilities provided on request.

Seattle Public Utilities

1. Comments noted. These comments have been provided to the applicant as part of the City's response to requirements of street vacation approval.

2. Comments noted. These comments have been provided to the applicant as part of the City's response to requirements of street vacation approval.
3. Comment noted.

SPU Water:

The existing 16" feeder main in Occidental Ave S is one of two alternate feeds to the Pioneer Square seismic backbone main from Beacon Hill Reservoir. If Occidental Ave S, between S Massachusetts St and S Holgate St were to be vacated, the current ability to feed the 24" Pioneer Square seismic backbone main from either the Holgate St feeder or the 1st Ave S feeder will be lost.

To accommodate the loss of the 16" Occidental feeder in the proposed vacation area, the remaining 16" feeder in 1st Ave S would need to be upsized and reconstructed to be seismically resistant. The existing 16" Occidental feeder, severed by the street vacation at S Massachusetts, would need to be extended west to connect with the upgraded 24" seismically resistant feeder in 1st Ave S. Valving at the supply junction of 1st Ave S & S Massachusetts St would need to be arranged so that either the 16" feeder in Occidental Ave S or the 16" feeder in 1st Ave S – north of Massachusetts – could be supplied from the upgraded 24" feeder approaching Massachusetts from the south. Similarly, at 1st Ave S & S Holgate St, valving would need to be provided such that the single, seismically upgraded 24" feeder north of Holgate could receive two alternate supplies from the reservoir: from either the east (via Holgate) or from the south (via 1st Ave S)

Significant water system reconfiguration required by the street vacation would include:

- Approximately 800 LF of 24" seismically resistant feeder main in the 1700 block of 1st Ave S, including hydrant and water service laterals
- Retirement of the existing 16" main in the 1700 block of 1st Ave S
- Retirement of the existing 16" main in the 1700 block of Occidental Ave S
- Approximately 230 LF of 16" seismically resistant feeder main in S Massachusetts St between the shortened Occidental feeder and the new 24" feeder in 1st Ave S
- Contiguous with the seismically resistant pipe in 1st Ave S, two line valves controlling the two alternate supply connections at Holgate
- Contiguous with the seismically resistant pipe in 1st Ave S, two line valves controlling the two alternate supply connections at Massachusetts.

After reconfiguration of the existing distribution system grid, water service to the facilities located in the street vacation area would need to be established via new metered water service connections, per standard charges.

Recommendations:

SPU recommends the Vacation Petition of Occidental Avenue South; Clerk File 312905 be approved with the enclosed conditions considered and meet.

Cj\SPU Reviewers

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Exhibit "A"

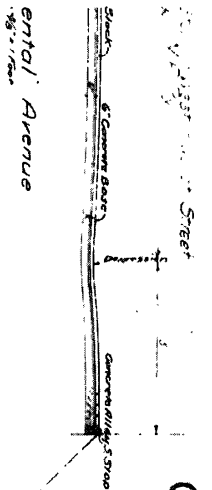
Improvement of Occidental Avenue at Paving etc.

Resolution No. 5248
Local Improvement District No. 5095

Ordinance No. 37133, Approved Apr. 4, 1916.
August, 1916.

A. H. Dymally
City Engineer

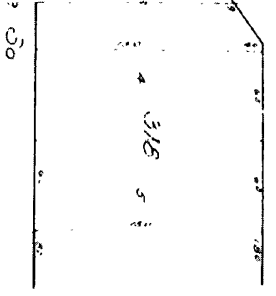
Scale: 1 in. = 50 ft.



Sheet Order No.	Drawing No.	Approved	Date
Made by <i>W. S. Dymally</i>	8-7-16	<i>A. H. Dymally</i>	
Checked by <i>A. H. Dymally</i>	8-9		
Reviewed by <i>A. H. Dymally</i>			
City			

Approved by the Board of Public Works.
Seattle, Wash. 1916.

Total cost of work \$10,000.00
 Estimated cost of work \$10,000.00
 Estimated cost of materials \$10,000.00
 Estimated cost of labor \$10,000.00
 Estimated cost of other \$10,000.00



315
51

Exhibit "A"

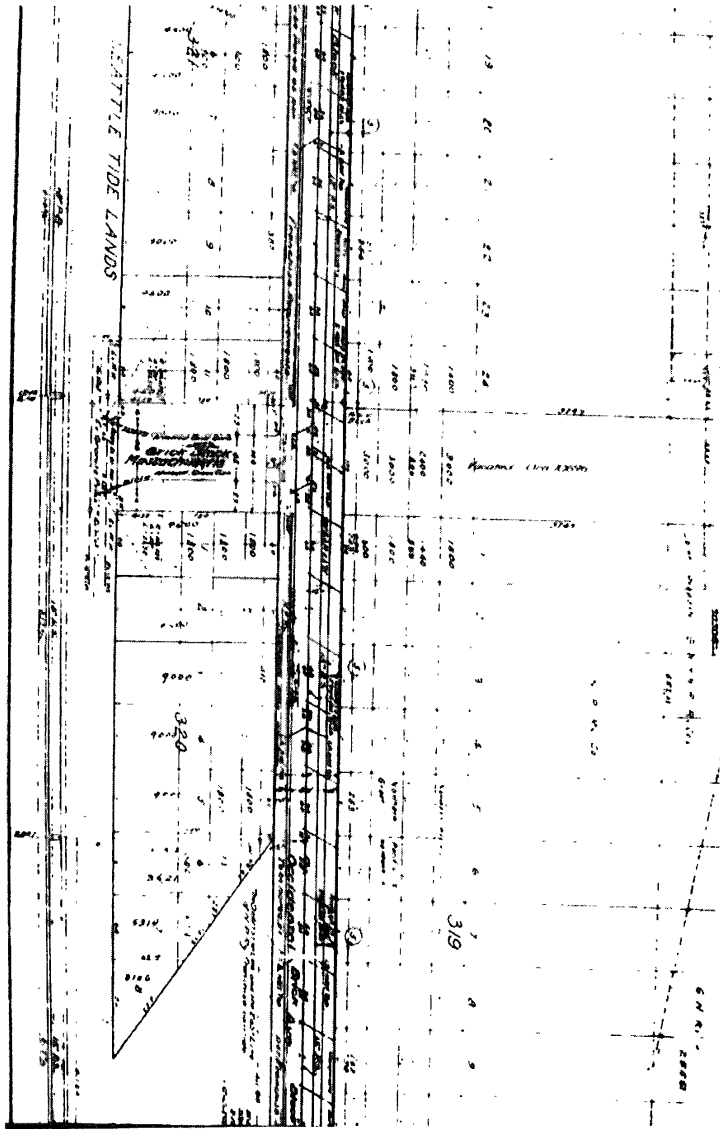


Exhibit "A"

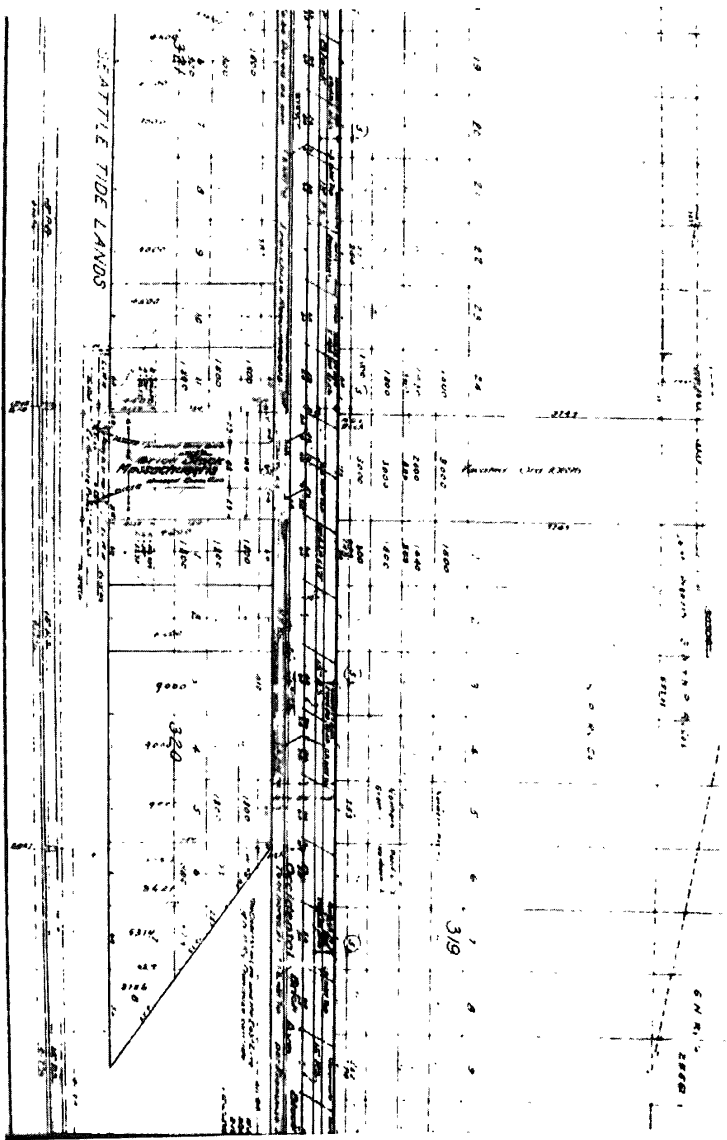


Exhibit "B"

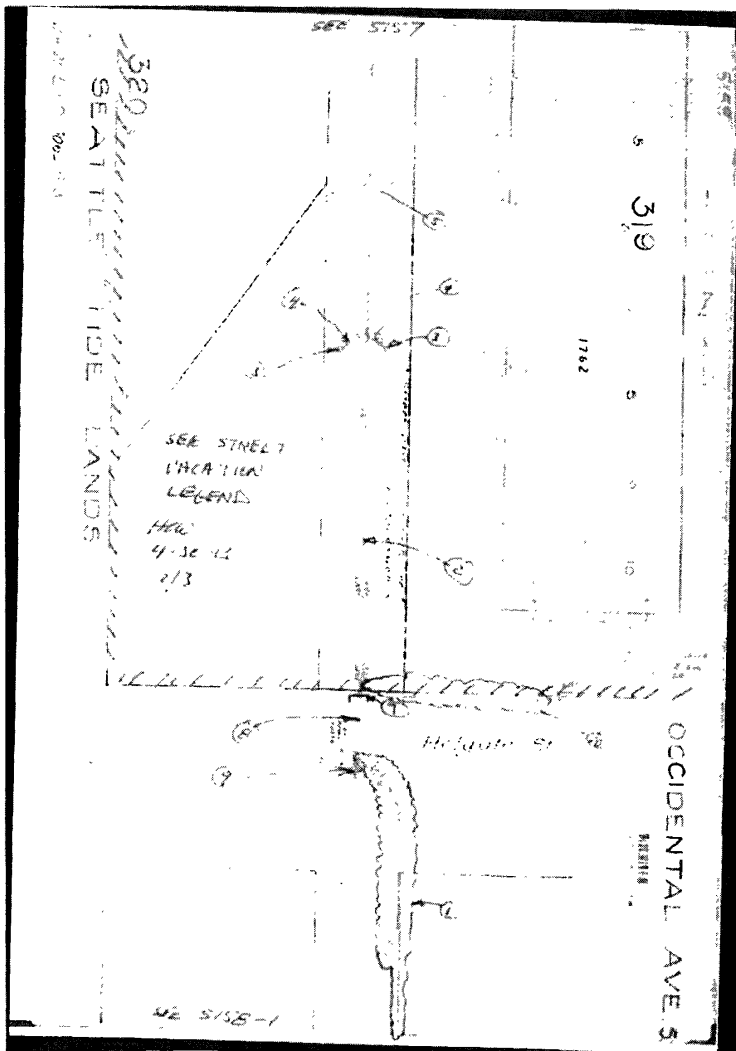


Exhibit "B"

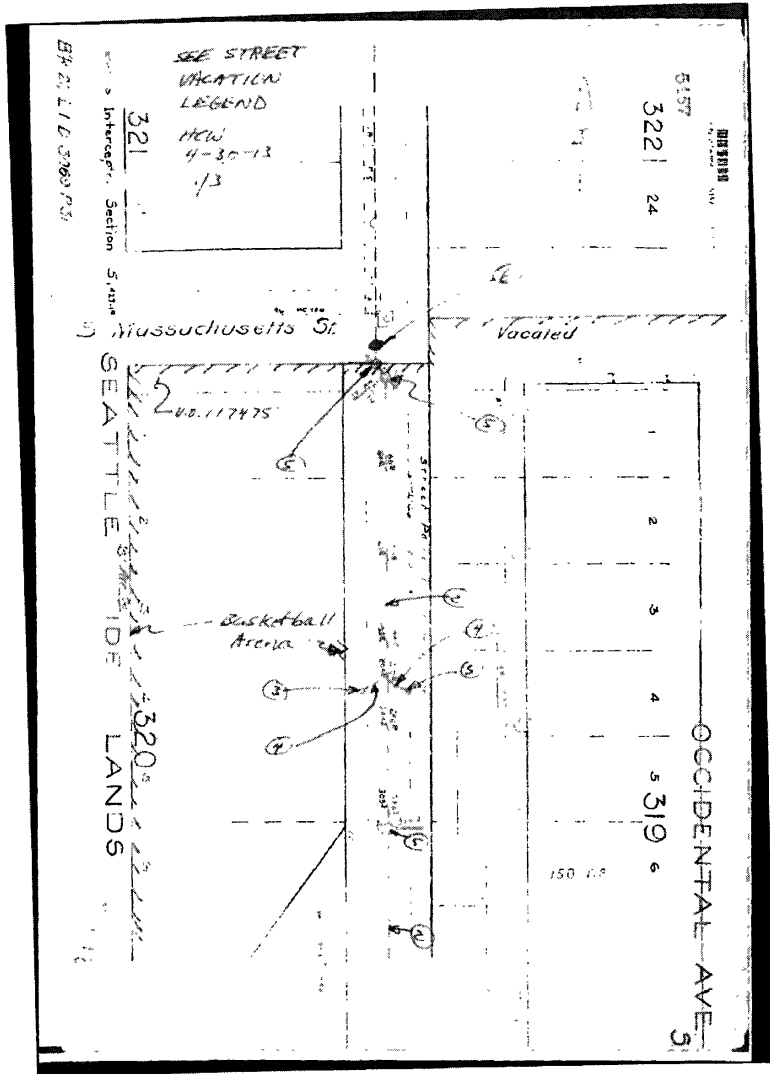
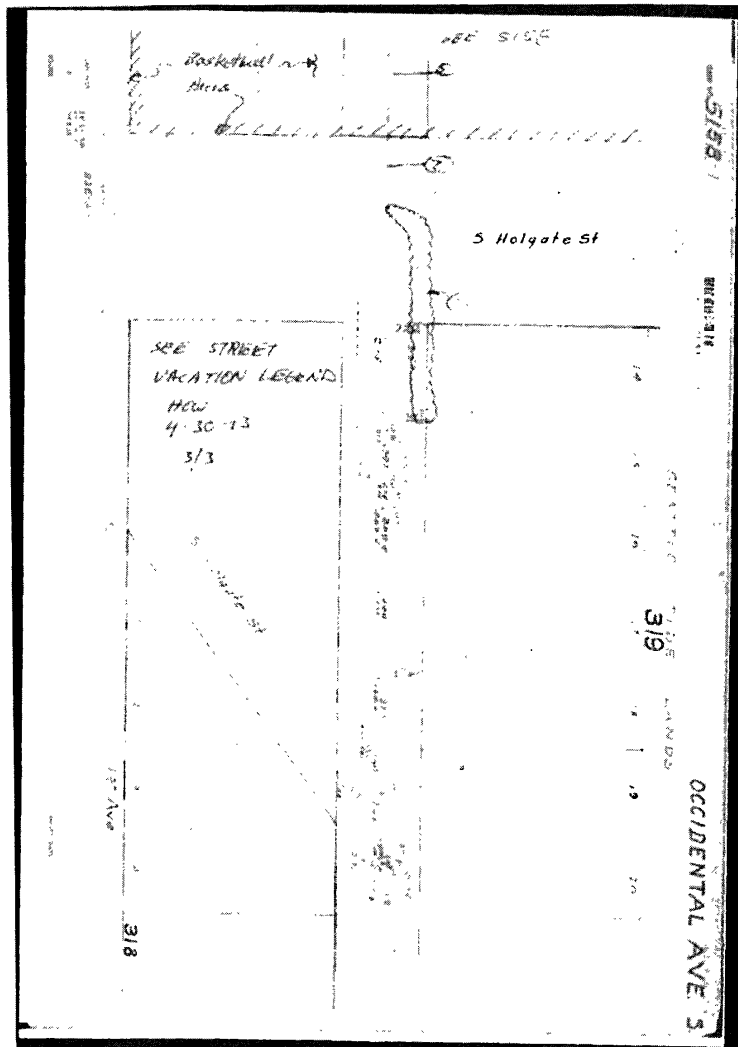


Exhibit "B"



September 30, 2013

Mr. John Shaw
Department of Planning and Development
City of Seattle
700 5th Ave, Suite 2000
PO Box 34019
Seattle, WA 98124

Dear Mr. Shaw,

I am writing on behalf of the Washington State Department of Transportation with our comments on the City's Environmental Impact Statement for the Proposed Seattle Sports Arena.

The transportation analysis within the EIS has been responsive to our scoping comments on the matter. However, the document does not specify a commitment to mitigation actions, nor does it identify the funding source.

A substantial level of public investment in transportation infrastructure and services has been made in and around the SODO site as well as the Seattle Center sites and it is important to preserve the functionality of these investments. Should you decide to move forward with one of the proposed action alternatives for a new arena, then the final proposal must commit the city and/or arena operator to the following transportation mitigation actions:

- Event Scheduling Protocol/Transportation Management Plan
- Directional Signing Enhancements
- Adaptive Traffic Management Infrastructure

Event Scheduling Protocol/Transportation Management Plan

It is imperative that the city and three Stadium District venues commit to the Event Scheduling Protocol and Management strategy described in the EIS. In addition to effective event management, we request the Transportation Management Plan include the following key areas at a minimum: a demand management target for arena patrons; the approach to intersection control – both manual (i.e. uniformed officers) and signal operations planning; the approach to safe pedestrian travel – particularly near railroad crossings; the variable message sign and driver information plan; and the public information and coordination plan.

Washington State Department of Transportation

1. The Appendix E of the FEIS outlines specific mitigation measures intended to mitigate the impacts of the projects (Section 4.0 of Appendix E). This includes specific improvements to be constructed by the applicant as well as pro-rata contributions to regional improvement projects including ITS Next Generation improvements and the planned Lander Street grade separation. The project also will be subject to a comprehensive Transportation Management Plan (TMP) that includes demand reduction strategies, performance targets, and pre/post event traffic control requirements.
2. These recommendations for TMP conditions may be considered by the City when substantive decisions are made for the proposed project. The City cannot require third parties to abide by requirements as a condition of approvals for the applicant.

Mr. John Shaw
September 30, 2013
Page 2

Directional Signing Enhancements

The EIS notes adding directional signage to guide drivers to the arena location. While not specifically mentioned, we presume signing on Interstate 5 would be desired but remaining space for additional signing on I-5 is limited to non-existent, regardless of whether the Seattle Center or SODO location is selected as the arena site. For any of the arena site locations, our position is that with special event facilities already in place, the signing approach will need to be to consolidate and simplify the signing scheme. In the case of Seattle Center sites it would be to primarily rely on the signing for Seattle Center; in the case of the SODO location it would require using the "Stadium District" designation as the key signing message. Any signing revisions and additions must be funded by the proponent.

Adaptive Traffic Management Infrastructure

As we noted in our scoping letter, adaptive traffic management strategies are an important component for reducing the effects of special events on the transportation system. The EIS includes identifying the potential for these systems on city arterials and for parking management. However, as the EIS analysis shows and as we see currently, a large proportion of special event patrons are arriving via I-5 and I-90, often inducing congestion on the sections approaching the Stadium District. Therefore, as we have previously indicated, adaptive traffic management strategy investments on I-5 and I-90 should be funded as part of the arena mitigation plan. Should the SODO site be selected, these strategies should be tailored to minimizing effects to freight movements and to traffic bound to or from Colman Dock, while facilitating the efficient movement of event goers.

Should you have any questions about our comments, please do not hesitate to contact me at (206) 440-4706.

Sincerely,

Lorena Eng, P.E.
Northwest Region Administrator
Washington State Department of Transportation

LEE/ml/th

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3. Section 4 of Appendix E Transportation includes Directional (Dynamic / Static) Event Signage. Directional signage between the freeway and other limited access facilities will be revised to incorporate the Arena. For Alternatives 2 and 3, this would complement the existing signage that currently exists for CenturyLink Field and Safeco Field and for Alternatives 4 and 5, it would further integrate with the Seattle Center signing. There is not currently a proposal to add signage to I-5.

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4. See Section 4 of Appendix E Transportation for a summary of mitigation measures for traffic. In addition to measures designed to reduce the number of people who drive alone to the Arena, measures include directional (dynamic/static) event signage, parking guidance signage, SDOT Traffic Control Center improvements, signal system upgrades, and a pro-rata contribution to a grade separated crossing at Lander Street.

STATE REPRESENTATIVE
41ST LEGISLATIVE DISTRICT
JUDY CLIBBORN

State of
Washington
House of
Representatives



TRANSPORTATION
CHAIR
HEALTH CARE &
WELLNESS

September 27, 2013

City of Seattle, Dept. of Planning and Development
Attn: John Shaw, Senior Transportation Planner
700 5th Ave, Suite 2000
P.O. Box 34019
Seattle, WA 98124-4019

Via e-mail: John.Shaw@Seattle.Gov

Dear Mr. Shaw:

I am providing the following comments on the Draft Environmental Impact Statement (DEIS) for the proposed Seattle sports and entertainment arena.

As Chair of the Washington State House of Representative's Transportation Committee, I see the critical role played by the Port of Seattle and the Duwamish manufacturing-industrial center to a strong Washington State economy. This industrial crossroads connects trade, manufacturing and transportation interests that directly contribute to Washington's economy and help make us the nation's leading exporting state, with 40 percent of our jobs tied to trade.

The State of Washington has a significant stake in the future of the Duwamish and SoDo area. The state is investing more than \$3 billion in the Alaskan Way Viaduct Replacement program, in addition to nearly \$200 million for the SR 519 connections to Seattle's waterfront. We are making these investments because we know these projects and others will speed the movement of freight and increase our state's competitive position in the global marketplace.

The City of Seattle, the Port and Washington State should be working together closely to promote and expand our manufacturing and industrial base, which will create new jobs and economic opportunity for all our citizens across the state.

The City of Seattle and the project proponents must thoroughly examine the potential impacts of the proposed sports and entertainment arena on the Port of Seattle and related businesses. This impact goes well beyond the city limits and affects businesses and employers everywhere. The City should carefully consider the potential that new sports and entertainment development will create traffic congestion and other conflicts with established maritime and industrial activities. The EIS should identify potential mitigation and necessary funding for these improvements.

Our state's deep-water ports are irreplaceable assets for the creation of stable, family-wage jobs that sustain our economy. I urge the City of Seattle, as it moves forward with review of the arena development, to ensure that the maritime and industrial sectors can continue to grow and support a strong Washington economy.

LEGISLATIVE OFFICE: 415 JOHN L. O'BRIEN BUILDING • PO BOX 40600, OLYMPIA, WA 98504-0600 • 360-786-7026
E-MAIL: Judy.Clibborn@leg.wa.gov
TOLL-FREE LEGISLATIVE HOTLINE: 1-800-562-6000 • TDD: 1-800-635-0903 • www.leg.wa.gov
PRINTED ON RECYCLED PAPER

State of Washington House of Representatives

1. Comment noted
2. The Draft and Final Environmental Impact Statement (EIS) include a detailed analysis of potential impacts on the Port of Seattle and other businesses, including economics and transportation. The EIS includes a list of potential mitigation measures. If this project is approved, permits would include specific conditions that must be met prior to opening.
3. Comment noted

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STATE REPRESENTATIVE
41ST LEGISLATIVE DISTRICT
JUDY CLIBBORN

State of
Washington
House of
Representatives



TRANSPORTATION
CHAIR
HEALTH CARE &
WELLNESS

Respectfully,

A handwritten signature in black ink that reads "Judy Clibborn".

Judy Clibborn
Representative, 41ST LD
Chair, House Transportation Committee



September 30, 2013

Emailed to john.shaw@seattle.gov

Mr. John Shaw, Senior Transportation Planner
City of Seattle Department of Planning and Development
Seattle Municipal Tower, 700 5th Avenue, Suite 2000
PO Box 34019
Seattle, WA 98124-4019

Re: DPD Project #3014195
Comments on Draft EIS from Washington State Public Stadium Authority and
First & Goal Inc.

Dear Mr. Shaw:

The Washington State Public Stadium Authority (PSA) and First & Goal Inc. (FGI) appreciate this opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the proposed Seattle Arena. The PSA is the public agency that owns CenturyLink Field and Event Center (CenturyLink). PSA is charged with being the steward for and protecting the public's \$430 million facility. FGI is the master lessee of CenturyLink from PSA and operates the facilities. Both PSA and FGI take very seriously their stewardship of the public investment in CenturyLink.

CenturyLink is located immediately north of Safeco Field and just a few blocks north of the applicant's proposed location for the new Arena at 1700 1st Avenue South. CenturyLink holds events almost daily throughout the year. The Stadium accommodates the National Football League's Seattle Seahawks, Major League Soccer's Seattle Sounders FC, and a variety of other professional and amateur sporting events throughout the year. The Event Center accommodates the region's major consumer shows, including the Auto Show, the Boat Show, the Home Show, the RV Show, and similar large scale events. In addition, CenturyLink hosts numerous concerts and public festivals through the year.

PSA and FGI support efforts to bring National Basketball Association basketball back to Seattle and to bring a National Hockey League team to Seattle. PSA and FGI also support the development of a vital Stadium District. Together with the Washington State Major League Baseball Stadium Public Facilities District ("PFD"), which owns Safeco Field, the PSA, working with FGI, adopted a Stadium District Concept Plan. That Plan envisions increased open space, enhanced pedestrian and bicycle connections to transit and to the Waterfront, and the creation of

Washington State Public Stadium Authority and First & Goal Incorporated

1. Comment noted. See response to each item below.

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Mr. John Shaw
September 30, 2013

a vibrant community in the Stadium District. The proposed Seattle Arena could become an important element of the Stadium District if properly oriented to the other stadiums in the area, transit, and the waterfront to the north of the proposed South Downtown site.

As we noted in our comments regarding the scoping of the EIS, the City's study of the proposed Arena plan is an opportunity to address the parking and transportation issues in the South Downtown area so that the Stadium District area can become a vital and successful area for Seattle and the region. We offer these comments in the hope that the City's environmental review process can help develop practical and realistic strategies for the transportation and parking issues in the South Downtown area. The DEIS is a first step, but needs more specific and detailed information regarding the Arena proposal and much specificity regarding how the City and project proponent intend to address and resolve the impacts disclosed in the DEIS. Accordingly, we request that the City respond directly to each of the issues raised in this comment letter and integrate those responses into the Final EIS.

A. The EIS Should Acknowledge CenturyLink and Safeco Field as Pre-Existing Conditions.

Much of the DEIS is focused around the interaction between the proposed new Arena and the existing CenturyLink Field and Safeco Field, as well as the surrounding neighborhoods. In particular, there is significant emphasis on and assumption that the facilities will all work cooperatively to resolve numerous impacts identified in the DEIS. While the PSA and FGI support efforts to bring NBA basketball and NHL hockey to Seattle as stated above, we are committed to preserving the successful operation of CenturyLink. We recall the numerous and expensive conditions placed on CenturyLink as part of its permitting and SEPA review processes, and note that any new impacts or mitigation identified in the DEIS result from the Arena proposal, rather than our existing facilities. Consequently, while we acknowledge that many of the solutions to impact issues will require participation by the PSA and FGI, we ask that the City remember the significant mitigation already provided by the PSA and FGI, and require the Arena to bear the burden of mitigating the impacts identified in the DEIS. The Arena should bear its share and provide mitigation on par with that previously required of CenturyLink and Safeco.

B. The EIS Should Review a More Realistic Multiple Event Scenario.

The various multiple event scenarios in the DEIS are not explained or justified. In our estimation, much of the discussion of multiple events is unrealistic. In particular, it is unrealistic to think that an Arena with two more professional sports leagues and multiple concert events can be located in SODO and not have conflicting schedules. The City's current model assumes that the different venues can simply reschedule games that are close in time to each other. That is not the economic reality of professional sports, because the television networks, under their contracts with the professional sports leagues, often dictate the precise time when each game starts. To have a vital Stadium District that will work for all of the professional sports venues and for the City, the City needs to recognize that economic and practical reality and require a multiple event strategy and agreement that is realistic. Further, the economic viability of CenturyLink Field and

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2. See Common Response #5 Mitigation Measures
3. The evaluation of the proposed Arena does not assume that venues would be able to reschedule events. Instead three event cases are evaluated for each Action Alternative including an Arena event only (Case S1), an Arena event and another sporting event (Case S2 - Arena and Mariners game), and an Arena event, Mariners game, and Event Center event (Case S3) (see Appendix E, Section 2.0). Given the potential variability in attendance and capacity of nearby facilities, the FEIS analysis provides a revised Case S3 to reflect a combined attendance of 72,500. This analysis has been updated throughout the report addressing all transportation elements previously evaluated in the DEIS. The results are similar to the previous Case S3 evaluation, as a relatively minor increase in peak hour trip generation is anticipated.

As noted in the comment, the DEIS assumed parking in the Safeco Field and Century Field parking areas was available. The FEIS includes a sensitivity analysis (Appendix E, Section 2.8.4.3) that documents the parking impacts of the proposed arena assuming that parking at these facilities are not available for users of the arena (Arena Only Scenarios). If these facilities were not available there would be approximately 4,500 fewer parking spaces within the study area (see Appendix E, Section 2.8) . A review of both weekday and weekend conditions shows without these parking facilities there would be further reliance on the expanded study area (i.e., the CBD).

For the multiple event scenarios that include an attendance of 72,500, traffic associated with Safeco Field was assigned to the Safeco Field and Century Link Field facilities as is the case today.

Mr. John Shaw
September 30, 2013

Event Center and our continued ability to contribute a portion of Event Center profits to the State Common School Fund depend on our ability to schedule events *in addition to* sports games. Thus, it is critical to the success of our existing facilities that we continue to be able to schedule myriad events throughout the year without being hampered by the new proposed Arena.

The maximum multiple events scenario analyzed in the DEIS includes up to 65,500 projected attendees. Considering the capacities of the existing facilities and our known past experiences, the Final EIS should study a scenario that assumes a greater combined total of 70,000 to 72,000 projected attendees *at multiple events over all venues*. The PSA's and FGI's prior analysis and experience with handling multiple events show that this number of fans coming to the several venues can be accommodated in the Stadium District with appropriate planning and coordination. Our experience has also shown that our fans are very flexible. If we give them adequate information in advance about traffic and parking issues, they will change their arrival times or modes of arrival at events to accommodate traffic and parking demand and capacity. Not every event is a sellout and the people managing the venues are quite good at projecting their attendance figures, so a cumulative attendance total in the 70,000-72,000 attendee range would be exceeded only a small percentage of the time. Scheduling for that small percentage of overall events can be worked out among the different venues, which have shown an ability to cooperate well in the past, provided that appropriate agreements on parking and transportation management are in place.

Further, the suggestion in the DEIS that the Arena can use existing parking facilities, such as the PFD/Safeco Field garage or the PSA/CenturyLink garage, for shared parking during Arena events is unrealistic under present City regulations and present agreements between those agencies. The PSA and FGI fully support shared parking scenarios, but any suggestion of shared parking in the Final EIS must be supported with new agreements between all the sports stadia in the Stadium District. Under current conditions, the PFD/Safeco garage is allocated by covenant to PSA/CenturyLink for major events at CenturyLink. Similarly, the PSA/CenturyLink garage is allocated by covenant to PFD/Safeco for major events at Safeco Field. Given the number of events at Safeco and CenturyLink covered by those covenant parking arrangements, and the City's parking ordinance applicable to the Arena (requiring Arena parking to be in place at least three hours before start of any event), it is not realistic to assume that shared parking is possible with the Arena without major new agreements among all the parties. If the City's Final EIS is going to assume any shared parking scenarios, that type of agreement must be in place prior to the completion of the Final EIS.

The PSA and FGI recognize that no single party can fully resolve the issues surrounding multiple events in the Stadium District. It will take all parties working together, as well as the City playing an important facilitating and regulatory role. But however it occurs, the issue of multiple events scheduling must be resolved before the City finalizes the Final EIS, and certainly before the City makes any decisions on the related permits or transaction documents.

C. Impacts to Public Services Are Not Adequately Described in the DEIS.

The analysis and conclusions in the DEIS regarding the availability and adequacy of police/traffic control officers during multiple events is unsupported. The manual traffic control before and after events is currently an overtime function of the Seattle Police Department (SPD). In our experience, this SPD function is currently stretched extremely thin, especially in summer and holiday seasons. There are not enough officers, especially during busy seasons currently, much less enough experienced traffic officers, to meet current demand. The addition of the Arena venue with two professional leagues and multiple concert dates is likely to push the current system to the breaking point.

As with the issues of multiple events in the Stadium District, no single party can solve this impact by themselves. The City needs to require the Arena to work with other venues and the City to explore potential new models for manual traffic control, such as a dedicated traffic squad within the SPD. This type of arrangement has worked well in other cities. We recognize there are funding issues, but there are significant costs associated with the current system as well, and the current system will likely not withstand the strain of the added events from two new leagues plus the other events at the new Arena. All parties need to work together to find a better solution, and the City should require a timely resolution of the problem as part of the Final EIS.

D. The City's Environmental Review Cannot Be Meaningful Without Identifying Where Event Parking Will Be Located.

It is not possible to determine the Arena's impacts on parking, traffic volumes and operations, and pedestrian access without information about the specific location(s) of the parking required for the proposed Arena. This issue needs to be resolved in the Final EIS. The City must know where the parking for Arena attendees will be located, especially the required parking, to consider any meaningful traffic control plan and to design any meaningful solution for pedestrians, especially along S. Holgate Street.

In our meetings with the City about the Arena proposal, staff has said that the Arena proponent has not told them where the parking will be located, so they could not analyze it. That is a legally inadequate response to such an important issue. If an applicant has not supplied sufficient information to reasonably assess alternatives and impacts, the City has the duty to require further information. SMC 25.05.100. The City's SEPA Ordinance also requires the City to fill any gaps in information about significant impacts. SMC 25.05.080. If that information is truly unknowable or the costs of obtaining are exorbitant, the City should proceed only if it indicates the worst case analysis and the likelihood of its occurrence.

A revised parking analysis in the Final EIS, after determining the location of the Arena's required parking (or at least the most likely sites), should consider the following:

- Consider a higher multiple events attendance number based on projected attendance as described above (70,000-72,000 attendees).

4. See Common Response #13 Adaptive Traffic Control

5. The FEIS presents an analysis of the parking demand for SEPA disclosure (Appendix E, Section 2.8). The analysis of compliance with Land Use Code requirements for parking will be made during DPD's review of the MUP application based on size of the final design.

FEIS provides an analysis with and without the use of the Safeco Field and Century Link parking garages (Appendix E, Section 2.8.4.3).

FEIS has also been revised to present two scenarios in which the parking demand can be met, through 1) agreements with owners of existing parking facilities, or 2) the South Warehouse site.

The South Warehouse site parking is presented as a revised parking sensitivity analysis for a garage located on the south side of Holgate Street, located between the BNSF tracks and Occidental Avenue. The results of the sensitivity analysis are presented in the same manner as the DEIS (see Appendix E, Table 2-44).

Mr. John Shaw
September 30, 2013

- Recognize that pre-assigned parking will reduce traffic impacts by reducing the amount people drive around the area looking for an available space.
- Recognize that, absent new agreements between all the venues in the Stadium District, the Arena's use of the PFD/Safeco garage or the PSA/CenturyLink garage to meet parking requirements and/or demand is unrealistic.
- Eliminate the assumption that Arena attendees will park in the north end of the Central Business District to attend events at the Arena, as this is unrealistic especially during the evening in winter months when most NBA games are played.

The City's parking assumptions must also take into account the existing City regulations for new spectator sports facilities in the Stadium Transition Area Overlay District (STAOD) and nearby IG zones. While the DEIS correctly assumes that some parking in the area of the Arena site will be developed in the future, the existing City regulations probably make it impossible for that parking to serve the Arena. (The Arena proposal does not provide any parking of its own and the proposal does not call for any amendments to the Seattle Land Use Code regulations for the STAOD or the IG zone.) In the IG zone, principal use parking is prohibited, so parking not owned and operated by the Arena could not serve the Arena. SMC 23.50.012. The sole exception is parking developed by another spectator sports facility, but as discussed above, the PFD/Safeco garage and the PSA/CenturyLink garage are infeasible given existing agreements and the times during which the Arena would have to have that parking established under the Land Use Code. A spectator sports facility such as the Arena in the STAOD can build its own required parking, but nonrequired parking may only be reserved outside the STAOD, and only if owned/operated by the Arena and only within a restricted area. SMC 23.74.008 (n.1).

Taken together, and given that the Arena proponent does not propose to develop any parking, these existing regulations provide rather strict limits on what nearby parking can serve the Arena. The DEIS did not take this into account. The FEIS needs to factor this into the parking analysis for the proposed Arena, provide concrete information regarding where parking will be located, and integrate this information into the transportation analysis include with the Final EIS.

E. Possible Mitigation Measures in the DEIS Are Not Adequately Detailed and a Multiple Events Agreement Should Be Part of the Final EIS.

As noted above, the mitigation measures required of the Arena should be on a par with the requirements imposed on Safeco Field and CenturyLink. Our earlier letter to Ms. Moira Gray of SDOT regarding the street vacation lays out many of these measures. As currently drafted, the DEIS mentions numerous potential mitigation measures, but many of the measures are vague and conceptual. As part of the FEIS, the City needs to specify (1) the details of all required mitigation measures, and (2) the timing of such mitigation measures (date by which it must be completed and consequences if they are not). For each mitigation measure required of the PSA and/or PFD of their facilities, we request that the City provide an explanation of whether and how the City will require the Arena to provide comparable mitigation measures for its facility.

For example (but not by way of limitation), the Arena should be subject to the same Transportation Management Plan (TMP) requirements as the other two venues. The details of

6. See Common Response #5 Mitigation Measures, Common Response #6 Mitigation Measures – Traffic, and Common Response #10 Street Vacation Policies.

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Mr. John Shaw
September 30, 2013

that TMP should be provided with the Final EIS. Further, in connection with the TMP, the Arena should be required to pay for traffic control and parking enforcement during all events. The Arena should also be required to pay for or do post-event cleanup, which should extend into SODO, Pioneer Square, and Chinatown-International District as appropriate. Similarly, more detail about the Construction Management Plan needs to be included in the Final EIS, and should specifically commit the Arena to coordinating with Safeco Field and CenturyLink to minimize construction traffic and street closures that impact the operation of both facilities.

In setting the date for completion of the mitigation measures, the City needs to be careful not to allow major issues to be deferred. In particular, all affected parties and the City need to understand how the various sports facilities will handle multiple events before the City approves any permits for the new Arena. The DEIS rather cavalierly assumes that a multiple events agreement will resolve many of the potential impacts of the Arena without knowing any of the likely contents of that agreement. For example, in its discussion of the street vacation, the DEIS states "an events agreement would be crafted to assure that the use of the drive would be available during all appropriate event and activity times for Safeco Field operations." (p. 3.8-120).

The Memorandum of Agreement between the Arena proponent and the City and King County contemplates a new multiple events agreement. But without any details regarding the terms or timing of that agreement, the City's environmental review is inadequate because neither the impacts of the new Arena, nor the potential mitigation for those impacts, is knowable. This is an issue of vital importance that the City cannot just kick down the road. The PSA and FGI have reached out to all parties and are willing to work on this critical issue. Since the City is relying on such an agreement in its environmental review, that issue needs to be addressed before the City issues the Final EIS, much less the Master Use Permit, for the new Arena.

F. Important Pedestrian Mitigation Measures Are Missing.

As pointed out above, the Final EIS must determine where Arena parking will be located before impacts can be meaningfully assessed in a project-specific review and before most mitigation measures can be meaningfully designed. There are also several mitigation measures that should be included whatever the result of the parking location:

- Construction of new or expanded sidewalks improving pedestrian access and connecting the Arena to proposed parking locations.
- Street lighting enhancements on routes to and from the Arena should be improved and to and from parking areas.
- The Arena should contribute towards a grade-separated east/west link over the railroad tracks to the new Arena. Both Safeco and CenturyLink contributed towards pedestrian bridge projects.
- At-grade, wayfinding should be provided linking the Arena area to the adjacent stadia, to nearby neighborhoods, and to the Central Waterfront in a manner consistent with the Stadium District Concept Plan,

7. See Common Response #6 Mitigation Measures – Traffic and Common Response #7 Mitigation Measures - Pedestrian Access

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Mr. John Shaw
September 30, 2013

We acknowledge that each of these items is called out to some degree in the “Summary of Mitigation” measures for transportation impacts in Appendix E (p 4-6 and 4-7). It is critical, however, that these recommendations become Final EIS conditions. The PSA was required to prepare a Pedestrian Access Plan and then to construct the infrastructure improvements needed to implement that Plan. The Arena should provide comparable mitigation for the impacts generated by its facility.

G. Increased Transportation Capacity Is a Reasonable Mitigation Measure And Must Be Considered.

The DEIS identifies numerous intersections that will fall below LOS E, yet the DEIS does not identify any specific intersection improvements that will mitigate these impacts. The fact that some intersections may degrade to LOS F under the “no action” alternative does not exempt the Arena from mitigating its incremental additional impacts on those intersections. Given the great concentration of traffic south of Royal Brougham, we are surprised that there are absolutely no suggestions for traffic capacity improvements.

Further, the PSA and FGI support implementation of the Intelligent Traffic System suggestions in the DEIS as part of the Final EIS. The PSA and FGI have also had great success in educating its fans on how to avoid problem intersections and problem times and how to plan for a successful trip to the facility. Still, some additional capacity in the way of turning lanes are a reasonable mitigation measure that should be addressed in the Final EIS, especially given that the Arena proposal will eliminate an alternate north-south route on Occidental Ave. S. The City’s SEPA Ordinance requires a discussion of mitigation measures that “could be implemented.” SMC 25.05.440.E.3.c. Capacity improvements clearly could be implemented at a number of intersections, and a discussion of potential capacity improving mitigation measures should be included in the Final EIS.

H. The Land Use Analysis in the Draft EIS Is Incomplete.

The Final EIS should also consider how the Arena proposal can be more consistent with the Stadium District Concept Plan and the Central Waterfront planning process. The Stadium District Concept Plan, in particular, was brought forward by the PFD (the public owner of Safeco Field) and the PSA (the public owner of CenturyLink) – the two public entities that the City is depending on for a multiple events agreement regarding the Arena. An analysis of how the new Arena proposal advances or detracts from the Stadium District Concept Plan is an important step toward creating a multi-party agreement on events, and should be addressed in the Final EIS. In particular, the Stadium District Concept Plan calls for the development of 2,000 new parking spaces to replace those lost through various infrastructure improvements occurring in the surrounding area. This shortfall did not assume the siting of the new Arena in the Stadium District. The parking analysis in the Final EIS needs to recognize and address this known deficiency as a pre-existing condition in the Stadium District.

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- 8. See Common Response #6 Mitigation Measures – Traffic.
- 9. Comment noted. See Common Response #9 Un-adopted Plans and Policies

As stated in the DEIS (p. 3.10-1), an EIS is to include a “summary” of existing land use regulations and plans and the extent to which a proposal may be consistent or inconsistent with them, “as appropriate.” RCW 36.70B.030.

Mr. John Shaw
September 30, 2013

Further, there are numerous places in the DEIS where the analysis references impacts to Safeco Field and its operations. In the Final EIS, similar consideration and protection should be made for operations at CenturyLink Field and Event Center.

I. The Final EIS Should Have a More Robust Assessment of Cumulative Impacts.

The DEIS largely reiterates its discussion of the direct and indirect effects of the Arena project under the heading cumulative impacts. The Final EIS needs a cumulative impacts analysis that satisfies the requirements of SMC 25.05.670. We acknowledge that the City cannot predict all future development within the Stadium District or the Duwamish Manufacturing/Industrial Area, but the City does have access to information about pending permits/approvals for the area, information from the Port regarding proposed future development, and information from the Arena developer for its plans for the several properties that it has acquired around the Arena. Further, the City is aware of the zoning capacity of the area and the properties that are ripe for redevelopment. A more robust assessment of cumulative impacts is warranted and required.

Thank you for your consideration of these comments. As mentioned above, the PSA and FGI support the concept of bringing back NBA basketball and bringing NHL hockey to Seattle as part of a vital Stadium District. To do that, however, the City's Final EIS must include more realistic and detailed information and analysis that will allow all parties to reach a solution that works for the Stadium District, for the existing sports venues, and for the Seattle public. Because resolving many of these issues will require the participation of the PSA and FGI, as well as the PFD and Mariners, we anticipate further discussion between the parties before issuance of the Final EIS.

Very Truly Yours,

WASHINGTON STATE PUBLIC
STADIUM AUTHORITY



Ann Kawasaki Romero
Executive Director

FIRST & GOAL INC.



Lance Lopes
Senior Vice President and
General Counsel

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10. The potential impacts from the Arena are primarily related to traffic and transportation impacts. The traffic and transportation analysis (Section 3.8 of the FEIS and Appendix E) include the estimated transportation impacts of known and anticipated development. Also see Common Response #11 Secondary and Cumulative Impacts.

11. See updates to FEIS that include additional analysis on traffic and transportation (Section 3.8 and Appendix E).

Businesses

Contents

Amtrak B-1

Peter Goldman, Attorney at Law B-18

MIC B-91

PMSA B-92

Sailor’s Union of the Pacific B-94

HCMP Law Offices B-96



Amtrak

1. Comment noted.

TO: John Shaw
Department of Planning and Development
City of Seattle

FROM: Robert Eaton
Government Affairs, Amtrak

DATE: 30 September 2013

RE: Comments on DEIS for Seattle Arena Proposal

Overview

The proposed preferred location (Alternatives 2 and 3) for the Seattle Arena give rise to significant challenges when addressing safety, vehicular congestion, freight mobility, and the operational and economic success of existing business in the SODO region. The proposed location of the Seattle Arena is adjacent, and directly north and west to the Pacific Northwest Divisional Headquarters of Amtrak that includes the operational and maintenance facilities for Amtrak’s two national long distance trains—*Coast Starlight* and *Empire Builder*, the state supported passenger service of Washington and Oregon— Amtrak Cascades, and the maintenance of Sound Transit Sounder commuter trains. There are over a dozen active railroad tracks that are directly to the east of the proposed stadium, and S. Holgate street cuts across this working rail yard (See Attachment 1). Amtrak employs over 300 people at this facility and is operational 24 hours a day each day of the year.

After review of the Draft Environmental Impact Statement (DEIS) for the Seattle Arena, it is the opinion of Amtrak, that this report fails to properly address, analyze, and offer effective mitigation on a number of these issues. In addition, the DEIS fails to consistently represent the proximity of the proposed arena to Amtrak’s tracks/rail yard in text and figures throughout the report—downplaying the serious conflicts between pedestrians, vehicles and trains, both passenger and freight.

The analysis of safety (pedestrian/train, vehicle/train), pedestrian flow, vehicle flow, congestion, freight mobility, economics, arena operations, and impact to rail yard and neighborhood business operations is flawed because the DEIS did not accurately account for North/South train traffic (current and future) along the BNSF mainlines and Amtrak tracks that have at grade intersections with S. Holgate and S. Lander Streets. The DEIS reported that for modeling purposes, 4 passenger trains and 1 freight train was used. The passenger train frequencies: Amtrak Long distance, Amtrak Cascades, and Sound Transit were not accurate and fall short of existing railroad activity in the study area. Mainline, non-revenue train movements (Amtrak Long Distance trains traverse S. Holgate Street a number of times during turn-around and maintenance service) were not included in North/South train traffic analysis. As important, non-mainline, Amtrak yard train movements (that cross S. Holgate and S. Lander Street) were not included in the analysis—there are numerous train

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movements across S. Holgate Street during the day that support the maintenance of train and locomotives. This data must be included to yield an accurate representation of railroad crossing gate closures that impacts safety, vehicular congestion, freight mobility, and the operational and economic success. For complete analysis of the DEIS should have reviewed and modeled the projection of train volumes as reported in the South Holgate Street railway Crossing Closure Traffic Impact Analysis. Seattle Washington (WSDOT, Garry Struthers Associates, 2005, see attachment 2)

Furthermore, the DEIS only used one data point, the 24 hour video recording for coal trains used by the City of Seattle, and does not capture enough data points to accurately represent the railroad operations that affects the closure of S. Holgate Street and other East/West connectors. The daily activity of North/South rail yard activity is numerous and varies based on the daily demands of rail service, especially in the non-peak evening hours when proposed arena events would take place and when a significant portion of the passenger rail fleets are not in service and available for daily and routine maintenance.

The current DEIS does not accurately capture North/South rail traffic and the subsequent impacts on pedestrian flow and safety, vehicular flow and congestion, freight mobility and the economy of business in, and serve, the SODO region As a result, the City of Seattle and DEIS team should be required to: 1) meet with all rail operators in the study area (Amtrak, BNSF, Sound Transit) and obtain correct operational data that shows current and proposed future rail service and the corresponding supporting train movements that impact street closures, and 2) re-analyze the impact of total North/South rail traffic on the concerns mentioned herein, as well as other components within the scope of the DEIS.

Immediate Concerns

The preferred location of the proposed Seattle Arena, even with the incomplete North/South rail traffic analysis, advances a number of immediate concerns for Amtrak-Safety and impact to operations.

Safety. The preferred location is adjacent to an active rail yard, with over a dozen active tracks, and arena operations incorporates the use of S. Holgate Street for East/West transport over the tracks at-grade of pedestrians, vehicles, as well as service and emergency vehicles to support the arena. This approach significantly increases the likelihood of pedestrian/train and vehicle/train conflicts. This is supported by the results of the current, incomplete, DEIS that reports that even with at-grade improvements to S. Holgate Street, the pedestrian demand will far exceed the possible mitigation. With accurate North/South rail traffic analysis on pedestrian flow, the situation will only become worse (a similar conclusion may be drawn for vehicle/train conflicts). The DEIS also fails to bring forward the possible mitigation of a grade separated pedestrian overpass along S. Holgate Street. While reference in the text and in the mitigation tables, this truly effective mitigation is downplayed and deemphasized over at-grade street improvements, which are reported with in the DEIS to ineffective, and temporary pedestrian/vehicle traffic control plans which are not as effective in eliminating conflicts with pedestrian and vehicles that trespass on rail road property. Additionally, Amtrak has concerns for our employees. S. Holgate Street crosses through the Amtrak facility, over multiple, active tracks. Current vehicle and pedestrian traffic (east/west) along S. Holgate Street creates issues with safety as employees and equipment traverse between the north and south ends of the rail yard. The increase of pedestrian and vehicle traffic, as well as the increased number of days of increased conflict due to more events in the area, will add to situation of great concern.

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2. Additional data was collected for a 7-day period and included the documentation of rail activity on the mainline tracks and non-revenue activity on the adjacent tracks (see Appendix E, Section 2.7.2.2). Data was collected for the periods of 6AM to 11PM when Arena related traffic may be present once constructed. Forecast rail activity was updated to reflect the updated existing rail volumes (see Appendix E, Section 2.7.3.2). In addition, the FEIS identifies and evaluates two mitigation options to address the pedestrian-access issues identified in the DEIS (Section 4.0 of Appendix E).

See Common Response #6 Mitigation Measures – Traffic and Common Response #7 Mitigation Measures - Pedestrian Access

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Operations. As noted, S. Holgate Street traverses the Amtrak facility over multiple, active tracks creating a north and south portion of the Amtrak yard, both of which are used continuously throughout each day of the year. In addition to safety concerns, east/west pedestrian and vehicular traffic is in direct conflict with Amtrak operations - impacts to the smooth movement of trains throughout the facility, movement of maintenance personnel and equipment, and vendor vehicles that support and service all trains. These frequent interruptions to operations impacts service delivery and on-time performance, resulting in potential increased costs for Amtrak, our State partners, and our contract service partners. Should the proposed arena be located at the developers preferred location, both alternative 2 and 3, and the resulting increase in both the amount vehicles and pedestrians and frequency of days of increase will negatively impact the operations of the railroad.

Arena operations. Developers of the Seattle Arena have incorporated the use of S. Holgate Street for pedestrian access and egress, vehicle access and traffic flow, and service and emergency vehicle access. The current assumptions regarding operations are not valid based on the incomplete analysis of North/South rail traffic and will only further negatively impact operations with the analysis of all rail traffic that results in the closure of east/west streets, especially S. Holgate Street. The Washington State Department of Transportation did extensive studies on the impact of current and planned, full build out rail service (running north/south) on the rail alignment that is traversed S. Holgate Street, as well as other streets that provide east/west vehicle and pedestrian flow in SODO. Those results show greater duration of closures within each hour for east/west streets throughout the day, both peak and non-peak hours. Again here, the DEIS needs to 1) correctly quantify of all rail movements north and south throughout the study area 2) re-analyze the impacts the closure of east/west streets on the items within the scope of the DEIS, and 3) offer and support appropriate mitigation for each scenario.

Summary

While Amtrak believes that the City (and the communities that make up the city), has the right to determine what is appropriate for the Seattle. Amtrak, as a member of the community and an adjacent neighbor to the proposed project, is compelled to comment on what we see as serious omissions in the DEIS that result in a misrepresentation of the operational reality in the SODO area that gives rise to significant concerns regarding safety, operations, pedestrian and vehicle flow congestion, freight mobility, and economic development. Amtrak has limited its remarks to Safety and Operations with regards to pedestrians and vehicles and the conflicts with train and rail operations. Amtrak will defer to neighbors and community business and agencies that are more closely impacted in the areas of freight mobility and economic development, however we acknowledge that these are negatively impacted by the proposed project and sufficient mitigation has not been addressed or moved forward.

Additionally, Amtrak considers the incomplete accounting, and analysis, of North/South rail traffic on all the components in the scope of DEIS to be a fatal flaw that requires the accurate accounting of rail traffic and yard operations. This should be followed for a re-analysis of the impacts and possible outcomes.

Should the Seattle Arena proposed project move forward, following a revised EIS process, Amtrak supports a comprehensive transportation solution that meets the needs of the Seattle Arena, as well as the needs of the SODO business community, the City, and the State of Washington. For Amtrak,

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3. Comment noted.

4. Additional data was collected for a 7-day period and included the documentation of rail activity on the mainline tracks and non-revenue activity on the adjacent tracks (see Appendix E, Section 2.7.2.2). Data was collected for the periods of 6AM to 11PM when Arena related traffic may be present once constructed. Forecast rail activity was updated to reflect the updated existing rail volumes (see Appendix E, Section 2.7.3.2).

The FEIS outlines specific mitigation measures intended to mitigate the impacts of the project (Section 4.0 of Appendix E). This includes specific improvements to be constructed by the applicant as well as pro-rata contributions to regional improvements projects including ITS Next Generation Improvements and the planned Lander Street grade separation. The project will also be subject to a comprehensive Transportation Management Plan (TMP) that includes demand reduction strategies, performance targets, and pre/post event traffic control requirements.

5. Comment noted.

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this solution would include a grade separated pedestrian/bike overpass along S. Holgate street (or another suitable location), the closure of S. Holgate street to vehicles at the borders of the Amtrak rail yard, and an accompanying east/west grade separated overpass for vehicles (S. Lander Street overpass as included in the City of Seattle's TIP, or another suitable location).

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Specific Comments

Page: iii Under Proposed Action

No additional parking requirements, satisfied by mutual use agreements. No additional spots created unless agreements cannot be secured. This adds to congestion of an already constrained area

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Page: Summary Section 1.2 Site and vicinity

Rail road operations are not included in the description of the area. The Amtrak PNW Headquarters and maintenance facility are directly adjacent to the project. Rail activity is not of similar use to others in the area

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Page: Summary Section 1.5 Significant Areas of Controversy and Uncertainty

What about the adverse impact of increased traffic and congestion on economic developments, rail operations and service delivery of the railroads (Amtrak and BNSF)

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Page: 1-10. Environmental impacts, Alt 2 proposal

How would construction impact daily railroad operations? No consideration mentioned

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Page: 1-10. Table 1. Transportation operations – Street Systems

Removal of all drive way along S. Holgate Street? Not possible, some in use by Amtrak

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Page: 1-14 table 1. Operations – Public Transportation

Only 14% will travel to/from event on all transit modes?

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Page: 1-15 table 1. Operations – Public Transportation

All transit modes are east of Amtrak facility and will add to pedestrian east west traffic through the yard. Increasing the pedestrian/train conflict and negatively impacting safety

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Page: 1-19 table 1. Operations – Pedestrians S Holgate Street

Conflicts between pedestrians and trains will increase. Also conflicts between pedestrians and railroad operations would increase

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Page: 1-20 table 1. Operations – Pedestrians. S Holgate Street

All points under this header support the challenging issue of pedestrian handling and safety if the stadium is built in the proposed location. While the study does point out the significant challenges on this issue, it fails to incorporate required mitigations in the final table summary that the developer must address, either in full or in part, with other agencies

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Page: 1-21 Operations – Bicycle

Bicycle volume is stated to be low. Subjective, please define.

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6. The FEIS presents the demand based analysis for SEPA purposes (see Appendix E, Section 2.8). Code required parking will be determined during the MUP review. It is anticipated that code-required parking would be met through provision of approximately 100 parking spaces on-site as well as either shared parking agreements with existing parking facilities or construction of a new parking garage on the South Warehouse site (see evaluation in Appendix E, Section 2.12). The parking demand analysis has been updated to reflect the revised Case S3 (72,500 attendees) as well as a sensitivity analysis for Case S1 without the use of the Safeco Field and CenturyLink Field parking facilities (see Appendix E, Section 2.8). The evaluation shows that Arena parking could be accommodated in the study area; however, as event attendance increases or parking supply decreases, it would become more difficult to find parking in the area and the reliance on parking further from the site would increase.
7. The FEIS is revised to include an expanded description of the rail facilities in the vicinity of the project (Appendix E, Section 2.7.2.1).
8. See Economic analysis for impact on economic development. Increased traffic congestion is addressed in Section 3.8 and in Appendix E.
9. A construction management plan will be required and coordinated with impacted property owners as needed.
10. Alternatives 2 and 3 would remove all driveways along the 1st Avenue S and S Holgate Street frontages. The project would not remove “all” driveways along S Holgate, just the driveways along the project frontage and property lines.
11. Mode split assumptions were based on data from the 1997 Washington State Public Facilities District Mariner Fan Survey from the Appendix M 1a of the Football/Soccer Stadium EIS and consideration of the transit system. The available data indicates an 12-14 percent transit mode split depending on the horizon year.
12. The FEIS includes an analysis of the Holgate Street rail crossing, including a review of pedestrian and vehicular impacts (Sections 2.3).
See Common Response #7 Mitigation Measures - Pedestrian Access.
13. Comment noted. See Common Response #7 Mitigation Measures - Pedestrian Access
14. See common Response #6 Mitigation Measures – Traffic.
15. Appendix E Section 2.4 provides additional detail on bicycle volume.

Page: 1-26 Table 1 Operations – Freight and Goods Stadium District. Alt 2

Travel times. Is increase of 1.25 to 8 mins an additional increase above the increase in the no action case?

The study mentions in paragraph 3 of the Alt 2 column that in general travel time routes will increase as a result of Arena Traffic. Question?? Does this model account for the planned increases in rail traffic (Freight and Passenger) north and south along the BNSF mainlines? How does the model handle non-revenue movements of trains across S. Holgate Street under current and planned growth conditions?

Page: 1-34 Table 1 Operations- Safety Alt 2

The analysis in this section of the document demonstrates that mitigations (sidewalk widening) to address pedestrian volumes are unable to handle pedestrian volumes generated by events. This observation needs to be carried forward and stronger in the final summary. The consideration of a grade separated pedestrian bridge is referenced in table 1 of the main section but is not included in the mitigation table in Appendix E

Page: 1-39 Table 1 Operations – Transportation Police

The study fails to acknowledge the potential for an increase of railroad property trespass, and at-grade crossing violations if grade separated over pass is not required

Page: 1-45 Table 1 Operations Transportation – Event Management Alt 2 and 3

Railroad Protocols if S. Holgate Street is not closed and a grade separated pedestrian overpass is not constructed? While the application needs to address Port of Seattle Protocols, the applicant should need to address and mitigate the pedestrian/train conflicts that will be increase as event attendees cross through the active rail yard

Page: 1-46 Table 1 Operations Transportation – Transit

Subsidized transit fares would result in an increased of pedestrian east/west traffic across S. Holgate Street and through the rail yard. The study currently reports that S. Holgate Street is unable to handle pedestrian volumes with improvements is the arena is built. Did the study look at the impact of increase pedestrian volumes resulting from reduced fares and further pedestrian congestion/handling issues? If so, what are the results of that analysis?

Page: 1-47 Table 1 Operations Transportation – Pedestrians Alt 2 and 3

Use permanent improvements to address pedestrian safety and congestion impacts-- do not rely on additional personnel and programs. The study reports that even with widening the sidewalks, there would not be enough buffer to handle the pedestrian volume. Move consideration of grade separated pedestrian over pass to the first option.

Page: 1-49 Table 1 Operations Transportation - Capacity and Safety

Arena could mitigate the impacts to congestion and safety by participating in improvements that include pedestrian/bike grade separation at Holgate, closure of Holgate, and assist with other improvements to maintain east/west traffic to the Port that is important to the regional economy

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16. Increased stated is relative to the No Action.

17. The DEIS analysis reflected anticipated increases in both mainline and non-revenue rail movements. The FEIS reflects an updated existing and forecast rail traffic volumes based on additional rail observations and coordination with City staff . Additional data was collected for a 7-day period and included the documentation of rail activity on the mainline tracks and non-revenue activity on the adjacent tracks (see Appendix E, Section 2.7.2.2). Data was collected for the periods of 6AM to 11PM when Arena related traffic may be present once constructed. Forecast rail activity was updated to reflect the updated existing rail volumes (see Appendix E, Section 2.7.3.2).

18. See Common Response #6 Mitigation Measures – Traffic and Common Response #7 Mitigation Measures - Pedestrian Access

19. See Common Response #7 Mitigation Measures - Pedestrian Access

20. See Common Response #7 Mitigation Measures - Pedestrian Access

21. The pedestrian analysis evaluated post-event conditions when all event attendees would be pedestrians. Reduced transit fares would not impact this evaluation.

22. See Common Response #7 Mitigation Measures - Pedestrian Access.

23. The FEIS outlines specific mitigation measures intended to mitigate the impacts of the projects (Appendix E, Section 4.0). This includes specific improvements to be constructed by the applicant as well as pro-rata contributions to regional improvement projects including ITS Next Generation improvements and the planned Lander Street grade separation. The project also will be subject to a comprehensive Transportation Management Plan (TMP) that includes demand reduction strategies, performance targets, and pre/post event traffic control requirements.

Page: 1-50 Table 1 Operations Transportation Parking – On Street

Do not rely on existing parking (on-street or facility); require the Arena to provide additional parking

Page: 1-51 Table 1 Operations Transportation – Vehicle Traffic

North South Connection on east side of proposed location. Alt 2 and 3 will increase vehicular traffic immediately adjacent to the tracks on S. Holgate Street, resulting in an increase east/west traffic across the tracks-increasing vehicular/train and rail yard operation—negatively impacting safety. Failure to mitigate with a comprehensive transportation solution, including the permanent closure of S. Holgate Street, will only maintain and increase congestion, mobility, and safety issues at this location

Page 1-51 Operations Transportation – Vehicle Traffic

Using this connection as emergency access is not operational feasible. The variability and increased street closures due to north/south rail traffic does not allow for a safe, reliable and predictable operations plan

Page: 1-54 table 1-3 Land use / Transportation sections

Reported in the study, sand outside the stadium overlay area would change. What happens to the need for industrial and manufacturing land for the region’s economy, current operations of a diverse work and employment base, and businesses that support the Port of Seattle’s business and operations? The study does not address the need to preserve and/or increase existing business/use of the SODO area. The DIES fails to recognize how alt 2 and 3 would impact people who are working in SODO during events and the delay to employees and service deliveries to local places of work. Also, the study does not address delays to rail yard activities, due to pedestrian and vehicular congestion, impacting service delivery to Amtrak business including National Long distance trains, State supported Amtrak Cascades Service, and Sound Transit Sounder Commuter service that contracts with Amtrak for maintenance of the fleet

Page: 1-55 table 1-3 Transportation section

Cumulative Impacts for Alt 2 and 3. Regional and stated planned increases in Light Rail and intercity passenger rail traffic, as well as the non-revenue rail yard operation movements, associated with rail support, will be impacted by increased pedestrians and vehicular traffic by causing delays to service delivery and work productivity since S. Holgate Street, and the increased congestion, goes through the middle of the Amtrak facility at grade

Page: 1-57 Table 1-4 Transportation

Traffic operations, Alt 2 and 3, LOS is at E or F. Arena event traffic will result in an increase of traffic volume, delays and congestion. This is a direct conflict with, and significant negative impact to existing business operations in SODO

Page: Figure 2.1 Section 2.2 Site and Site Vicinity

Site map shown goes through half of parking lot that is under railroad control. This is inconsistent with previous versions. Please correct to show actual project limits

Page: 2-4 Section 2.4.2 Operation

The 139 events listed do not including NHL Hockey events. What is projected number of events?

24

24. The FEIS presents the demand based analysis for SEPA purposes (see Appendix E, Section 2.8). Code required parking will be determined during the MUP review. It is anticipated that code-required parking would be met through provision of approximately 100 parking spaces on-site as well as either shared parking agreements with existing parking facilities or construction of a new parking garage on the South Warehouse site (see evaluation in Appendix E, Section 2.12). The parking demand analysis has been updated to reflect the revised Case S3 (72,500 attendees) as well as a sensitivity analysis for Case S1 without the use of the Safeco Field and CenturyLink Field parking facilities (see Appendix E, Section 2.8). The evaluation shows that Arena parking could be accommodated in the study area; however, as event attendance increases or parking supply decreases, it would become more difficult to find parking in the area and the reliance on parking further from the site would increase.

25

25. The FEIS outlines specific mitigation measures intended to mitigate the impacts of the projects (Appendix E, Section 4.0). This includes specific improvements to be constructed by the applicant as well as pro-rata contributions to regional improvement projects including ITS Next Generation improvements and the planned Lander Street grade separation. The project also will be subject to a comprehensive Transportation Management Plan (TMP) that includes demand reduction strategies, performance targets, and pre/post event traffic control requirements.

26

26. The north-south connection on the east side of the proposed Arena would accommodate emergency access to the Safeco Field and the proposed arena.

27

27. Traffic and transportation impacts to people going through the SoDo area on all forms of transportation are discussed in Section 3.8 and Appendix E of the FEIS. The Economic Impact Analysis (Appendix F of the FEIS) includes an analysis of the economic impacts to freight mobility for both Port and non-Port businesses. The Economic Impact Analysis also includes a discussion of land use trends in the SoDo and Queen Anne areas of Seattle.

28

28. Your comment is noted.

29

29. Your comment is noted.

30

30. The figures depicting the SoDo site have been revised to correct the site boundary.

31

31. NHL Hockey events are considered as part of the event case analysis in the DEIS. Additional information is provided in Appendix E Figure 1-3 (Appendix E, Section 1.3.1.2) and Table 1-1 and 1-2 (Appendix E, Section 1.3.1.3) consideration was given to 40 NHL games and the potential for 6 playoff games.

Page: 3.6-1 Section 3.6 Land Use, 3.6.11 Affected Environment

The EIS does not acknowledge on the change of use and gentrification of the area. The port and the MIC are both concerned about the loss of zoned land that supports shipping and manufacturing. Additionally, reduction of light industrial could impact current future business that supports the railroad industry

In the “Greater Duwamish Manufacturing and Industrial Center (MIC) / South Downtown “ section, the report fails to recognize and mention the two major rail yards in the area (BNSF yard and Amtrak facility.

Page: 3.6-5 Section 3.6.1.3 Impacts of Alternatives 2 and 3 Operation

The report states that “there would be no direct impacts to surrounding land uses as existing land use would remain adjacent to the site”. The arena proponents have spoken about improvements to the immediate area/business that supports the stadium district. This is in conflict with what is report herein

Question? Is an arena and associated uses consistent with an existing rail yard and operations. The placement of the proposed arena adjacent to and existing non-compatible use raises significant safety and operation concerns inherent conflict??

Commercial development outside of, and directly adjacent to, the overlay district results in conflicts with manufacturing and industrial uses

Page: 3.8-1 Section 3.8 Transportation, Sub Section 3.8.1 Introduction

The area description does not mention the Amtrak facility. To the east, directly adjacent, lies the Amtrak Northwest divisional facility that support's the state supported Amtrak Cascade service, Amtrak long distance service, and Sound transit commuter service

Page: 3.8-1 Section 3.8 Transportation Figure 3.8.1

Fails to graphically represent either of the two rail yards in SODO (BNSF and Amtrak). Also note that most, if not all, 3.8-4Figures included in appendix E (Transportation) also fails to represent the rail yards. Inclusion of both rail yards in all figures in mandatory to accurately represent the environment for the proposed project and all of the implications associated with the Arena proposal

Page: 3.8-3 Section 3.8.1.1 Summary of Site Plan Components

New North –South Connection (also commented on Page 75 of Document) North South Connection on east side of proposed location. Alt 2 and 3 will increase vehicular traffic immediately adjacent to the tracks on S. Holgate Street, resulting in an increase east/west traffic across the tracks-increasing vehicular/train and rail yard operation—negatively impacting safety. Failure to mitigate with a comprehensive transportation solution, including the permanent closure of S. Holgate Street, will only maintain and increase congestion, mobility, and safety issues at this location

Page: 3.8-3 Section 3.8.1.2 Horizon Years for Analysis

This section fails to highlighted planned and projected increases in North-South rail traffic both passenger and freight along the rail alignment through the SODO area

32

32. Comment noted. As stated in the DEIS (p. 3.10-1), an EIS is to include a “summary” of existing land use regulations and plans and the extent to which a proposal may be consistent or inconsistent with them, “as appropriate.” RCW 36.70B.030.

33. Seattle currently has two large stadia, with capacity for crowds larger than proposed for the Arena, directly adjacent to existing rail facilities.

If in the future, there was redevelopment adjacent to the Arena for other entertainment uses, allowed uses would be required to be consistent with land use regulations in place at the time.

34. The FEIS has been revised to include an expanded description of the rail facilities in the vicinity of the project (Appendix E, Section 2.7.2.1).

35. The FEIS / Appendix E figures have been revised to include two rail yards (Figure 2-104, Appendix E, Section 2.7.2.1).

36. The FEIS outlines specific mitigation measures intended to mitigate the impacts of the projects (Appendix E, Section 4.0). This includes specific improvements to be constructed by the applicant as well as pro-rata contributions to regional improvement projects including ITS Next Generation improvements and the planned Lander Street grade separation. The project also will be subject to a comprehensive Transportation Management Plan (TMP) that includes demand reduction strategies, performance targets, and pre/post event traffic control requirements.

Also see Common Response #7 Mitigation Measures - Pedestrian Access.

34

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36

37. Additional data was collected for a 7-day period and included the documentation of rail activity on the mainline tracks and non-revenue activity on the adjacent tracks (see Appendix E, Section 2.7.2.2). Data was collected for the periods of 6AM to 11PM when Arena related traffic may be present once constructed. Forecast rail activity was updated to reflect the updated existing rail volumes (see Appendix E, Section 2.7.3.2).

37

Page: 3.8-13 Event Function – Event Traffic Control Plans

Suggested closure of Holgate Street during events. This is problematic. Railroad employees and vendors have been, and would be denied, access to the Amtrak facility negatively impact Amtrak Operations

Page: 3.8-16 Table 3.8-5 Key Study area Transportation projects

While projects have been outlined, planned increases in rail SERVICE both passenger (Amtrak and Sound Transit) and freight have not been clearly highlighted and it cannot be determined whether the above mentioned had been factored into the analysis on arena operations, existing SODO business operations, traffic congestion , safety, and impacts to freight mobility

Page: 3.8-18 Operations

Removal of all drive ways on S. Holgate Street could not happen on S. Holgate Street, currently in use by Amtrak

Page: 3.8-31 Mitigation Measures, Secondary and cumulative impacts

Also, increased pedestrian congestion in the SODO area will increase safety issues and service delivery issues for non-event businesses.

Page: 3.8-32 3.8.2.3 Pedestrians - Methodology

How was the planned and projected increases in North/South rail traffic addressed and would that would impact the area and pedestrian volumes, flow, and safety. This is not clear, if or how it is addressed

Page: 3.8-35 Affected Environment

While reviewing the sidewalk inventory of the area, the DEIS reports a difference in density of sidewalks and specifically calls out the difference between the north and south sides of S. Holgate street. The DESI fails to recognize that this difference was planned and that pedestrian east/west flow is supposed to be restricted to the NORTH side of the street. The signs that tell pedestrians that the south side of the street is closed to foot traffic have been knocked down and not replaced. Pedestrian traffic is supposed to be limited to the north side of S. Holgate to help hold down the pedestrian/train conflicts

The assertion that pedestrian traffic on S. Holgate is LOW is incorrect. East/West pedestrian traffic on S. Holgate Street is significant and a proper Pedestrian flow analysis should be completed. Last paragraph. This section makes no mention of pedestrian on S. Holgate Street during an event. Currently, pedestrians use S. Holgate Street to get to stadium functions, and will do so if the proposed arena is constructed. Please include S. Holgate Street.

Page: 3.8-41 S. Holgate Street

This section reports that “It is likely that conflicts between pedestrian and trains would increase”. This statement does **not** characterize the operational reality should the proposed arena be constructed and a grade separated pedestrian over pass is not built. There would be a significant increase in Pedestrian/train and rail yard conflicts and negative impacts to safety of pedestrians and employees. Changes to language in this section must occur to reflect the true situation should the arena be placed adjacent to the rail yard

38

38. Closure of Holgate Street for automobile traffic was eliminated from consideration in the FEIS. The traffic volumes along Holgate Street were reduced based on the increased rail crossing closure time associated with increased north-south rail traffic (Appendix E, Sections 2.5.1.3 and 2.7.3.2) The traffic analysis conducted at nearby intersections reflects this condition.

39

39. The traffic and transportation analysis considers both existing and future rail traffic.

40

40. Alternatives 2 and 3 would remove all driveways along the 1st Avenue S and S Holgate Street frontages. The project would not remove “all” driveways along S Holgate, just the driveways along the project frontage and property lines.

41

41. Comment noted.

42

42. See Common Response #7 Mitigation Measures - Pedestrian Access.

43

43. Comment noted. The FEIS updates the existing and future pedestrian analysis including consideration of the south side of S. Holgate Street being closed to pedestrians. (see Section 2.3).

The DEIS and FEIS pedestrian analysis provides a full evaluation of the facilities in the immediate vicinity of the proposed Arena whether pedestrian volume are considered low or high.

44

44. Comment noted. The FEIS reflects updated existing and forecast rail traffic volumes (Appendix E, Section 2.7.3.2). Additional information regarding the frequency and duration of activity on the mainline as well as the side tracks is included in the analysis. These updated rail forecasts were fully reflected in the pedestrian analysis (see Section 2.3 of Appendix E).

See Common Response #7 Mitigation Measures - Pedestrian Access

Page: 3.8-42 S. Holgate Street

The report states that any at grade modifications would fail/be difficult to meet the needs for safe handling of pedestrians. Yet, the report fails to place a stronger importance on a grade separated pedestrian overpass. The importance of this mitigation should be elevated and included as a requirement.

Page: 3.5-51 Existing Weekday PM Peak Hour with Event

As reported herein, an increase in truck traffic on Holgate will occur due to an event. How does future rail traffic and extend closure of the at-grade rail crossings impact congestion, safety, freight mobility, and proposed arena operations? It is not clear without the permanent closure of S. Holgate Street and a revised traffic and operations plan how, with increased S. Holgate Street closure due to increase rail traffic (up to 45 mins per hour) traffic congestion, pedestrian flow, safety, freight mobility, and the proposed arena operations will be addressed. Note, that increased rail activity and the subsequent S. Holgate street closure will persist into the evening hours during proposed arena event operations

Page: 3.8-55 Table 3.8-7

Increase of traffic volumes as a result of the Alt 2 in each case seems low. What is the impact to traffic volumes on existing stadium events and can an extrapolation due to event size be performed and then compared to the reported numbers

Page: 3.8-56 Table 8.7-7

No change in traffic volume over a 12 year growth period?? Actually go down by 1% when compared to the 2018 table?

Page: 3.8-59 Effects of Rail Crossings

The DEIS makes a significant, if not fatal, determination to NOT include non-mainline (non-revenue) track movements across S. Holgate and S Lander Streets, that lead to road closure—impacting congestion, vehicular travel time, pedestrian flow and protection, and the regional economy. The study claims that the non-mainline movement is infrequent during weekday PM periods. This assumption is false, and without these movements/closures included one does not get an accurate assessment of the rail activity directly adjacent to the proposed project and the further and cumulative impacts to the SODO region.

Furthermore, the planned and projected increases in passenger and freight rail traffic (and the supporting non-mainline/non-revenue movements that support those increases) have not been acknowledged and considered in the analysis of the factors impacting the SODO region and the proposed arena operations should it be sited in SODO. The WSDOT Draft 2013 Rail plan, addresses both passenger and freight rail traffic volumes increases for the study period. The DEIS should re-analyze rail traffic that includes all non-mainline movements associated with all increases of rail traffic

Page 3.8-62 Figure 3.8-11

Shows Pedestrian queuing area undefined on South Side of S. Holgate Street. South side of street is supposed to be closed to pedestrian traffic. Signs have been knocked down and not replaced

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45. See Common Response #7 Mitigation Measures - Pedestrian Access.
46. Additional data was collected for a 7-day period and included the documentation of rail activity on the mainline tracks and non-revenue activity on the adjacent tracks (see Appendix E, Section 2.7.2.2). Data was collected for the periods of 6AM to 11PM when Arena related traffic may be present once constructed. Forecast rail activity was updated to reflect the updated existing rail volumes (see Appendix E, Section 2.7.3.2).
47. Existing traffic volumes are presented in the report and a comparison is provided in the immediate vicinity of the arena site in Table 2-10, 2-11 (Appendix E, Section 2.5.4), and 2-13 and 2-14 (Appendix E, Section 2.5.5).
48. Traffic forecasts developed for the Arena (Appendix E, Section 2.5.3) were forecast based on volumes from the EIS prepared for the Alaskan Way viaduct and updated truck volumes associated with the Port of Seattle's future growth plans. When compared to 2018 conditions, 2030 conditions from the Alaskan Way viaduct EIS reflect changes to travel mode splits, peak hour spreading of congestion, build out of land uses, and other changes in daily travel patterns.
49. The traffic and transportation analysis considers both existing and future rail traffic.
50. The FEIS updates the existing and future pedestrian analysis including consideration of the south side of S. Holgate Street being closed to pedestrians. (see Section 2.3 of Appendix E).

Page 3.8-62 S. Holgate Street Existing Rail Crossing Locations

The DEIS incorrect assumes rail activity: why only 4 passenger trains and 1 freight train? There are significantly more trains that travel North/ South across S. Holgate Street. Amtrak Long Distance trains, State Supported Amtrak Cascades, Sound Transit Sounder trains, Freight

51

Page: 3.8-70 Effects of Rail Crossings

The DEIS fails to mention, and include the supporting, non-mainline movements that support the existing and growing rail traffic. These non-mainline crossings can be significant in number and duration resulting extended periods of road closure thus leading to incorrect conclusions with the document. (Please see Attachment 2 for example of full rail traffic analysis)

52

Page: 3.8-85 - Figure 3.8-17

Proposed site location is missing on this figure; please include Alt 2/Alt 3 location

53

Page: 3.8-87 Amtrak Maintenance Facility

In the description of the facility include "as well as significant employee and equipment movement across Holgate Street to the north and south portions of the yard."

54

Page: 3.8-87 Traffic Volumes

The DEIS only uses data from 1 day that was associated with the City of Seattle's study *Coal Traffic Impact Study* (Parametrix). This singular data point does not represent an accurate representation of rail activity that crosses S. Holgate Street. Variations on rail activity, non-mainline movements and time of day are situational and variable depending on the transportation and operations needs of the day/moment. At times, significant train movements, both in number and duration, result in closure of S. Holgate Street. Operations of the rail yard is 24 hours, 7 days a week, with a significant amount of rail activity, associated with non-mainline activity occurring after peak hours and around the time events. The DEIS needs to better study and report back the existing and future rail traffic volumes and the impact to the variables already outlined in the study.

55

Page: 3.8-91 Table 3.8-20

Amtrak Cascades label is footnoted with 2 (Sound Transit) should be footnote 3. Not only Amtrak Cascades trains, includes Amtrak long distance as well. The below reflects actual (2013) and planned 2013: Northbound – 5, Southbound – 5, plus 4 mainline non-revenue movements
2018: Northbound – 7, Southbound – 7, plus at least 4 mainline non-revenue movements
2030: Northbound – 14, Southbound – 14, plus at least 4 mainline non-revenue movements

56

Accurate North/South rail traffic must be obtained and impacts must be re-analyzed

Page: 3.8-95 Table 3.8-23

Table reports that in 2018, the road closures as a result of train traffic are 15 minutes during the weekday PM peak hours and 21 minutes in 2030. Methodology? How was this figure derived? Did it include non-mainline movements? Is this a daily average? Potentially rail crossing gates are down more frequently and longer during PM non-peak hours, later in the evening, for maintenance and service of Amtrak and Sounder equipment and for BNSF to build/break trains along their tracks. This time period will coincide with proposed arena events. It is not clear whether the information presented in this table has analyzed all factors and accurately represents operation impacts to street closures on S. Holgate Street.

57

51. The DEIS analysis reflected anticipated increases in both mainline and non-revenue rail movements. The FEIS reflects an updated existing and forecast rail traffic volumes based on additional rail observations and coordination with City staff. Additional data was collected for a 7-day period and included the documentation of rail activity on the mainline tracks and non-revenue activity on the adjacent tracks (see section 2.7.2.2). Data was collected for the periods of 6AM to 11PM when Arena related traffic may be present once constructed. Forecast rail activity was updated to reflect the updated existing rail volumes (see section 2.7.3.2).

52. See Response to Comment #51, above.

53. Figure 3.8-17 has been updated to show the proposed site location.

54. The FEIS is revised to include an expanded description of the rail facilities in the vicinity of the project.

55. Traffic forecasts developed for the Arena (section 2.5.3) were forecast based on volumes from the EIS prepared for the Alaskan Way viaduct and updated truck volumes associated with the Port of Seattle's future growth plans. When compared to 2018 conditions, 2030 conditions from the Alaskan Way viaduct EIS reflect changes to travel mode splits, peak hour spreading of congest, buildout of land uses, and other changes in daily travel patterns.

56. See Response to Comment #51, above.

57. The duration and frequency of future rail traffic and resulting east/west closure was included in the VISSIM model and reflected in the traffic operations analysis. The FEIS reflects an updated existing and forecast rail traffic volumes based on coordination with Amtrak staff. Additional information regarding the frequency and duration of activity on the mainline as well as the side tracks is included in the FEIS analysis (Appendix E, Section 2.7.3.2).

Page: 3.8-100 Section 3.8.2.8 Parking

Continued use of existing parking and random lots in the SODO region is contributing to the increase of pedestrian/train, rail yard operations conflicts that negatively impacting safety for pedestrian and employees in SODO. Should the proposal (either alt 2 or 3) move forward this safety and operational concern will be increased just by the number of event days added to the calendar. Installation of appropriate mitigation measures, including a grade separated pedestrian overpass, should be required.

Page: 3.8-123 Table 3.8-28 1,500 Car Garage – Transportation Element – Vehicular Traffic Volumes

What about west bound traffic from 4th, onto Holgate, heading towards parking structure? How does this increased congregation impact safety and rail operations? Also, how goes increased north/south rail traffic and the accompanying increase road closure impact the business plan of the Arena, should S. Holgate Street not be permanently closed.

Page: 3.10-4 Section 3.10.1.3 Street Vacation Policies Discussion

The analysis shows that the street improvements mentioned here would not meet the needs to address pedestrian volumes and safety on S. Holgate Street. The discussion is in conflict with findings and offers no additional mitigation

Page: 4-3 Index

The study references the WSDOT Rail plans (freight and passenger) but the studies are not included in the index,

The DEIS fails to refer to, or incorporate, or consider the S Holgate Street Railway Crossing Closure Traffic Study Seattle Washington: Traffic Impact Analysis (WSDOT, by Garry Struthers Associates and HDR, December 2003, January and May 2005) that extensively examines vehicle, pedestrian and train traffic on S. Holgate Street and in the SODO region.

Appendix E

General Comment - Figures included in appendix E (Transportation) fail to represent the rail yards, and track alignments, of BNSF and Amtrak. Inclusion of both rail yards in all figures is mandatory to accurately represent the environment for the proposed project and all of the implications associated with the Arena proposal.

58

58. See Common Response #6 Mitigation Measures – Traffic.

59

59. The FEIS includes an alternative parking analysis (Appendix E, Section 2.12) that focuses on the impacts to the various transportation elements if a garage is constructed on the south warehouse site. This analysis includes a review of the traffic operations within the core area around the proposed Arena site.

Regarding Holgate Street, no closure to vehicle traffic was assumed under pre/post event conditions.

60

60. See Common Response #7 Mitigation Measures - Pedestrian Access.

61

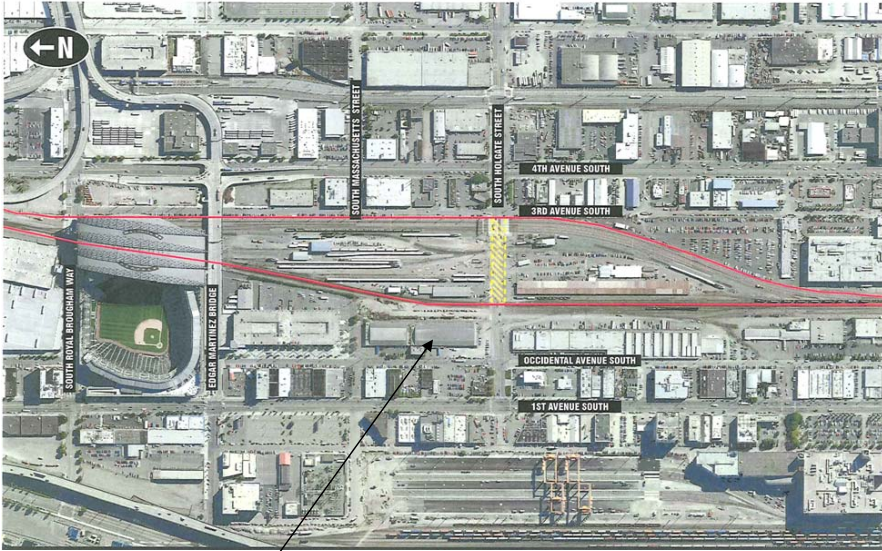
61. The WSDOT *Washington State Amtrak Cascades Mid-Range Plan* and *Washington State Long-Range Plan for Amtrak Cascades* are provided as the two final items in the list of references in the FEIS (Appendix E, Section 5.0).

62

62. The FEIS figures have been updated to reflect the rail track alignments. In addition, Figure 2-102 in Appendix E reflects the additional detail of the rail yards.

Attachment 1. Amtrak Northwest Facility – S. Holgate Traversing Rail Yard

Red line delineates Amtrak facility, Amtrak Tracks, and BNSF Mainlines
Yellow cross hatch delineates where S. Holgate Street crosses Amtrak Facility



Proposed preferred site for the Seattle Arena, directly adjacent to the Amtrak facility, north of S. Holgate Street, and along the west side of the rail yard.

Appendix E Projection of Train Volumes

According to the conceptual plan provided by Amtrak, four types of trains may operate on the main line at-grade crossing on S. Holgate Street. These types are as follows:

- Freight trains
- *Souther* commuter trains between Tacoma and Seattle
- Amtrak *Cascades* service
- Amtrak long-distance rail service

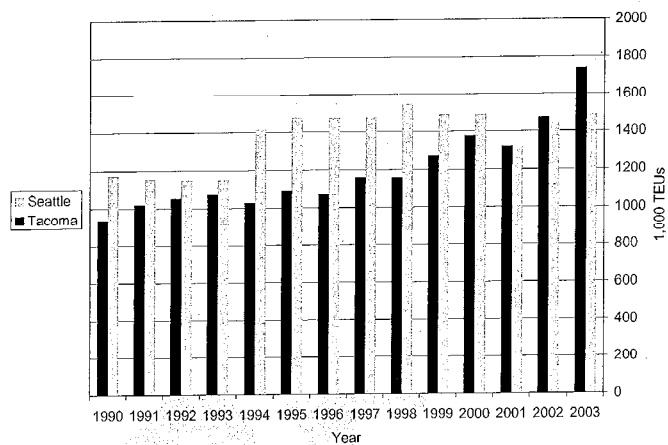
Passenger and freight train movements in the study corridor are projected separately, both for main line and switching operations in the maintenance yard. The projected volumes were used to calculate the total activation time for all of the crossings in the study area.

Freight Train Volumes

The trend of globalization has largely increased the volume of freight movements at all major ports along the Pacific Coast. According to the data from the American Association of Port Authorities, container traffic of all Pacific ports increased from 10.98 million truck equivalent units (TEUs) to 21.16 million TEUs between 1993 and 2003 for an annual growth rate of 6.8 percent.

Container traffic accounts for about 70 percent of all tonnage in and out of the Port of Seattle and is considered a good indicator of growth of freight trains. Port of Seattle is relatively slow compared to other major Pacific ports. Exhibit E.1 shows the container traffic in and out of the Ports of Seattle and Tacoma. The average annual growth rates are 1.9 percent and 4.9 percent for the Ports of Seattle and Tacoma, respectively, and is 3.3 percent for the two ports combined. This figure is consistent with the growth of BNSF Railway Company (BNSF) freight traffic during the last 20 years. Therefore, an annual growth rate of three percent is used to project future freight train volumes on the main line tracks.

Exhibit E.1
Growth of Container Traffic



Source: American Association of Port Authorities

Based on the activation data presented in Exhibit 2.3 (Chapter 2), which presents the hourly distribution of activation by freight trains, six percent, eight percent, and four percent of daily freight trains will occur in the AM, PM peak hours, and off-peak hours, respectively. The daily train volumes are calculated by applying the peak hour factors to the projected daily train volumes, as also shown in Table E.1. Table E.2 shows the number of freight trains passing through the three at-grade crossings during AM, PM, and off-peak hours, respectively, in the year of 2007.

Table E.1
Projected Daily Train Volumes in 2007

Service	S. Holgate Street		S. Royal Brougham Way		S. Lander Street	
	Main line	Switching	Main line	Switching	Main line	Switching
<i>Souther</i> commuter trains	20	17	20	16	20	0
Amtrak <i>Cascades</i>	10	6	10	6	10	0
Amtrak Long Distance	2	4	2	4	2	0
Amtrak Maintenance Shop	0	12	0	0	0	0
Freight Trains	57	0	57	0	57	0
Total Trains	89	39	89	26	89	0

Sources: Passenger train counts by Transit Safety Management, Inc. for WSDOT; freight train counts by BNSF Railway Company

Passenger Train Volumes

Transit Safety Management, Inc. and BNSF provided the weekday passenger train volumes in horizon and future years, as shown in Tables E.1 and E.3 for weekday daily train volumes, and in Tables E.2 and E.4 for weekday peak hour train volumes.

Table E.2
Projected Hourly Train Volumes in 2007

Street	Service	AM Peak		PM Peak		Off-Peak	
		Main Line	Switching	Main Line	Switching	Main Line	Switching
S. Holgate Street	<i>Souther</i> commuter trains	2	4	3	0	0	0
	Amtrak <i>Cascades</i>	0	0	1	0	1	0
	Amtrak Long Distance	0	0	0	0	2	0
	Amtrak Maintenance Shop	0	1	0	1	0	0
	Freight Trains	3	0	5	0	2	0
	Subtotal	5	5	9	1	5	0
S. Royal Brougham Way	<i>Souther</i> commuter trains	2	0	3	1	0	0
	Amtrak <i>Cascades</i>	0	2	1	0	1	0
	Amtrak Long Distance	0	0	0	0	2	0
	Freight Trains	3	0	5	0	2	0
	Subtotal	5	2	9	1	5	0
S. Lander Street	<i>Souther</i> commuter trains	2	0	3	0	0	0
	Amtrak <i>Cascades</i>	0	0	1	0	1	0
	Amtrak Long Distance	0	0	0	0	2	0
	Freight Trains	4	0	6	0	2	0
	Subtotal	6	0	10	0	5	0

Sources: Passenger train counts by Transit Safety Management, Inc. for WSDOT; freight train counts by BNSF Railway Company

Table E.3
Projected Daily Train Volumes in 2027

Service	S. Hoigate Street		S. Royal Brougham Way		S. Lander Street	
	Main line	Switching	Main line	Switching	Main line	Switching
<i>Sounder</i> commuter trains	41	14	41	45	41	0
Amtrak <i>Cascades</i>	28	15	28	10	28	0
Amtrak Long Distance	2	4	2	4	2	0
Amtrak Maintenance Shop	0	24	0	0	0	0
Freight Trains	104	0	104	0	104	0
Total Trains	175	57	175	59	175	0

Sources: Passenger train counts by Transit Safety Management, Inc. for WSDOT; freight train counts by BNSF Railway Company

Table E.4
Projected Hourly Train Volumes in 2027

Street	Service	AM Peak		PM Peak		Off-Peak	
		Main Line	Switching	Main Line	Switching	Main Line	Switching
S. Hoigate Street	<i>Sounder</i> commuter trains	3	4	3	0	3	0
	Amtrak <i>Cascades</i>	2	0	2	0	2	0
	Amtrak Long Distance	0	0	0	0	0	0
	Amtrak Maintenance Shop	0	4	0	3	0	0
	Freight Trains	6	0	8	0	4	0
	Subtotal	11	8	13	3	9	0
S. Royal Brougham Way	<i>Sounder</i> commuter trains	3	4	3	4	3	2
	Amtrak <i>Cascades</i>	2	0	2	0	2	0
	Amtrak Long Distance	0	0	0	0	0	0
	Freight Trains	6	0	8	0	4	0
	Subtotal	11	4	13	4	9	2
S. Lander Street	<i>Sounder</i> commuter trains	3	0	3	0	3	0
	Amtrak <i>Cascades</i>	2	0	2	0	2	0
	Amtrak Long Distance	0	0	0	0	0	0
	Freight Trains	6	0	8	0	4	0
	Subtotal	11	0	13	0	9	0

Sources: Passenger train counts by Transit Safety Management, Inc. for WSDOT; freight train counts by BNSF Railway Company



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September 30, 2013

Mr. John Shaw
Senior Transportation Planner
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Dear Mr. Shaw:

Thank you for the opportunity to comment on the proposed Seattle Arena EIS (Project No. 3014195). These comments were prepared by Peter Goldman, Attorney-at-Law, on behalf of the **International Longshore and Warehouse Union Local No. 19** (ILWU). ILWU has offices at 3440 E. Marginal Way So., which is approximately 1.5 miles from the proposed Arena SODO location (Alternative 2).

ILWU Local 19 represents about 3000 Port of Seattle workers who service cargo and cruise ships at the Port of Seattle. ILWU has an extremely strong interest in maintaining efficient corridors for freight mobility in the vicinity of the proposed Arena. This is because anything that impacts or jeopardizes the Port of Seattle's operations, such as traffic congestion and loss of shipping contracts, will impact the jobs and futures of ILWU's members. The mere perception by shippers of the risk of continued disruption of freight mobility is enough for these shippers to reconsider or fail to renew their operations at the

Port. In addition, members of ILWU spend every working day in SODO; the traffic, air quality, and nature of the built environment affect their lives and well-being.

These Comments are organized as follows.¹

I. Executive Summary

II. General Defects with the DEIS and the EIS Process for the Proposed Seattle Arena.

- a. The EIS is defective and inadequate as a matter of law because its site-selection and alternative off-site comparison process assumes the Arena is a private, as opposed to a public, project under SEPA.
- b. The EIS is defective and inadequate as a matter of law because, contrary to explicit SEPA regulations applicable to public projects, the December 3, 2012 Memorandum of Understanding effectively limited the site alternatives process to the Seattle Center and provided for no alternative location outside Seattle.
- c. The EIS is inadequate as a matter of law because the EIS statement of its “objective” (“should the City and County participate in the SODO arena”) is impermissibly narrow under principles of SEPA.; the issue should be where a new public arena should be sited regardless of ArenaCo’s purported sole interest in the SODO site.

III. Environmental Impacts Acknowledged in EIS. This section summarizes the impacts that are acknowledged, although minimized, in the DEIS.

IV. Specific Defects and Oversights With DEIS

- a. Minimization of direct, indirect, and cumulative impacts on traffic congestion.
- b. Minimization of direct, indirect, and cumulative impacts on freight mobility.
- c. Minimization of direct, indirect, and cumulative impacts on available parking.

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Peter Goldman, Attorney at Law

- 1. See Common Response #1 Public vs Private Project; Range of Alternatives.
- 2. See Common Response #1 Public vs Private Project; Range of Alternatives.
- 3. See Common Response #2 Project Objectives.

¹ All literature, studies, and reports cited in these comments have been recorded on the DVD attached to these comments. ILWU requests that all materials on the DVD be included in the record of comments on the DEIS.

V. **Comments on Economic Impact Report** (Appendix F to the DEIS)

4. See Common Response #1 Public vs Private Project; Range of Alternatives.

I. **Executive Summary**

The EIS for the proposed SODO Arena (Arena) is defective and inadequate as a **matter of law**. The Arena is a **PUBLIC** project for purposes of this SEPA review under applicable case law and SEPA regulations because the December 3, 2012 Memorandum of Understanding (MOU) specifically anticipates that the Arena will be publically-owned in the future and because its revenues, debt service, and operating expenses will be shared by Seattle and King County. It makes no difference that the governments have reserved until after SEPA and other contingencies “whether to participate” in the Arena. SEPA does not permit governments to conduct environmental review of projects that are typically public (such as stadia and arenas) and yet regard these projects as private for purposes of SEPA merely because the government has reserved the decision of “whether to participate” until after SEPA review and the exhaustion of other contingences.

Because the Arena is a **public** project, Seattle and King County had a duty to process it under SEPA as a public project, as they did for Safeco Field, Century Link Field, and other large projects that serve general public interests. Yet, on the assumption that ArenaCo is only interested in a SODO location and that there is no “proposal” to build an arena elsewhere, they have done the opposite. First, the MOU explicitly limited alternatives before SEPA to the Seattle Center and neither Seattle nor King County have considered an Arena outside of the Seattle City limits. Second, unlike other public projects, neither Seattle nor King County has conducted any public process relative to other reasonable alternative sites within King County. Third, the Arena site comparison process is fatally flawed because the other alternative sites are not being considered as genuine alternative sites but are only being used to “compare” them for purposes of the decision whether to “participate” in a SODO-based Arena.

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The DEIS for the Arena is inadequate and inaccurate for multiple other reasons. First, while it concedes that the Arena will generate extensive direct, indirect, and cumulative traffic in SODO and other nearby areas as a result of existing conditions and future transportation projects (such as the Hwy. 99 tunnel), the DEIS makes no credible attempt to explain **how** and to what extent this additional traffic will impact freight mobility, traffic congestion, commuting patterns, and air quality in SODO. Intersection delay times on a chart do not tell the story. Second, the DEIS is based on multiple erroneous factual assumptions and/or omissions, including (a) that the Arena will only generate 2150 car trips while other ArenaCo reports (including its own transportation study by Parametrix) reflect the number of Arena-generated cars will be more like 6000; (b) that there is sufficient parking in the area without the Arena having an impact on parking resources for local businesses; (c) that the only time period of conflict with the Port will be between 4-7pm while the Port is winding down its daily operations; (d) whether and to what extent public safety will be compromised by the extensive train traffic on S. Holgate St.; and (e) the existence and extent to which Arena Co's planned complimentary development (it's "L.A. Live" real estate development) will further gentrify and impact SODO.

The DEIS also erroneously neglects to discuss or concede the views of other experts that the Arena's cumulative traffic will impair freight mobility, create extensive additional traffic for the travelling public, and contribute to the gentrification of an industrial area; omitted studies include those prepared by the Seattle Planning Commission, Port of Seattle, and the City and State's freight mobility commissions. And finally, the DEIS makes absolutely no credible attempt to identify or quantify the cost of the public construction projects that will be necessary to mitigate the Arena's direct, indirect, and cumulative impacts on transportation, public safety, and freight mobility.

The Arena's Economic Impact Report (EIR) is inaccurate, result-oriented, and superficial. First, the EIR only measures the Arena's economic impact on the Port of Seattle and businesses that depend on freight mobility in terms of lost trucking time and assigns a paltry sum of \$230,000 to this impact. Yet this figure completely overlooks the direct and

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5. A) The DEIS projected vehicle demand is consistent with the Parametrix transportation analysis. Based on an attendance level of 20,000 people, the DEIS projected a peak parking demand of over 6,000 vehicles by 2018 (Table 1-6). The arrival of these vehicles to the study area would occur over several hours. The evaluation of traffic operations focuses on the weekday PM peak hour (or a one-hour time period). During the one-hour time period approximately 2,150 vehicles arrive to the study area (Table 1-6).

Impacts to freight mobility, traffic circulation, traffic operations were and are described within Appendix E of the DEIS and FEIS.

B) The DEIS availability of parking is based on data collection during existing events. The FEIS presents the Seattle Municipal Code requirement for parking as well as a demand based analysis for SEPA purposes (see Appendix E, Section 2.8). These requirements would be met through provision of approximately 100 parking spaces on-site as well as either shared parking agreements with existing parking facilities or construction of a parking garage on the South Warehouse site (see evaluation in Appendix E, Section 2.12). The parking demand analysis has been updated to reflect the revised Case S3 (72,500 attendees) as well as a sensitivity analysis for Case S1 without the use of the Safeco Field and CenturyLink Field parking facilities (see Appendix E, section 2.8). The evaluation shows that Arena parking could be accommodated in the study area; however, as event attendance increases or parking supply decreases it becomes more difficult to find parking in the area and the reliance on parking further from the site increases.

C) Transportation conditions between 4-7 p.m. represent the combined worst-case scenario. Other impacts would occur outside of this time period but would generally be less than identified for the peak commute period.

D) The impacts of increase rail activity are reflected throughout the analysis with specific details provided in Appendix E, Section 2.7.

E) Potential future development not currently submitted to the City for approval was not included in this analysis.

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7. Cumulative Traffic Congestion

The analysis looks specifically at how much traffic is moving in and out of the terminals that would be impacted by the arena. We have fully accounted for impacts within the primary impact area.

The 13,664 daily truck trips is the Port total for all trips to and from all terminals

indirect cost to the local, regional, and state economy of the extent to which the Arena's direct, indirect, or cumulative traffic congestion will jeopardize or compromise the Port of Seattle and Port-dependent businesses. It also overlooks the extent to which the Arena and its L.A. Live-like development will further contribute to the loss of SODO as a working industrial area because of its traffic and the extent to which it will raise property values and rents.

Second, the EIR's projection of net economic impact fails to acknowledge that, as contemplated by the MOU, the Arena will not generate any tax revenues (all but exempt taxes will be used for debt service). This is because the Arena will be owned by the City and will not pay any real estate taxes and all of the tax revenues it generates will service its debt. The EIR also fails to acknowledge or discount its rosy economic projection with any of the very well-documented literature that publically-subsidized sports arenas rarely provide any positive net return to local governments. The EIR also utilizes an erroneous "substitution effect" discount of 20% when economic literature pertaining to public arenas reflect the number is significantly more, approaching 75%. And it contains no analysis of the impact on Seattle's debt capacity.

Third, the EIR fails to account for any of the external costs that the Arena will impose on SODO and region if SODO is to maintain or improve its current traffic congestion and freight mobility conditions. These include required traffic infrastructure (vehicle overpass over S. Lander and pedestrian overpass over S. Holgate), financial risks of the transaction itself, and the cost to Seattle taxpayers of a severely compromised Key Arena and Seattle Center. Nor does it even account for the impact on the Queen Anne neighborhood, which will suffer further losses as a result of the gradual decline and viability of the Key Arena (whose events will inevitably shift to the new Arena).

In conclusion, the EIS and EIR are biased, superficial, result-oriented documents designed to paper-over the extent to which the Arena will contribute to the gentrification and gradual deterioration of Seattle's Port and SODO industrial area. They are both legally inadequate and do a tremendous dis-service to the thousands of people who make a living

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for 3.5 million TEU (Exhibit PI-2). Of that total, an estimated 675 (4.9%) are in the hours and locations potentially affected by Arena-induced delays (Exhibit PI-6). Those delays would occur on an estimated 116 days each year (Exhibit PI-23), or 46% of the 250 working days. On average, then, 2.3% (4.9%x46%) of all Port truck trips could be affected to some degree.

Of the 675 trips subject to delay on event days, an estimated 19 (2.8%) would move to or from local Seattle points (e.g. the SODO study area) while the others move to or from the rail yards or to and from points beyond the SODO area (Exhibit PI-6). The affected trucks trips to and from non-rail SODO points would therefore average 0.06% (4.9%x46%x2.8%) of the Port total.

The EIS evaluates the proposed Arena. Ancillary development is only speculative at this time and was not required as part of the Seattle Arena MOU. The project being considered for environmental review is solely the proposed Arena.

Tax Revenues

Pro Forma Advisors projected tax impacts generated by the construction and operation of the Arena. These revenues are new/incremental (i.e. generated as a direct result of building and operating the Arena). Our report identifies the tax revenues earmarked to pay down debt service (outlined and consistent with the MOU). The focus of the economic report was the tax revenues used to pay debt service. For reference, we have also highlighted additional tax revenues generated from Arena construction (\$33.3M) and annual operations (\$1.9M) which will not be used for debt service and are expected to flow to other taxing districts.

Potential economic impacts to Seattle Center from the development of a new Arena are discussed in the Economic Impact Analysis included as Appendix F to the EIS.

from SODO-dependent businesses and the Seattle and King County decision makers who will use these documents to decide upon next steps.

II. GENERAL DEFECTS WITH THE EIS AND THE EIS PROCESS FOR THE PROPOSED SEATTLE ARENA THAT RENDER THE DEIS INADEQUATE AS A MATTER OF LAW.

1. THE SEATTLE ARENA EIS AND THE PROCESS LEADING UP TO THE EIS MISCHARACTERIZE THE ARENA AS A PRIVATE, AS OPPOSED TO A PUBLIC, PROJECT; THIS MISCHARACTERIZATION RENDERS THE EIS INADEQUATE AS A MATTER OF LAW.

It is undisputed that the Arena DEIS assumes and characterizes the Arena Project as a **private** project. For example, in Section 1 (Summary), the DEIS states that “*WSA Properties* has applied to the City of Seattle for the future construction of an approximately 750,000 sf, 20,000-seat spectator sports facility.” (emphasis added). Similarly, in Seattle’s Question and Answer document accompanying the DEIS, Seattle states that the arena is a *private* project:

<http://www.seattle.gov/dpd/Blog/Seattle%20Arena%20DEIS%20FAQs.pdf>. This Q & A document states that Seattle is only studying an off-site alternative because the Councils required them to do so and because this comparison would inform the city and county “whether to participate” in the SODO arena:

Since the proposed Arena was initiated by a private entity (ArenaCo), and would be constructed and operated by ArenaCo, *it is a private project for the purposes of SEPA alternatives analysis*. An EIS for a private proposal is typically limited to studying alternative proposals on the same site. However, both the City and County also required the review of environmental impacts for a proposed arena at other locations in Seattle. Those alternative sites are the KeyArena at Seattle Center and Memorial Stadium adjacent to Seattle Center. The City and County’s objective is to determine whether to participate in ArenaCo’s private proposal to build and operate a Seattle Arena for NBA and NHL home teams. (emphasis added).

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8. See Common Response #1 Public vs Private Project; Range of Alternatives.

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The DEIS specifies a specific site located at 1700 First Ave. So. Similarly, multiple other Arena-related DPD documents² reflect that the private project proponent is WSA Properties, c/o of its representative attorney Jack McCullough. Accordingly, our first comment, which taints the entire DEIS, is that the *City has mischaracterized the Seattle Arena project as a private, as opposed to a public project.*

A. Case Law and SEPA Regulations define what is a public project.

For purposes of determining the procedural and substantive SEPA EIS requirements on a specific project, types of projects or actions are divided into “private” and “public,” each having discrete requirements. Whether a proposal is “public” or “private” guides the off-site alternatives that the City and County are required to consider in the EIS.

SEPA defines a “private project” as “any proposal primarily initiated or sponsored by an individual or entity other than an agency.” WAC 197-11-780. For a private project, action (on a specific site), in the EIS the lead agency is only required to evaluate a no-action alternative and other reasonable alternatives for achieving the proposed objective *on the same site*. WAC 197-11-440 (5)(d). Public projects/actions, however, require *two additional considerations*: first, SEPA requires agencies implementing *public* projects to consider all “reasonable alternative sites” that could “feasibly attain or approximate a proposal’s objectives, but at a lower environmental cost or decreased level of environmental degradation,” as opposed to merely looking at alternatives that would achieve the same objective on the *same* site. WAC 197-11-440 (5)(b); *Weyerhaeuser v. Pierce Cy.* 124 Wn. 2d 26, 38, 873 P. 2d 498 (1994). Second, SEPA’s implementing regulations recommends that proposals for public projects be described in terms of *objectives* rather than solutions. WAC 197-11-060(3)(a)(iii). A noted SEPA commentator, Richard Settle, explains why the distinction between public and private projects is important: “SEPA’s mission, after all is to minimize mindless and surreptitious adverse environmental impacts. To allow a county which needs an airport, shopping center or new industry to ignore sites other than the one privately proposed is to invite unnecessary environmental harm.” Richard L. Settle, *The*

² These DPD documents include (a) an April 17, 2013 Street Vacation Proposal which lists the Petitioner as WSA Properties; (b) the City of Seattle’s SEPA “Scoping” document dated October 25, 2012; and (c) the City of Seattle’s Notice of Determination of Significance dated October 25, 2012.

Washington State Environmental Policy Act: A Legal Policy and Analysis § 14.01(2)(b) at p. 14-62 (Rev. 24, Dec. 2012).

While the term “public” has not been defined, the Supreme Court of Washington has provided crucial guidance on the distinction between “public” and “private” actions. *Weyerhaeuser v. Pierce Cy.*, 124 Wn.2d 26 (1994). In *Weyerhaeuser*, a private waste hauling company (“LRI”) sought to construct a new municipal solid waste landfill near Puyallup, Washington. At the *behest* of Pierce County, LRI initiated and sponsored the project, selected the landfill site, applied for permits, made project decisions, and financed these actions with its own funds. *Weyerhaeuser*, 124 Wn.2d at 39. Because of these private actions, Pierce County and LRI argued that the proposed landfill was a private project for purposes of relieving Pierce County of any duty to consider off-site alternative locations. *Id.* The court, however, held that the proposed landfill was a *public*, not a private, proposal. The court reasoned that the County had *encouraged* LRI and others to develop the landfill and because landfills are typically a governmental function. *Id.* The court also held that a public project cannot be made into a private project simply because the government *delegated* waste hauling and filling—a typical governmental function—to a private entity. *Weyerhaeuser*, 124 Wn.2d at 40.

In general, courts will look to the primary initiator or sponsor and their contribution to determine whether or not the proposal is public or private. Then, the court will assess the function that the private entity is fulfilling. However, these are only the initial steps. The court will go further by looking to the *level* of public involvement. For example, in *Organization to Preserve Agricultural Lands v. Adams Cy.*, 128 Wn. 2d 869 (1996), the Washington Supreme Court further clarified the distinction between “public” and “private” projects as defined in *Weyerhaeuser*, holding that even though the court will first look to the initiator of the project to determine whether or not it is public or private, “the classification rests not on nominal sponsorship but on a factual assessment of the level of public involvement in the project.” 128 Wn.2d at 876. Thus, the key issue is “whether the governmental entity has, by means of the project at issue, allowed a private entity to fulfill the government’s responsibility” in providing a public service. OPAL, 128 Wn.2d at 877. The goal is to ensure that the government agency cannot avoid the requirement of

considering the potential environmental impact to alternative sites by contracting with private parties. *Id.*

An essentially private proposal to build a public facility, however, does not become a “public project” under SEPA merely because the government is *peripherally* involved in the project. *Citizens Alliance to Protect Our Wetlands (CAPOW) v. City of Auburn*, 126 Wn.2d 356 (1995). In *CAPOW*, the Washington Horseracing Commission approved a private racetrack developer’s application for a license to operate a thoroughbred racetrack in Auburn. After this approval, the developer approached the City of Auburn, which approved the Auburn site. The court held that the proposed racetrack was a private, not a public project, because, notwithstanding the Commission’s approval, the race track developer initiated and sponsored the project and because “thoroughbred horseracing is not a traditional governmental function.” *CAPOW*, 126 Wn.2d at 1305-06. This aligns closely with important objectives of SEPA: projects that involve significant public interest or local government functions require a closer and more thorough analysis of potential impacts and alternate locations so as to better inform decision makers that represent the public’s interest in the project and in protecting the environment.

While the case law does not necessarily draw a bright-line between public and private projects, the SEPA regulations themselves make clear that projects are and must be deemed “public” when public and private interests are “**intertwined.**” WAC 197-11-928 provides as follows:

When the proposal involves both private and public activities, it shall be characterized as either a private or a public project for the purposes of lead agency designation, depending upon whether the primary sponsor or initiator of the project is an agency or from the private sector. Any project in which agency and private interests are too intertwined to make this characterization shall be considered a public project..(emphasis added).

“If a rule's meaning is plain on its face, then the court must give effect to that plain meaning.” *City of Seattle v. Allison*, 148 Wn.2d 75, 81 (Wash. 2002); *Rental House Ass'n of Puget Sound v. City of Des Moines*, 165 Wn.2d 525, 536 (Wash. 2009). Therefore, when agency and private interests are involved and are too “intertwined,” the default rule is to public action, thus requiring analysis of reasonable off-site alternatives. However, when words or phrases have no clear given or plain-meaning definition, general rules of

statutory construction also apply to administrative rules and regulations. *Id.* Since “intertwined” is undefined, Merriam Webster Dictionary provides the relevant definition: “to unite by twining together” or “to become mutually involved.” By applying this definition to WAC 197-11-928, it could be rewritten as: “any project in which agency and private interests are too mutually involved to make this characterization shall be considered a public project,” indicating that when agency and private interests are mutually involved the court must look to the level and character of involvement as supported by *OPAL* and *Weyerhaeuser*.

B. The proposed Seattle Arena is a Public Project under the Case law and WAC 197-11-928.

We base our “public project” analysis on the business plan set forth in the MOU dated December 3, 2012. In this case, Seattle and King County are inventing a hybrid public-private project. At the permitting and SEPA state (where we are now), Seattle is assuming the Arena is a *private* project. However, if, under the MOU, Seattle and King County decide after SEPA and the satisfaction of the other “conditions precedent,” to provide public financing, then they will deem the project “public.”

There is absolutely no basis in the SEPA regulations or case law interpreting projects for this type of hybrid project. By focusing on the objectives of SEPA and the specific requirements for public action, it is clear that the intent of SEPA’s public projects requirement is to preserve the integrity of decision making on public projects by encouraging decision makers to make carefully measured and reasoned choices and actions. Moreover, it is now (while SEPA is being conducted and alternative sites are being compared) that public process is necessary; merely providing public funding later is not, and cannot, be the trigger.

The proposed Seattle Arena is clearly a public project in light of WAC 197-11-928 and the case law cited above interpreting public vs. private projects. According to the MOU, Seattle and King County are active participants in financing and developing the proposed Arena: not only did they negotiate with the Arena promoters for several months to make the MOU a reality, they will be using their municipal debt to finance its construction, Seattle will purchase the private land under the Arena from the private developers and lease it to

ArenaCo for a period of years, Seattle has reserved a purchase option of the Arena facility, and the Arena’s revenues from operation will pay off public debt. Moreover, Seattle is expected to contribute \$120 million to the project. King County is also financially participating by committing to invest \$80 million (subject to recruitment of an NHL team). Finally, the ILA with Seattle specifies that the Arena will “provide general benefits” to *both* Seattle *and* King County and King County will hold a 40% interest in the ground lease. MOU, 1. D, § 4(A). Finally, like Safeco and CenturyLink Fields, the proposed Arena will serve a regional and county-wide market. Seattle and King County’s position that the Arena becomes a “public project” only after they decide “whether to participate” is legally erroneous.

The Arena is also a public project because Seattle reserved in the MOU the right to purchase the Arena from ArenaCo for \$200 million 30 years down the road. The City and County are also participating in the design of the Arena with a complex MOU governing ArenaCo. and the City and County’s financial relationship, revenue sharing, and default procedures. While WSA Properties III, LLC may have “initiated” the Arena proposal (proposing it to the City in May 2011), the roles and actions of the government and WSA Properties III, LLC are clearly financially, contractually, and functionally “intertwined” within the plain meaning of WAC 197-11-928.

While neither Seattle or King County “initiated” the Arena in the sense that ArenaCo approached Seattle, not vice versa, that distinction is immaterial given the extent to which the private and public roles are “intertwined” and the fact that the Arena and the land under it will be publically financed in part and owned outright. The proposed Seattle Arena is much more analogous to the landfill at issue in *Weyerhaeuser* than the racetrack in *CAPOW*. Indeed, cities and counties regularly build public arenas and stadiums on their own or through special “districts” (e.g. Safeco Field, CenturyLink, and Key Arena).

An Arena may not be as traditionally “governmental” as trash hauling and a landfill. But, regardless, there is strong precedent for Seattle building public arenas. For CenturyLink Field, the Washington State Public Stadium Authority (PSA) is charged as the *public* agency with the responsibilities of managing and overseeing the operation of the facility given the public’s \$300 million investment in the construction and continued maintenance of the building. PC Letter 8. Safeco Field is publicly owned and operated by

the Washington State Major League Baseball Stadium Public Facilities District (PFD). The Kingdome was also constructed with public funding. There is certainly a history of publicly owned and operated stadiums in Seattle. Moreover, when completing the EIS's for Safeco Field and Qwest field, a number of alternatives were considered for each of these projects. For Safeco Field, before the project entered the environmental review process, a taskforce carefully developed and analyzed a list of alternative sites. PC Letter 29, p 2. Similarly, the EIS for the demolition of the Kingdome and the construction of Century Link Field and Exhibition Center evaluated a number of on-site and off-site alternatives. *Id.* Furthermore, the EIS's for other large projects, e.g. Brightwater and Yesler Terrace Redevelopment, Seattle and King County involved consideration of alternatives sites. *See* Brightwater FEIS and Yesler Terrace FEIS.

Seattle and King County are not only significantly involved in the Arena project such that their interests are significantly intertwined with ArenaCo.'s private interests but also are allowing a private entity to fulfill a role that has traditionally been a local government function in Seattle. Despite mimicking a private project to expedite its permitting, the project is clearly public because the interests of the involved parties are "intertwined" and cannot be distinguished. In addition, since projects that appear to be private may be *public* because of the function the private company was performing, by looking to the history of local government involvement in the context of arenas in Seattle, constructing a new arena in Seattle is a traditional local government function.

2. Seattle impermissibly limited "reasonable alternatives" by framing the Arena project as a "private" project. The EISs for both Safeco and Century Link Fields demonstrate the important difference in the way Seattle and King County determines the siting alternatives for public stadia and arenas.

The fact that Seattle and King County have considered and characterized the proposed Seattle Arena as a "private project" in this EIS process has irreparably tainted the Arena's SEPA-based alternative siting comparison requirement. Here, ArenaCo approached Seattle and King County and proposed an arena on WSA's already-purchased

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9. See Common Response #1 Public vs Private Project; Range of Alternatives.

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land in SODO. The entire MOU centered on this site. While Seattle and King County attempt to feign compliance with SEPA's alternative siting requirement by considering and analyzing the Seattle Center as an alternative off-site location, the EIS clearly admits that this comparison is NOT, in fact, a genuine attempt to consider the Seattle Center as an alternative location. On the contrary, the EIS specifically provides that its "objective is to determine whether to participate in ArenaCo's private proposal;" it does not provide that its "objective" is to fairly compare other reasonable sites that. The fact of the matter is that ArenaCo is, evidently, only interested and willing to construct an arena on its SODO site and, hence, Seattle and King County view that site as the only one for which there is a "proposal." EIS, at Summary § 1.1.

Seattle and King County's opportunistic decision to accede to ArenaCo's condition that the Arena only be sited in SODO turns SEPA's public project law and regulations on its head. ArenaCo is a private party; state law does not authorize private parties to effectively site public projects, even if the private party offers a "smoking deal" or an ultimatum. Nor does state law authorize Seattle and King County to waive or curtail a credible alternative site process just because there is only one arena proposal on the table.

By erroneously characterizing the project as private, Seattle not only violated the letter, but also the spirit and purpose of SEPA of protecting the environment by requiring EIS's and an analysis of reasonable alternate locations to serve as a tool to more fully inform decision makers when taking action on public projects that will significantly affect the environment. WAC 197-11-060(3)(a)(iii) directs agencies to "describe public or non-project proposals in terms of objectives rather than preferred solutions. Accordingly, the EIS should have, but did not, ask *where* the most feasible potential sites for a new sports arena in our region are and not limit SEPA EIS review only to locations that are acceptable to ArenaCo. By approving an MOU that contractually limits review to SODO and Seattle Center, the City and County have not only impermissibly acted to limit the choice of reasonable alternatives in violation of WAC 197-11-070, but have also violated the objectives and purpose of SEPA.

We acknowledge that the DEIS did superficially identify and consider sites other than at the Seattle Center. DEIS, at 2-6; Appendix A. But (a) none of these sites was outside

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of the City of Seattle; and (b) the alternative sites were only identified to provide a “comparison” of potential adverse impacts relative to the SODO site. This was a sham, pre-ordained site selection process that was obviously tainted and limited by the alleged fact that, “No proposal to build an arena exists other than ArenaCo’s proposal to build the facility in SODO.” DEIS, at App. A-1.

The superficial analysis in Appendix A fell far short of that which is required by SEPA. An EIS must include an analysis of a proposal’s probable significant adverse impacts on the environment and must consider reasonable alternatives. *See* WAC 197-11-440. Reasonable alternatives are defined as “action[s] that could feasibly attain or approximate a proposal's objectives, but at a lower environmental cost or decreased level of environmental degradation.” WAC 197-11-786. Agencies are directed to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources” and must “devote sufficiently detailed analysis to each reasonable alternative to permit a comparative evaluation of the alternatives including the proposed action.” RCW 43.21C.030(e); WAC 197-11-440 (5)(c)(v). The mere identification of potential other sites without any significant public process pertaining to those sites is legally inadequate.

3. The EISs for Safeco and Century Link Fields reflect the important public process that takes place in siting a public sports facility, none of which are taking place relative to the SODO Arena.³

As set forth above, in this matter Seattle and King County have dispensed with the process of considering and analyzing alternative sites for the Seattle arena because, in their view, there is only a “proposal” for an arena in SODO; the Seattle Center is not a genuine alternative site (because ArenaCo is not interested in building an arena there) but is merely being used to “determine whether to participate in ArenaCo’s private proposal.”

Simply put, that Seattle and King County view the Seattle arena as a private project has **deprived** the public of the thoughtful siting analysis that has been afforded other public project and which is required by SEPA. When completing environmental review for

³ We are placing the EISs for Safeco and Century Link Field in the record. The EISs are attached to these comments.

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10. See Common Response #1 Public vs Private Project; Range of Alternatives

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past public stadia and other public projects, Seattle and King County have each followed similar procedures when searching for potential site locations and reasonable alternatives to be considered in the EIS's. In general, the lead agency developed a number of general objectives in order to guide the criteria selection process that would later be used to identify possible locations that could properly serve in accomplishing the proposal's objectives. By starting with the *objectives*, the agencies were able to identify a wide variety of potential locations without limiting the consideration of alternatives. The agencies incorporated public input as an important part of the process in siting the proposed projects by seriously considering public comments and including citizen committee's opinions and judgment as an essential part of the site evaluation process. With the public's help, the agencies identified a large number of locations, which were further narrowed down to a few select options. Ultimately the lead agency chose the alternatives to be analyzed in the EIS based on this process of elimination focused on the potentiality that the alternatives could meet the proposal's objectives. In addition to the no-action alternative, the agencies ultimately analyzed three or more reasonable alternatives in the EIS for each of the projects.

Take, for example, Safeco Field. When the scoping process for Safeco field began in January of 1996, the lead agency, Public Facility District (PFD) initially identified four potential sites for the Ballpark and several others for parking, pursuant to the project's objectives and PFD's mission of "sit[ing], design[ing] and operat[ing] [a]...baseball park that is an asset to the community and region...." During the scoping comment period, a number of concerns were made by a variety of individuals, which helped identify several other alternatives to be considered. EIS for Safeco Field, Attachment 10, at 1-3. As a result of this comment process, the District chose thirteen possible sites for the Ballpark to be considered. 1-3. The District then appointed a Siting Criteria Task Force to develop siting criteria for the facility in order to narrow down the list of potential sites. 1-3. Based on input from the Task Force, PFD and a Citizen's Advisory Committee (CAC), the thirteen sites were narrowed to five remaining sites for which more information was requested for further analysis. 1-3. During this process, the CAC "stated its concern over making a decision in haste that may not reflect the best potential for siting success...[and]...emphasized the importance of continuing to consider sites that [were]

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outside the Kingdome area.” CAC Report, Ballpark Site Evaluation Work Session dated Monday, March 18, 1996, pg 3. Ultimately, based on this additional information and continued public input, PFD selected three Ballpark sites and the no-action alternative for evaluation in the EIS.

Century Link Field similarly reflects the public process surrounding the site-selection of public sports facilities. EIS for Century Link Field, Attachment 11. The Century Link scoping process began with a list of objectives that the lead agency used as guidelines for identifying reasonable alternatives to be evaluated in the EIS. 1-1. King County then created the Seahawks/Kingdome Renovation Task Force and charged it with the task of evaluating potential locations for a new or renovated NFL football stadium according to the objectives the county had already outlined. 1-2. As part of this process, the County commissioned an NFL Stadium Options Study to specifically evaluate the potential alternative locations using criteria based on the requirements of an NFL-caliber stadium. (size, access, facilities for concessions, etc.) 1-2. Based on these criteria, the Options Study identified 40 alternatives that met the proposals basic objectives. 1-3. After further refining the requirements for the stadium, the Task Force analyzed the 40 alternatives found in the Options Study as well as alternatives proposed by the public, settling on five alternatives, two of which were selected to compare to renovation options on the Kingdome site. 1-3. PSA independently evaluated these sites—using the Task Force’s reports and the proposal’s objectives—alongside the Task Force’s analysis and the Options Study, selecting three sites and a no-action alternative for analysis in the EIS. P 1-3, PG 2-4. The PSA chose not to select a preferred alternative so as avoid biasing analysis of reasonable alternatives. EIS at 2-11.

For another large public project in the region, King County initiated the siting process for the Brightwater Treatment Plant by drafting a list of objectives for the proposal, thereby making the EIS process and analysis of reasonable alternatives more accurate and less biased. EIS for Brightwater, Attachment 9. During the phased review process of the EIS, the County Brightwater team identified a list of 95 land areas that could potentially serve as a location for the new treatment plant using a variety of sources, including a public nomination process. It then narrowed the list to 38 sites for further review using a broad set of engineering and environmental constraints that would potentially limit the

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construction or operation of the facility. In order to further narrow the list of 38 potential sites, the team developed a list of detailed evaluation questions (DEQ's) covering a variety of environmental factors such as useable area and other measurable site characteristics, some being "key factors" that were given more weight in the evaluation process, which it used to identify seven candidate sites for continued review. Pgs 2-21-23. After removing one site due to legal constraints, the remaining six sites were further evaluated using narrower DEQ's resulting in four remaining sites as feasible alternatives which were later recued to two sites by the King County Executive which were recommended for final review in the DEIS during Phase 3 of the siting process. 2-24-26. Brightwater EIS.

In a more recent public project in Seattle, the Yesler Terrace Redevelopment, the City of Seattle Human Resources Department and Seattle Housing Authority also considered a number of alternatives for the proposal and involved significant public input. EIS for Yesler Terrace, Attachment 12. When redevelopment planning began, the Citizen Review Committee (CRC)—consisting of community participants and established to make recommendations to the SHA Board of Commissioners on the redevelopment efforts—developed core principles to guide in the planning which were used to establish eight specific planning concepts to develop conceptual site development scenarios. Using these planning concepts, SHA developed a list of objectives for the proposal in accordance with the purpose and need for the project. In addition, the process included development of objectives for the proposal pursuant to WAC 197-11-440, which were used to develop six distinct redevelopment alternatives covering a full range of land use intensities and densities that the site could accommodate according to the proposal's objectives, purpose and need for the proposal and current site conditions. The alternatives are designed to provide representative levels and types of redevelopment that could be achieved for analysis in the EIS. The intent in the DEIS was to analyze the full range of possibilities for development within the restrictions of the site while accomplishing the goals of the proposal. Five redevelopment alternatives were examined and a no action alternative. After analysis of these potential designs and possibilities in the DEIS, the City identified a preferred alternative out of the six options examined in the DEIS.

The proposed Seattle Arena siting process involved *none* of these site comparison efforts. We acknowledge that Appendix A of the DEIS does cite an internal process through

which the EIS went to consider 21 potential locations. But Appendix A does not constitute a “reasonable” effort to identify alternatives for multiple reasons. First, ILWU strongly believes that the MOU’s limitation of the alternative site to be the Seattle Center trumped any credible, objective review of alternatives. In fact, Appendix A candidly states up front, “No proposal to build an arena exists other than ArenaCo’s proposal to build the facility in SODO.” Second, of the 21 potential alternative sites in Appendix A, 13 had major structures already built on them, including the Mariners’ Safeco Field, Century Link Field, and the actual Port of Seattle. Third, none of the 21 was the product of a thoughtful citizen’s panel charged with evaluating alternatives. Rather, DPD staff eliminated them based on their own subjective criteria. Fourth, there is no site in Appendix A that is outside the City of Seattle; there should, however, be a site outside of Seattle under consideration because King County is a partner to this transaction. Fifth, as argued above, Appendix A was not prepared to provide an objective assessment of possible alternative sites; rather, as conceded on Page A-1, it was created to “enable a comparison of potential adverse impact from those locations with the potential impacts of the [SODO arena].” This is not a genuine comparison of potential sites; it is using other sites to inform the Councils “whether to participate” in the Arena deal. Nor is this a credible alternatives analysis for a public project. Sixth, one site, the Rainier Electronics site, was dismissed as not being viable in because the site lacks sidewalks and parking. Appendix A, at A-8. Yet the same can be said for the SODO site for which Arena Co. has no dedicated parking and the area lacks good sidewalk access from the south (particularly on S. Holgate St.).

The plain fact is that this PUBLIC project began with a site location effectively chosen by ArenaCo. ArenaCo, in essence, made a “here or nowhere” ultimatum to Seattle and King County. In other words, the DEIS only evaluated an location other than SODO to either defeat legal arguments that the Arena was improperly considered a “private project’ or as a *formality* without considering all potentially reasonable locations. That the DEIS bore only a superficial site alternative process is borne out in the DEIS at Page 2-1:

The City and County’s objective is to determine whether to participate in ArenaCo’s private proposal to build and operate the Seattle Arena for NBA and NHL home teams. While the City and County could decide to pursue

participation in a project to build and operate such an arena at a location different than the ArenaCo site, including the Memorial Stadium or Key Arena sites considered in this Environmental Impact Statement (EIS), no proposal for the City and County to participate in such a project currently exists other than ArenaCo's proposal to build and operate the Arena on its South Downtown (SoDo) property.

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This excerpt from the EIS confirms that the entire purpose of this EIS is merely to *confirm*, for *political* purposes, the location of the Seattle Arena in SoDO as opposed to evaluating this location in connection with other reasonable alternatives. This process does not fulfill SEPA's alternative site requirement for public projects. The issue *should* be "what are other potentially reasonable sites for the Arena within King County" and not whether Seattle and King County should "participate" in the Arena in SODO as compared to other speculative arenas elsewhere."

In completing the EIS, Seattle should have looked at all reasonable alternate sites that would accomplish the goal of having a new basketball arena, not specifically limited to Seattle, but instead to the region or county as with the Safeco and Century Link Field projects. The City should have initiated the process with a list of objectives for the proposal and then looked for where the best site location would be. In order to complete an EIS adequately for past public projects, the City took public comments into consideration, relying heavily on public input in not only developing criteria with which to assess alternatives but also for choosing which locations should be considered. As with past projects, the City should look at all available sites for a new arena and then based on the requirements of the proposal choose the best location through process of elimination, rather than pick their favorite after paying lip service to the requirement of considering reasonable alternatives by only looking at an alternative location at Seattle Center. By only analyzing two alternatives, the City did not satisfy the SEPA requirement of considering locations that "could feasibly attain or approximate a proposal's objectives, but at a lower environmental cost or decreased level of environmental degradation" because the Arena's location was already chosen in Sodo, as stated in the MOU as the "project site." MOU p. 1.

4. The EIS for the Seattle Arena is defective and inadequate as a matter of law because the December 3, 2012 Memorandum of Understanding which spawned and governed the Arena's development limited consideration of potential alternative reasonable sites outside Seattle, contrary to WAC 197-11-070.

Among the most fundamental defects in the DEIS is that crucial decisions relating to siting and potential reasonable alternative sites were made *before* the EIS process. After a year-long political negotiation, on December 3, 2012, Seattle, King County, and WSA Properties executed a Memorandum of Understanding pertaining to the development, permitting, financing, and operation of the proposed Seattle Arena. A copy of the MOU is attached hereto. The MOU limited alternatives sites in two fundamental ways: first, it essentially provided that only the Seattle Center would be an alternative site, as opposed to all "reasonable" sites in Seattle and King County. Second, it impermissibly built momentum in favor of the SODO location by triggering a process where WSA would commence designing and permitting a SODO-based arena (Alternative 2) before the SEPA EIS process even commenced. In this Section of our comments, we explain why this MOU has fatally contaminated the EIS alternative siting process. First, however, we provide necessary background and context for the December 3 MOU. Next, we explain why the MOU has contaminated the alternative site process required by SEPA.

After the MOU was signed, ILWU filed a lawsuit against Seattle and King County arguing that the MOU violated SEPA by impermissibly establishing the SODO site prior to any SEPA review. On September 9, 2013, the Court of Appeals, however, held that the MOU does not violate SEPA because it was not an "action" within the meaning of SEPA. Attachment 14. While the MOU may not be an "action" under SEPA and does not, according to the Court of Appeals, violate SEPA today because no "action" has taken place, the MOU placed limits on the alternative sites that would be considered; in the MOU, Seattle and King County effectively limited the alternative sites that would be considered to the Seattle Center. Accordingly, the Court of Appeals' decision has no bearing on the legal adequacy of the Arena EIS. The Court of Appeals' decision, moreover, did not address whether the Arena is a public, as opposed to private, project and whether the MOU impermissibly tainted the site comparison requirement. Because the MOU limited alternatives sites

11 11. Comment noted.

before SEPA, it has tainted the process in the DEIS involving selection of potential “reasonable off-site alternatives,” as required by SEPA. In the following paragraphs, we explain this in more detail.

A. Background and context for Seattle Arena.

i. Chris Hansen’s proposal to build an arena in SODO.

In Spring 2011, about three years after the Seattle Supersonics moved to Oklahoma and became the Thunder, San Francisco hedge fund manager Christopher Hansen approached Seattle Mayor Michael McGinn with a confidential proposal to form a public-private partnership to build a new arena in Seattle’s SODO district and recruit a new NBA and, possibly later, an NHL team.

Unbeknownst to the Seattle City Council or the public, Mayor McGinn and his staff hired a New Jersey-based sports consultant and negotiated directly with Mr. Hansen and his representatives for several months. Eventually, King County officials, including King County Executive Dow Constantine, joined the negotiations.

The first round of negotiations culminated in a press conference held on May 16, 2012 where Mayor McGinn and Executive Constantine announced that they had reached agreement with Mr. Hansen, whose entity for the proposed partnership is called “WSA,” on an MOU dated May 18, 2012. As required by law, the Executives forwarded this preliminary MOU to their respective Councils for further vetting, negotiation, and enactment.

Seattle and King County continued to negotiate and amend the MOU until mid-October 2012. Their respective Councils authorized a final version of the MOU on October 15, 2012, which both Executives signed on December 3, 2012.

ii. The December 3, 2012 Memoranda of Understanding.

The MOU provides that it is a legally binding contract between WSA, Seattle, and King County. MOU, at 1; Recital D. The MOU is a complex and multi-staged document and has three principal features pertinent to this case: (1) a memorialization of the agreed **business terms** relating to financing, security, design, construction, use, and operation of an arena *in SODO*; (2) the **SEPA EIS process** that Seattle and King County agreed to

conduct; and (3) a memorialization of the parties' respective **future commitments** to pursue the transaction.

iii. The MOU's business terms.

The MOU provided that its agreed business terms would be incorporated into the later "Transaction" documents or "Umbrella Agreement." CP 123, 121 (MOU, at 3; § 7; MOU, at 1; Recital D) ("This MOU is intended to...[set]forth the business terms and conditions that will be included in the Transaction Documents."). Literally **all** of the MOU's negotiated business terms for the public-private partnership to build and operate an arena applied to the development of an arena *in SODO*; the MOU contained *no* business terms for an arena elsewhere.

The business terms were as follows: Seattle and King County agreed to sell \$200 million in 30 year municipal bonds and use the proceeds to purchase Mr. Hansen's already-owned land in SODO and the lease-purchase of the new arena. MOU, at 4; § 10. WSA will, in turn, contribute the balance to design and build an arena (approximately \$500 million) in SODO and recruit, purchase, and obtain NBA approval for siting the new team in Seattle on the SODO site (approximately \$550 million).

The MOU provides that WSA will lease the land back from Seattle for \$1 million a year. MOU, at 4; § 9. Seattle will take ownership of the building (removing it from the tax rolls) and lease it back to WSA for an initial rental rate of \$4 million per year. MOU, at 7; § 13.a. WSA, or a related entity, will independently purchase a professional NBA team, MOU, at 34; § 24.d, and operate the Arena. MOU, at 19, § 15.a. Seattle and King County's bond payments will be paid directly from the revenues generated by arena sales, including from sales taxes on those sales. MOU, at 8-9; §§ 13. b, d.⁴

The MOU contained several reimbursements provisions. WSA agreed to reimburse Seattle for up to \$5 million in "development" costs⁵ but this reimbursement was explicitly conditioned on Seattle and King County's decision to proceed *with the SODO arena*. MOU, at 2; § 3.b. WSA agreed to unconditionally finance the EIS process, MOU, at 2; § 4, and to pay up to \$200,000 for an "economic impact analysis." MOU, at 32; § 23.g. To provide a

⁴ In the interest of brevity, we do not discuss the various security arrangements.

⁵ "Development costs" included, broadly, Seattle's "out-of-pocket expenses" to implement the MOU. It included, as examples, Seattle's costs to consult with attorneys, engineers, and financial consultants. CP 122 (MOU at 2; § 3.b).

temporary home for the new NBA team, Seattle agreed to allow WSA to use Seattle Center’s Key Arena (MOU, at 26; § 17.a), the parties set up a “Key Arena Fund” to upgrade the existing Key Arena (MOU, at 26; § 17.b), and WSA agreed to provide \$150,000 to study the future of the Key Arena. MOU, at 2; § 3.b. WSA also agreed to make a \$40 million contribution to a “SODO Transportation Infrastructure Fund” to fund “transportation improvements in SODO.” MOU, at 6; § 11.a, b.

The initial term of the Arena use agreement was 30 years with an option to extend for another 20 years. MOU, at 7; § 13.a.

iv. The MOU’s SEPA process.

The MOU committed Seattle and King County to conduct SEPA for the SODO arena, as set forth in Section 5.

SEPA. The Parties acknowledge that the Project is subject to review and potential mitigation under various laws, including the State Environmental Policy Act, Chapter 43.21C of the Revised Code of Washington (“RCW”), and the state and local implementing rules promulgated thereunder (collectively, “SEPA”). Before the City and County Councils consider approval of the Umbrella Agreement and any Transaction Documents, the City and County will complete a full SEPA review, including consideration of one or more alternative sites, a comprehensive traffic impact analysis, impacts to freight mobility, Port terminal operations, and identification of possible mitigating actions, such as improvements to freight mobility, and improved pedestrian connections between the Arena and the International District light rail station, the Stadium light rail station, the SODO light rail station, and Pioneer Square. The City and County anticipate that alternatives considered as part of the SEPA review will include a “no action” alternative and an alternative site at Seattle Center. The City or County may not take any action within the meaning of SEPA except as authorized by law, and nothing in this MOU is intended to limit the City’s or County’s exercise of substantive SEPA authority. Consistent with Section 4 of this MOU, ArenaCo will reimburse the City for the costs incurred by the City as part of the SEPA review and will be responsible for funding any required mitigation imposed through SEPA substantive authority.

MOU, at 3; § 5.⁶

⁶ We have underlined pertinent portions of the SEPA provision that we discuss elsewhere in this brief.

After SEPA review is completed and the parties satisfy the other conditions-precedent, Seattle and King County will decide whether “it is appropriate to proceed with or without additional or revised conditions based on the SEPA review.” MOU, at 34; § 24.b.

v. Commitments implementing the MOU taking place today.

Concurrently with conducting SEPA, the MOU requires the parties to take numerous next-steps implementing the MOU, steps that are on-going during this appeal. MOU, at 1; Recital D. *All* of these next-steps pertained only to an arena on Mr. Hansen’s site in SODO.

Using the SODO location and the MOU’s agreed business terms, the MOU expected and required WSA to purchase a professional basketball team and to obtain NBA-approval for this team to move to Seattle and eventually play *in the SODO arena*. MOU, at 24; §16.d; MOU, at 34; § 24.d. The MOU required the parties to conduct a standard environmental assessment of WSA’s SODO site for purposes of evaluating any environmental hazards. MOU, at 34; § 24.c. The MOU required WSA and Seattle to jointly commence designing an arena on the SODO site and for WSA to obtain Seattle design review and master use approval of it. MOU, at 2 § 4; MOU, at 22; § 16. Finally, the MOU required the parties to commence drafting Transaction Documents and Umbrella agreements that applied to an arena in SODO. MOU, at 3; § 7.

B. The December 3, 2012 MOU has prejudicially tainted the alternative site consideration requirement applicable to public projects; consequently, the EIS is inadequate as a matter of law.

The consideration of “alternatives to the proposed action” is a bed-rock principle of SEPA. RCW 43.21C.030(2)(c)(iii), (e). To safeguard this principle, SEPA’s regulations include a provision prohibiting pre-EIS actions that “limit the choice of reasonable alternatives.”

WAC 197-11-070(1) provides as follows:

Until the responsible official issues a final determination of nonsignificance or final environmental impact statement, no *action* concerning the proposal shall be taken by a governmental agency that would:

- (a) Have an adverse environmental impact; or
- (b) Limit the choice of reasonable alternatives. (emphasis added)

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In the same vein, WAC 197-11-055(2)(c) provides that, “appropriate consideration of environmental information shall be completed *before* an agency “*commits to a particular course of action.*” (emphasis added).

1. The MOU tainted the EIS process because it violated WAC 197-11-070(1)(b) and 197-11-055(2)(c) because it directly limited the arena’s EIS alternatives process.

The MOU may not, in the opinion of the Court of Appeals, have been an “action” under SEPA but it certainly is a pre-SEPA EIS document that limited and biased Seattle and King County’s consideration of alternative sites for the Arena for purposes of undermining the “adequacy” of the EIS.

The MOU was prompted by Mr. Hansen’s proposal to forge a public-private partnership but *only* with respect to a SODO arena. It explicitly limited the alternative sites for the potential arena in Section 5 by “anticipating” that only the Seattle Center would be an alternative site. And it contained agreed-to business terms that applied only to an arena in SODO. In contrast, Ecology in *PCHB* only *approved* of a test-well site and did not impose any limitations on or inducements for other potential well sites.

The MOU’s limitation of the Seattle Center as the “anticipated” alternative site clearly violated WAC 197-11-070(1)(b). An EIS for a *public* project, such as the SODO arena, requires Seattle and King County to provide a “reasonably detailed analysis of a reasonable number of and range of alternatives.” *Weyerhaeuser v. Pierce County*, 124 Wn.2d 26, 41, 873 P.2d 498 (1994). A “reasonable alternative” is one that “could feasibly attain or approximate a proposal’s objectives at a lower cost to the environment.” *King County v. Cent. Puget Sound Bd.*, 138 Wn.2d 261, 184-85, 979 P.2d 374 (1999). Agencies proposing *public* projects have a duty to consider a no-action *and* an off-site alternative. *Weyerhaeuser*, 124 Wn.2d at 38-39; WAC 197-11-440(5)(d). The MOU violates WAC 197-11-070(1)(b) to the extent it contractually limits alternative sites to the Seattle Center (as

opposed to all “reasonable” sites) and, by operation, commits the arena to a SODO location, which is a commitment to a “particular course of action” under WAC 197-11-055(2)(c).

Nor does it matter that Sections 2 and 5 of the MOU on their face commit to “evaluating” or “considering” “one or more alternative sites.” Read carefully, Sections 2⁷ and 5 of the MOU merely pay lip service to SEPA’s requirement that an EIS consider all reasonable alternative sites.

Section 24 sets forth the conditions precedent for the MOU to take effect after SEPA review is conducted. Section 24(b)(iii) provides as follows:

The City and County and their respective councils have considered the SEPA review in connection with their respective actions and have *determined whether it is appropriate to proceed with or without additional or revised conditions* based on the SEPA review. (emphasis added).

MOU, at 34; § 24.b.iii.

While Section 24(b)(iii) gives Seattle and King County the authority to impose “additional or revised conditions” and to decide whether it is “appropriate to proceed,” these conditions clearly apply only to the SODO site. This is because the term “proceed” must be read in the context of how the MOU defines the “Project,” which is an arena on WSA’s SODO site. MOU, at 1; Recital A; at 1; § 1; at 2; § 2. The MOU, moreover, does not include *any* express terms giving Seattle or King County the authority to *choose* an alternate site after the EIS is completed; that is because there are no non-SODO sites that are part of the “Project.” The same can be said about Section 24(g), which only gives Seattle or King County the right to determine “whether it is appropriate to proceed with or without additional or revised conditions” after the MOU-required economic analysis. The final coup de grace making the Seattle Center a non-starter is that Seattle and King County will lose up to \$5 million in up-front “development costs” if the SODO transaction is not closed. MOU, at 2; § 3.b. This contingent reimbursement provision clearly “coerces” a SODO location.

In summary, the MOU on its face limits Seattle and King County to imposing conditions on the SODO alternative or voting the entire Arena Plan (and the “return of the

⁷ Section 2 provides, “ArenaCo is proposing to develop and operate the Arena on the Project Site...the City and County will evaluate this location and one or more alternative sites, and a “no action” alternative as part of the SEPA review described in Section 5.”

Sonics”) down; it simply does not authorize the Councils to choose an alternative location, if they so choose to do so, at the end of the EIS process.

2. The MOU’s violation of WAC 197-11-070(1)(b) and 197-11-055(2)(c) irreparably tainted the EIS’s alternative site process because it was specifically designed to build political momentum in favor of the SODO alternative. This rendered the public project alternative siting requirement a sham.

Seattle and King County spent 18 months negotiating the 37-page MOU with WSA, and the MOU eventually was approved by both Councils with considerable “Bring Back the Sonics” political fanfare. The MOU identified the SODO site as the Project Site and was intentionally structured to give Mr. Hansen the certainty of the SODO site so he could purchase a team and obtain NBA approval for the team to re-locate in Seattle.

The MOU was structured so that the SODO alternative was the only alternative that could meet possibly the Project’s objective of building an arena. *Only* the SODO alternative, for example, was accompanied by a financing plan and a willing private investor. The MOU also gave Mr. Hansen the right to rely on its terms in consummating his next business steps. Indeed, the MOU *expected* and *required* WSA to commence designing a building on the SODO site and to obtain a Master Use Permit from Seattle. The MOU *expected* and *required* Mr. Hansen to represent to the NBA that he had substantially secured a SODO arena site and to obtain NBA approval of this site. The MOU even made time of the essence by *requiring* WSA to take steps “to cause the Arena to be constructed and open for events as soon as reasonably practicable.”⁸ Given that they gave Mr. Hansen the *right* to rely on the MOU’s SODO- oriented terms, Councilmembers would be extremely unlikely to frustrate this agreement by choosing a different arena location down the road. Hence, the MOU “coerces” the SODO location under WAC 197-11-070 (1)(b).

Nor can Seattle argue that the MOU’s “conditions precedent” section, Section 24, reserves in the City and County their authority and duty to locate the arena in a less environmentally-degrading location. Section 24 sets forth seven “contingencies” before Seattle or King County would “participate” in the SODO Arena Project. Of these seven

⁸ MOU, at 25; § 16.h.

“contingencies,” only two apply to the Arena Project’s SEPA review and Seattle and King County’s ability to choose an alternative location, Sections 24(b) and (g).

Section 24(b) makes consummation of the MOU contingent on whether “the City and County and their respective councils have considered the SEPA review in connection with their respective actions and have determined whether it is appropriate to proceed with or without additional or revised conditions based on the SEPA review.” As we discussed in our opening brief (at pp. 33-34), however, the plain terms of Section 24(b) only permit Seattle and King County to decide “whether it is appropriate to proceed with or without additional or revised conditions.” The right to proceed or not with a conditioned or unconditioned SODO arena, however, is not the same as the right to *choose* an alternative site. While theoretically Seattle and King County could impose unreasonable mitigation conditions or adopt the “no-action” alternative as leverage to locate the arena elsewhere, WSA could challenge this tactic as bad faith under Recital D and it could give rise to a WSA-brought lawsuit to specifically limit Seattle and King County to imposing conditions or choosing the no-action alternative.⁹

5. The DEIS violates SEPA principles articulating a project’s “purpose” by defining the Arena project’s objective too narrowly

As set forth above, the DEIS explicitly states that Seattle and King County’ primary “objective” in the EIS is to “determine whether to participate in Arena Co’s private proposal to build and operate the Seattle arena for NBA and NHL home teams.” DEIS, at 2-1. This extremely narrow objective, which asks *whether* there should be public financing for the arena as opposed to *where* it should be sited-- constitutes a fatal legal flaw in the EIS and Seattle’s decision-making leading up to it.

⁹ Section 24(g) governs Seattle and King County’s decisions after an economic impact statement. Like Section 24(b), it only permits Seattle and King County, after the preparation of an economic impact statement, to impose “additional or revised conditions” on the SODO site and to make the decision “whether it is appropriate to proceed.”

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12. See Common Response #2 Project Objectives.

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RCW 43.21C.030 requires that an EIS contain a detailed discussion of alternatives: “the required discussion of alternatives to a proposed project is of major importance, because it provides a basis for a reasoned decision among alternatives having differing environmental impacts.” *Weyerhaeuser v. Pierce County*, 124 Wash. 2d 26, 38, 873 P.2d 498, 504 (1994). Pursuant to WAC 197-11-440(5)(b), the reasonable alternatives which must be considered are those which could “feasibly attain or approximate a proposal’s objectives, but at a lower environmental cost or decreased level of environmental degradation.” *Id.* at 38.

Under SEPA, and its federal counterpart, NEPA, the purpose and need (objectives) of a project determine the range of alternatives that are reasonable and therefore must be considered in the alternative site evaluation. Since SEPA follows NEPA’s direction but lacks the varied history of litigation that NEPA has experienced, past NEPA cases help illuminate an otherwise yet-to-be clarified area of SEPA law. For NEPA, “[t]he stated goal of a project necessarily dictates the range of reasonable alternatives.” *City of Carmel-by-the-Sea v. United States DOT*, 123 F.3d 1142, 1155 (9th Cir. Cal. 1997). *See also Coalition for a Sustainable 520 v. United States DOT*, 881 F. Supp. 2d 1243, 1257 (D. Wash. 2012). However, the “range of alternatives that must be considered in the EIS need not extend beyond those reasonably related to the purposes of the project.” *Laguna Greenbelt, Inc. v. Dep’t of Transp.*, 42 F.3d 517, 524 (9th Cir. 1994). Even if an alternative does not completely meet the proposal’s objectives, the EIS must include a discussion of the reasons for its elimination. 40 CFR § 1502.14. Furthermore, when defining the objectives of a proposal, “an agency cannot define its objectives in unreasonably narrow terms,” meaning that the purpose and need statement “will fail if it unreasonably narrows the agency’s consideration of alternatives so that the outcome is preordained.” *City of Carmel*, 123 F. 3d at 1155; *Alaska Survival v. Surface Transp. Bd.*, 705 F.3d 1073, 1084 (9th Cir. 2013). *See also Simmons v. United States Army Corps of Eng’rs*, 120 F.3d 664, 666 (7th Cir. 1997) (“The ‘purpose’ of a project is a slippery concept, susceptible of no hard-and-fast definition. One obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing “reasonable alternatives” out of consideration (and even out of existence.”)).

Similar to NEPA, SEPA requires that an EIS consider “[r]easonable alternatives” which “could feasibly attain or approximate a proposal’s objectives, but at a lower environmental cost or decreased level of environmental degradation.” WAC 197-11-440(5). “Reasonable[ness] . . . is intended to limit the number and range of alternatives, as well as the amount of detailed analysis for each alternative” and only includes those alternatives within an agency’s jurisdiction to control impacts, “either directly, or indirectly through requirement of mitigation measures,” and only alternatives that can meet the proposal’s objectives must be considered. *See Barrie v. Kitsap County*, 93 Wn.2d 843, 855 (Wash. 1980). For NEPA, the range of alternatives must represent “explore and objectively evaluate *all* reasonable alternatives.” 40 CFR 1502.14 (emphasis added). While no SEPA law explicitly reiterates this, the purpose and objectives of SEPA EIS requirements are in place to ensure that decision makers on public projects make carefully reasoned decisions and support the conclusion that consideration of alternatives should be thorough in both depth *and* breadth.

Here, the entire site selection process was constrained by Mr. Hansen’s insistence that his site in SODO be the arena site and that he would only “compare” the SODO site to the Seattle Center to give the City and County the opportunity “whether to participate.” The MOU and EIS named the objectives in terms of confirming a *specific project site*. Although Section 5 of the MOU purports to reserve final site selection to the Seattle and King County Councils *after* an EIS was completed, in two significant ways the MOU places sideboards on the *scope* of the arena’s EIS: it affirms the SODO site as the “Project Site.”; and it specifies that only *one* alternative site—at the Seattle Center—will be considered as an alternative site (in addition to a “no-action” alternative). MOU at 1 (Recital A); *Id.* at 3, § 5. There is no evidence that pre-selecting the location was motivated by similar constraints or conditions that would require specifically limiting the project site to the Sodo location. Instead, the MOU and EIS specifically name the Sodo site as the project location without any basis for doing so. While project objectives may be defined somewhat narrowly so that every alternative is “reasonable,” in this case there was no reason for defining them so

narrowly so as limit “reasonable alternatives” to the Seattle Center, SODO and no-action alternatives.

The site-selection procedure followed for past stadium projects in Seattle exemplify the proper framing objectives to avoid limiting reasonable alternatives. During the EIS process in these past projects, the City and King County started the site-selection process off with a list of general objectives for the proposal so as to avoid limiting the EIS and unbiased consideration of alternatives that could occur. For instance, both the Safeco and Century Link Field EIS’s began the project with a general objective and a list of other essential objectives, without which constructing a stadium would be impossible (e.g. large enough site, compatibility with surrounding land use, zoning restrictions, etc). For Safeco, the proposal’s objective was to “provide a new, publicly owned Washington State Major League Baseball Stadium (Ballpark)....” Washington State Major League Baseball Stadium Project FEIS 1-1. The objective for Qwest Field was to “site and construct a stadium and exhibition center in King County.” Football/Soccer Stadium and Exhibition Center Project FEIS 2-1. By defining the objectives generally and in terms of constructing a stadium for regional use as opposed to limiting it to a specific locale, the proponents and lead agency ensured that a fair evaluation of reasonable alternatives would occur.

SEPA prohibits government agencies from taking action prior to completion of an EIS where the action limits the choice of reasonable alternatives. Because review of alternative locations was limited to only the proposed SODO location and the Seattle Center, Seattle impermissibly limited the scope of the EIS, taking potential reasonable alternatives off the table and prejudicing the EIS that was completed. The City and County are required to more than passively review the site suggested and owned by ArenaCo. It is essential that the EIS focus on the alternatives that exist that would accomplish the proposal’s objectives and ultimately have a lower environmental and economic impact to not only the local site area but also the region as a whole. The first step should have been developing criteria and objectives for the proposal and then searching for locations according to those standards.

In defining the project objectives, Seattle should have done so in a way that would allow for consideration of all reasonable alternate sites that would accomplish the goal of building a new basketball arena, not specifically limited to Seattle, but instead to the region or county as with the Safeco and Century Link Field projects. Since the EIS is intended to meet SEPA requirements for both the City and County and will serve County interests, reasonable alternatives for the County include consideration of sites outside Seattle. By specifically naming project site as part of the project objectives prior to completing a detailed analysis of alternate locations, the SODO location became the inevitable choice and prohibited consideration of other alternatives sites that would accomplish the more general goal of bringing an NBA arena back to the region instead of specifically to the SODO area.

III. ENVIRONMENTAL IMPACTS ACKNOWLEDGED IN EIS.

In the next section of these Comments, we reiterate the multiple *negative* environmental impacts the SODO arena site *will* have that are acknowledged in the EIS. It is important for readers, particularly public officials (both elected and agency staff) to understand that the SODO arena site will increase traffic, congestion, and raises numerous pedestrian safety issues. These impacts, in turn, have important negative consequences on important Seattle economic sectors, including freight mobility, and traditional SODO businesses.

A. The Arena will substantially increase cumulative traffic congestion in SODO and nearby Pioneer Square

1. In 2012, there were approximately 7300 one-way truck trips to and from the Port of Seattle; this could rise to 13,200 by 2030. DEIS, at 3.8-91. At the same time, railroad use of the tracks directly east of the Arena will grow from about 65 trains/day today (ST, Amtrak, and freight) to 178 trains. DEIS, at 3.8-91. In summary, roads and train lines around the Port will get **twice** as busy over the next twenty years.
2. There will be *two times* the delay at the 1st and Atlantic intersection as a result of the Arena. DEIS, at 3.8-92.

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13. Comment noted.

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3. In general, travel times on freight corridors at four key intersections will *double* or *triple* with the addition of arena traffic. DEIS, at 3.8-93.
4. By 2030, all four nearby intersections would be 3 to 8 times worse than they are today with the Arena and other nearby sporting events. DEIS, at 3.8-97.
5. The arena will likely be used approximately 190 days per year for multiple events. DEIS, at 3.8.5-6. The Arena’s overlap with adjacent sporting events (Mariners, Sounders FC, Seahawks, and WNBA) will greatly exacerbate bad traffic.
6. Each arena event will generate (in 2018) 2150 “additional vehicular trip during weekday PM peak period.” DEIS, at 3.8-49.
7. The vacation of Occidental St. will have a negative impact on local traffic congestion on 1st Ave. So: today, approximately 75% of the traffic utilizing Occidental is *not* associated with businesses on that street but that street as an alternative to 1st Ave. So. DEIS, at 3.8-50.
8. The general area is undergoing “major transportation system changes.” DEIS, at 3.8-13.
9. There are at least four major transportation projects that will change the projected impacts of the arena on transportation: the Alaskan Way viaduct, the SR 520 bridge replacement, the Mercer Corridor, and the First Hill street car. DEIS, App. E, at 2-7. In addition, other major projects nearby include: Link Light rail, King St. Station Multi-modal terminal, Elliot Bay Seawall, Waterfront Seattle, SW Transit pathway, Convention Place. DEIS, App. E, at 2-7-8.
10. Roadway volumes will increase between 4-22%; with two other sporting events the same day, traffic would increase by up to 56%. DEIS, at 3.8-55.
11. There will be a significant increase in SODO traffic based on completion of already-underway area projects, even *without* the proposed SODO arena. DEIS, at 3.8-51. The purported primary cause of this increase is that the bored tunnel, scheduled to come on-line in 2016, because the tunnel does not have any exit ramps in the central business district and will cause extensive congestion at its southern terminus, just blocks from the proposed arena site. DEIS, App. E, 2-102. The entire DEIS is predicated on the assumption that the mega-projects in the works (Hwy. 99 bored tunnel, SR 520 bridge, Mercer Corridor, Waterfront) could individually or

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15. Comment noted.
16. Comment noted.
17. Comment noted.
18. Appendix E of the FEIS includes additional analysis evaluating the impacts associate with the Occidental Street vacation (Section 2.10 of Appendix E) based on the collection of additional data during the weekday AM, mid-day, and PM peak hour. This analysis considered the level of activity and basic functionality of the roadway during these periods. The analysis also considered traffic volumes along Occidental Avenue, south of Holgate Street to assess its role in the local transportation system, and to help assess the overall input of the loss of the parallel travel route to 1st Avenue due to the street vacation.
19. Comment noted.
20. Comment noted.
21. Comment noted.

- cumulatively alter the transportation baseline on which the DEIS was based. DEIS, at 3.8-1.
12. Even *without* the arena, the bored tunnel will increase traffic volumes at 64 nearby intersections as follows:
- o An increase of approximately 100% on 1st Ave. So., north or RR Way. Id.; DEIS, at 3.8-52; DEIS App. E, at 2-102.
 - o Volumes on 4th Ave. S. north of King St. pedestrian crossing are expected to increase “on the order of” 50%. DEIS, at 3.8-52; DEIS, App. E. at 2-102.
 - o South of proposed SODO site, along both 1st Ave. S. and 4th Ave. S. traffic volumes are expected to increase “on the order of” 35 and 30%, respectively. DEIS, at 3.8-52; DEIS, at 2-102; DEIS, App. E, 2-101-02.
13. In the event of an arena event plus one other event (eg. Mariners, Sounders): traffic volumes in the Stadium area will increase between 16-30%, except for 4% on 4th Ave. So. South of Atlantic St. 3.8-52.
14. “In general, travel times will increase as a result of Arena traffic.” 1-26.
15. The Arena will affect traffic at 64 nearby intersections. DEIS, at 3.8.10; Fig. 3.8-3.
16. If there is an arena event and two other events taking place, traffic volume approaching the Stadium District during peak PM hours will *increase* by 16-34%, depending on location. EIS, at 3.8-53.
17. The proposed SODO location will cause traffic volumes on 1st Ave. to increase by 6% merely as a result of the vacation of Occidental St. DEIS, at 1-35.
18. The proposed SODO location admits that traffic volumes in the surrounding “Stadium District” will increase from 10-22%. EIS, at 1-22-23. General travel times will increase, sometimes by double. DEIS, at 3.8-77.
19. The Arena would add 40 additional days to the number of days for which sporting events are currently held at Safeco and Century Link fields. DEIS, at 3.8-80.
20. The arena would have a negative impact on emergency response vehicles attempting to go to SODO. DEIS, at 3.8-82.
21. By 2018, Arena will generally increase travel time in adjacent arterials by about 10 minutes and up to 15 minutes when other events are taking place. DEIS, at 3.8-69.

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28. Comment noted.

22. Current and future rail service will increase dropped gate time, adding to traffic congestion at RR crossings. DEIS, at 3.8-63.
23. The DEIS concedes that, even *without* an arena, truck activity and traffic volume in SODO relating to both the Port and other businesses will continue to grow. EIS App. E, at 2-102.
24. Even without an arena, traffic volumes increase and reach higher levels on event days with more frequency. DEIS App. E, at 2-125.
25. Pedestrian impacts on traffic may be worse than expected and actual conditions for pedestrians at intersections in this industrial area may be worse than modeled. 2-130, 177.
26. Increasing delays at intersections with additional events. 2-144
27. There will be significant increases in travel time through Sodo area, even under “no-action” scenario. 2-146-147; 3.8-51.
28. Area events will cause off-ramp delays. 2-153, 166, 169, 170.
29. Significant increases in loss of LOS for alternatives. 2-155 and 2-159.
30. Significant delays in corridor travel times. 2-162-163.
31. Admits overall increase in traffic, travel time, congestion and impacts to regional transportation systems including road systems such as I-5 and I-90.
32. Estimates that only 14% of Arena attendees would use public transit. 1-14.
33. Admits that pedestrian flow on First and Fourth Ave. would be exceeded and “exceed acceptable levels” before and after game. 1-18-19.
34. The proposed SODO arena would come on line in 2016, just as Seattle commences its major waterfront development and right *after* completion of the Hwy. 99 bored tunnel. DEIS, at 3.8-4.

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29. Comment noted.

30. As documented in the DEIS, the *Coal Train Traffic Impact Study* (October 2012, Parametrix) was used to forecast rail activity (see Appendix E, Section 2.7.3.2). Additional data was collected for a 7-day period and included the documentation of rail activity on the mainline tracks and non-revenue activity on the adjacent tracks (see Appendix E, Section 2.7.2.2). Data was collected for the periods of 6AM to 11PM when Arena related traffic may be present once constructed. Forecast rail activity was updated to reflect the updated existing rail volumes (see Appendix E, Section 2.7.3.2).

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Freight:

- In 2012, approximately 7300 trucks passed one-way through SODO to the Port of Seattle *each day*. DEIS, at 3.8-87, 91. By projected future growth in cargo ships, these truck trips could almost double, to 13,700. DEIS, at 3.8-91.
- The DEIS candidly concedes that the arena will delay freight. DEIS, at 3.8-99.
- Train traffic will be increasing dramatically in SODO between now and 2030:

- Sound Transit: 18 crossings (2013) to 20 (2018) to 22 (2030).
- Amtrak: 6 crossings SB, 7 NB (2013) to 16 (2018) to 26 (2030).
- Freight (including coal trains): 30 (2013) to 88 (2018) to 130 (2030).

This additional train traffic compounds already difficult freight mobility issues; crossing time and queues affected. The Arena will further exacerbate this congestion. DEIS, at 3.8-92.

- The Atlantic-1st Ave. intersection is key because it lies between the Arena and the Port. Traffic at this intersection will double even without the Arena. DEIS, at 3.8-92.
- Travel times for freight corridors will nearly *triple*. DEIS, at 3.8-93.
- Increase in Sodo travel times. 2-183.
- Impact on freight doesn't include diversions. 2-183.
- The POS has a goal of 3.5 million TEUs by 2030; this would require expansion of Port hours from the current 7:30am-5:00pm timeframe to 6:00-11:00 pm timeframe. DEIS, at 3.8-91. Truck traffic will increase even without arena.
- Freight travel times will increase from between 2 to 9.5 minutes. DEIS, at 3.8-94.
- The difficulty of moving freight after the Arena will be compounded by the ambitious effort to establish more frequent "coal trains" running through SODO.

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31. The FEIS presents the demand based analysis for SEPA purposes (see Appendix E, Section 2.8). Code required parking will be determined during the MUP review. It is anticipated that code-required parking would be met through provision of approximately 100 parking spaces on-site as well as either shared parking agreements with existing parking facilities or construction of a new parking garage on the South Warehouse site (see evaluation in Appendix E, Section 2.12). The parking demand analysis has been updated to reflect the revised Case S3 (72,500 attendees) as well as a sensitivity analysis for Case S1 without the use of the Safeco Field and CenturyLink Field parking facilities (see Appendix E, Section 2.8). The evaluation shows that Arena parking could be accommodated in the study area; however, as event attendance increases or parking supply decreases, it would become more difficult to find parking in the area and the reliance on parking further from the site would increase.

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Parking:

- The arena currently proposes NO separately-built parking but relies on "parking agreements" with "existing garage facilities. EIS, at 3.8-3. WSA does own nearby real estate but no specific parking plans exist for these sites.
- Nearby on and off street parking full with Mariners game with only 22,900 in attendance with extra parking further away. 2-207.
- Admit parking will be tight on multi event days and other parking conclusions. 2-216.
- Adequacy of parking assumes access to Mariner's garage.
- Admits that "parking will be more difficult." 1-28.

Public Safety:

- Conflicts between pedestrians and trains will “substantially” increase. Serious safety issues around RR tracks. 1-19.
- Accommodating expected pedestrians (200-1400 at any one time) would be “difficult.” Five (5) times more “pedestrian storage” required for public safety. 1-20.
- Huge pedestrian queues anticipated near RR tracks. 1-20.
- Trains average almost 9 mins. ; they also travel between 10-15 mph.
- Trains could block pedestrians leaving the Arena for up to 30 minutes. 1-20.

Hidden Costs to Public:

- EIS assumes that a grade-separated pedestrian bridge be built over the railroad tracks to the east of the Arena. Who will pay for this? 1-35.
- EIS states that arena-generated traffic will constitute a “significant safety issue” for pedestrians trying to get across the seven RR tracks. 1-34.
- If pedestrians are expected to wait for passing trains at Holgate St. to the southeast of the arena, between 2000-5800 sq. feet of new pedestrian “storage” areas will need to be constructed. DEIS App. E, at 1-21.

IV. Specific Defects in the DEIS

This Section identifies environmental factors that the DEIS either failed to address or failed to do so adequately.

1. Gross underestimate of number of cars for Arena events.

The DEIS estimates that the new Arena will only generate **2150** “vehicular trips” during the “weekday PM peak period.” DEIS, at 2-91. However, a study dated May 23, 2012 prepared for ArenaCo by Horton Street assumed that **6000** cars would be drawn to the Arena per event. Attachment 28. See <http://www.seattle.gov/arena/docs/120523PR-SDOT-ArenaReport.pdf> (at pages 2, 4). That is almost a *three-fold* increase. The cited transportation study states that the average people/car ratio for Safeco and Century Link fields was 2.6-2.8 and that a “conservative” estimate was 2.69, which translates to 6691 cars per arena event. Attachment 28, at 9-10. Accordingly, the DEIS’s estimate of 2150

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32. Comment noted.

33. Comment noted.

34. The DEIS projected vehicle demand is consistent with the Parametrix transportation analysis. Based on an attendance level of 20,000 people, the DEIS projects a peak parking demand of over 6,000 vehicles by 2018. The arrival of these vehicles to the study area would occur over several hours. The evaluation of traffic operations focuses on the weekday PM peak hour only (or a one-hour time period). During the one-hour time period approximately 2,150 vehicles arrive to the study area. (see Appendix E, Sections 1.4.1 and 1.4.2).

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“vehicular trips” is only 1/3 of what it should be. *The FEIS must re-calculate traffic based on a more conservative and realistic people/car ratio.*

2. Missing Event Time Periods

The DEIS assumes all professional sporting events will occur in the 7pm time zone. Yet, events such as conventions, trade shows, and matinee ice events will create congestion around the Arena at other times. The DEIS needs to obtain a specific list of foreseeable events at the Arena and consider the times these events start.

3. The DEIS fails to acknowledge a crucial report published by the Seattle Planning Commission on July 12, 2012.

In a crucial report to the City Council dated July 12, 2012, Attachment 29, the Commission clearly stated that the proposed Arena will have a detrimental environmental impact on Pioneer Square:

The City Council should better understand how this proposal will impact current efforts to revitalize Pioneer Square and the Chinatown-International District. Neighborhood businesses in Pioneer Square and the Chinatown-International District have raised concerns for years that generally they see many negative impacts and few benefits from nearby spectator sporting events. While we do not have statistical information to assess this issue, it is not clear whether these communities would see a positive economic impact if an arena and associated development were to be developed in the proposed location. The proposed business model includes adjacent uses along a pedestrian mall such as retail, restaurants, and taverns along a pedestrian promenade on Occidental Avenue South between Edgar Martinez Drive South and South Massachusetts Street. While permitted under the Land Use Code, this ‘entertainment zone’ could draw customers who may otherwise gather in the Pioneer Square and the Chinatown-International District prior to and after events at the arena or other spectator sports facilities in the area.

Yet the DEIS never even acknowledges or discusses this report. It must do so point-by-point. What good is a Planning Commission when its alarming findings and conclusions are disregarded by a DEIS and, evidently, by City officials at DPD?

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35. Time periods evaluated in the DEIS/FEIS evaluate cumulative worst-case impacts considering not only event times but also background conditions (Appendix E, Sections 2.5.1.2 and 3.5.1.2).

36. See Common Response #11 Secondary and Cumulative Impacts. Additionally, an EIS is not required to analyze economic impacts and any such analysis is not a basis for determining the adequacy of an EIS.

4. Failure to Consider Views of Acknowledged Experts that the SODO Arena is not mitigatable.

The DEIS contains cursory charts depicting increased traffic yet neither contains recommendations for mitigation nor does it consider the multitude of opinions that it the proposed arena may not be amenable to mitigation due to the limited government transportation funds. For example, the Seattle Marine Business Coalition wrote a guest op-ed in the Puget Sound Business Journal on August 3, 2101 stating that the Arena cannot be built in this location. Attachment 36, at 10-11. Similarly, the Washington State Transportation Commission opined in a letter dated July 2, 2012 that, "Adding an additional venue in the SODO area, in our judgment, could seriously jeopardize freight mobility, pedestrian safety, and overall vehicular access given it is already a very congested and challenging area for transportation movements." Attachment 36, at 60. Nor did the DEIS consider that the City of Seattle has *failed to fund* three overpasses planned to carry Port traffic over the multiple railroad tracks and congested SODO area. This was pointed out by the MIC in a letter dated June 7, 2012. Attachment 36, at 68. The DEIS must consider the adverse impacts of the Arena if, as has been the case, the City of Seattle does not make these crucial transportation improvements. In the alternative, the DEIS must ADD to the mitigation list or the cost of impact list the cost of these improvements, which could be \$180-200 million for the Lander St. overpass (2008 dollars), Id., at 68.

Nor did the DEIS acknowledge the views of the Washington Freight Mobility Strategic Investment Board. Attachment 36, at 75-76. The Board explained to the City that it had invested hundreds of millions of dollars in nearby freight mobility improvements and that the Arena could potentially undermine all of these investments. The City turned the same deaf ear to the views of the Seattle Freight Advisory Board, which strongly recommended against siting the arena in SODO. Attachment 36, at 84. The FEIS needs to take all of these crucial expert reports into consideration.

5. More congestion will not necessarily lead to greater use of mass transit. The DEIS assumes that, as traffic in Seattle increases, people will resort to "transportation modes other than cars." DEIS, at 3.8-49. While this conclusion might be socially desirable,

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37. Comment noted. See Common Response #6 Mitigation Measures – Traffic.

38. Comment noted.

39. Comment noted.

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it is far from clear to be scientifically-credible but, more importantly, should not be the basis for transportation assumptions regarding discretionary sporting event projects.

6. The DEIS fails to consider current Port needs and industrial needs and expected growth in the SODO area.

Currently, the Port of Seattle has four main container terminals, which require easy access for trucks and crews in order to transport and move cargo efficiently and effectively. In the coming decades the Port expects shipping needs to increase steadily, which will ultimately require around the clock gate operation allowing access to the terminals at all times of day for both interstate and local cargo as well as intermodal cargo that will be repacked on sites in the Sodo area. For the period between 1992 and 2011, the Port's container operations grew by an average of 3% a year. As it prepares and works to facilitate growth in the coming decades, the Port is focused on the goal of doubling the Port's container capacity by 2051. Since events already effectively reduce the Port's operating hours, increased growth and traffic will only exacerbate this problem. Port Slides 11. In addition, many containers are shipped to nearby warehouses and repacked into smaller oceangoing containers, which require access to local streets in order to transport goods from within the SODO area to port terminals. Roughly 30% of import containers and 50% of export containers are trucked east of 1st Ave S. to other areas in the Duwamish and to the highway system, which would likely be impacted by an increase in traffic in the area. Port Comment on Transportation Study pg. 2 (Attachment 15)

Current freight and truck operators already schedule their delivery times around current day and evening games, which will ultimately be impossible, based on the growth projected by the Port. Especially since a large amount of the goods transported through the Port are refrigeration dependent and run on a schedule based on the ship's set departure time, scheduling and appropriately timing deliveries for efficient on and offload will grow increasingly difficult. Even when scheduling around these events is possible, the effect of moving traffic and congestion to other day times must be fully analyzed. With other ports on the west coast in California and Canada becoming increasingly competitive, it is imperative that an accurate assessment of the real impacts on freight and the likelihood that freight operators will continue to choose to ship goods through Seattle must be

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40. Comment noted. Please see the Economic Impact Analysis included as Appendix F for additional information.

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completed. Given the economic importance of the Port and Industrial sector to the region and state, the impact of adding another arena to the district must be carefully analyzed with particular attention given to the expected growth of traffic, congestion and infrastructure in the area.

7. Failure to Specify Potential Alternatives Sites.

The DEIS (Appendix A) lists the sites which Seattle alleges it considered as potential alternative sites. However, Mr. Hansen has stated repeatedly to having conducted his own independent studies that he used before deciding to site the arena in SODO. Yet Mr. Hansen’s “studies” have never been disclosed. King County even asked for this information. Attachment 36, at 86. These sites need to be disclosed in the EIS and woven into why other reasonable locations were eliminated.

8. The DEIS does not accurately assess availability of bus and light rail hubs servicing the Stadium area.

The proposed Arena is expected to be ready for NBA or NHL hockey games by 2016 at the earliest. But many of the light rail stations that will ultimately serve to transport people to the SODO area for events are not expected to be complete until 2020 or 2023, leaving several years where light rail service will not be available. This is a significant gap of time during which event attendees will be required to commute via other modes of transit, the majority of which will likely be by car, especially since more than half of event attendees already commute by car. In addition, the DEIS examines available bus services in the area without adequately accounting for current and expected increase in use in the coming years even without a new Arena in the area. The DEIS should have looked at current use and the expected increase of transit use in the coming decades, especially with increasing density, transportation costs and practicability of accessing public transportation.

9. The DEIS fails to assess the anticipated pressure of increasing commercial and pedestrian activities will place on existing transportation

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41. Please see Common Response #1 Public vs Private Project; Range of Alternatives.

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42. The 2018 analysis includes the existing Central Link light rail system with extensions to the University of Washington and S 200th in SeaTac. The expanded Link system combined with bus service will be sufficient to accommodate the expected transit riders to an event prior to completion of Link extensions to the Eastside and Lynnwood. As illustrated in the DEIS, the capacity on other transit modes, such as bus transit, is sufficient to accommodate event attendees who are likely to choose transit. (see Section 2.2 of Appendix E).

The transit analysis assumes background transit ridership growth for all transit modes based on long range planning information provided by King County Metro, Sound Transit, and Washington State Ferries. This information reflects the projected change in ridership for the years considered in this analysis for the No Action Alternative.

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Also, the analysis did not account for any change in the total number of service hours provided by transit during the time frames analyzed or the redistribution of service hours likely to occur in future years as a result of Link Light Rail. This is believed to present a conservative estimate of available transit capacity in the future.

43. The DEIS and FEIS evaluated numerous event scenarios and alternatives that included varying attendance levels at the venues in the SODO area (Appendix E Section 1.1). Multiple event scenarios were also evaluated. In all cases the impacts of the Arena were measured considering a 18,000 person attendance and 20,000 person attendance event. While these levels have been identified to be associated with a NBA or NHL event, they could also be associated with a concert or some other special event with similar attendance. The event scenarios described and evaluated do not specifically address impacts associated with speculative developments that have yet to be applied for. Such proposals would be independently subject to SEPA review at the time they are proposed.

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infrastructure when the Arena is to serve as a “world class, multi-purpose sports and entertainment Arena.”

The Arena’s developers envision the building to serve as a world-class sports and entertainment facility. <http://www.sonicsarena.com/info/summary-sonics-arena>. The DEIS looks at expected basketball and hockey games, but it does not adequately assess the impact other events, such as concerts will have on the area, particularly on dual event evenings. Since the arena is expected to be in use year round, the increase in the average level of pedestrian activity in the area must be carefully considered. If, as proposed, the district becomes an “entertainment district,” crowds will be drawn not only for large events, but also to enjoy the other amenities in the area, especially considering its close proximity to downtown the effect of which must be analyzed specifically as well as the cumulative effects that may stem from this increase in pedestrians.

10. The DEIS ignores the lack of dedicated parking for the Arena.

The DEIS does not examine the availability of parking, fails to include parking needs for expanded Port and industrial operations and does not address the impact of varied parking prices and accessibility to the proposed Arena from areas within ¼ mile of Safeco and the Arena. The DEIS looks merely at the parking supply but does not address parking *availability* and fails to account for what happens if the Seattle Mariners do not make their garage available to the Arena. The DEIS should have accounted for current and anticipated parking requirements when calculating the parking that will actually be available for event use. By focusing on the parking supply without accounting for these other factors, the DEIS misleadingly shows greater parking availability for stadium use than will actually be available and ignores any congestion or traffic problems caused by attendees circling the street system looking to find an available space at a price they are willing to pay and by pedestrians traveling to and from the arena.

The DEIS also assumes that Safeco Field garage will be available for Arena attendees. An EIS cannot assume the sufficiency of parking for a project based on the assumption that a different owner will make its parking available to Arena patrons. In order for the DEIS to consider that the Safeco garage would be available to accommodate

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44. The DEIS and FEIS provide a comprehensive parking analysis, which reviews parking supply as well as existing and future utilization (see Section 2.8 of Appendix E). Consideration was given to the loss of parking supply with the proposed Arena and other future development in the study area.

The FEIS has been revised to present two scenarios in which the parking would be provided including: 1) through shared parking agreements with existing parking facilities, and 2) the South Warehouse site. In addition, a sensitivity analysis evaluated parking demand and utilization with and without the Safeco Field and Century Link Field parking garages.

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the Arena's cars, a signed agreement between Safeco and/or the PFD and ArenaCo must be secured and documented in the FEIS.

11. The EIS does not devote enough detail to the serious pedestrian issues relative to the S. Holgate St. railroad crossings.

While the City has discussed closing S. Holgate Street, the recommendation in the study commissioned by Seattle Department of Transportation states that since S. Holgate Street is one of the few essential east-west corridors for freight and local traffic, the street should not be closed despite congestion caused by temporary road closures for rail traffic on the 17 sets of track crossings. S. Holgate Street Railroad Crossing Study, p. ES-3. Attachment 27. Assuming the city follows this recommendation, the DEIS does not consider the significant delays in the area due to railroad crossings and the effect current conditions of at-grade street and pedestrian rail crossings will have with an increase in future traffic, specifically at the rail crossings on S. Holgate Street. Often pedestrians ignore train gates causing accidents—the reason Royal Brougham Way is now grade separated from the tracks. Finally, the analysis of the use of the “private access roadway” to access the Safeco Field parking garage did not assess the congestion caused by long closures of S. Holgate by rail traffic and its effect of forcing traffic to reroute to the few remaining streets on not only dual-event days, but also single-event days. The DEIS should analyze the possible mitigation measure of providing a separated grade crossing or a pedestrian overpass because without mitigation, increased movement in the area will create a large problem for both pedestrian, car and rail traffic.

12. The DEIS should have more accurately assessed current and needed use of S. Occidental when evaluating the proposed street vacation.

The Arena proposes to vacate S. Occidental St., which would eliminate a crucial direct access route between Edgar Martinez Drive and S. Holgate Street. Potential mitigation measure of constructing a new road access between the two streets should be at minimum analyzed, if not implemented. If access to these roadways is blocked, this will push traffic further north into downtown and south, further into the Sodo area, affecting access to other Port terminals and other locations in Sodo needed by freight haulers and

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45. The FEIS includes a comprehensive analysis of the pedestrian environment and traffic operations along Holgate Street.

The traffic operations analysis that included a review of intersection operations and delays at the rail crossings were updated to reflect revised north/south train volumes (Appendix E, Section 2.6 and 2.7). Traffic volumes along S Holgate Street were also reduced and reassigned to parallel routes to reflect the increased train activity and associated decrease in Holgate peak hour capacity. In all cases the analysis assumed that Holgate Street would remain open to vehicle traffic consistent with the SDOT study referenced.

See Common Response #7 Mitigation Measures - Pedestrian Access

46. The FEIS includes additional analysis evaluating the impacts associate with the Occidental Street vacation (Appendix E, Section 2.10) based on the collection of additional data during the weekday AM, mid-day, and PM peak hour. This analysis considered the level of activity and basic functionality of the roadway during these periods. The analysis also considered traffic volumes along Occidental Avenue, south of Holgate Street to assess its role in the local transportation system, and to help assess the overall impact resulting from the loss of the parallel travel route to 1st Avenue.

46

manufactures. Of particular concern is the increase in traffic that closing S. Occidental Street will cause at intersections along S. Atlantic Street.

13. The EIS grossly underestimates and fails to fully consider the additional traffic that will be generated by the Hwy. 99 tunnel.

The DEIS candidly admits that the area around SODO is “undergoing major transportation system changes.” DEIS, at 3.8-13. Yet it virtually ignores these major changes in summing up the Arena’s cumulative impact on traffic congestion in the area. In the most recent traffic assessment for certain roadways in the Sodo region, the Alaskan Way Viaduct Replacement Project EIS expects several intersections in the Sodo area to experience increasing congestion. While the study did not assess the impacts of a third event center in the area, it showed that even on normal days, the intersection at 1st Avenue S/S Atlantic Street will continue to experience already significant congestion. According to the EIS, drivers currently and should continue to expect congestion at several intersections along S. Atlantic Street in 2015, a number that will only increase by 2030. (VRP EIS p. 106-107). In addition, the bored tunnel is expected to push cars onto surface streets, increasing the number of cars traveling on north-south arterials in the Sodo area to increase by 4,300 daily trips and this number does not even account for the effect of tolling. Under the studied tolling scenarios, traffic in this area could increase by between 16,000 to 18,000 vehicles. VRP EIS p 209. This is a significant increase that must be accounted for. Current dual- and single-event day traffic further exacerbates this issue, which would only be compounded with traffic from the proposed third Arena.

The DEIS must not only admit that the area is undergoing “major transportation system changes,” it must go on and predict HOW the cumulative impact of the Arena AND all of these “changes” will affect freight mobility and traffic congestion.

The FEIS must take the Hwy. 99 tunnel EIS into account in making predictions on what additional or cumulative impact on traffic the Arena will have. Attachment 8.

14. The DEIS must account for the anticipated coal trains.

The City recently commissioned a report on the impact of the coal trains that would service the Cherry Point terminal in Whatcom County. Attachment 36. The report predicts that the coal trains will significantly increase down-gate times at key SODO intersections:

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47. The forecast traffic volumes were based on the Alaskan Way Viaduct EIS. This considers future development in the study area consistent with land use plans and shifts in travel patterns related to major transportation improvements.

48. As documented in the DEIS, the *Coal Train Traffic Impact Study* (October 2012, Parametrix) was used to forecast rail activity (see Appendix E, Section 2.7.3.2). Additional data was collected for a 7-day period and included the documentation of rail activity on the mainline tracks and non-revenue activity on the adjacent tracks (see Appendix E, Section 2.7.2.2). Data was collected for the periods of 6AM to 11PM when Arena related traffic may be present once constructed. Forecast rail activity was updated to reflect the updated existing rail volumes (see Appendix E, Section 2.7.3.2).

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In 2015, the estimated additional daily gate down time for coal trains could be 31 to 83 minutes. This could represent an increase in daily gate down time of approximately 18% to 49% at Broad Street and 15% to 39% at both Holgate and Lander Street.

--In 2026, the estimated additional daily gate down time for coal trains could be approximately 67 to 183 minutes. This could represent an increase in daily gate down of approximately 39% to 108% at Broad Street and 31% to 86% at Holgate and Lander Streets.

Vehicle Queues at Railroad Crossings - Overall vehicle queue lengths at railroad crossings vary depending on when trains, including coal trains, arrive in relation to other trains. Freight trains longer than the coal trains already operate today. The maximum number of vehicles queuing from a single train would not increase provided coal trains are operating at 20 mph or greater. Coal trains added to the current demand would increase the number and frequency of vehicles waiting in a queue. Depending on the time between gate closures, vehicle queues may not fully dissipate before the next gate closing. This would result in longer vehicle queues for some of the coal train trips.

Attachment 36, at ii.

Yet the DEIS does not even mention this coal train study. Nor does it attempt to predict the environmental impact of the Arena-initiated traffic cumulatively with the coal train traffic. The FEIS must do so.

15. The DEIS overlooks the impact of construction and development of the L.A. Live-like development that Chris Hansen plans for the surrounding area.

It has been well-publicized in the media that Chris Hansen owns, or has options to buy, numerous pieces of property around the Arena to be used for the development of an L.A.-Live-like development. Indeed, Mr. Hansen has publically acknowledged this development. See <http://blogs.seattletimes.com/opinionnw/2013/05/09/chris-hansen-on-sonics-arena-our-vision-would-not-look-or-feel-anything-like-l-a-live/>; http://seattletimes.com/html/localnews/2020833483_laliveseattlexml.html; http://seattletimes.com/html/opinion/2020861929_davegeringopedxml.html;

Yet, the DEIS is completely silent on this related development and whether and how it will further exacerbate traffic conditions and/or land use patterns in SODO. The terms

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49. See Common Response #11 Secondary and Cumulative Impacts.

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“L.A. Live” do not even appear in the DEIS. Nor does it appear that the DEIS authors required Mr. Hansen to disclose this related development even though, under SEPA, it is “related” to the current proposal.

Mr. Hansen’s proposed adjacent arena-serving and dependent L.A. Live development is a “related action” under SEPA. The SEPA rules define a “connected action” as one that is “related.” WAC 197-11-792 (2)(a). WAC 197-11-060 (3)(b), in turn, defines a “related” action as a “proposal or part of a proposal that [is] related to each other closely enough to be, in effect, a single course of action...”. Proposals are “closely related, and [shall] be discussed in the same environmental document if they:

(i) cannot or will not proceed unless the other proposals (or parts of proposals) are implemented simultaneously with them; or

(ii) are interdependent parts of a larger proposal and depend on the larger proposal as their justification for their implementation. (emphasis added)¹⁰

WAC 197-11-060 (3)(b).

The purpose of analyzing a connected or related action is “to prevent an agency from dividing a project into multiple ‘actions,’ each of which individually has an insignificant environmental impact, but which collectively have a substantial impact.” *Wetland Action Network v. U.S. Army Corps of Engineers*, 222 F.3d 1105, 1118 (9th Cir. 2000) (internal quotations and citation omitted). Analyzing connected actions and preventing improper segmentation are critical in determining a project’s cumulative impact on the environment. *Indian Trail Property Association v. City of Spokane*, 76 Wn. App. 430, 443, 886 P.2d 209 (1994). Although not defined in SEPA, NEPA defines a “cumulative impact” as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions ... Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”

¹⁰ NEPA similarly defines a “connected action.” Actions are “connected” if they: (i) Automatically trigger other actions which may require environmental impact statements; (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously; or, (iii) Are interdependent parts of a larger action and depend on the larger action for their justification. 40 C.F.R. § 1508.25.

40 C.F.R. § 1508.7. “A proper consideration of the cumulative impacts of a project requires some quantified or detailed information; general statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided.” *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Management*, 387 F.3d 989, 993 (9th Cir. 2004) (emphasis added) (internal quotations and citations omitted). “The analysis must be more than perfunctory; it must provide a useful analysis of the cumulative impacts of past, present, and future projects.” *Id.* at 994 (internal quotations and citations omitted). SEPA and NEPA strongly disapprove of agencies conducting after-the-fact cumulative impact analyses. *Indian Trail*, 76 Wn. App. at 443; *Thomas v. Peterson*, 753 F.2d 754, 760 (9th Cir. 1985).

ArenaCo’s L.A. Live-like development is legally “related” to the Arena under SEPA because, without the Arena, it would not take place, and vice versa because the related development makes the Arena financially feasible for Arena Co. The L.A. Live-like development is, thus, an inter-dependent part of the Arena proposal or, at the least, a foreseeable indirect impact of it. Under SEPA, the FEIS must consider, in detail, the location of Mr. Hansen’s planned related development and the effect it may have on transportation, parking, land use, and freight mobility. Any environmental analysis of the proposed SODO Arena would be per se inadequate without considering the environmental impact of the proposed “L.A. Live”-like future development.

16. Use of Erroneous Port “window” period.

The DEIS’ analysis of the Arena’s impact on “Traffic Volumes” rests on a key assumption: that the arena will only generate traffic between 4 and 7:00 pm for evening events. DEIS, at 3.8-47-48. *This is completely wrong.* In fact, as pointed out by the Port (Attachment 15, at 3) shippers cease shipping to the Port on “game-days” at approximately 2:30 pm. In addition, the use of a 4-7pm traffic window ignores Port night operations which are expected to increase.

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50. The DEIS determined the appropriate analysis period (weekday versus weekend and study hour) based on 24-hour count data at several key locations in the vicinity of the site. Based on this information, the analysis of event traffic occurring during the weekday period represents the most appropriate basis for detailed traffic analysis through the SoDo area.

Within the weekday period, additional consideration was given to the appropriate hour for which to conduct the traffic analysis. Traffic volumes in the vicinity were highest between 4 and 7PM. Based on a review of this time period, the analysis focuses on the weekday PM peak hour (4:30 to 5:30 PM) representing the highest overall traffic volumes for the system. While the event related traffic may represent a lower percentage of the overall traffic, the combined volumes represent the highest volumes within the 4:00 to 7:00 PM time period.

While there will be impacts outside the weekday PM peak hour, the evaluation of this period represents the highest traffic flows in the study area providing a worst case analysis of impacts. The FEIS also provides additional analysis related to post event operations.

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17. Failure to Consider Shift in Land Use Resulting from the Arena’s Gentrification of SODO.

The DEIS obliquely refers to the Arena leading to the gradual transformation of SODO to uses other than manufacturing, shipping, etc. But it woefully fails to acknowledge just how key the arena will be in realizing this transformation. It fails to even acknowledge what local expert bodies, such as the Seattle Planning Commission (Attachment 29, at 13), have said about the Arena’s location:

Impacts of Potential Development “Creep”

There has been speculation about whether ArenaCo or its investors would look south of South Holgate Street or to other properties within the MIC to build required parking or other development to support the proposed arena. As stated on page 4, the City should clarify with the proponents and possible investors that South Holgate Street is a hard edge for spectator sports facilities including any related non-industrial uses. If the City proceeds with developing the proposed arena at this location, Council should include clear language in the MOU that any zoning requests now or in the future to accommodate non-industrial development related to the arena will not be considered. The MIC boundaries should remain intact. We also recommend holding “firm on the boundary of the Transition Area Overlay and limitations on uses allowed within the Overlay. For instance, allowing hotels within the existing Transition Area Overlay should not be considered.

The Port of Seattle similarly noted that nothing published to date reflects the indirect impact of the proposed L.A. Live-like development. Attachment 15, at 2.

18. Insufficiency of Mitigation Measures.

The DEIS contains a “Summary of Potential Mitigation Measures” for transportation and freight impacts commencing at Pg. 1-41. See also DEIS, at 3.8-57. But these measures are pathetically weak: they involve coordinated event scheduling, appointment of a Transportation Management Program, preparation of an Event Access Guide, an off-site construction coordinator, scheduling protocol and management, and Port of Seattle-adopted protocols advising Arena staff of shipping status, directional systems, signage, etc. DEIS, at 1-44-49. None of these mitigations, however, involve what is *really* required to

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51. Comment noted. See common Response #12 Gentrification.

As stated in the DEIS (p. 3.10-1), an EIS is to include a “summary” of existing land use regulations and plans and the extent to which a proposal may be consistent or inconsistent with them, “as appropriate.” RCW 36.70B.030.

52. See Common Response #6 Mitigation Measures – Traffic.

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mitigate for the arena: new road construction, new overpass construction, dedicated freight routes, new pedestrian facilities, additional parking lots, etc. None of these real improvements are included within the EIS' mitigation section.

The DEIS must specifically set forth the infrastructure that will be required to reasonably mitigate the project, along with the projected cost of those improvements. The DEIS, for example, completely ignores the astronomical cost of potential mitigation measures and fails to specify who (the public? ArenaCo?) will pay for these measures. In a report commissioned by the City of Seattle, for example, the city's consultants estimated that a grade-separated S. Holgate St. overpass would have a "high estimated cost" and ignores that there is not sufficient space to "ramp up" at a reasonable grade between Occidental Ave. S. and the western railroad track. Attachment 27, at 11. This same report estimated that a grade-separated S. Holgate St. bridge would cost "more than \$40 mil." Attachment 27, at 57.

19. Inconsistency with Growth Management Act

The City of Seattle is required by law (its own law and policies and the State Growth Management Act) to protect "container ports." RCW 36.70A.085 (3). This approach requires the City to engage in a collaborative planning approach that protect and provide reasonably efficient access to ports, container ports, and freight corridors. The City has NOT adopted any program or regulatory protection, as required by this State law. And the proposed arena will jeopardize truck access to the Port of Seattle and the surrounding area. The City should not approve of the Arena unless and until it engages in the planning required by RCW 36.70A.085 (3).

III. Economic Impact Report (DEIS, Appendix F)

Note: We refer to the Arena's "Economic Impact report" by Pro Forma Advisors LLC (App. F to the DEIS) as "EIR."

A. Executive Summary of ILWU Comments on EIR.

The EIR summarily concludes that the "Seattle Arena will have a total **positive** economic benefit of **\$230- to 286 million** to the King County economy (inclusive of the City) and \$188 to 236 million to the City of Seattle economy on an annual basis." EIR, at ix.

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53. The City's Comprehensive Plan contains a Container Port Element as required by the GMA, and the City has conducted studies and adopted regulations that implement policies contained in that element and other elements of the Comprehensive Plan. This EIS discusses the extent to which the proposed Arena may have traffic impacts on the Port and surrounding area.

54. Comments noted.

- a. Pro Forma Advisors evaluated the estimated impact to the Port due to additional traffic.
- b. KeyArena – It is expected that there will be an impact on KeyArena due to the displacement of events and competition with a new Arena. However, we do anticipate that certain events and possibly tenants will remain at KeyArena. KeyArena could be the preferred venue for various reasons and may be the only option in some cases due to scheduling conflicts. KeyArena currently has competition from other venues outside of King County and may depending on costs, scheduling, etc. may be in a position to bring back certain events lost to venues outside of King County.
- c. The Economic Impact Analysis (Appendix F) responds to the analysis requested as part of the MOU to estimate the economic and fiscal benefits generated by the proposed Arena and evaluate potential impacts of the arena on the Port of Seattle.
- d. The EIS considered alternate sites including the Seattle Center site and the Memorial Stadium site.

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This figure is fairy dust. On the contrary, when *all* impacts are considered, the Arena could potentially have a significant *negative* economic impact by hundreds of millions of dollars and the EIR completely ignores or paints over these negative impacts. The enthusiasm of some for the return of the NBA (shared by many in the ILWU) does not justify pretending that the economic cost of a franchise on our community is significantly less than it really is.

The EIR projects that its “positive economic benefits” will only be reduced by about 29% within the City of Seattle and 20% in King County by “adverse impacts,” such as the effects of traffic delay and the “substitution effect.” EIR, at 60. But the EIR’s analysis of “net economic impact” is flawed in multiple important ways: it omits or glosses over the significant *negative* economic impacts that will be borne by the general public, systematically overstates and mischaracterizes the Arena’s alleged *positive* economic impacts, and it overlooks that, because of its financial structure, the Arena will not generate any appreciable local tax revenues.

The EIR’s defects break down into three areas. First, and most critically, the EIR fails to account for virtually all of the Arena’s greatest *negative* economic impacts, which could cost Seattle and King County taxpayers and its private and public industries hundreds of millions of dollars. These include the direct and indirect economic costs of further jeopardizing Seattle’s port and maritime industry, the added costs of more traffic on commuters and businesses, the cost of safety and mobility-required additional traffic infrastructure, and the cost to taxpayers of rendering the Key Arena obsolete. Second, the EIR’s estimation of potential economic benefits fails to recognize or account for significant research and literature that the economic benefits of most publically-funded arenas are *de minimus*, or even negative. While Seattle officials have argued that the MOU’s proposed financial package returns a reasonable I-91-compliant return to Seattle, the EIR simply does not acknowledge the research that such facilities can be net-negatives for cities, particularly when they compete with other nearby sectors of the economy. Third, the EIR and EIS fail to fully consider alternative sites as viable because the Arena’s developers are only interested in a facility on their land in SODO. But the EIR cannot defer to this demand; it must objectively compare the economic and environmental benefits of a SODO arena to a

similar arena elsewhere. This is, in fact, the purpose of the MOU's economic and environmental analysis. If Seattle is as lucrative an NBA franchise as the EIR concludes, then the public should know how much it is paying for an Arena located in the desired SODO location.

B. Specific Comments on EIR

1. The EIR erroneously and simplistically measures the Arena's economic impact to the Port of Seattle, Port-dependent businesses, and non-Port businesses in terms of "lost" trucking time resulting from traffic delay.

Whether, and to what extent, the Arena's additional traffic congestion could directly, indirectly, or cumulatively jeopardize or compromise the viability of the Port of Seattle, and Port-dependent businesses, is among the most important questions the EIR should have confronted and analyzed. But it did not do so in any type of credible, straight-forward manner.

At the outset, the EIR correctly admits that the Port of Seattle is a major driver of economic development in Greater Seattle and the State as a whole. A Port-authored 2009 economic report, which the EIR accepts as fact, states that seaport activities accounted for 56,256 jobs (direct, indirect, and induced) and another 135,100 related import/export jobs. These jobs break-down as 21,695 direct jobs and 34,561 "induced" jobs. EIR, at 71. The Port also generates \$1.6 billion in direct personal income, \$2.5 bil. in business revenue, and \$457 mil. in state and local taxes. More than half of the its exports are agricultural products, chiefly from Eastern Washington. *See generally* EIR, at 54. The sum-total of Port of Seattle-generated economic activity is \$30 billion and the Port itself generated \$85.7 mil. in "operating revenue." EIR, at 71. But all of this economic activity depends on **10,776 to 13,664** daily truck trips to and from the ships that call at the Port. EIR, at 72-73 (citing truck trips).¹¹

¹¹ The range of truck trips depends on moving 2.8 million containers today versus 3.5 million shipping containers expected in 2030. A small percentage of these containers go directly from ships to rail.

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55. Competitive Risk to the Port.

Several parties cited potential competitive risks to the Port from traffic congestion. These risks are explained in the analysis, on pages 90–92 and 94–95. *Commenters express a desire for quantification, however, which is not feasible within the current state of the art.* As noted, due to the small number of relevant decision makers, the large number of decision variables, the lack of accurate information on future reliability, and the large role of perception in the outcome, there is no dependable method to estimate either the degree of risk or the volume of cargo at risk. "What if" scenarios suggested in the comments (e.g. Cerf page 8, "...Seattle could lose 100% of that business", or Cerf p. 9, "If only 5% of the agricultural shipments are lost...") are inherently speculative. As suggested on p. 95–96 of the analysis, a more productive approach may be measures that maintain the fluidity of truck routes and minimize any adverse impacts on reliability.

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The EIR not only admits that the Port is a major economic driver, but it also admits that the Port of Seattle competes in a brutally competitive and mercurial trade market. EIR, at 91-93. It concedes existing Port transportation and traffic congestion conditions are sub-optimal and that even the “no action” alternative will produce degrading truck-delay conditions. EIR, at 87. It acknowledges that, when it comes to ocean freight, the capacity, service, reliability, cost, and ease of doing business are the keys to a viable commercial seaport. EIR, at 92-94. Time is money when it comes to Ports. EIR, at 93. And the EIR acknowledges that “carrier or customer perceptions of reduced reliability and ease of doing business” at certain Port terminals is key to the Port’s commercial viability in the shipping industry. EIR, at xxiv; EIR, at 53-54; 94. The key point, as conceded by the EIR, is that “increased trucking cost, reduced throughput capacity and especially diminished reliability could adversely affect to competitiveness of Terminals 25/30 and 46 and the Port’s competitive position on the West coast.” EIR, at 94.

While the EIR admits the Port’s importance to the economy, the difficult local transportation and competitive environment in which the Port exists, and the already-stressed transportation infrastructure currently serving the Port, the *EIR declines to estimate the dollar cost to the city, region, or state (in terms of dollars and lost jobs) in the event on-the-ground congestion and negative perceptions in fact lead to a loss of Port business or, worse, jeopardize the viability of the Port.* EIR, at xxi. The EIR claims “these risks could not be quantified for this report.” EIR, at 94. Instead, the EIR simplistically measures “direct cost impacts” as “lost” trucking time resulting from the additional traffic and congestion the Arena will directly and indirectly generate or the Arena’s cumulative impact on transportation and congestion. EIR, at 55. This is despite the fact that the EIR elsewhere concedes that “higher trucking costs and reduced trucking reliability” can adversely affect the competitiveness of the Port, EIR, at xxi, that the Arena “is expected to result in traffic delays to both Port and non-Port trucks,” EIR, at xxi, and that “carrier or customer perceptions of reduced reliability and ease of doing business” at certain Port terminals are key to the Port’s competitiveness. EIR, at xxiv; EIR, at 53-54. See also EIR, at 94-95.

Given the EIR's conclusions about the threats to the Port, it is inexcusable that the EIR fails to quantify the impact of *loss* of competitiveness. EIR, at xxi. Instead, the EIR projects the Arena will result in a cumulative **delay** of between 1813-2299 hours of trucking time. EIR, at 88. It bases this analysis on 13,664 truck trips daily. EIR, at xxi. At \$48 per hour of delay, the EIR goes on to assign a paltry sum of **\$230,000** as the "upper limit of Port and Industrial Business Impacts." EIR, at x, xix. This figure simplistically represents the incremental amount of time during which Port-bound or leaving trucks will be delayed as a result of the Arena.

The direct cost of arena-caused truck delay, however, is only a small portion of the impact picture, and a very small portion indeed. The Port engages in a highly competitive international business. Most of its customers are "discretionary" users who can take their shipping elsewhere. Traffic congestion around the Port is a major factor contributing to the Port's difficult competing with other port. If the cumulative traffic congestion generated by the Arena becomes (as is likely), the "straw that breaks the camel's back" relative to the Port of Seattle and the nearby businesses that serve the Port, any credible economic impact report must account for the imposed costs borne by the local, regional, and state economy of the loss of the Port of Seattle. The EIR cannot simplistically measure that amount based simply on lost trucking time. Although the EIR agrees that "there could be additional impacts beyond those quantified in this section," the EIR declines to go further. EIR, at 57. The EIR's adamant refusal to quantify the "impact" of jeopardizing the Port is a fatal flaw in the Report. The EIR must analyze various economic scenarios in which the Port of Seattle gradually loses business or becomes non-competitive because of problems with freight mobility. The same analysis must be conducted relative to Port-dependent businesses. The alleged "fact" that the Port of Seattle is under constant threat from a multitude of global and shipping trends does not excuse the DEIS from conducting this analysis. The EIS must evaluate the Arena's direct, indirect, and cumulative impact on the competitive forces facing the Port. Put simply, the EIR must evaluate whether the Arena may be the "straw that breaks the camel's back" relative to the Port of Seattle and how much it costs the City and Region if, in fact, the camel's back breaks.

While the EIR does examine the costs to shippers of extra time in traffic, it fails to fully account for the *costs* of the additional traffic. For example, what value should be placed on the time of a professional whose time is worth a lot of money and who sits in additional arena-generated traffic? It is inappropriate to value the time of citizens caught in traffic at zero. For example, if 1000 citizens add ½ hour to their commute for 100 events during a year (41 basketball, 6 NBA playoff games (average) with identical numbers for hockey plus a handful of other events) at \$50 per hour, the impact would be \$2.5 million per year escalating over time. In addition, the traffic would dissuade customers from coming to Seattle for other businesses. Has ProForma even conversed with SODO and Pioneer Square merchants to gauge this amount? The impact over 30 years could be as high as \$100 million with a present value of half of that.

Whether shippers incur extra time and costs is relevant to the Port and City only to the extent that those delays either lead to marginal costs that make it economically infeasible for marginally profitable shippers to ship in the same volume or if that extra time and those costs puts the Port at a competitive disadvantage versus Tacoma, Portland or the BC ports. If the additional costs of delays and spoilage consume a shipper's profit margin, then the shippers will go out business. If as few as 1% of the shipments are from, economically marginal shippers, the project could cut Port volume by \$850,000 per year escalating with inflation over time with a 30 year impact of \$ 40 million and an economic impact on the region of \$80 million. The impacts would be about half of the totals. The impact on jobs could be 200 lost at the Port and 500 lost locally.

In general, Seattle has a competitive advantage over Tacoma because Seattle is 45 minutes closer to E. Washington agriculture. This is important not only to the *cost* of shipping but to the *preservation* of produce. This is critical because (a) the Port is a highly competitive international business; (b) most of the Port's customers are "discretionary" users who can take their shipping elsewhere; (c) congestion around the Port is a major factor contributing to the Port's difficult competing with other ports; (d) to compete, the Port requires access to nearby warehousing and train yards; and (d) the roadway infrastructure leading to and from the Port is maxed out at the present time.

If traffic time, costs and uncertainty (as large an issue potentially as costs) erode this advantage, a significant portion of the agricultural (and other) shipments could migrate to other ports. If only 5% of the agricultural shipments are lost and none of the non-agricultural shipments are lost, the Arena project could cut annual volume by more than \$2 million (\$2013) per year with a 30 year impact of \$100 million (and \$200 million to the region) with a present value of about half of that with potentially 400 jobs lost (and more than 1000 regionally). If the competitive disadvantage due to traffic erodes agricultural shipments by 10% and non-agricultural by 2%, the annual economic impact on the Port would be closer to \$5 million (\$2013) with a 30 year impact of about \$250 million and a regional impact of more than \$500 million over 30 years, again with present values about half of that. Job loss could be in excess of 1,000 at the Port and more than 2,000 regionally.

While it is impossible to precisely estimate the impact of the Arena project on competitive advantage, the examples cited above are modest versus a worst case projection. The EIS and EIR must not only address the neglected issues but also must list out the full range of possible impacts on the port including potential worst case scenarios.

The EIR is fair to point out that the Port faces a number of other competitive pressures and threats and that, regardless of the Arena, traffic in the area of the Port will increase over time. But the EIR uses this “this bad stuff is going to happen anyway” as an excuse for conducting further analysis when the proper analysis should be whether the increased traffic congestion generated by the Arena will break the camel’s back? In other words, additional traffic on empty roads may not have an economic impact but additional traffic on congested roads is of huge significance. The increase in traffic from non-Arena sources suggests that the traffic impacts will increase over time. In addition, the expansion of the Panama Canal risks diverting traffic. Together, the Port is that much more vulnerable to an Arena project at the margin. The Port can respond to the lost volume by attempting to increase its prices to the remaining shippers but only at the hazard of creating competitive disadvantage across the Port.

Moreover, rather than concede that the Arena is inconsistent with reducing traffic congestion and maintaining the Port's competitiveness, the EIR goes on only to suggest that traffic be "mitigated" through unfunded roadway improvements or non-existent "protective" transportation policies. EIR, at 96. The EIR needs to do more than say that the Arena's traffic can and should be mitigated. It needs to measure the probability of that mitigation occurring, the cost of the mitigation that will need to be borne by the public or Arena Co, and the consequences to the Port if the mitigation is not completed or is only partially completed. Yet the City of Seattle's track record in fulfilling SODO mitigation projects is speculative and wishful thinking at best, as evidenced by the City's decision not to construct the S. Lander St. overpass and its decision to re-program that money to the "Mercer St. mess." Mitigation that is not certain to happen cannot be used as mitigation.

It is extremely surprising that, while it concluded the Arena would cause more traffic delays, the EIR did not directly confront the issue whether the Arena would jeopardize SODO's "working" nature. This is particularly surprising in light of the fact that the Seattle Planning Commission made this a central theme in its report dated July 27, 2012 (Attachment 29, at 3):

However, we caution the City that developing an arena in the proposed location has the potential to generate adverse impacts that may threaten the container port, maritime, industrial, and manufacturing sectors – which have been found to be vital to the health and resilience of our local, state, and regional economy and that are expressly protected and promoted by the City's guiding policy document: the Comprehensive Plan. Based on the "findings from the Commission's two-year analysis and outreach effort addressing the City's industrial lands and on a thorough review of the arena proposal, the Commission believes that locating a new major sports and entertainment facility inside the Duwamish Manufacturing and Industrial Center (MIC) holds a strong likelihood of displacing living wage jobs and nearby businesses and disrupting container port operations and freight mobility. We believe these risks are inherent with a spectator sport facility at this location. The Commission recommends that the City not take actions that further place this proven economic asset at risk. At the very least the Commission believes more review and analysis should be

conducted **before** the City takes further action. (emphasis added).

The EIR must take into account the views of the Commission and assign an economic value to the Commission's projections.

The EIR must also take into account the City of Seattle's new "Coal Train Study." Attachment 36. If the proposed Cherry Point terminal is approved, dozens of more coal trains will be blocking critical cross-streets such as S. Holgate St. and S. Lander St. The EIR must predict what cumulative negative economic impact the Arena will have on the Seattle and regional economy if the Arena comes on line at the same time as the coal trains begin running.

2. The EIR's estimate of lost trucking time is not accurate.

The EIR projects that, in the final analysis, the "total direct truck loss" (estimated at \$48/hr.) will only be 5% of the trucks servicing the Port. EIR, at xxiii. This fails to account for the extensive data in the transportation section of the EIS which states that the arena will lead to significant delays at 64 nearby intersections and that traffic through nearby congested areas will affect virtually all of the Port's terminals. The EIR needs to rank different choke points differently, consider them cumulatively, and not simplistically lump all traffic delays together. What this exercise will yield is that the arena will cumulatively make traffic in SODO a mess and that the word will get out to shippers and others to avoid the area for commercial and maritime business. Minute entries on a chart do not tell the full economic story.

3. The estimate of lost trucking time assumes too narrow a window of operation at the Port of Seattle.

The EIR's economic assumptions relative to the Port turns on an inaccurate prediction of the hours of the day during which the Arena will impede Port traffic. The EIR elsewhere concedes that the arena will impact "night gate" operation of the Port (assuming 3.5 mil. TEUs) relative to 13.6% of the intermodal traffic leading to and from the Port. EIR, at 74. It

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56. As documented in the DEIS, the *Coal Train Traffic Impact Study* (October 2012, Parametrix) was used to forecast rail activity (see Appendix E, Section 2.7.3.2). Additional data was collected for a 7-day period and included the documentation of rail activity on the mainline tracks and non-revenue activity on the adjacent tracks (see Appendix E, Section 2.7.2.2). Data was collected for the periods of 6AM to 11PM when Arena related traffic may be present once constructed. Forecast rail activity was updated to reflect the updated existing rail volumes (see Appendix E, Section 2.7.3.2).

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57. Cumulative Intersection Impacts.

Cumulative impacts of the various intersection delays are shown in Exhibit PI-23.

58. Traffic Impact Period.

The trucking impact analysis focused on the 4-8 PM pre-event period for two reasons: 1) Transpo analysis identified 4-8 PM as the "build up" time period for pre-event traffic with a nominal 7 PM event start (Appendix E, Figure 1-5); and 2) the 4-8 PM time slot overlaps the peak afternoon commuter traffic and the end of the business day for most industrial and distribution businesses. Post-event departures in the 9 PM–midnight period are typically more diffuse and are not compounded by commuter traffic or regular commercial truck traffic. The impact on Port and non-Port truck traffic in the post-event period is therefore expected to be less than in the peak 4-8 PM period as shown in Section 2.6.4.5 of Appendix E. Some commenters (e.g. Cerf, Goldman) have erroneously asserted that the analysis did not consider night gates at Port terminals. As shown on Exhibits PI-5 and PI-6, the analysis explicitly focused on the night gate forecast provided by the Port. (Cerf and others have also apparently misread Exhibit PI-5, which indicates that the relevant period includes the hour that begins at 7 PM, i.e. 7-8 PM, making the analysis period 4-8 PM rather than 4-7 PM as asserted.) As Exhibit PI-5 indicates, the port truck traffic in the 8 PM–midnight time period is primarily intermodal, moving between port terminals and the BNSF SIG and UP Argo yards. As noted in the analysis, these yards operate daily around the clock. The trips between T46/30 and BNSF's North SIG gate use only a short stretch of S. Atlantic (Exhibit PI-10). The BNSF South SIG gate and UP's Argo yard are reached via E. Marginal Way (Exhibits PI-15 and PI-19), and are unlikely to be significantly impacted by post-event Stadium District traffic. In both cases, however, the most productive response is likely to be measures that keep these routes fluid for both pre-event and post-event traffic.

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predicts that the “event vulnerable” window during which the arena will impede Port traffic occurs during the 4-7pm window. EIR, at 75. It concludes that only 675 (5%) of the Port’s daily truck shipments will be impacted by operation of the Arena. EIR, at 76. But this “night gate” calculation (the portion of post 4:00 pm Port originating or bound trucks) is completely wrong. Had the EIR been based on actual data and interviews with Seattle freight mobility experts and not been narrowly focused on a 4-7pm window, it would have concluded Shippers regularly terminate their shipments to the Port hours before game-day events to avoid stadium traffic. In addition, people attending events frequently arrive hours before an event to obtain near-in parking, dine, drink, or sightsee. And many arena events will be held *during* the day, such as conventions, tradeshow, etc. The final EIR must *expand* the 4-7pm window during which it projects that the Arena will impede traffic and re-calculate the percentage of terminal gate traffic that will be impacted. This recalculation will yield a far more reliable percentage of “event vulnerable” truck traffic from its current 11% to up to **25-30%** if simply increased by two hours on each side of the current 4-7 pm window.

The EIR contains a “Port Impact Summary” at page 87. The chart concludes that “average delays” on several key nearby arterials range from 1-3 minutes. But this chart ignores the cumulative impact of delays at multiple intersections and on key choke-point locations. Moreover, the chart treats all of the key delay points the same when some are more detrimental to traffic than others.

Nor did Arena Co’s traffic study produced by Parametix on May 23, 2012. But as the Port of Seattle said with respect to this study:

The primary focus of the arena study was estimating the number of event days, concurrent event days, and potential trips, and providing information on potential alternative modes of transportation. *The study provided no actual analysis of traffic operational impacts, safety impacts, transit impacts, or freight impacts, nor did the study recommend any mitigation measures.* The study also made several assumptions and drew flawed conclusions that are not adequate for the public or decision makers to understand the potential impacts of the proposal. (emphasis added).

Attachment 15.

4. Inadequate Analysis of Impacts to Non-port businesses.

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59. The estimates for the traffic impact to Port and non-Port businesses were derived from counts of Port and non-Port truck traffic in the study area. The determination of these estimates is detailed in the Port and Industrial Business Section (pages 71 – 104), and updated information has been provided as a front piece to Appendix F Economics Report. Based on traffic information provided by Transpo and the Port, the study analyzed the specific number of Port and non-Port trucks trips that would be impacted, 568 port trips and 199 non-port trips. Using Transpo’s traffic projections on project delays, the study estimated the specific traffic delay that is anticipated. An estimated time cost was applied for truck delays. Thus, according to the incremental traffic costs the estimates of \$115,584 and \$66,141 are accurate portrayals of the direct costs of the additional traffic from the arena.

If these costs fell on only a few firms depending on overall size, it could be a marked burden, but these costs will be spread across all the impacted trucks moving product through the study area.

The SoDo study area, which is expected to be the primary area impacted by the arena, makes up only a small portion of the overall Duwamish MIC. According to US Census OntheMap employment estimates, the SoDo study area, defined in page 104 of the report, accounts for only 28 percent of industrial jobs in the Duwamish MIC, but also accounts for 77 percent of total employment. In other words, 72 percent of industrial employment in the Duwamish MIC is not located in the study area that is surrounding the proposed arena site.

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The “Voices of Concern” document articulates well the concerns about the Arena’s impact on non-Port businesses. Attachment 34.

The EIR’s projected impact to “non-Port” industrial and business is similarly off-base. The EIR assigns a “cost” to non-Port trucks due to additional traffic generated by the Arena as only \$59,900, county wide. EIR, at xx. Elsewhere, it provides a figure of \$38.351. EIR, at 101 (Ex. PI-33). Yet, this figure contains no analysis: which business is it based on? What happens if SODO traffic becomes so aggravated after the Arena that businesses decide to move elsewhere; is the expense of moving and the concomitant loss of business and taxes to Seattle accounted for in that figure? The answer appears to be negative.

The EIR also fails to acknowledge the extensive research, commissioned by King County, demonstrating the economic importance of the SODO as an industrial area. If, as set forth in the DEIS, the arena compounds the traffic in SODO and this has a deleterious impact on the Port and other SODO businesses, it would have major economic implication to King County. For example, in a report dated March 2010, EcoNW (an economic consulting firm) prepared a report *for King County* on the economic values of the Lower Duwamish industrial area. Attachment 20. The report confirmed the economic significance and uniqueness of this area, in terms of the number of high-paying industrial jobs, the proximity to the Port, and other key strategic advantages. The EIR never cited nor considered the same analysis as this EcoNW report. Yet this report stated that even a 10% reduction in economic output for this industrial area would have devastating consequences, including a loss of 6600 jobs (in increase in King County unemployment by 0.57%), a reduction in economic output by \$1.4 billion out of a base of \$310 billion, a reduction in wages and business income in King County of \$627 million (from \$157 billion), and a reduction in \$70 mil. in sales, property and other taxes. Attachment 20, at vi. Clearly, it is conceivable that the Arena’s negative impact on traffic could reduce “economic production” in the Lower Duwamish area by 10%.

5. Failure to account for impact on highly competitive businesses with small profit margins.

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60. The commentator provides a speculative “what-if” scenario on a higher cost as well as the profit margin of the industrial businesses in the area.

With respect to higher costs, a general comment can be made. Based on the current traffic impacts, the total direct costs to businesses moving product through the study area is in the range of \$150,000 as a result of the arena. According to InfoUSA, there were 4,700 businesses in 2011 with, excluding Starbucks, approximately \$1.4 billion in total economic activity in the Study area. Industrial businesses make up approximately 275 businesses with \$483 million of this activity. As noted the projected traffic cost is spread to all businesses moving product in the area. The estimate direct cost would represent 0.03% the industrial activity.

Certain industrial businesses may have slim profit margins, but without a detailed survey it is not clear how the estimated impacts compare to that profit margin. The traffic cost impacts identified are being spread across a number of businesses. If a \$10 million business were operating at a 1% profit margin, and they were impacted by the 5% of the traffic costs (i.e. they owned 1 out of 20 delayed trucks) this cost would amount to \$7,500 per year and would reduce their profit from \$100,000 to \$92,500, (e.g. their margin would decrease from 1% to 0.925%). If the impacted business is a \$100 million business running a 1% profit margin this cost would reduce their profit margin from \$1 million to \$992,500, (e.g. 1% to 0.9925%).

At this level of impact and without evidence to show that there is a concentration of truck impacts to a particular business it seems unrealistic to provide an estimate for marginal businesses.

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The EIR completely ignores the costs at the margin on the Port and the producers who ship to and from the Port. These costs could be potentially in the vicinity of hundreds of millions of dollars. The concept is this: if an enterprise in a competitive industry is burdened by 1% higher costs while its profit margin is 1%, the costs are not just the 1% but the full economic impact of closing the business. The additional and cumulative traffic that the Arena will spawn will lower the utilization rate of the port leading to some combination of layoffs or less volume over which to spread costs forcing lower profitability and/or higher pricing making the port overall less competitive. Will the additional costs put NW growers at a competitive disadvantage or put marginal producers out of business impacting employment? Will the additional costs/traffic uncertainties borne by shippers using the port and/or the Port put Seattle at a competitive disadvantage versus Tacoma or Prince Rupert (BC) leading to snowballing competitive disadvantage, layoffs, etc. (Traffic uncertainty is as much a potential competitive disadvantage as cost.) Will delays lead to spoilage issues? The EIS appears to ignore or overlook these impacts.

6. Failure to account for impacts on public safety and traffic infrastructure, or the potential expense of dealing with these.

The EIR fails to address the potential for significant additional costs to the city including, particularly additional costs of required traffic infrastructure (to maintain or improve existing conditions) and public safety. As to public safety, the MOU states that the additional costs for public safety will be covered by Arena Co for events. But it fails to identify or define these costs. The fully loaded costs could reasonably be more than double the direct costs (administrative support, capital costs, benefits, etc.) Costs to the City, in fact, could be in the \$10-\$50 million range. Unless this is clarified, the public safety support could cost the city scores of millions. In addition, the EIS appears to ignore the costs associated with the additional traffic management and public safety that must accompany a facility being used by thousands of Arena-bound cars 190 days a year.

As to future infrastructure costs, first assume the City seeks to improve or at least not degrade existing traffic and congestion conditions. Given this reasonable assumption, the EIS overlooks that the Arena MOU does *not* provide for reimbursement of these

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61. The Economic Impact Analysis responds to the analysis requested as part of the MOU to estimate the economic and fiscal benefits generated by the proposed Arena and evaluate potential impacts of the arena on the Port of Seattle. See analysis included as Appendix F to the FEIS.

61

costs. While the MOU diverts \$40 million of tax revenues to the SODO Infrastructure Fund, there is no analysis in the EIS suggesting that this would be sufficient immediately or over time to maintain existing conditions or to improve people and freight mobility across the spectrum of vehicles. It should include the cost of an E-W pedestrian or car/truck overpass on S. Holgate St. or Lander St. It should include the extent to which extensive pedestrian bridges and “holding areas” for the thousands of pedestrians who will arrive to or leave the Arena on the south side and need to cross the seven active railroad tracks. The analysis should also look at the impact of the Arena at the margin to future infrastructure investment requirements. Will the Arena’s impact in addition to ongoing and ordinary regional growth tip the balance at the margin to require additional investment? And, if so, what would be the magnitude and urgency? Regrettably, the EIR totally fails to assume that, to maintain status quo conditions, infrastructure improvements will need to be made.

The Arena could accelerate the need for additional infrastructure investment increasing the present value of those costs. Traffic issues can, of course be mitigated with expensive infrastructure investment. There would be zero or limited traffic impact on the Port of the Arena and other traffic increases if \$Billions were to be spent on additional traffic lanes and overpasses. The impact would be reduced if scores of millions were spent on less extensive improvements. Some of this investment may be necessary even without the Arena but the traffic impact of the Arena would accelerate the need. The present value of a 2013 dollar spent on infrastructure in 5 years instead of 10 years is about \$0.18. This means that the City faces additional infrastructure costs due to traffic of \$50 million, the increase in the present value of those costs would be about \$10 million. If the city more extensively addresses the traffic problems at a cost of \$1 Billion, the present value of the accelerated costs could reach to \$200 million.

7. The EIR’s financial projection of a net positive economic impact erroneously assumes the Arena itself will generate local taxes. It will not.

The Arena MOU specifies diversion of nearly 100% of Arena related tax revenues to service the debt that the City and County would incur to co-finance the Arena. Depending

61
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62. Tax Revenues

Pro Forma Advisors projected tax impacts generated by the construction and operation of the Arena. These revenues are new/incremental (i.e. generated as a direct result of building and operating the Arena). Our report identifies the tax revenues earmarked to pay down debt service (outlined and consistent with the MOU). The focus of the economic report was the tax revenues used to pay debt service. For reference, we have also highlighted additional tax revenues generated from Arena construction (\$33.3M) and annual operations (\$1.9M) which will not be used for debt service and are expected to flow to other taxing districts.

Business Risk

Based on an independent analysis of the market, Pro Forma Advisors has estimated direct revenues and expenses associated with the Project. Financing and risk tolerance are in the purview of the issuing agencies. Note that a separate study by Justin Marlowe and the Arena Proposal Expert Review Panel drew the conclusion that the “risk-sharing arrangement outlined in the MOU is one of the most favorable to the public of any recent public-private partnership. No public-private partnership is risk-free, but the proposed arrangement protects taxpayers in ways that many other partnerships have not.”

As outlined in Pro Forma Advisors report, it is expected that the proponent will need to provide additional rent to the City and County. Operating projections appear sufficient to cover the additional debt service.

Tax Revenues

In addition to the direct tax impacts associated with the MOU, Pro Forma Advisors estimated the additional tax revenues expected to be generated as a direct result of constructing and operating the Arena. The report identifies the tax revenues used to service debt while also summarizing additional tax benefits (generated from Arena construction and annual operations) that are expected to flow to other taxing districts.

62

on the success of the franchise, no incremental revenues are likely to flow to the City and County available for anything beyond Stadium improvements and debt service for at least 20 years, perhaps longer.

Rather than acknowledge this fact, the EIR states that \$7.97 million in taxes will be “available annually to support the debt service on the arena. EIR, at xi; EIR Exhibit ES-5 (pg. xiii); Exhibit F-3, at 32. But, as obliquely conceded in the EIR, the MOU requires these tax revenues generated by the Arena to be used to service the public indebtedness and that, in fact, WSA will be required to contribute about \$5-6 million in “additional rent” to the City and County to pay off this indebtedness. EIR, at 32. The EIR must consider the extent to which this WSA-made guarantee presents a quantifiable business risk and to what extent it reduces the Arena’s projected net economic return.

Similarly, the EIR states that the Arena will generate \$1.6 million a year and \$27.3 million over a 30 year period in property taxes. EIR, at 34 (Ex. 7). But this ignores that, under the MOU, Seattle will own both the land and the arena building and, consequently, this real estate will not be on the City’s tax rolls. Although Seattle will own the building and land, the EIR projects that Seattle and King County will receive in real estate taxes \$1,281,368 and \$596,000. EIR, at xiii. The EIR also assumes an Arena admissions tax will generate \$4.8 million annually and \$83.8 million over a 30 year period. EIR, at 33 (Ex. F-4). But under the MOU (§ 13 b., 13 d.), all “arena tax revenues,” including admissions taxes, will be diverted to pay for debt service. Accordingly, it is wrong and, worse, deceptive for the EIR to imply that these taxes will benefit Seattle’s general fund. The same can be said about the EIR’s claim that Seattle will receive \$940,000 a year through the B&O tax. EIR, at 33 (Ex. F-5). The same applies with respect to sales taxes. Seattle will not receive \$181,000 a year (\$3,299,000 over 30 years) in sales taxes.

The EIR’s tax analysis is economically incorrect and is systematically mischaracterized, most significantly in the conclusion. The net tax benefit, in present value terms, is probably nominal and in no defensible analysis is it greater than \$200 million as characterized in the EIR. Even using ArenaCo’s own data, no tax revenues will be available

to the city for at least 20 years. Since any net benefits are in the distant future, their impact is significantly reduced by the time value of money.

The proponents of the Arena argue that the incremental revenues are akin to “found money” so the diversion of revenues are not material. They miss two important points that the EIR fails to analyze or mention. First, the Arena will cost the City and County money. City schools, public safety, parks, administration, infrastructure and other services for most employees in the City are funded primarily by taxes paid by those employees and taxes paid by the employers. This is not the case for employees of the Arena and its Sports teams. Depending on the assumption set used, either city services will need to be cut or tax payers without the tax benefits accrued to the Arena and its sports franchises will have to pay scores of millions in incremental taxes. Second, the “found money” logic can be applied to justify government subsidy of any private activity. For example, why not co-finance an Amazon building or operation on the justification that, without this building, there would be no tax revenues anyway? The concept that the users of the arena will be financing it is nonsense; this argument ignores that tax revenues that ordinarily would go to the general fund are being diverted

The MOU states that the City will be reimbursed for its incremental public safety costs at events. But it does not say that the City will be compensated for the fully loaded costs including (but not limited to): benefits, capital investment associated with staffing levels, administration, etc. These costs add up to increase the cost to the City of \$1.00 spent on direct compensation to roughly 2.5 times what is paid directly. If 50 additional personnel are hired for 5 hours for 100 events per year (NBA, NHL, other), the City will be out of pocket about \$400,000 per year or \$12 million 2013 dollars (closer to \$16 to \$20 million with inflation).

In addition, there is a substantial tax equity issue, again completely omitted from the EIR and EIS. The Arena and NBA would be getting tax benefits for its new venture that no other business in town is getting. If a citizen wanted to invest \$5 million in a marginal enterprise that would be an exciting investment if the City funded \$2 million of the capital

costs to be paid for by the tax revenues of the enterprise, that citizen would not be afforded the same opportunity as the NBA. If all new ventures were afforded the same opportunity as the NBA, existing businesses would have to either pay higher taxes or services would need to be cut.

8. The EIR's uses the wrong discount for measuring "substitution impact."

The "substitution effect" is the amount by which monies spent on arena events would be spent elsewhere for other types of spectator sport or leisure activities. Thus, the substitution effect lowers the amount of revenue that the Arena is projected to yield to the city and regional economy.

The EIR alleges modest substitution effects but does not justify its novel projections or state a reason for ignoring applicable research. The EIR assumes a "substitution impact" of between 10-20% (EIR, at xviii; 50-51) and concludes that the Arena's "gross impacts" need only to be reduced by \$27.1 to 82.4 million annually. EIR, at ix. The "substitution effect" is the amount by which monies spent on arena events would be spent elsewhere for other types of spectator sport or leisure activities (or other spending alternatives in general).

The EIR's 10-20% substitution effect figure is wrong for several reasons. First, the literature pertaining to professional sports stadia and arenas reflects that 10-20% is extremely low for the substitution effect of a professional sports stadium or arena. See discussion below. Second, the "substitution impact" figure relative to the loss of the 35-40 events (which produce \$3.2-3.7 million) at Key Arena reflects only the dollar amount of events "lost" at that venue. This estimate completely fails to account for the impact these lost events will have on Key Arena itself, a facility already owned by Seattle.

There are an overwhelming number of academic studies that show little or no economic benefits of sport facility subsidization. Many of these studies point to *extremely high substitution effects*. The substitution effect argues that "as sport- and stadium-related activities increase, other spending declines because people substitute spending on sports for other spending" (Coats & Humphreys, 2004). Two particularly helpful compilations of

62

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63. Substitution Effect

As outlined in Pro Forma's report, a substitution effect was estimated specifically for the report's market and study jurisdictions (e.g. City of Seattle, King County). There is a component of spending at the proposed new Arena deemed to be a shift from "existing" local entertainment options/venues to the new Arena ("Substitution"). Pro Forma Advisors has accounted for this redistribution and has removed the relevant amounts from the gross impacts. When evaluating the potential impacts to the Seattle market, we considered applicable literature and integrated relevant data into our analysis as appropriate. However, because of critical differences in the literature studies and underlying projects, general "conclusions" of both positive and negative studies cannot be generically applied to the study project.

In deriving our projections, we were cautious to not include data which was inconsistent with the case in question and/or included variables that would prove misleading if applied in the study context. Where possible we relied on data specific to the Seattle market and the report's specific study jurisdictions. The analysis was able to use specific Seattle data from before and after the Sonics exited the market and applying the inverse relationship of this departure as an indicator of the impact regarding re-entrance/re-introduction of a team back into the market. We believe this along with data on spending behaviors, market factors, geography and other economic factors provided credible and realistic indicators from which to project the relevant impacts.

63

such literature are: <http://www.fieldofschemes.com/research/>;
<http://thesportdigest.com/archive/article/economic-impact-sports-facilities>.

Attachments 3, 4. These commentators conclude that the substitution effect “discount” may even be as high as 100%.

The EIR also ignores extensive peer-reviewed published research that publically-subsidized stadia and arenas rarely generate net positive returns to their communities. Nowhere, for example, does the EIR acknowledge the extensive research conducted by Harvard Professor Judith Long. Attachments 16, 17, 18, 19.

The bottom line is that not all of the spending resulting from the construction of the new facility is new spending. When ignoring the substitution effect, many believe that the economic value of the facility is vastly overstated (Coats & Humphreys, 2004). Attachment 3. Opponents also argue that the multiplier for sports spending is often substantially less than the multiplier on other entertainment spending. Most of the revenues generated from sports are used to pay players, managers, coaches and trainers. Unlike the employees of local restaurants, theaters and stores, many of these players, managers, coaches and trainers do not even live in the city full time. Therefore, these large salaries are spread into other city and state economies (Coats & Humphreys, 2003). Attachment 4 .

The substitution effect for spending on athletic events is very high, approaching 100% in some studies. The only meaningful incremental spending to the city are those dollars spent by visitors who would not otherwise be visiting the city, a sliver more than offset by negative effects. The economic impact of spending on athletic events has less impact on the local economy than many of the activities that are being displaced. i.e \$1.00 spent on an NBA event does far less good to the community than \$1.00 spent on the activities it is displacing. The majority of the direct funds that are spent on attending an NBA event do not stay or recirculate in Seattle. Rather they flow to federal taxes, debt service, distant communities and investments.

Taken together, the economic impact of the facility on the region is somewhere between negative and neutral depending on the assumptions used rather than the absurd \$260 million per year with earnings of \$103 million alleged in the EIR.

Two thirds of the economic impact of the Arena outlined in the EIR stems from operations. But far less than half of this money flows to our community in any way. One piece of the impact, about \$11 million per year pays for debt service on debt that would not otherwise be obligated. The vast majority of the revenues from the franchise will go to player and senior management salaries as well as owner profits. 30-40% of their salaries and earnings go to federal taxes and out of the community. None of that income and few of those earnings are taxed by the state as we have no income tax. The majority of the players and management live either in suburban Seattle or in other, more distant cities where they spend their money. Even the money they spend in any community is limited. The owners have sufficient wealth that their consumption of goods and services is not impacted by profits. The players whose lifetime earning potential is concentrated in a few years save and invest the majority of their aggregate salaries rather than spending them.

The EIR conclusion of limited substitution effect is not supported by the empirical evidence. The substitution effect is high for a variety of reasons. The most obvious is that consumers have limited entertainment dollars. When they spend on the NBA, they spend less elsewhere. But traffic is also a serious issue. When there is an NBA event clogging the highways, consumers are less likely to travel to downtown through downtown to shop, dine, or attend other events. They either stay at home or shop locally. Game-day traffic impacts all downtown businesses, particularly Pioneer Square. A good example of this is the Seattle Planning Commission's own report, dated July 27, 2012. Attachment _____. This report states:

The EIR does not document its rationale for the range of substitution effects that it uses. Nor does it address the considerable body of research that demonstrates that the substitution effect is greater than they project.

The substitution effect specifically at Key Arena (owned by the City) and its neighborhood is not addressed at all. While the project would undoubtedly enrich some

businesses, it will impoverish others. A quick Google or Bing search will yield numerous articles and papers that expand upon and corroborate the simple statements above. One good one that cites other research as well is from the *Journal of Economic Perspectives* --- Vol. 14, number 3 pages 95-114. <http://www.uwlax.edu/faculty/anderson/micro-principles/stadiums.pdf/> Attachment 6. This scholarly article argues that the economic contributions of major sports arenas to city economies can be **zero**:

Few fields of empirical economic research offer virtual unanimity of findings. Yet, independent work on the economic impact of stadiums and arenas has uniformly found that there is no statistically significant positive correlation between sports facility construction and economic development (Baade and Dye, 1990; Baim, 1992; Rosentraub, 1994; Baade, 1996; Noll and Zimbalist, 1997; Waldon, 1997; Coates and Humphreys, 1999). These results stand in distinct contrast to the promotional studies that are typically done by consulting firms under the hire of teams or local chambers of commerce supporting facility development. Typically, such promotional studies project future impact and almost inevitably adopt unrealistic assumptions regarding local value added, new spending, and associated multipliers. They often use a regional input-output model that depends on outdated technical coefficients which are treated as invariant to shifts in supply and demand (Center for Economic and Management Research, 1991; Deloitte & Touche, 1994, 1996; KPMG, 1996; Economic Research Associates, 1996; KPMG, 1998; C.H. Johnson Consulting, 1999).

The academic work on the economic impact of sports facilities and teams does not rely upon projection. Rather, it compares the local economic performance of areas with and without stadiums, arenas, and teams, controlling for other variables that affect local economic conditions. Among cross-section studies, for example, Baade (1994) found no significant difference in personal income growth from 1958 to 1987 between 36 metropolitan areas that hosted a team in one of the four premier professional sports leagues and 12 otherwise comparable areas that did not. Looking at 46 cities over the 1990-94 period, Waldon (1997) found that higher high school graduation rates and more spending on police are what encouraged economic growth, while the presence of a major league sports team actually put a drag on the local economy. Both Baade and Waldon controlled for other factors affecting underlying trends in economic growth. Time series studies confirm the cross-section results. Baade and Sanderson (1997), for example, found no perceptible net increase in economic activity or employment in 10 cities that acquired new sports teams between 1958 and 1993 after factoring out other economic trends affecting each area. They did observe a reordering of leisure expenditures within the cities that acquired new teams, but there was no evidence that the new sports teams brought output or employment growth to the local area. A more recent study, by Coates and Humphreys (1999), finds that new stadiums and sports teams actually reduce per capita income in the host communities. This result is consistent with a higher (negative) multiplier for the displaced leisure expenditures than for the expenditures on a new team or in a new stadium because the latter likely involve substantial leakages from the local economy to the remote residential locations of some players and team owners. The conclusion that sports teams and facilities do not stimulate economic growth is surprising to many people. With live telecasting of games, daily coverage on television news and in the sports sections of newspapers, professional sports play a huge role in U.S. culture. Yet sports teams are small businesses. Yearly average team revenues in 1999 are around \$55 million in the NHL, \$75 million in the NBA, \$85 million in MLB and \$100 million in the NFL. For a medium-size city like St. Louis, the baseball team accounts for less than 0.3 percent of local economic activity; for a large city like New York, a baseball team contributes less than 0.03 percent of economic output. Sports teams typically employ between 70 and 130 people in their front offices. Beyond this, they hire approximately 1000-1500 day-of-game personnel who work in unskilled, low wage, temporary, part-time jobs. An NFL team is assured of playing 10 home games a year (including preseason games). At four hours of work per game, an NFL team provides day-of-game employment for the equivalent of 20 to 30 full-time, year-round jobs. As we shall see, however, it is problematic to attribute even these jobs to the sports team. Of course, the controversy about the economic impact of professional sports teams on their local economy is not just about the teams themselves, but also about how specific local restaurants, hotels, and other businesses might be affected. However, even if one assumes, optimistically, that on average people spend as much outside the sports facility as they do inside, the economic impact of sports teams in proportion to a typical metropolitan economy is diminutive. Apart from their relatively small size, there are three key reasons why professional sports teams do not promote economic development: the substitution effect; extensive

leakages; and the likely negative effect on local government budgets. The analysis of these three effects that follows describes the situation when a team or a facility is new to an area. Of course, in many cases the choice is whether or not to build a facility for a team that is already there. In such a case the incremental consumer surplus, external benefits or new spending will be considerably less. From the city's perspective, however, the opportunity cost of not building a facility with public funds may be perceived to be the loss of the team and all of its attendant benefits.

The Substitution Effect

The vast majority of consumers has a relatively inflexible leisure budget. If a sports team moves to town, the money one spends taking a family to a game typically is money that is not spent at a local bowling alley, golf course, restaurant or theater. The net effect on spending in the metropolitan area then is zero, or very close to zero. While sports teams may rearrange the spending and economic activity in an urban area, they are not likely to add much to it. An important exception to this reasoning occurs when sports teams attract new money into an area. If it were true, as the Boston Red Sox claim, that 35 percent of the fans at a typical game in Fenway Park came from out of state, then each game would bring tens of thousands of dollars of new demand to the Boston metropolitan area.⁵ Several qualifiers should be noted, however. First, the experience of major league teams in the various sports suggests that the general range of fans from "out of the area" is from 5 to 20 percent (Noll and Zimbalist, 1997a, chs. 2, 15; Crompton, 1995). Of course, this range depends on how one defines "the area." A strict definition of urban limits and, hence, a smaller radius around the stadium or arena, implies a larger percentage from outside the area. A combined metropolitan statistical area which includes several counties implies a smaller proportion of fans from outside the area. Thus, the smaller the radius, the greater the amount of "new spending." Conceptually, the benefit principle of taxation would imply that the delineated area should coincide with the tax jurisdiction that supports the construction and operation of the facility.⁶ Second, there is considerable evidence that out-of-state fans at most sporting events do not come to town because of the game. Rather, they are in town for business reasons, to see family or for other leisure activities. If they were not at the game, they would spend their money on other entertainment in the same city. Hence, their disbursements in and around the ballpark substitute for other local spending. Further, they may be guests of a local business or family who pays for the tickets and concessions, in which case there also is no new money attracted from outside of the area (Noll and Zimbalist, 1997b). Some stadium proponents have also argued that the local sports team attracts visiting media personnel from other cities. This, of course, is as true for journalists as it is for television or radio reporters and team members themselves. But there is no net contribution here, because the inflow is offset by a similar outflow of team members and media personnel when the local team plays away games. Finally, in addition to attracting some new spending from out-of-state fans coming to ball games, professional sports teams also receive distributions of national television contracts and other funds from their central league office. To the extent that these funds remain in the local economy, additional new local demand may be attributed to a sports team. As we shall see in the next section, however, certain substantial leakages retard this effect.

Leakages and the Multiplier

Approximately 55 to 60 percent of NHL, NBA, NFL and MLB team revenues go to player compensation. With some variation according to league payroll cap rules, when team revenues rise by \$10 to \$50 million after moving to new facilities, the majority of the added revenue goes to the players. The remaining 40 to 45 percent goes to the owners and to help defray additional costs, if any, associated with the new facility. The impact of this spending on local economies depends on how much of it is re-spent locally and how much leaks out to other areas. First, with average incomes well over \$1 million, most players and owners face the top federal marginal tax rate (39.6 percent), plus an additional 1.45 percent Medicare tax. Thus, over 40 percent of their incremental income leaks directly from the local economy to Washington, D.C. Second, high incomes also lead to higher savings rates, especially for the players, whose incomes are sensibly viewed as transitory. Most of these savings leak out of the local economy and into the world's money markets. Third, more often than not, players do not live year-round in the local community, and frequently owners do not either. Their families and principal homes are elsewhere. Even if they do live locally, their high incomes often lead to extensive travel and multiple home ownership. Thus, a large share of their spending takes place outside of the team's host city. Fourth, prices for food items at a ballpark or arena are considerably higher than at alternative retail establishments, and a large part of this price differential is siphoned off by the facility concessionaire company, which more often than not is based elsewhere. Contrast these leakages from sports expenditures to those which might occur if the entertainment dollar were spent at locally-owned

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64. Substitution Effect

As outlined in Pro Forma's report, a substitution effect was estimated specifically for the report's market and study jurisdictions (e.g. City of Seattle, King County). There is a component of spending at the proposed new Arena deemed to be a shift from "existing" local entertainment options/venues to the new Arena ("Substitution"). Pro Forma Advisors has accounted for this redistribution and has removed the relevant amounts from the gross impacts. When evaluating the potential impacts to the Seattle market, we considered applicable literature and integrated relevant data into our analysis as appropriate. However, because of critical differences in the literature studies and underlying projects, general "conclusions" of both positive and negative studies cannot be generically applied to the study project.

In deriving our projections, we were cautious to not include data which was inconsistent with the case in question and/or included variables that would prove misleading if applied in the study context. Where possible we relied on data specific to the Seattle market and the report's specific study jurisdictions. The analysis was able to use specific Seattle data from before and after the Sonics exited the market and applying the inverse relationship of this departure as an indicator of the impact regarding re-entrance/re-introduction of a team back into the market. We believe this along with data on spending behaviors, market factors, geography and other economic factors provided credible and realistic indicators from which to project the relevant impacts.

65. Leakage

Pro Forma Advisors has accounted for leakage. We have adjusted for revenues expected to leave the City of Seattle and King County due to leakage. We are aware of the expected revenue streams from national league distributions and have appropriately adjusted for the impact.

We recognize that a significant share of players' salaries may be spent outside of the City of Seattle and King County and the analysis was adjusted to account for this non-local spending. Only 15 to 20 percent of players' salaries have been included in the direct impact.

The direct impacts were adjusted downward from \$244 million to \$157 million (Seattle) and \$171.8 (King County) to account for this non-local spending.

Multiplier

Multipliers are used to estimate the indirect and induced impacts. It should be noted that multipliers are applied to projected local expenditures, not total revenues. As described in the Methodology section, local expenditures exclude

businesses, such as bowling alleys, golf clubs or restaurants. The proprietor of such businesses likely faces a lower marginal tax rate than either owners or players, has a lower saving rate, and does the bulk of his or her spending in the local metropolitan area. To derive the multiplier for sporting events, we combine the concepts of new spending and leakages to derive: sports multiplier $5 \frac{1}{1 - MPC - t}$, where MPC is the marginal propensity to consume, MPI is the marginal propensity to import goods into the local economy (rather than produce and consume them locally), and t is the marginal tax rate. Using reasonable illustrative values of two-thirds for the marginal propensity to consume, one-half for the marginal propensity to import (that is, to spend outside the local area), and 0.4 as the marginal tax rate implies a sports multiplier of 1.25. To calculate the positive impact of new sports expenditures on the overall local economy, whether inside or outside of the sports facility, the sports multiplier must then be multiplied by the local net value added to the local economy resulting from any new local spending due to the sports team. The overall effect of a sports team on its local economy, however, depends both on a rearrangement of entertainment spending within the local area as well as on new spending attracted from outside that area. Thus, to derive the overall net effect of a sports team on a local area, it is necessary also to balance the contraction in the local economy caused by the diversion of spending from alternative local entertainment venues (the opportunity cost of local sports spending) against the expansion generated by the reallocated local spending on sports. The reallocated spending times the sports multiplier constitutes the team's positive contribution to the local economy from rearranging local spending. The reallocated spending times an analogous locally-owned entertainment venue multiplier reflects the sports team's internal drain on the local economy from rearranging local spending. The difference between them must be added to the net effect from new spending to derive the overall net effect on local economic activity. For instance, consider an average baseball team with revenue of \$85 million. Approximately \$15 million of this comes to the team from MLB's Central Fund and is "new" to the local economy. Of the remaining \$70 million in revenues, assume that \$10 million (14.3 percent) comes from fans who reside "outside of the area." Thus, the total of new spending is \$25 million. If half of this is the local value added from such spending, then the impact of new sports spending equals $(\$12.5 \text{ million})(1.25) = \15.625 million . Further suppose that for spending at locally-owned entertainment venues, the appropriate marginal propensity to consume is .8, the marginal propensity to import is .35 and the marginal tax rate is .35. Then, the locally-owned entertainment venue multiplier is 1.51, in contrast to the sports multiplier of 1.25. If new spending is \$25 million, the remaining \$60 million of team revenue must be reallocated local spending. Applying the two multipliers to this \$60 million, we find that the foregone output generated by money that would have been spent at locally owned entertainment venues is \$90.6 million and the actual output generated by diverting the spending to the professional sports team venues is \$75 million. The difference of \$15.6 million must then be subtracted from the positive impact of new sports spending (\$15.625 million) to arrive at the estimated overall net impact of the sports team. Employing what appear to be reasonable parameter values, the net effect on output from the sports team is estimated to be virtually zero.

The next draft of the EIR must, to maintain any credibility, adjust its projections with this literature in mind.

9. Failure to address tax equity.

The EIS fails to address the tax equity issue in any form. Essentially, the EIR assumes that, because the Arena will be generating incremental tax revenue that the City would not otherwise take in, the City is not "subsidizing" the Arena and, consequently, it poses no negative cost to the city. Aside from the financial risk of the endeavor, its indirect costs, and the fact tax revenues are being used to finance the Arena's debt service, this argument raises a significant tax equity issue: any new or growing enterprise in the City could make the same argument. For example, Amazon could ask for the same tax diversion to help fund new facilities. To be equitable, small businesses could ask for similar treatment. The

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taxes and licenses as well as rent and lease payments, debt service. It only includes projected local management and other staff spending and purchases made from the local area. Total expenses were in the range of \$193 million, but the local purchases that the multipliers are applied to are approximately \$42 million (Seattle) and \$67 million (King County).

Further multipliers, are calculated to account for the "higher" or "lower" re-spending of dollars within an economy by each industry and their eventual leakage outside of the area.

The analysis also applies multipliers to the estimates of displaced business from substitution and traffic delay costs.

By specifically accounting for direct local expenditures and using multipliers for both the arena impacts and displaced businesses, the analysis accounts for differentials in multiplier between arena impacts and displaced business impacts.

New Money

Pro Forma Advisors' data on new spending is based on actual tracking by other local sports teams and teams in comparable markets. We are aware of league/central office revenues and have integrated this revenue stream into our impacts (including updating estimates for projected growth factors).

Certain conclusions are overly broad and/or the general parameters identified are not applicable. We comfortable that our estimates properly reflect the related local and out of area impacts

66. Tax Revenues

Pro Forma Advisors projected tax impacts generated by the construction and operation of the Arena. These revenues are new/incremental (i.e. generated as a direct result of building and operating the Arena). Our report identifies the tax revenues earmarked to pay down debt service (outlined and consistent with the MOU). The focus of the economic report was the tax revenues used to pay debt service. For reference, we have also highlighted additional tax revenues generated from Arena construction (\$33.3M) and annual operations (\$1.9M) which will not be used for debt service and are expected to flow to other taxing districts.

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EIS needs to clearly state that this is inequitable. The alternative, of course, would be to offer a similar benefit to any new or expanding business. This would shift a growing tax burden to established businesses putting them at an unfair competitive disadvantage.

10. Failure to consider the extent to which the Arena catalyzes gentrification of SODO through higher property values and rents. How will this affect “living wage” jobs in the long-term?

The EIR acknowledges that the nearby area in SODO has been under tremendous gentrification pressure, rents have risen, and that such changes will occur regardless of the Arena. EIR, at xxix. Basically, downtown is moving southward to SODO. EIR, at 107. Developers are poised to pounce on SODO and convert it to higher and better uses. EIR, at 116. It also admits that the Arena will generally increase property values and leasing rates. EIR, at 106-07.

The EIR chooses to “blame” the upward-creeping rents and property values on the “economics of Seattle as a whole” as opposed to the new stadium. EIR, at 109. But these conclusions appear to be based on anecdotal, undocumented interviews with commercial real estate brokers rather than a scientific survey of gentrification of industrial areas. The EIR’s conclusion that the sports facilities in SODO do not exacerbate loss of industrial lands is off-base. First, it is undermined that the key to the industrial land base is “cheaper rents,” as acknowledged in the EIR, at 109. But, as the Arena promoters concede in public statements, the Arena will be accompanied by substantial real estate development in the adjacent area, such as an L.A.-Live-like development. Yet the EIR makes no attempt whatsoever to quantify the effect on the economy, living-wage jobs of this real estate transformation. Clearly, this L.A. Live-like development will drive up rents. What, for example, happens when a mixed-use industrial area with a strong emphasis on freight mobility and shipping converts to higher-rent spectator sports facilities, entertainment, offices, restaurants, and retail? Who loses jobs? Who gains them? Who makes the money? Who loses money?

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67. See Common Response #12 Gentrification.

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Nor can the authors of the EIR avoid addressing the impact of rising land values and rents by claiming “these things are going to happen anyway regardless of the arena.” This logic is wrong for several reasons. First, the “impacts” of a project are not “just” measured in terms of their direct impact but, additionally, in terms of their indirect and cumulative impact. Thus, to the extent a SODO arena facilitates or hastens the conversion of an industrial area to more expensive land uses characterized by higher property values and rents, the arena is having a cumulative impact on land uses. Second, proposed projects are not, and should not be, acceptable merely because existing conditions are bad. Consider this example: just because China continues to insist on burning coal to maintain its rate of growth and economic productivity does not, of course, mean that the United States should not work to reduce its combustion of coal. Just because an animal species is in a rapid rate of decline does not mean that the law or sound public policy should not protect the remaining portion of the species’ habitat? Simply put, just because traffic is already congested in SODO and because this is a detriment to the Port’s operation does not mean we should make the situation worse by adding 5-6000 cars during evening (or even morning) rush hour 190 days/year. The EIR needs to be re-written to better-analyze the **cumulative** local and regional economic impact of the arena on freight mobility and Seattle’s transportation system.

11. The EIR’s extensive discussion on the viability of the Arena is irrelevant.

The EIR devotes much space to analyzing secondary items such as the economic viability of the NBA to the team itself. It observes, for example, that “Seattle is a highly appealing market that we believe can support additional sports teams.” EIR, at xi. But whether the Arena is commercially viable (even with its public subsidy) is irrelevant, and should be irrelevant, to the City and County’s analysis of the arena’s net economic impact on the local and regional economy.

12. The EIR fails to analyze the potential negative impact on the Seattle Center and Key Arena of a competitive SODO-based Arena.

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68. Comment noted.

69. It is expected that the proposed SoDo arena will compete with KeyArena for certain events and possibly tenants. Pro Forma has estimated the anticipated shift in current events to the proposed SoDo arena but due to multiple issues and variables (e.g. cost, scheduling conflicts, etc.) it is not possible to determine the KeyArena’s viability or profitability.

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The EIR readily concedes that the Seattle Center is one of the main attractions for visitors to the Seattle area and features a diverse assortment of businesses that serve it, including hotels, restaurants, and commercial spaces. EIR, at 137-38. It also concedes that the NBA games at Key Arena “buoyed” retail lease rates and the departure of the Sonics “had a negative impact on retail lease rates.” EIR, at 139.

But that is as far as the EIR goes relative to the impact a SODO arena will have on the Key Arena or Seattle Center. Totally **unaddressed** are crucial issues such as these:

- Will the SODO arena compete with and eventually render Key Arena an unviable and unprofitable facility? If so, to what extent monetarily?
- Can Key Arena be “re-purposed” to remain commercially viable after the SODO arena is constructed? If so, how much will that cost and who is likely to bear that expense?
- What are the economic impacts on the City of Seattle, which owns the Key Arena and the Seattle Center, when arena business moves to SODO?
- What are the economic impacts on the hundreds of employees who work at the Seattle Center and Key Arena?
- What are the economic impacts on the Queen Anne business community if Key Arena continues to lose business to a SODO Arena or, in the worst case analysis, Key Arena shuts down?
- What are the economic implications for Seattle taxpayers in terms of subsidies required to maintain the Seattle Center without a viable Key Arena?

These issues must be addressed in a final EIR.

In its report dated July 27, 2012, the Seattle Planning Commission (Attachment 29) pointed out that a new SODO Arena could lead threaten Key Arena and the Seattle Center.

Impacts of Potential Competition with KeyArena

A new state-of-the-art arena may draw some of the events that would otherwise be scheduled at the KeyArena; it is unknown how this would impact the overall health and welfare of Seattle Center. As for

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70. Pro Forma is not able to address the possibility of repurposing KeyArena.

71. Pro Forma Advisors has projected the economic impact of the proposed new arena in SoDo.

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the question of Seattle Center as a possible location for a rebuilt arena, from a land-use perspective directing public and private investments and infrastructure to the Seattle Center and surrounding neighborhood, which is within a regionally-designated Urban Center, is significantly different from doing so in a MIC. For instance, investing in the neighborhoods surrounding Seattle Center to improve services that accommodate the patrons of large events, including dining and drinking establishments as well as pedestrian thoroughfares, helps further neighborhood planning goals for this area.

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The final EIR must consider the Arena's potential economic impact on Key Arena and Seattle Center.

Respectfully submitted this 30th day of September, 2013.



Peter Goldman
Attorney at Law
Attorney for ILWU Local 19

Attachments: a DVD containing 39 documents that are cited in this document. (Note: this DVD was hand-delivered to John Shaw at 700 Fifth Ave., Suite 2000).



September 30, 2013

Attn: John Shaw, Senior Transportation Planner
City of Seattle
Department of Planning and Development
700 5th Avenue, Suite 2000
PO Box 34019
Seattle, Washington 98104-4019

MIC
Executive
Committee

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MacMillan-Piper
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Warren Aakervik
Ballard Oil
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Johnny Bianchi
B&G Machine

Marc Doan
GM Nameplate

Terry Finn
Burlington Northern
Santa Fe Railway

Kathleen Goodman
AMEC Geomatrix

David Huchthausen
Somerset Properties

Mike Kelly
ASKO Processing

Matt Lyons
NUCOR Steel

Jordan Royer
Pacific Merchant
Shipping Association

Linda Styrk
Port of Seattle

Larry Ward
Pacific Fishermen Shipyard

Elizabeth Warman
The Boeing Company

Re: Draft EIS for SODO Arena

Dear Mr. Shaw:

At the present time, the Draft Environmental Impact Statement cannot assess potential impacts of a SODO arena on freight and related industries because King County and the City of Seattle failed to fulfill or even initiate freight assessments required by the King County Council and the Seattle City Council through their legislation passed in October 2012 to adopt the arena Memorandum of Understanding and Interlocal Agreement.

King County Ordinance 17433 required the King County Executive to file a report with the Clerk of the King County Council by March 15, 2013 regarding potential creation of a heavy haul corridor for truck access to the Port of Seattle. No such report was filed.

The MOU also committed the City of Seattle to initiate a freight strategic effort to help inform the public about SODO and stadium area land use and transportation issues. That freight effort has not yet started.

As the public comment period closes today on the DEIS for the SODO arena, these failures to perform in a timely fashion make it impossible to provide informed input on the DEIS for the proposed arena in SODO or at an alternative location. The DEIS should be tabled at this time and reopened for public review and comment after the City of Seattle and King County fulfill the freight-related requirements of King County Ordinance 17433 and City of Seattle Ordinance 124019.

Sincerely,

Dave Gering, Executive Director
Manufacturing Industrial Council of Seattle

MIC

1. Comment noted regarding King County. In early 2014, the City of Seattle initiated the Freight Access Project (FAP), a partnership between the Seattle Department of Transportation (SDOT) and the Port of Seattle to examine current and future truck freight bottlenecks and problem locations in the Greater Duwamish and Ballard Interbay Northend Manufacturing and Industrial Centers (MICs). The final report was published in January 2015. The City is also developing a Freight Master Plan (FMP) to address the unique characteristics, needs, and impacts of freight mobility and began broad community engagement in October 2014. In addition, SDOT has worked with the Mayor's Office on Heavy Haul Corridor legislation.

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September 30, 2013

Mayor Mike McGinn
City of Seattle
700 5th Ave, Suite 2000
P.O. Box 34019
Seattle, WA 98124-4019

Re: **Comments on the Draft EIS for Proposed Seattle Arena, DPD project #3014195**

Dear Mayor McGinn:

I am writing to comment on the Draft EIS for the proposed Seattle NBA Arena. PMSA represents the container shipping lines, marine terminal operators and agents that serve the West Coast of the United States, including the Port of Seattle. Because our members operate in ports internationally, we are acutely aware of what makes a port competitive for discretionary international cargo and the jobs that cargo represents.

We share many of the concerns that the Seattle Port Commission has described in their September 30, 2013 letter to your office. Specifically, the Draft EIS is not adequate in a number of areas:

1. **It fails to assess negative impacts of the arena proposal to the maritime industry in the Duwamish Manufacturing Industrial Center.** The DEIS acknowledges that the competitive position of the port and maritime businesses could be diminished due to traffic concerns, but the impact is not reasonably quantified and no remedy is specified. The estimated additional impact – 4 minutes per truck – is so narrowly defined that it lacks all credibility.
2. **It fails to adequately assess alternative locations,** including sites outside of Seattle that would not have negative impacts on the port’s facilities and their customers’ ability to attract and grow cargo.
3. **It fails to identify this project as public:** this arena will receive \$200 million in taxpayer financing and, after construction, be owned by the public. One can only surmise that this is an effort to avoid scrutiny that regional public projects usually receive.

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PMSA

1. Comment noted.
2. See Common Response #1 Public vs Private Project; Range of Alternatives.
3. See Common Response #1 Public vs Private Project; Range of Alternatives.


4. **It fails to fully identify transportation mitigation options**, and more concerning, fails to identify necessary funding or demonstrate any remedy whatsoever. Among other things, the city may need new signal timing investments, new highway access and new east-west vehicle and pedestrian overpasses to relieve the additional pressure. There are 17 rail tracks immediately adjacent to the project, including Amtrak's rail yard, where there are serious safety concerns even without an additional arena and entertainment center.

Finally, we would remind leaders at the City of Seattle of the city's own Planning Commission July 27, 2012 report detailing the problems of locating another sports facility in the Duwamish MIC. Their findings are clear:

*"The Commission believes that locating a new major sports and entertainment facility inside the Duwamish Manufacturing and Industrial Center (MIC) holds a strong likelihood of displacing living wage jobs and nearby businesses and disrupting container port operations and freight mobility. We believe these risks are inherent with a spectator sport facility at this location. The Commission recommends that the City not take actions that further place this proven economic asset at risk. At the very least the Commission believes more review and analysis should be conducted **before** the City takes further action."*

We agree with the port and many others that the Draft EIS for the Arena project is inadequate on many levels. The city should consult its own planning department and planning documents, such as the Container Ports Element of the City's Comprehensive Plan before moving forward. Risking family wage manufacturing and maritime jobs needlessly does not appear to be a winning strategy.

Sincerely,



Jordan Royer
Vice President for External Affairs

cc: John Shaw, City of Seattle Senior Transportation Planner
Seattle City Council
King County Executive Dow Constantine
King County Council

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4. See Common Response #6 Mitigation Measures - Traffic.
5. Potential traffic impacts to the Port and surrounding area are analyzed in this EIS. The EIS also includes an analysis of certain potential economic impacts from the proposal, although that analysis is not a basis for determining the adequacy of an EIS.

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Sailors' Union of the Pacific



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September 30, 2013

City of Seattle, Dept. of Planning and Development
Attn: John Shaw, Senior Transportation Planner
700 5th Ave, Suite 2000
P.O. Box 34019
Seattle, WA 98124-4019
Via e-mail: John.Shaw@Seattle.Gov

**Re: Comments on the Draft EIS (DEIS) for Proposed Seattle Arena
DPD project #3014195**

Dear Mr. Shaw:

I am writing on behalf of the men and women of the maritime trades to express our strong concerns about the proposed Seattle sports arena, and to comment on the draft environmental impact statement for the project.

We believe the DEIS fails to provide sufficient information for the City to make informed decisions about locating the proposed arena at the SoDo location. This location would encourage intrusion of incompatible land uses into the industrial area. Action to locate the arena in the industrial area runs counter to numerous city, King County, regional and state policies written to protect manufacturing-industrial centers, and the City's responsibility to create jobs and economic opportunities for all citizens.

The DEIS fails to adequately evaluate potential negative impacts. We believe there are negative impacts that cannot be mitigated, such as incompatible land use, increase traffic congestion and conflicts with rail operations and public safety.

The City also improperly characterizes the sports arena as a private project, even though it depends on \$200 million in public contributions from tax revenues. Had the project been properly characterized as a public project, a far larger set of alternative sites, including some outside the City, would have been considered. These alternative sites could have far less impact on the maritime and industrial sectors.

Sailor's Union of the Pacific

1. The SoDo Arena is proposed to be located within the Stadium Overlay District and is an allowed use pursuant to the Seattle Land Use Code Chapter 23..
2. Comment noted.
3. See Common Response #1 Public vs Private Project; Range of Alternatives.

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The DEIS fails to fully identify the impacts on the port and its vital operations to move commerce and create family-wage jobs in our region.

Finally, the DEIS does not identify the mitigation that would be required should the project move forward, nor any specific implementation and funding measures. Without details on mitigation and costs, decision-makers will not be able to understand the full implications of this project.

While we support the return of basketball to this region, we are opposed to this site because of the serious impacts and high costs to our region's economic health. The DEIS fails to provide decision-makers with the information they need to reach a proper judgment on this project.

Sincerely,



Vince O'Halloran
Seattle Branch Agent
Sailors' Union of the Pacific
President, Puget Sound Ports Council
Maritime Trades Department AFL-CIO
4269 22nd Ave W.
Seattle WA 98199

cc: Seattle City Council
Mayor Mike McGinn
Port of Seattle Commission

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4. The economic impact report recognizes that the Port of Seattle plays an important role in the Seattle economy (see page 71 of Appendix F Economic Analysis). We also recognize that port-related industrial jobs provide important family wage jobs in the region.

Our analysis estimated minimal additional traffic impacts and costs directly related to the proposed arena. Port TEU volume has increased rather than decreased since the existing sports stadiums were built. There have been changes in the mix of businesses in the area and a reduction of industrial uses, but it is not conclusive that this is result of the development of the sports facilities.

5. See Common Response #6 Mitigation Measures – Traffic.
6. Comment noted.

September 30, 2013

Via Email to john.shaw@seattle.gov

John Shaw
Senior Transportation Planner
Dept. of Planning & Development
PO Box 34019
Seattle, WA 98124-4019

Re: Seattle Mariners' Comments on Seattle Arena Draft Environmental Impact Statement

Dear Mr. Shaw:

On behalf of the Seattle Mariners, we provide the following comments on the Seattle Arena Draft Environmental Impact Statement ("DEIS").

The City and County decision on whether to participate in the new arena and where to locate it is an important one for our region and for sports fans who would be attending events at the new arena and the existing sports venues in Seattle. The Mariners strongly support the return of the NBA to the Seattle area, and the possibility of adding an NHL franchise. The economic analysis shows how professional sports contribute to employment, to the state and local tax base and to the general economic well-being of the region.

The Mariners have previously expressed concerns about some of the difficult challenges presented at the proposed SODO site, and appreciate the effort to analyze those difficulties and compare them with challenges at possible alternative sites. The DEIS begins to demonstrate this degree of difficulty and to make those comparisons. But to fully accomplish this goal, better information and comparisons are needed. Our comments will review these with particularity, with a focus on improving the information available to decision-makers in the Final Environment Impact Statement ("FEIS").

The Mariners also reiterate their commitment to City and County decision-makers and the Northwest's sports fans that, once a fully-studied and debated decision is made on the best location for an NBA/NHL arena, the Mariners will work with all involved parties to make that site work in the best possible way.

A. SCOPE OF ANALYSIS OF ALTERNATIVE PROJECT TYPES AND OFF-SITE LOCATIONS

As we pointed out in earlier scoping comments, the arena is a public proposal as that term is used in the State Environmental Policy Act ("SEPA"). The characterization as a public proposal has two key implications: agencies are encouraged to describe public proposals in

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1. See Common Response #1 Public vs Private Project; Range of Alternatives.
2. See Common Response #1 Public vs Private Project; Range of Alternatives.

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terms of objectives instead of preferred solutions, and off-site alternatives must be examined. Washington Administrative Code (“WAC”) 197-11-440(5)(d) and 197-11-060(3).

The DEIS refers to the ArenaCo. proposal as private, and then treats the City and County decision on whether to participate in that proposal as “public.” However, this hybrid approach is problematic.

1. City and County Objectives Need to be Fully Identified.

Having chosen to describe the public proposal as the objective of whether to participate in a new arena, the FEIS needs to detail what the City and County objectives are for a new arena. From that point of view, must the arena have a certain number of seats? Must it have a certain number of parking spaces on-site or in the vicinity? Another key question is whether it must be capable of serving both basketball and hockey, or is it sufficient for the arena to accommodate basketball supplemented by other events? The entire DEIS appears to be based on the private applicant’s objectives, and not those of the City and County.

It is especially important to identify City and County objectives related to the alternative of remodeling Key Arena. That alternative was summarily rejected in a single sentence in the DEIS because “The existing foundation design would preclude enlarging the floorplate to the size needed for hockey” i.e. the number of seats for NHL games. DEIS, p. 2-6. But have the City and County determined that it is essential for the new NBA arena to accommodate NHL hockey? And even if that is a bright line objective eventually stated in the FEIS, what would prevent modifying the foundation design to allow additional seats for hockey?

Without knowing the precise public objectives for the arena, SEPA requirements for the analysis of alternatives are not met. The FEIS needs to identify both City and County objectives and include an appropriate range of project types and locations that meet those objectives. Without this, the analysis of alternative sites is flawed and insufficient.

2. Analysis of Alternative Sites.

The DEIS acknowledges that the proposal is sufficiently public as to require the identification and evaluation of non-SODO site alternatives. Appendix A explains the process for identifying and screening alternative sites. However, the opening sentence limits the criteria to sites within the City of Seattle. No explanation is provided as to how that could meet the County’s objectives of deciding whether to participate in an arena project. And if the County has already decided that it will only participate in a project located in Seattle, as opposed to the other locations in King County that have been discussed for an arena, how can that premature decision be reconciled with the legal requirement that no action be taken to “limit the choice of reasonable alternatives” prior to completion of the EIS process? See WAC 197-11-070(1).

3. See Common Response #2 Project Objectives.

4. See Common Response #1 Public vs Private Project; Range of Alternatives..

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The Mariners' scoping comments submitted at the outset of this process identified for study a number of potential sites, including several (Bellevue, Renton and south of Boeing Field) that were the favored sites of prior Sonics owners. Without any substantive explanation, the DEIS fails to study any of these sites, further detracting from its usefulness as a decision-making tool.

Another example of flawed analysis relates to the Rainier Avenue South/Lowe's site. That site is in part eliminated because it cannot accommodate people arriving by bicycle. This appears to be an artificial constraint placed on the site because the number of arena attendees expected to arrive by bicycle is insignificant compared to other modes of travel. It is also puzzling why placement of bicycle sharrows on heavily congested SODO streets oriented to truck traffic, such as 1st Avenue S., is considered adequate for cyclists, while not acknowledging that Martin Luther King Jr. Way is adjacent to the Rainier site and has wide, bike-friendly shoulders, or not acknowledging the east-west McClelland Street which has dedicated bike lanes east of 30th Avenue.

Also, as Appendix A acknowledges, the Rainier site has very good vehicular access to I-90 and I-5, and is within one quarter mile of the Mt. Baker light rail station. But Appendix A does not acknowledge that for those coming from the reservoir of parking downtown assumed for the SODO site, the Mt. Baker station is just seven minutes from the Stadium station that light rail patrons would have to utilize for the SODO arena site. It is not at all clear why a comfortable ride on light rail seven minutes longer from downtown would disqualify the Rainier site, particularly when the walking time between the SODO site and the Stadium or the Lander Stations is well over seven minutes greater than the distance between the Rainier site and the Mt. Baker station just 300 feet to the south.

As for land use compatibility, Appendix A does not mention that the Rainier site has been used as a sports stadium (baseball) in the past and that the site is part of a largely commercial corridor served by the adjacent arterials.

In short, the analysis of alternative sites is flawed for not looking outside the City of Seattle limits and for its uneven evaluation of the City sites that have been identified.

3. Analysis Of SODO Site Alternatives.

The DEIS evaluates ArenaCo's proposal for a 20,000 seat arena, and the only alternative is an 18,000 seat arena. However, the DEIS analysis does not show a substantial difference in environmental impacts between those two alternatives because the only factor varied is the number of seats, and that variation is relatively slight. This selection of a single, modestly different alternative does not meet SEPA requirements.

SEPA requires that an EIS evaluate "reasonable alternatives." That term is defined as "actions that could feasibly attain or approximate a proposal's objectives, but at a lower environmental cost or decreased level of environmental degradation." WAC 197-11-440(5)(b).

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It is customary for alternatives to be defined based on an assessment of the environmental impacts that are caused by the primary proposal. Based on that analysis, an alternative is then devised that reduces those environmental impacts. The identification of proper alternatives is critical so that decision-makers have adequate information.

In the case of the SODO arena, one of the areas of greatest impact is the lack of on-site parking or nearby parking that can be secured for arena use when basketball, hockey and other events are expected to occur in the arena. The DEIS is deficient for not including an alternative that includes additional on-site parking or specifically includes construction of new parking as part of the proposal. (Deep in the Transportation section, there is brief mention of possible construction of a new garage west of 1st Avenue South, but it is not analyzed at the level of a full-fledged alternative like it should be.) It should be noted that the arena design started out with no on-site parking, but this was recently modified to include a very small (variably described) number of on-site spaces solely for players and arena employees. There needs to be further exploration of alternatives with on-site or specifically secured parking in order to accommodate the proposed SODO site.

B. THE SODO PROJECT SITE APPEARS TO BE MIS-IDENTIFIED

We believe the eastern edge of the SODO project site is mis-identified and includes property owned by BNSF rather than ArenaCo. See Figure 2-1 which has the eastern edge of the SODO project site at a location that is east of a row of parking. We understand from City maps that the row of parking is instead on the BNSF property.

Although this just may be a technical matter as to how the site is depicted on graphics, we do note that on Page 2-3 of the DEIS it is stated that the eastern portion of the site extends into the General Industrial 2 zone, i.e. encompasses that row of parking. We ask you to look at whether that is correct since spectator sports facilities are not allowed in that zone. Thus, either the site is mis-identified, or if it is correctly identified, then the concern is that the proposed arena use (including the necessary replacement access road to the Safeco garage) is not allowed on the eastern portion of the proposed site. Please clarify this point.

C. SECTION 2: ADEQUACY OF THE PROJECT DESCRIPTION

The description of the SODO site project in Section 2 of the DEIS is critical to the rest of the analysis in the DEIS. However, little information is provided in Section 2. Here are examples of information that is missing and needs to be included as part of the project description in the FEIS:

- At a minimum, a site plan showing the site dimensions, location of building functions, and open space (not included anywhere in the document)
- Number of on-site parking spaces (not revealed until a footnote on page 3.8-100 of the DEIS)

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5. The figures depicting the SoDo site have been revised to correct the site boundary.
6. • The site plan continues to evolve based on comments from the Seattle Design Commission. As noted in the EIS, documents are available through a link to the project website showing site dimensions, location of building functions and open space.
 - The number of on-site parking spaces is likely to be approximately 100 parking spaces.
 - The EIS must determine parking demand and this information is included in Section 3.8 of the EIS and detailed in the Transportation Technical Report (Appendix E). The number of parking spaces required to meet Land Use Code requirements for entertainment uses will be determined by DPD based on the MUP application submitted to build an Arena.
 - Additional analysis has been added to consider the scenario of neither the Safeco Garage or CenturyLink Field parking being available.
 - Truck load/unload activities are shown as being located in the southeast portion of the structure accessed from the eastern drive aisle. See plans on project website.
 - A description of the access road is included in the Transportation discussion.

- Land Use Code requirement for 2,500 secured parking spaces (not revealed until page 3.8-100 of the DEIS)
- Specific identification of the sites that will be secured by covenant to provide the 2,500 spaces (hypothetical sites identified with no specifics; Mariners garage identified although it is not available for most events at the arena because it is already committed by permit and covenant to events at Safeco Field or CenturyLink Field and Event Center)
- A description of where arena truck load/unload activities will be located and accessed (never clearly described anywhere)
- The location of space for essential arena functions, such as charter or special bus zones, and priority load/unload areas for the disabled and taxis (hypothetical locations identified with no specifics)
- Clear description of how the access road on the eastern portion of the arena will operate (described inconsistently in various parts of the DEIS)

The Section 2 project description notes that the vacation of Occidental Avenue S. is a part of the project. Similarly, the realignment of S. Massachusetts Street through street dedication should also be included as part of the project description.

D. SECTION 3.1: GEOLOGY AND SOILS

The DEIS concludes that construction of an arena at the SODO site would likely cause vibration impacts during demolition and construction, especially due to the type of soils at that site. Mitigation of that impact is to conduct vibration monitoring "if necessary to prevent offsite adverse effects." DEIS, p. 1-41.

Because the Safeco Field parking garage is the nearest structure to the arena, we request that the FEIS commit to conduct settlement and vibration monitoring at the garage. If the SODO site is selected, then a pre-construction assessment of garage conditions should be conducted (and funded by the arena proponent) to establish a "base line." Any adverse effects to the garage structure caused by arena-related demolition or construction will have to be indemnified and fully mitigated.

In addition, if the SODO site is selected, then construction would need to be scheduled to avoid vibration impacts during events at Safeco Field.

E. SECTION 3.5: NOISE

Significant noise impacts are anticipated by the pile driving necessary for arena construction. However, the mitigation of noise impacts is the standard language found in

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7. The realignment of a portion of S. Massachusetts Street between Occidental Avenue S. and 1st Avenue S. has been added to the project description in the Fact Sheet, the Summary (Section 1) and the Project Description (Section 2).

The mitigation measures listed in the Geology Section (3.1.1.4) include implementing vibration monitoring if necessary to prevent offsite adverse effects.

8. Pile driving is addressed on both pages 3.5-2 and 3.5-4 of the EIS. Page 3.5-4 says: "Pile driving also would be restricted to the time periods of 8:00 AM to 5:00 PM on weekdays and 9:00 AM to 5:00 PM on weekends and holidays."

Pile driving is considered an impact type of equipment. Per SMC 25.08 Noise Control, in subsection 25.08.425.C Sounds Created by Construction and Maintenance Equipment, sounds created by impact types of equipment are limited to 8:00 AM to 5:00 PM weekdays and 9:00 AM to 5:00 PM weekends. The list of mitigation measures in Section 3.5 included: "Limiting noisier construction activities to between 7:00 AM and 10:00 PM would eliminate construction noise and vibration during sensitive nighttime hours." An additional measure specific to pile driving has been added to be consistent with the Noise Ordinance requirements.

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environmental documents: limit pile driving to 7:00 AM to 10:00 PM to avoid “sensitive nighttime hours.” That mitigation measure does not recognize that the majority of games and other events at Safeco Field take place at night, and the DEIS does not address the issue of whether pile driving or other construction noise would affect those events. If the SODO site is selected and there is any possibility of that impact, then noisy construction impacts need to be scheduled to avoid events at Safeco Field.

F. SECTION 3.6: LAND USE

The DEIS states that land use impacts of the closure of Occidental Avenue are “minimal since the uses related to that street would be demolished in construction of the project at the SODO site.” DEIS, p. 3.6-4. In fact, Occidental’s use is not limited only to abutting businesses on that one block.

The Mariners assembled a detailed package of information explaining the many functions of the portion of Occidental to be vacated. They provided that information directly to your department, the EIS consultant, and to the Seattle Department of Transportation so that preparation of the DEIS could be based on a good understanding of existing conditions. That information is partially referred to in the Transportation section of the DEIS, but was apparently not factored into the Land Use section of the DEIS. The street vacation has adverse land use impacts that will require mitigation and must be addressed in the FEIS.

In terms of the land use impacts of the Key Arena site, the DEIS does not present enough information for an adequate evaluation. The DEIS states that “depending on the alignment of the arena,” existing facilities could be displaced. DEIS, p. 3.6-8. However, there is no site plan for any site, including Key Arena, and so it is not possible to know which facilities could be displaced (and retained) or if the site could be redefined in such a way as to eliminate or reduce the number of facilities displaced.

G. SECTION 3.8: TRANSPORTATION

Our many comments on the Transportation section are grouped into three categories: 1) the SODO location, 2) parking analysis of the Seattle Center sites, and 3) specific comments on the DEIS.

1. Transportation Concerns at the SODO Location.

The transportation analysis in the DEIS for the SODO site does not adequately address nor resolve a number of significant issues. Many of these issues could magnify the impacts and potential costs, both public and private, of the SODO site compared to other alternatives. The fully-developed facts show that the SODO site is highly problematic from the standpoint of parking and access.

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9. The vacation of Occidental will have traffic and transportation impacts that are described in Section 3.8 and Appendix E of the FEIS. Vacation of the portion of Occidental between S Massachusetts and S Holgate will result in the elimination of existing adjacent uses and replacement with an Arena.

A figure identifying a potential outline of an arena, were one to be developed on the KeyArena site, is included as Figure 2-5 Alternative 4 in Section 2 of the FEIS. Section 3.6 Land Use includes a description of existing uses for both the KeyArena and Memorial Stadium sites at Seattle Center. If the KeyArena were demolished and replaced by an arena, the KeyArena and other structures listed in Table 3.6-5 Summary of Potential Changes at KeyArena could be affected.

10. Comments noted.

a. Parking Impacts Are Not Adequately Analyzed for the SODO Site.

The parking analysis in the DEIS does not adequately assess the true impact of the SODO site. The DEIS does not show the location of specific garages where parking can be secured by covenant and permit, and be available when events are held at the arena. Instead, the DEIS includes parking supply that is scattered over a mile from the site. To fully assess the parking impacts at the SODO location, the following information must be detailed in the EIS:

- The specific location of the 2,500 covenant parking spaces that will be used to meet Code requirements.
- The location and size of each parking facility that has been assumed to be used for each Event Analysis Case. This needs to include not just an analysis of the number of spaces in off-street parking locations, but actual data on whether those spaces will be available for events in the area. Earlier studies done in connection with the arena counted spaces because they physically existed and did not take into consideration whether the spaces were specifically signed and controlled to prevent event parking.
- The pre-existing commitments and restrictions that already exist for use of some of those facilities when there is an event at either Safeco Field or the CenturyLink Field and Event Center.
- Whether or not the identified facilities would be available during events at the arena.
- Distances of each parking facility from the arena.
- The utilization rates (or availability) of each facility during different Event Analysis Cases to show how study-area parking would be affected, particularly with dual or triple event conditions.

The perspective underlying the above analysis should be that the SODO area has lost a significant amount of on- and off-street parking since the time Safeco Field opened. The arena should not be allowed to exacerbate this loss of parking. Instead, the arena should result in a net increase in parking in the area. The letter from the Washington State Major League Baseball Stadium Public Facilities District details the parking issues, and we join in the concerns expressed in their letter on the DEIS.

b. Analysis Is Lacking Regarding Impacts to Safeco Field Garage Access.

The DEIS is deficient in its analysis of impacts to operation of the Safeco Field garage access. For example, the analysis of the street vacation does not show how the loss of

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11. The FEIS presents the demand based analysis for SEPA purposes (see Appendix E, Section 2.8). Code required parking will be determined during the MUP review. It is anticipated that code-required parking would be met through provision of approximately 100 parking spaces on-site as well as either shared parking agreements with existing parking facilities or construction of a new parking garage on the South Warehouse site (see evaluation in Appendix E, Section 2.12). The parking demand analysis has been updated to reflect the revised Case S3 (72,500 attendees) as well as a sensitivity analysis for Case S1 without the use of the Safeco Field and CenturyLink Field parking facilities (see Appendix E, Section 2.8). The evaluation shows that Arena parking could be accommodated in the study area; however, as event attendance increases or parking supply decreases, it would become more difficult to find parking in the area and the reliance on parking further from the site would increase.
12. The FEIS includes a detailed evaluation of the local circulation needs, including access to the Safeco Field parking garage both with and without the Occidental Avenue vacation (see Appendix E, Section 2.10). Potential impacts to drop-off/pick-up activities (buses, limos, taxi, etc.) is also evaluated (Appendix E, Section 2.11).

Construction related impacts will be further considered through a detailed construction management plan.

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Occidental for access, coupled with arena event traffic, would affect Safeco Field garage both during Safeco event conditions and operations on other days.

In addition, although the access road on the eastern portion of the SODO arena site is being provided to partially mitigate the adverse impacts of the street vacation on Safeco Field, there is no clear description of how that road would function and mitigate those impacts. The road is variously described as “public,” or “private” or that it “will only function during events that use the garage” or “this connection would generally not be open to the public, except during event conditions.”

The FEIS must acknowledge that the access road on the eastern portion of the arena site is an essential road for maintaining access to the Safeco garage and all of the “back of house” facilities that allow Safeco Field to function for baseball and other events, as well as the preparation involved with staging all such events that occurs on most days and not just event days. That road must be available to Safeco garage traffic, 24/7, without interruption, in order to accommodate access and mitigate for the loss of Occidental Avenue.

In addition, to be adequate, the analysis of impacts to Safeco garage access needs to include specific details on the following elements:

- Analysis must be prepared to determine the operations of the proposed new connection to S. Holgate Street and how that additional intersection would interact with the peak pedestrian flows on this street, as well as how it would be affected by the adjacent railroad crossing. The analysis must determine if barriers needed for railroad gate infrastructure restrict left turn movements to and from S. Holgate Street.
- The EIS must include a discussion of how trucks will access the arena loading facilities, and where the many trucks generated by concerts and shows would stage while waiting to access the site.
- Define a specific location for charter or special bus zones, as well as priority loading area for the disabled, taxis or other special vehicles. The DEIS states as a potential mitigation measure that such areas “could be identified” but that is not adequate. Designating such areas could affect through-lane capacity where parking is already removed to accommodate peak exit flow. If disabled loading is located on S. Massachusetts Street or 1st Avenue S., this could affect pedestrian movements or traffic flow to and from the Safeco Field garage. Any plan to use the curb next to the Safeco Field garage plaza cannot be assumed for all conditions and such use would have to be coordinated with the Mariners, given the need to access the plaza as event space for Safeco Field, and the CenturyLink Field and Event Center. Identification of specific loading areas is a key part of the proposal and is necessary in order to assess the impacts of the proposal.

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- Specific protocols must be established to avoid adverse effects on Safeco Field access during construction of a SODO arena. Access to the garage must be maintained at all times, even when S. Massachusetts Street is being realigned.

c. Analysis of Concurrent Event Scenarios.

A significant assumption of a SODO arena is that the Safeco garage will be available for arena parking. However, we have already provided information to the City, the EIS consultant, and the private proponent detailing that the Safeco garage may not be available during many of the events proposed for the arena. The Safeco garage is not always available because it is already committed by permit and covenant approximately 160-180 days per year for events at Safeco Field and the CenturyLink Field and Event Center¹. Although the Safeco garage could be available for some events at the arena when those events do not conflict with Safeco or CenturyLink events, the DEIS mistakenly assumes that the Safeco garage will be available for arena events.

Moreover, the issue of event scheduling is crucial for a new arena in SODO. Both Safeco Field and CenturyLink Field were required to enter into an event agreement to limit dual events and to control, as much as possible, the overlap of start times for events in the two venues. The DEIS mentions NBA security requirements for a new arena, but does not discuss NBA or NHL scheduling requirements. The fact of the matter is that the Leagues (and Collective Bargaining Agreements, as well as television schedules), and not the teams themselves, largely determine what days and times events are held.

Until there is a full assessment of whether and to what extent the NBA and NHL and all other proposed arena events can work around the existing venues' event schedules, conclusions cannot be drawn as to whether the traffic and parking impacts are acceptable.

Finally, the DEIS refers to "amending" the existing event agreement for Safeco Field and CenturyLink Field. There is no ability of the arena to amend that agreement. The existing facilities have rights and restrictions under that agreement, and the arena has no ability to force a change in the operation of the existing facilities. The arena will need its own scheduling agreement which acknowledges the pre-existing condition created by the other SODO venues, and commits to avoiding schedule conflicts of any magnitude significant enough to exacerbate the already challenging traffic and parking situation. The FEIS should also note that this scheduling constraint would not be an issue at other sites.

¹ Based on current counts, the Safeco garage is fully committed to Safeco Field and CenturyLink Field on about 110 days per year, and is partially committed to those venues the other 50-70 days.

13. See Common Response #6 Mitigation Measures - Traffic.

The FEIS provides an analysis with and without the use of the Safeco Field and Century Link parking garages (Appendix E, Section 2.8). If these facilities were not available there would be approximately 4,800 fewer parking spaces within the study area. Additionally, a sensitivity analysis without access provided to Safeco and Century Link parking facilities was conducted and is summarized in Appendix E, Section 2.8.4.4.

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d. Concerns for Pedestrian Safety.

The SODO site presents unique challenges for pedestrian safety. The proximity of the railroad tracks at S. Holgate Street is of obvious concern, and there are no commitments to pedestrian improvements in the surrounding area. The DEIS analysis disclosed significant adverse impacts due to the increased number of pedestrians crossing the railroad tracks on S. Holgate Street. In terms of mitigation measures for these impacts, we note that the measures listed include “surface street improvements or pedestrian bridge on S. Holgate Street.” However, the pedestrian bridge is not listed in the mitigation summary. Moreover, the mitigation summary section on page 1-34 states that “pedestrian gates may not be feasible or appropriate.” Thus, a pedestrian bridge across the railroad tracks may be the only feasible mitigation for this serious impact. And yet, there is no commitment by the arena proponent to fund or build that bridge. If the bridge is to be funded by the public, this must be explicitly identified along with the source of funds. If it is to be funded by the private proponent, then the commitment must be made.

Safeco Field was required to and did build substantial off-site pedestrian infrastructure improvements and contributed to new grade-separated pedestrian crossings at Royal Brougham Way and Edgar Martinez Drive. If the SODO site is selected, then it is imperative to ensure safe passage over the railroad tracks. Given the significantly greater hazards at S. Holgate Street, a commitment to fund and construct an overpass is critical.

In terms of other pedestrian safety issues if the SODO site is selected, fans will be pushed further into areas of the SODO neighborhood where there are no sidewalks and only minimal pedestrian lighting. This problem only gets worse with dual events. In addition to the concern about pedestrians crossing multiple railroad tracks, the issue of having a safe pedestrian environment on City streets must be addressed.

The needed parking analysis described above, along with the potential for event attendees to use transit that operates along 4th Avenue or the E-3 Busway/Link Corridor should be used as a basis to determine where the SODO project should provide off-site sidewalk, lighting, and other pedestrian improvements needed to accommodate the arena project.

In particular, we note the need for additional analysis related to the sidewalk on 1st Avenue S. between S. Massachusetts Street and Edgar Martinez Drive. Presentations to the Design Review Board (sheet 11 of the September 17, 2013 set) show the existing sidewalk on the east side of 1st Avenue S. in this segment as being 16-feet wide. In fact, the existing sidewalk adjacent to the buildings has an “effective” width ranging from 9 to 10.5 feet between obstructions along the building façade such as planters and driveway aprons and obstructions at the edge of the sidewalk including street trees, utility poles, and fire hydrants.

North of the existing buildings, a right turn lane for traffic destined to the freeways further reduces the sidewalk width to about 6 feet. The DEIS analysis determined that this

14. Comment noted. See Common Response #6 Mitigation Measures – Traffic and Common Response #7 Mitigation Measures - Pedestrian Access

The FEIS discloses increased potential for events that could result in a broader extent of parking usage, especially south of the site.

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The mitigation strategy (Section 4.0 of Appendix E) acknowledges the issues associated with pedestrians crossing the tracks at grate with Holgate Street and recommends an event management plan that will preclude pedestrians from crossing at-grade at this location during designated event periods.

Mitigation measures were developed to assist patrons in accessing transit service. Thus, it includes either a pedestrian bridge at Holgate Street to facilitate safe connections east to 4th Avenue and the busway, as well as light rail service, or will provide shuttle service to light rail service in the event a pedestrian bridge is not constructed.

segment of sidewalk would experience “severely restricted” operations with only a single event at the arena. It is not clear in the DEIS how this significant impact can be mitigated. The sidewalk cannot be widened to the east due to the existing buildings, and widening to the west would require incursion into the vehicle lanes on 1st Avenue S., further exacerbating the already poor operations at this key intersection. If expanding into the street is proposed or is necessary, then the entire traffic analysis needs to be revised to account for the secondary impact on 1st Avenue traffic in both the AM and PM peak periods.

Finally, the suggested mitigation for inadequate sidewalk width on 1st Avenue is “rerouting more pedestrians to Occidental Avenue S.” However, that may not be workable given that most of the parking the site is relying upon is located in areas north of the site that must be reached using 1st Avenue S. Routing pedestrians to Occidental would force out-of-direction travel and increase conflicts on Edgar Martinez Drive at the Occidental intersection. Operational access to the Safeco Field service areas (noted elsewhere) will have to be maintained during arena events. This may require the use of Occidental Avenue if no other direction is available, and this could result in pedestrian/vehicle conflicts on the street.

2. Parking Analysis of Seattle Center Sites.

The parking analysis for the Seattle Center alternatives used assumptions that call into question the accuracy of the impact assessment for an arena at Seattle Center. There is already an arena there, and the impacts of a remodeled or replaced arena would fall within the range of current experience. See Figure 3-46 in the DEIS. An arena at Seattle Center does not create new traffic and parking impacts. Only the SODO site would cause a net increase in such impacts. This is significant in the evaluation of the two locations and should be included as part of the DEIS analysis.

For parking impacts, the DEIS evaluated a very large area for the SODO site that extends over a mile from the site. However, it is curious that starkly different study area assumptions were made for the purpose of assessing parking impacts for the Seattle Center site, with a “primary study area” that only extends about a quarter of that distance.

The assumptions about future available parking supply were also different: spaces proposed as part of many future developments were included in the SODO analysis, but no future development spaces were included for the Seattle Center sites despite the text stating that over 8,000 new spaces are proposed in the nearby South Lake Union area. Such disparate assumptions about the available parking area significantly skew the analysis in favor of the SODO site, and away from the Seattle Center sites.

The analysis must be corrected to treat all alternatives equally. The detailed analysis required for the SODO site should also be performed for the alternative sites, such as Seattle Center.

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15. While event attendance at the level of the proposed NBA/NHL arena is permitted at the Seattle Center, only occasional events of this magnitude occur. Relative to existing traffic volumes and studies used to forecast future conditions, some increased transportation activity is anticipated with the addition of NBA/NHL arena related activity. This forecast increase is described in detail in Appendix E, Section 1.3.2.

The primary Seattle Center study area was revised in the FEIS to include a similar distance as evaluated for the SoDo study area (Appendix E, Section 3.8.1.1).

The description of the no action parking supply shown in Appendix E, Section 2.8.1.3 indicates that no additional parking supply was assumed under the No Action Alternative. This is similarly described for the Seattle Center study area in Appendix E, Section 3.8.1.3 for the No Action parking supply.

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3. Specific Comments on the DEIS.

Before providing text-specific comments, we would like to share some concerns about the data used for Safeco Field event conditions. We could not determine what specific days and times were used for background traffic and parking conditions attributed to events at Safeco Field. Without information on the specific days and times, it's not clear whether the information in the DEIS is extensive enough or accurate. We are aware of one day when surveys were conducted months ago, and we specifically pointed out that the day selected was not typical for traffic and parking, much less the "worst case" assessment required for an EIS when information is variable. Before the FEIS is issued, we request information on the specific days and times studied for background Safeco Field event conditions to ensure that it is accurate and representative of the nature of existing traffic and parking conditions. This will help ensure that all of the information in the FEIS is reliable.

Comments below on specific Figures, Tables, and text in the DEIS apply equally to every location in the DEIS or Appendices where the topic is discussed; only a representative citation is included below.

Figure 1.1: the Map does not call out SR519, an important state highway connection between I-90, I-5, SR99 and the Washington State Ferries Colman Dock. This is a route that is continuing to experience higher volumes of traffic and it should be considered as part of the area context.

Table 1-1, Construction - Street System (p. 1-9) and Traffic Operations (p. 1-11) Impacts: statements are made that construction would be done at "off-peak" hours to minimize impact. "Off peak" is a typical way to evaluate traffic impacts in a standard situation, but does not account for the peak time of day or evening for events at Safeco Field. Construction and arena operations must be scheduled and handled to avoid adverse impacts to Safeco Field operations. Peak hours for the SODO site are any time surrounding an event at either Safeco Field or CenturyLink Field.

Table 1-1, Operations-Pedestrians (pp. 1-17; 1-18): It cannot be assumed that the Safeco Field garage plaza, and all portions of Occidental north of the arena site, would be available for pedestrian use since it is often used for events, staging and other functions for Safeco Field, and by agreement, for events at CenturyLink Field.

Table 1-2, Summary of Potential Mitigation Measures, General Comment: Throughout this table, critical mitigation measures are presented as optional with the phrase "could be done." However, in several cases, the mitigation has already been assumed in the analysis in the DEIS; thus, there must be a firm commitment to that mitigation or else the EIS analysis must be re-done to account for a "non-mitigated" condition. For example, on page 1-49 it is stated that the applicant can "consider working with SDOT to upgrade traffic control equipment at signalized intersections ..." However, signal optimization was already assumed

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16. The DEIS used specific data on Safeco Field event conditions for the existing conditions only. The event scenarios for the future conditions reflect an attendance of 40,500 people. The FEIS provides an update to the Case S3 scenario and includes an attendance of 47,500 people at Safeco Field.

17. SR519 is shown on all of the transportation figures pertaining to the SoDo site. See figures throughout Section 3.8 and throughout Appendix E.

18. A construction management plan will be required by the City of Seattle. These plans define construction activities in order to minimize impacts on adjacent properties.

19. Pedestrian use of Occidental will be coordinated with other area businesses. Use of the ROW north of the Arena will receive appropriate permitting from SDOT as necessary.

20. See Common Response #6 Mitigation Measures - Traffic.

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for the area intersections to assess project impacts as stated in the note on page 2-162 of Appendix E.

Another example occurs with regard to the potential Parking Guidance System which is suggested in order reduce excess circulation. There is a high potential for excess circulation due to the lack of parking in the SODO area which would exacerbate traffic operations. However, no additional circulation was assumed during dual events. Therefore, this mitigation should be included in order to achieve the system performance presented in the DEIS. Furthermore, any Parking Guidance System, if it includes directing drivers to the Safeco garage, needs to be coordinated with the Mariners due to existing covenants that would make the Safeco Field garage unavailable for many non-Safeco Field/CenturyLink events.

Table 1-2, Summary of Potential Mitigation Measures, Transportation-Construction (p. 1-44): Safeco Field's existing Transportation Management Plan and Traffic Control Plan should not be disrupted by construction of the arena. The arena proponent should be responsible for the cost of additional traffic control personnel needed for safe passage of event patrons for arena functions, and the arena portion of dual event functions. (See also Table 1-2, Police-Operations (p. 1-52).) Further, please note that the use of signs in lieu of traffic control personnel is not acceptable in crowd control environments. Closure of S. Massachusetts Street during construction would not be acceptable - it would close off the only viable route to the south entrance of the Safeco Field garage and all of Safeco Field's "back of house" facilities and operations.

Table 1-2, Vehicle Traffic, p. 1-50: The north-south access road is described as linking S. Holgate Street with "the extension of S. Massachusetts Street." In fact, that portion of S. Massachusetts Street was vacated prior to the ballpark project and the new road would connect to Safeco Field property, not S. Massachusetts Street.

Table 1-3, Summary of Secondary and Cumulative Impacts, p. 1-55: The discussion of impacts of concurrent events at multiple venues is incomplete in this Table and elsewhere. Existing conditions show that it is not uncommon for a baseball game and a soccer game to occur on the same day. The table only uses a baseball game and a non-sporting event at CenturyLink Field and Event Center as an example for a Case 3 situation. The impact of adding an arena event to the condition of two pro-sporting events must be assessed. Since no specifics of a scheduling agreement have been offered and the DEIS does not discuss the existing MLB, MLS, NFL, or NHL scheduling policies or practices, the impacts of concurrent events have not been adequately evaluated or accounted for. Also note that the use of the "+" sign is missing on Table 1-3 but is used on Table 1-5; it should be used comparably on both tables.

Table 1-4, Summary of Significant Unavoidable Adverse Impacts, Transportation (p. 1-57): The impacts at SODO and Seattle Center are both treated as new impacts. But the impacts at Seattle Center would not be new as Key Arena already exists with similar uses and

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21. The description of S. Massachusetts Street has been updated in the FEIS as appropriate.
22. The EIS assumes that a multiple-event scenario in the SoDo area that includes the Arena will not exceed 72,500 cumulative attendees. A scheduling agreement with the City would ensure this result. In addition, the FEIS provides a review of transportation demand management measures (attendee information, event scheduling, etc) intended to reduce the transportation related impacts of the project.
23. While event attendance at the level of the proposed NBA/NHL arena is permitted at the Seattle Center, only occasional events of this magnitude occur. Relative to existing traffic volumes and studies used to forecast future conditions, some increased transportation activity is anticipated with the addition of NBA/NHL arena related activity. This forecast increase is described in detail in Appendix E, Section 1.3.2.

history for NBA use. Thus, impacts at Seattle Center cannot be identified as new or additional impacts since they already occur and have historically occurred for NBA games.

Table 1-2 vs. Table 1-4, Appendix E: Table 1-2 describes cumulative attendance near SODO, but there is no similar table for the Seattle Center. The table that describes existing Seattle Center events (Table 1-4) has ranges that are so large at the upper end that the various alternatives cannot be compared. Table 1-4 should be amended to include the same attendance ranges for the Seattle Center site that were provided for the SODO site.

Page 1-6, Appendix E, Section 1.3.1.1 regarding Safeco Field attendance for non-baseball events: Only one year of data was used (2012). It must be noted that 2012 was atypical and the number of events was unusually low due to companies curtailing all types of events. This was a general occurrence in the hospitality industry. We would be happy to supply the additional data.

Page 1-8, Appendix E, Section 1.3.1.2 regarding dual event planning: The text should be corrected to note that the Safeco Field/CenturyLink Field and Event Center dual event agreement is not a function of our Transportation Management Plan. It was instead a requirement of the City Council in the street vacation process and was included in the Master Use Permit conditions for both facilities.

Page 1-18, Appendix E, Mariners Baseball: The text refers to mode split data as having been supplied by the Mariners. However, the Mariners did not supply that information as they do not accumulate their data that way, per their Master Use Permit requirements. If it was assumed from other data, the source should be identified. It is also stated that "substantial transit improvements [have been made] in the area since 2001." We are not aware of what those improvements are; they should be identified specifically. It should be acknowledged that transit service has been removed from 1st Avenue S., and that the closest transit northbound is now over 1,400 feet away, accessed via bridges and ramps, making access for the disabled and seniors virtually impossible. This is a significant change for the worse since 2001.

Page 2-1, Appendix E, Affected Environment: The statement is made that "a large number of buses travel along 1st Avenue S. near the Stadium District site." However, buses do not travel along 1st Avenue S. between Jackson Street on the north and Lander Street on the south. Also, the first bus stop on the south end is south of Lander Street, a distance of 1.3 miles.

Table 2-1, Appendix E, Street Summary Table – Parking: The table refers to parking available along Royal Brougham Way. This is incorrect. Parking is not allowed along any section of this street from where it starts at the frontage road at its west end to where it ends to the east at Airport Way.

Page 2-4, Appendix E, Event Traffic Control Plans: The statement that "Occidental Avenue between Holgate and Massachusetts Street is closed to all vehicles except service and

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24. DEIS explains the difference between the nature of current events at the Seattle Center versus the Stadium District as well as the difference in the context requiring a different methodology to determine the event cases.
25. Safeco Field attendance has been increased. See triple event scenario S3 in Appendix E.
26. Comment noted, text has been revised.
27. Mariners mode split data was originally documented in Appendix M1a of the Football / Soccer Stadium EIS. The data presented in this was based on 1997 Washington State Public Facilities District Mariner Fan Survey and was incorrectly quoted as a 2001 survey in the DEIS.
28. The FEIS text has been revised to exclude transit operating on 1st Avenue S. between S. Lander Street and S. Jackson Street. (see Section 2.2 of Appendix E).
29. Table 2-1 has been corrected in Appendix E. The parking analysis did not assume parking along Royal Brougham Way.
30. The description of Occidental Avenue S and its use has been updated in the FEIS where appropriate.

emergency vehicles prior to a Mariners game” is inaccurate. Occidental is the route that passenger vehicles and charter buses use to get to the south Safeco Field garage entrance when coming to a Mariners game. There is no restriction of any kind on vehicles using that route.

Page 2-4, Appendix E, Occidental Avenue S. Use: The statement that Occidental only provides “secondary access to the Safeco Field garage” is incorrect. Approximately 30% of vehicles using the garage enter via this route, and thus, this route is important for relieving traffic on Edgar Martinez Drive. This is also the entrance to the emergency fire lane, the Safeco Field security compound, the 1N secured parking area and the surface parking lot, Door 6 field loading door, loading docks, trash and recycling docks, television equipment hookups, gas cylinder storage, gasoline tank facility, and employee pedestrian access from the south. During events it is the only access point for vehicles when the fire lane is restricted.

Page 2-12, Appendix E, Impacts: It needs to be noted that not only do charter buses use Occidental, but it is also the drop off location for Metro Access (ADA) buses. It is the only remaining safe on-street location for this function in the area.

In addition, this section states that the north-south road would only function during events in the Safeco garage. (Note the different description in Section 2.1.8.) As noted previously, access to the Safeco garage and “back of house” functions must be maintained on a 24/7 basis, without interruption, in order to provide access and mitigate for the loss of Occidental within the arena site.

Figure 2-2, Appendix E, Map: This map does not show truck routes (coded as yellow in the legend). It also indicates incorrectly that SR519 is an “Access street” between 1st Avenue and 4th Avenue when it is actually a State Highway that connects I-90 to the Washington State Ferries.

Table 2-9, Appendix E: The impacts of closing Occidental Avenue S. within the arena site were only studied for the PM peak. However, that closure will have significant impacts on AM peak travel throughout the area. The DEIS should include an analysis of impacts at the beginning of the business days and how those impacts have a ripple effect on traffic on other streets.

Page 2-61, Appendix E, states that there are only stairs between 4th Avenue and the Edgar Martinez bridge. There are actually two ramps – one from the north and one from the south – in addition to the stairs.

Page 2-72 Appendix E: During events at both the arena and Safeco Field, it will be necessary for the arena to provide traffic police to control arena traffic. Please note that the use of signs in lieu of traffic control personnel is not adequate during ballpark events. Page 2-79 should also state that police will be used during event conditions as necessary mitigation.

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31. The description of Occidental Avenue S and its use has been updated in the FEIS where appropriate.

32. The description of Occidental Avenue S and its use has been updated in the FEIS where appropriate.

33. The description of Occidental Avenue S and its use has been updated in the FEIS where appropriate.

34. The legend has been updated for Figure 2-2 in Appendix E and the roadway classification for SR 519 has been reviewed and updated as appropriate.

35. Appendix E of the FEIS includes additional analysis evaluating the impacts associate with the Occidental Street vacation (Section 2.10) based on the collection of additional data during the weekday AM, mid-day, and PM peak hour. This analysis considered the level of activity and basic functionality of the roadway during these periods. The analysis also considered traffic volumes along Occidental Avenue, south of Holgate Street to assess its role in the local transportation system, and to help assess the overall input of the loss of the parallel travel route to 1st Avenue due to the street vacation.

36. The FEIS has been updated to reflect that there are ramps between 4th Avenue and the Edgar Martinez Bridge.

37. The TMP described in the FEIS (Section 4.0 of Appendix E) highlights the framework and key elements of the Traffic Management Plan. One of the elements of the TMP includes pre and post-event traffic control. Procedures for staffing and development of the plan will be consistent with other venues in the area. See also Common Response #13 Adaptive Traffic Control.

Figure 2-6 and 2-7; 2-8 & 2-9, Appendix E: The figures use different scales that mislead the reader about the overall availability of late evening transit service. The scales need to be the same, and this is also applies to the Seattle Center graphs. The transit analysis for the Seattle Center sites lacks several services within the same distance as evaluated for the SODO site, and no transit stops were shown. There was also no mention of the future Rapid Ride route on Aurora Avenue N.

In addition, there are incorrect assumptions made about the availability of transit and its use by various demographic groups attending events. In the case of baseball, only about 40% of attendees are coming to games from inside of King County and, of those attendees, less than 50% are likely to be coming from inside the City of Seattle. This level of information is necessary for evaluating transit availability based on the point of origin for transit trips.

Page 3.8-30, Transit for SODO Sites: The transit analysis does not accurately depict the surge loading that could occur after an event. All of the transit analysis considers transit capacity and loading over a two-hour period before or after an event. However, as noted in the Pedestrian section of the DEIS, "Post-event egress occurs over a shorter duration (i.e., less than one hour); therefore, the concentration of pedestrian volumes is higher." This same fact should be applied to the transit analysis to determine the true need for post-event transit service. Even with event attendees spread over two hours, the analysis showed that a dual event scenario would nearly fill or exceed the capacity of Light Rail service as buses to I-5 South. Moreover, based on experience, the Mariners have found that transit users will tolerate waits of up to one hour after a game, but if the wait is longer, they will shift to driving to games. This is especially the case with late evening events where transit service is severely limited by 10 PM.

Another concern about transit availability relates to the conclusion that parking in the CBD would be needed to support dual event conditions at SODO. Many of those patrons could use transit to reach the stadium area and thus should be included as a transit impact.

Page 3.8-115 & 116, Identification of Development Potential Without Street Vacation: This analysis is based on information presented to the Design Review Board or Design Commission, but we believe that information needs to be re-examined. We understand that the no-vacation development presumed one level of below grade parking. However, ArenaCo apparently realized later that the water table would not allow below grade construction. (If that is not the case and a level of below grade parking could be built for an office building, why could it not be built for the arena?) Using the revised assumption that the Code or market-required parking would need to be above ground (utilizing part of the available building envelope), what revised square footage of building should be assumed? Also, we request that the FEIS disclose how the assumed no-vacation buildings would relate to allowable Floor Area Ratio, Height, and other applicable zoning standards, and identify what ratio of employees to square footage was assumed.

- 38. Appendix E of the FEIS has been revised with a consistent scale for inbound and outbound charts. The transit capacity analysis included modes such as bus, monorail, streetcar, walk-on ferry passengers, and light rail (see Sections 2.2 and 3.3 of Appendix E).
38 Metro Route 358 was replaced with Rapid Ride E-Line and is included in the analysis. (see Section 3.2 of Appendix E).
- 39. The weekday attendance levels from King County and the City of Seattle for Arena events is expected to be higher than baseball games. This higher percentage of King County and City of Seattle attendees would likely result in a higher percentage of transit riders to Arena events compared to baseball games, but the transit percentage assumed for the analysis was only slightly higher. For event attendees driving from outside of the Puget Sound region, there are park-and-rides located along the major interstate corridors for people to transfer to transit.
- 40. NHL and NBA events typically start at 7 pm and end at approximately 9:30 pm. The analysis considered transit capacity to capture event attendees leaving up to 30 minutes early and immediately following the event. In the future, Link service will continue to provide frequent service after 10 pm, and would not be 'severely limited'. In addition, many event patrons will choose to delay their trip home after an event ends to avoid the most crowded time period.
- 41. There would be some event attendees who would park or already be in downtown Seattle who would take transit, walk, or another mode to an event. Presently, this occurs for events at Safeco Field and CenturyLink filed. The increased demand for transit can result in increased congestion on transit and longer distances to walk to connect to transit. The number of event attendees walking or taking transit is likely to be highest closer to event start-time after 6 PM, which is beyond the evening peak commute time. Some capacity exists on southbound transit routes through Downtown Seattle during this time period. The new Arena would increase the frequency that this condition occurs.
- 42. FEIS analysis for the no-vacation option was revised to reflect a building potential of up to 750,000 sf office and 60,000 sf of retail space (see Section 2.10 of Appendix E). Development assumptions for the no vacation option were provided by the applicant.

Table 2-7, Appendix E: Additional information is needed in this table to cross check the assumptions made about pedestrian flows and existing facility widths. As previously noted, the sidewalk on 1st Avenue S. has been misstated as being 16 feet wide, when in fact it narrows to about six feet wide close to Edgar Martinez Drive.

Figure 1-4, Appendix E: Event Traffic Arrival Patterns: The arrival patterns used for Mariners games do not match large-game arrival data accumulated in prior years. The arrival times studied in prior years show that closer to 30% of people arrive after game time or later while Figure 1-4 only shows 5% arriving after game time.

H. SECTION 3.9: PUBLIC SERVICES AND UTILITIES

The DEIS states on p. 3.9-3 that the Fire Department has the capacity to serve a new venue in SODO, including the possibility of simultaneous events at the new arena, Safeco Field, and CenturyLink Field. However, the specific source for that conclusion is not identified. Because the issue of emergency services is so critical, the EIS should be clear about and document its sources of information for full evaluation.

The DEIS describes the number of Seattle Police Department staff that are needed for arena events, but makes no effort to assess whether the Department has adequate personnel to cover a third sports venue at SODO. In meetings with your department and the EIS consultant, the Mariners made it clear that there are concerns that the Police Department does not have an adequate number of personnel to cover even existing events, much less a new venue with many new events per year and events that substantially overlap with Safeco Field and CenturyLink Field.

The DEIS does say that additional police support services "could be required" for the SODO site. That statement needs much fuller explanation, not just for events at the arena, but for the possibility of combined events at the arena and the existing venues near it. The section on Secondary and Cumulative Effects should be the place where the impacts of concurrent events are addressed. The FEIS needs to include an adequate discussion of Police Department staffing capacity and specific commitments for the arena to fund needed personnel for its impacts, including its share of police control during concurrent events.

43. Tables in Appendix E, Section 2.3 have been updated.

44. Event arrival patterns were based on a review of parking accumulation data for SoDo area garages, data from other NBA facilities, and review of traffic volume data in SoDo as described in the EIS (Appendix E, Section 1.4)

45. The maximum attendance of combined events of 72,500 attendees is the same as the capacity of CenturyLink. The occurrence of simultaneous events does not create a new level of attendance

46. See Common Response #13 Adaptive Traffic Control

I. SECTION 3.10: REGULATORY FRAMEWORK

The DEIS states that ArenaCo is going to share parking with other existing facilities, citing Seattle Municipal Code ("SMC") section 23.74.008, footnote 1 as authority for that arrangement. However, that footnote only establishes that parking used by a spectator sports facility is not classified as "principal use parking." That footnote does not alter the fact that SMC 23.54.015 requires that parking be provided for the new arena at the rate of one space per every eight seats. This should be stated in the Regulatory Framework section of the DEIS to alert readers to the fact that there is a Code parking requirement for the new arena.

The FEIS must also acknowledge that Code-required parking must be secured by covenant. See SMC 23.54.025. A permit must also be obtained for the off-site Code-required parking and other Code requirements must be met before off-site parking can be authorized and the facility declared to have met its Code requirement. The DEIS fails to mention these issues or identify how the Code standards can or will be met. It is surprising that the arena proposal would have come this far without identification of the basic parking information that is required of all other applicants.

Section 3.10.1.3 also contains an incomplete discussion of the City's adopted Street Vacation Policies, including the land use impacts of the vacation, impacts to circulation and access, requirements to mitigate for loss of parking and access, and so forth. The only discussion of those Policies in the DEIS is to note that some pedestrian improvements are proposed by the arena. More analysis is needed before a conclusion can be drawn that the proposed SODO arena is consistent with the Policies.

J. CONCLUSION

We appreciate the opportunity to comment on the DEIS and look forward to continued work with the City and/or the EIS consultant to help make the FEIS an accurate and complete evaluation of the proposed arena.

Very truly yours,



Melody B. McCutcheon

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cc: Seattle Mariners
Washington State Major League Baseball Stadium Public Facilities District

ND: 15284.015 4834-7401-0645v2

Hillis Clark Martin & Peterson P.S.

47

47. The FEIS contains an analysis of parking demand and where parking is proposed to be located (either through the use of existing off-site parking or by the construction of a new parking garage on the South Warehouse site). The EIS includes a parking analysis that takes into account that neither the Mariner's or CenturyLink Field garages may be available to Arena attendees.

The determination of the amount of Land Use Code required parking will be made by DPD during the review of the MUP application.

The analysis of the proposal relative to the City's Street Vacation Policies is being made separately by SDOT and the Seattle Design Commission as part of the Street Vacation application

48. Comments noted.

48

Individuals

Contents

Cerf, Randy I-1

Formo, Tony I-26

Shareef, Princess I-29

Stockmeyer, Cleveland I-31

Torrance, John I-35

Randy Cerf

416 24th Avenue East

Seattle, WA 98112

Cerf, Randy

1. Comment noted

September 30, 2013

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Senior Transportation Planner
City of Seattle Dept. of Planning and Development
Seattle Municipal Tower, 700 Fifth Ave. Suite 2000
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c/o John.shaw@seattle.gov

Dear Mr. Shaw:

Thank you for the opportunity to comment on the proposed Seattle Arena EIS (referred to as "EIS") (Project No. 3014195). My comments focus on the Economic Impact Report ("EIR") by Pro Forma Advisors LLC (App. F to the DEIS) and its summary in the EIS. They are occasionally referred to jointly as "EIS."

Summary

If I were to take the EIS's economic conclusions seriously, it would be hard not to be enthusiastic about a new Arena in SODO. Our community would benefit from economic growth net of impacts totaling more than \$8 billion over 30 years earning more than \$3 billion! Incredible. We would get an NBA team to root for and a huge economic boost as well. An insignificant amount of economic activity will be negatively impacted. The franchise, arena and indirect business activity would become the most profitable collection of businesses in US history. We can only wish the same success on Microsoft, Boeing and Amazon.

Unfortunately, the economic conclusion of the EIS is more than just incorrect. It is absurd. This letter will demonstrate with overwhelming evidence that the EIS represents a deliberate combination of upward distortion of benefits, downward distortion or misrepresentation of negative impacts and lack of acknowledgement of others. This is not a case of minor quibbling about assumptions.

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Summary EIS issues follows. Supporting detail can be found later in this letter.

1. **The EIS reaches conclusions inconsistent with the academic research.** The unambiguous consensus of the serious economic research is that new Arenas and new sports franchises have a roughly neutral or negative economic impact on any City. This does not mean an Arena is a bad idea. I, like many, would receive intangible benefits from having a home team to root for. It does mean that any rationale consistent with the consensus of economic research should build the case without representing absurd economic benefits regardless of the site. Factors that contribute to the EIS's conclusion in conflict with the research include:
 - a. Indisputable negative impacts are ignored or distorted. Examples: Incremental unreimbursed costs to City, economic risks to Port and industrial areas and Key Arena, additional commuter time, traffic impact on downtown businesses, incremental city costs from the Arena (unsupported by taxes), economic viability of Key Arena.
 - b. Economic benefits are generally quantified but the most important costs, even if mentioned, are not creating a selection bias. Quantitative totals are therefore completely meaningless. Add up the pluses and ignoring the minuses will lead to a silly total. Examples: traffic and pedestrian mitigation costs, Port and industrial area job impacts.
 - c. Economic principles are misapplied. Examples: substitution, economic multipliers, elasticity.
 - d. The terms of the MOU are not reflected. Example: Taxes diverted to debt service treated as an economic benefit.
 - e. The EIS and EIR mischaracterize their own conclusions when quantifying or summarizing results. Examples: conclusions ignore statements about negative impacts in the body of the text.
2. **The proposed SODO location adds a level of economic and employment risk that does not appear to apply to other sites,** at least not to the same degree. The EIS fails to make a meaningful comparison of the relative environmental and economic impacts of the SODO site to other alternatives. The EIS fails to look at the most

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2. 1.a. Many of these samples confuse fiscal impacts and economic impacts. There are economic risks to the Port and industrial areas and risks to Key arena are economic impacts, but other impacts are potential fiscal costs, including unreimbursed costs to the City, & incremental city costs, traffic and pedestrian mitigation costs.

1b. The report mentions possible competitive risks that could not be quantified as they are measure of perception of a small amount of players. Given that these impacts could not be quantified they are not included in the totals. The total impacts are the net impacts of the project, noting there may or may not be additional impacts dependent on the perception of Port carriers.

Items 1c, 1d, 1e are addressed in other questions

3. The total impacts of a proposed arena sited at the KeyArena and Seattle Center sites are included in the executive summary and the report.

The report quantifies the impacts that can be quantified and notes the impacts that may not be quantified, including competitive risks and the intangible benefits of the arena.

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significant relative impacts and commits an extensive array of analytical errors. It even mischaracterizes its own findings. The potential differential impact of the SODO site could cost Seattle hundreds of millions of dollars and thousands of middle income jobs. The EIR gives passing mention to some of the risks deep in the EIR but fails to analyze these risks and then mischaracterizes its own analysis in its quantitative work and summary. The EIR also fails to look at any King County locations outside of Seattle.

3. ***The intent, if not the letter, of SEPA appears to have been violated in several important regards.*** For example, under WAC 197-11-440 the EIS is supposed to summarize the potential impacts and areas of controversy. Instead it completely leaves damage to Port and Industrial sector employment off of the list of summary impacts. The lawyers will argue about whether it was appropriate to limit site alternatives to exclude non Seattle King County. SEPA calls for clear language. The summary sections are confusing, deliberately misleading and inconsistent with the body of the text. I will leave it to the lawyers to argue the law.
4. ***While the review process superficially follows the SEPA guidelines, the intent of the review process is not being honored. The City has the fiduciary responsibility to provide the public with an unbiased document*** that looks fairly at the major environmental and economic questions and fairly looks at the reasonable alternatives. No alternatives in King County outside of Seattle are looked at. Not only does the draft EIS fail to look at adequate alternatives but where it does, it fails any sort of “reasonable man” standard. The public is supposed to have the opportunity to comment on reasonable analysis but so much of the analysis of the most critical issues has not been done yet. This may be addressed in the next draft. We can only hope that it will include the missing components presented in an unbiased manner. But if it does, the next draft if fairly presented will provide the first reasonable opportunity for review.
5. ***The public deserves an unbiased draft followed by another comment period.*** There is no way to comment on analysis that is simply missing from the EIS. While SEPA does not envision a second comment period, I would like to believe that the

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4. Potential economic impacts are discussed in the Economic Analysis (Appendix F to the FEIS). However that analysis is not a basis for determining the adequacy of an EIS.
5. See Common Response #1 Public vs Private Project; Range of Alternatives.
6. The City disagrees that the analysis contained in the EIS is biased. The public will have additional opportunities to comment to decision makers regarding the proposal and the adequacy of the EIS when the decision makers are presented with substantive decisions regarding the project.

Mayor, County Executive, City Council and City administration would also like to see a fair, transparent and unbiased process. Unless the City oversees a competent and unbiased draft and then provides a second comment period, the City, City Council, City economists and its other executives will be subject to perception that they are manipulating the process to mislead the City, County and its residents. I would like to believe that is not their intent. They may be as appalled at the draft EIS as I am. Failure to assure a reasonable process with unbiased conclusions could damage their political or professional reputations.

Background – Where I am coming from

These comments were prepared by me and not for any client. I read the EIS as a private citizen with no particular axe to grind. I had read the MOU at the request of a friend who asked me to help sort it out, but the EIS and EIR I read out of curiosity. I was paid by no interested party for looking at the EIS. Nor am I personally likely to be impacted one way or the other to any meaningful degree.

My interest in the EIS is simply as a citizen who believes in good government. I want to see our community make a reasoned decision based on good and unbiased data.

I will be upfront about my own perspectives going in. I am an NBA fan who would love to see the Sonics back. I had read enough about stadium economics to be skeptical of major economic benefits accruing to a community from public investment, but also believed that professional sports add significant intangible benefits to a community and as such had no inherent issue with modest public investment. But I did and do believe that the public and policy makers should be treated as adults. They should be given clean, unbiased information summarized clearly to support good decisions about policy alternatives.

I have an MBA from Stanford. My undergraduate degree was in Economics, Political Science and Computer Science from University of Colorado (Magna Cum Laude, Phi Beta Kappa). My thesis was on the functions of analysis in the political process and during my

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research, I read many environmental impact statements. Years ago I worked as an economist and policy consultant. In the last 25 years, I have worked as CFO of public companies, private companies and non-profits. I have also worked (and continue to work) as a financial, strategic and business consultant. I am currently studying to become a certified financial planner. I am not an expert in traffic, infrastructure engineering or Port economics. I am a student who reads history and economics for fun.

My first scan of the EIS was a casual. I had no intention of commenting. I was surprised by my first impression. I had expected a somewhat cumbersome document, potentially with some sort of subtle analytical skew. Had that been the case, I never would have bothered to read the document carefully or to write this letter.

The first thing I noticed was that the summary was confusing and only dimly related to the body of the text. Even with first skim, I thought I saw a level of bias and either incompetence or deliberate error sufficient to induce a more thorough read.

On each reread the document I was increasingly appalled. The document did worse than fail to inform the citizens and policy makers. The EIS seemed design to deliberately mislead us into believing that the proposed Arena at SODO was a phenomenal economic boon to our community and was the best and only site to consider.

Detailed Comments on the EIR and EIS

The EIS and EIR are unequivocally biased in favor of an arena specifically located at SODO and fail to provide either the public or political leaders with useful information on the economic costs and benefits of the Arena and sports franchises.

Below please find a more specific summary of the issues. After going through it, I am sure you will conclude that the case for bias that is overwhelming by any "reasonable person" standard. Don't let the bulk of the EIR give you the false impression of a thorough analysis.

7. Comment noted. See Economic Impact Analysis included as Appendix F to the EIS.

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1. The EIR erroneously and simplistically measures the Arena's economic impact to the Port of Seattle in terms of "lost" trucking time resulting from traffic delay.

The EIR needs to assess the potential impact on the Port of Seattle in jobs and economic activity. While the EIR does acknowledge that the Port of Seattle is a major driver of economic development in Seattle, the EIR is devoid of analysis of the competitive impact of the Arena on the Port of Seattle or the maritime related manufacturing jobs and other jobs in SODO and Ballard. This is an imprecise exercise. It needs to be done in an unbiased manner with ranged conclusions. But not doing any analysis at all seems ridiculous.

At the outset, the EIR as that the Port of Seattle is a major driver of economic development in Greater Seattle and the State as a whole. A Port-authored 2009 economic report, which the EIR accepts as fact, states that seaport activities accounted for 56,256 jobs (direct, indirect, and induced) and another 135,100 related import/export jobs. These jobs break-down as 21,695 direct jobs and 34,561 "induced" jobs. EIR, at 71. The Port also generates \$1.6 billion in direct personal income, \$2.5 billion in business revenue, and \$457 million in state and local taxes. More than half of its exports are agricultural products, chiefly from Eastern Washington. *See generally* EIR, at 54. The sum-total of Port of Seattle-generated economic activity is \$30 billion and the Port itself generated \$85.7 million in "operating revenue." EIR, at 71.

But all of this economic activity depends on 10,776 to 13,664 daily truck trips to and from the ships that call at the Port. EIR, at 72-73 (citing truck trips).¹

The EIR not only concedes that the Port is a major driver of the economy, it also admits that the Port of Seattle competes in a brutally competitive and mercurial trade market. EIR, at 91-93. It concedes existing Port transportation and traffic congestion conditions are sub-optimal and that even the "no action" alternative will produce degrading truck-delay

¹ The range of truck trips depends on moving 2.8 million containers today versus 3.5 million shipping containers expected in 2030. A small percentage of these containers go directly from ships to rail.

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8. The Economic Impact Analysis (Appendix F) projects that the traffic costs are the main impact the arena will have on the Port activities. The analysis takes the trucking costs developed in the section "Port and Industrial Impacts" and translates these results into total economic activity (output) in the area in pages 54 - 60.

To simplify the results, the impacts of Port Traffic and non-port traffic were presented in terms of output (i.e. economic activity) in the executive summary, but our model also calculate jobs and earnings associated with this output.

The Economic Impact Analysis accounts for compensation and jobs displaced as a result of the substitution impact for arena spending and traffic impacts. Negative traffic impacts to port and non-port businesses and sports and entertainment spending displacement is analyzed by industry, accounting for the differences in income. Other than the Port traffic and non-Port traffic related impacts Pro Forma does not anticipate other quantifiable industrial and Port related job losses.

The 13,664 daily truck trips is the Port total for all trips to and from all terminals for 3.5 million TEU (Exhibit PI-2). Of that total, an estimated 675 (4.9%) are in the hours and locations potentially affected by Arena-induced delays (Exhibit PI-6). Those delays would occur on an estimated 116 days each year (Exhibit PI-23), or 46% of the 250 working days. On average, then, 2.3% (4.9%x46%) of all Port truck trips could be affected to some degree.

Of the 675 trips subject to delay on event days, an estimated 19 (2.8%) would move to or from local Seattle points (e.g. the SODO study area) while the others move to or from the rail yards or to and from points beyond the SODO area (Exhibit PI-6). The affected trucks trips to and from non-rail SODO points would therefore average 0.06% (4.9%x46%x2.8%) of the Port total.

Based on the current traffic impacts, the total direct costs to businesses moving product through the study area has been calculated by Pro Forma to be in the range of \$150,000 as a result of the arena. According to InfoUSA, there were 4,700 businesses in 2011 with, excluding Starbucks, approximately \$1.4 billion in total economic activity in the Study area. Industrial businesses make up approximately 275 businesses with \$483 million of this activity. As noted the projected traffic cost is spread to all businesses moving product in the area.

Certain industrial businesses may have slim profit margins, but without a detailed survey it is not clear how the estimated impacts compare to that profit margin. The traffic cost impacts identified are being spread across a number of businesses. A \$10 million business could be running a 1% profit margin, but if they bear the 5% of the traffic costs (i.e. they owned 1 out of 20 delayed trucks)

conditions. EIR, at 87. It acknowledges that, when it comes to ocean freight, the capacity, service, reliability, cost, and ease of doing business are the keys to a viable commercial seaport. EIR, at 92-94. Time is money when it comes to Ports. EIR, at 93. And the EIR acknowledges that “carrier or customer perceptions of reduced reliability and ease of doing business” at certain Port terminals is key to the Port’s commercial viability in the shipping industry. EIR, at xxiv; EIR, at 53-54; 94. The key point, as conceded by the EIR, is that “increased trucking cost, reduced throughput capacity and especially diminished reliability could adversely affect to competitiveness of Terminals 25/30 and 46 and the Port’s competitive position on the West coast.” EIR, at 94.

While the EIR admits the Port’s importance to the economy, the difficult local transportation and competitive environment in which the Port exists, and the already-stressed transportation infrastructure currently serving the Port, the *EIR declines to estimate the dollar cost to the city, region, or state (in terms of dollars and lost jobs) in the event on-the-ground congestion and negative perceptions in fact lead to a loss of Port business or, worse, jeopardize the viability of the Port.* EIR, at xxi. **The EIR claims “these risks could not be quantified for this report.”** EIR, at 94. **This is a patently ridiculous assertion.** While outlining a reasonable methodology for making this assessment is beyond the scope of this letter, it would not be difficult. The contractor may or may not be competent to perform the analysis. Undoubtedly a precise, un-ranged conclusion is not reasonable to expect. But in an EIR that has zero issue analyzing and ranging conclusions on issues such as the direct and indirect annual economic impacts, it seems a clear example of selection bias.

Instead, the EIR simplistically measures “direct cost impacts” as “lost” trucking time resulting from the additional traffic and congestion the Arena will directly and indirectly generate or the Arena’s cumulative impact on transportation and congestion. EIR, at 55.

The EIR compounds this bias by misrepresenting its own conclusions. The EIR projects the Arena will result in a cumulative delay of between 1813-2299 hours of trucking time. EIR, at 88. It bases this analysis on 13,664 truck trips daily. EIR, at xxi. At \$48 per hour of

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this cost would amount to \$7,500 per year and would reduce their profit margin from \$100,000 to \$92,500, 7.5%. If a business is a \$100 million business running a 1% profit margin this cost would reduce their profit margin from \$1 million to \$992,500, 0.75%.

At this level of impact and without evidence to show that there is a concentration of truck impacts to a particular business it seems unrealistic to provide an estimate for marginal businesses.

There is no case to say that the competitive disadvantage due to traffic would erode agricultural shipments by 10% and non-agricultural by 2%. The impacts “estimated” by the author as a best case and worst case have no basis.

Also, it should be noted that all impacts for the project presented in the economic impact report are annual not aggregated across a 30 year period. The author’s 30 year “estimates” are not comparative to the annual estimates presented in the economic impact report.

delay, the ERI goes on to assign a paltry sum of \$230,000 as the “upper limit of Port and Industrial Business Impacts.” EIR, at x, xix. ***This figure*** simplistically represents the incremental amount of time during which Port-bound or leaving trucks will be delayed as a result of the Arena and ***ignores the qualitative observations the EIR itself makes and proceeds to quantitatively misstate its own conclusions and then carry that misstatement to its summary conclusions!***

The direct cost of arena-caused truck delay is only a small portion of the impact picture. If another port is almost as good for a vendor, if the extra shipping cost, delays and uncertainty exceeds the competitive advantage of the Port of Seattle, Seattle could lose 100% of that business. This is the essence of the missing competitive analysis. The cost is not, as alleged in the EIS solely the dollars paid to a trucker but also includes a host of other factors such as:

- Extra time in traffic can cause some shippers who now haul two loads per truck per day to only haul one. Trucker’s daily driving hours are limited by the FTC.
- Spoilage (apples)
- Missed ship departure deadlines
- Inability to run two trips instead of one due to FTC trucker hour limits.
- Logistical planning complexities due to diminished ability to predict traffic time leading to more logistical planning errors. If shippers have to plan for worst case scenarios, the competitive impact increases.

The Port is a highly competitive international business. Most of the Port’s customers are “discretionary” users who can take their shipping elsewhere. Primary competition comes from Tacoma and the BC ports. Traffic congestion around the Port is a major factor contributing to the Port’s difficult competing with other port. Seattle has a competitive advantage over Tacoma because Seattle is 45 minutes closer to Eastern Washington agriculture.

Simply assuming that shippers can absorb the extra costs (or looking at elasticity of demand) may not make sense for all shippers. If the additional costs of delays and spoilage consume a shipper's profit margin, then the shippers will go out business. If as few as 1% of the shipments are from, economically marginal shippers, the project could cut Port volume by \$850,000 per year escalating with inflation over time with a 30 year impact of \$40 million and an economic impact on the region of \$80 million. The impacts would be about half of the totals. The impact on jobs could be 200 at the Port and 500 locally.

If traffic time, costs and uncertainty (as big an issue potentially as costs) erode this advantage then a significant portion of the agricultural (and other) shipments could migrate to other ports. If only 5% of the agricultural shipments are lost and none of the non-agricultural shipments are lost, the Arena project could cut annual volume by more than \$2 million (\$2013) per year with a 30 year impact of \$100 million (and \$200 million to the region) with a present value of about half of that with potentially 400 jobs lost (and more than 1000 regionally). If the competitive disadvantage due to traffic erodes agricultural shipments by 10% and non-agricultural by 2%, the annual economic impact on the Port would be closer to \$5 million (\$2013) with a 30 year impact of about \$250 million and a regional impact of more than \$500 million over 30 years, again with present values about half of that. Job loss could be in excess of 1,000 at the Port and more than 2,000 regionally.

While it is impossible to precisely estimate the impact of the Arena project on competitive advantage, the examples cited above are modest versus a worst case projection. The EIS and EIR must not only address these neglected issues but also must list out the full range of possible impacts on the port including potential worst case scenarios.

The EIR is fair to point out that the Port faces a number of other competitive pressures and threats and that, regardless of the Arena, traffic in the area of the Port will increase over time. But the EIR adopts a "this stuff is going to happen anyway" approach when, instead, the conclusion should be that the Arena's increased traffic congestion is even more important because the background rate of traffic will be increasing anyway. That traffic is

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already bad and deteriorating makes the impact of incremental traffic that much more severe. The EIS should be doing an appropriate analysis of impacts at the margin on a strained system. The Port faces other competitive issues as well such as the expansion of the Panama Canal risks diverting traffic. Together, the Port is that much more vulnerable to an Arena project at the margin so any lost business is that much more critical.

The Port could try to maintain its profitability and respond to declining volume by attempting to increase its prices to the remaining shippers but only at the hazard of creating further competitive disadvantage across the Port. The impact on the Port Income statement is not examined.

Rather than concede that the Arena is inconsistent with reducing traffic congestion and maintaining the Port's competitiveness, the EIR attempts to soften the impact by suggesting that traffic be "mitigated" through unfunded roadway improvements or non-existent "protective" transportation policies. EIR, at 96. The EIR needs to do more than say that the Arena's traffic can and should be mitigated. It needs to measure the probability of that mitigation occurring, the cost of the mitigation borne by the public, the consequences to the Port if the mitigation is not completed or is only partially completed and outline the impacts that cannot be mitigated..

2. The EIR fails to assess the impact of the traffic on the SODO and Ballard industrial areas

The industrial areas of Ballard and SODO are intertwined with the Port in an economic ecosystem. All rely on the I-99 corridor. Impact on these industrial areas needs to be assessed in the EIR qualitatively and quantitatively. What happens if SODO traffic becomes so aggravated after the Arena that businesses decide to move elsewhere; is the expense of moving and the concomitant loss of business and taxes to Seattle accounted for in that figure?

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9. Comment noted. See Common Response #12 Gentrification. Direct impacts are estimated at \$66,141 to non-Port trucks. Total impacts (accounting for the implications of the displacement of the direct impact in reduced employee and business purchases) is estimated at \$58,000 for the City and \$59,000 for the County.

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The EIR did not directly confront the issue of whether the Arena would jeopardize SODO's "working" nature. This is particularly surprising in light of the fact that the Seattle Planning Commission made this a central theme of its report on July 27, 2012:

However, we caution the City that developing an arena in the proposed location has the potential to generate adverse impacts that may threaten the container port, maritime, industrial, and manufacturing sectors – which have been found to be vital to the health and resilience of our local, state, and regional economy and that are expressly protected and promoted by the City's guiding policy document: the Comprehensive Plan. Based on the "findings from the Commission's two-year analysis and outreach effort addressing the City's industrial lands and on a thorough review of the arena proposal, the Commission believes that locating a new major sports and entertainment facility inside the Duwamish Manufacturing and Industrial Center (MIC) holds a strong likelihood of displacing living wage jobs and nearby businesses and disrupting container port operations and freight mobility. We believe these risks are inherent with a spectator sport facility at this location. The Commission recommends that the City not take actions that further place this proven economic asset at risk. At the very least the Commission believes more review and analysis should be conducted before the City takes further action.

As with the Port, the EIR assigns a "cost" to non-Port trucks due to additional traffic generated by the Arena as only \$59,900, county wide. EIR, at xx. Elsewhere, it provides a figure of \$38.351. EIR, at 101 (Ex. PI-33). As with the Port, there is no analysis of the competitive impacts and its impact on business closures, businesses moving and businesses contracting.

3. Failure to account for the costs of additional commuter time

While the EIR does examine the costs to shippers of extra time in traffic, it fails to fully account for the costs of the additional traffic. While the EIR does look at the cost of time for non-Port trucks, the cost to the thousands of non-port commuters is not addressed at all. For example, what value should be placed on the time of a professional whose time is worth a lot of money and who sits in additional arena-generated traffic? It is inappropriate to value the time of citizens caught in traffic at zero. If 1000 citizens add ½

10. The economic impact report responds to the analysis requested as part of the MOU to estimate the economic and fiscal benefits generated by the proposed Arena and evaluate potential impacts of the arena on the Port of Seattle.

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hour to their commute for 100 events during a year (41 basketball, 6 NBA playoff games (average) with identical numbers for hockey plus a handful of other events) at \$50 per hour, the impact would be \$2.5 million per year escalating over time. In addition, the traffic would dissuade customers from coming to Seattle for other businesses. The impact over 30 years could be as high as \$100 million with a present value of half of that.

4. Failure to account for significant additional costs to the City

The EIR fails to address the potential for significant additional costs to the city including, particularly additional costs of required traffic infrastructure (to maintain or improve existing conditions) and public safety. As to public safety, the MOU states that the additional costs for public safety will be covered by Arena Co for events. But it fails to identify or define these costs. The fully loaded costs could reasonably be more than double the direct costs (administrative support, capital costs, benefits, etc.) Costs to the City, in fact, could be in the \$10-\$50 million range. Unless this is clarified, the public safety support could cost the city scores of millions. In addition, the EIS appears to ignore the costs associated with the additional traffic management and public safety that must accompany a facility being used by thousands of Arena-bound cars 190 days a year.

5. Failure to account for impacts on public safety and traffic infrastructure.

The EIS and EIR fail to address three basic questions:

- What would the mitigation investments cost?
- When would they have to be made (or if they are accelerated investments that might have to take place eventually anyway, how much would they be accelerated?
- What traffic and pedestrian impacts would not or could not be reasonably mitigated and what would they cost in safety and economic impact?

The EIS overlooks that the Arena MOU does *not* provide for reimbursement of these costs. While the MOU diverts \$40 million of tax revenues to the SODO Infrastructure Fund,

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11. The economic impact report responds to the analysis requested as part of the MOU to estimate the economic and fiscal benefits generated by the proposed Arena and evaluate potential impacts of the arena on the Port of Seattle.

12. Comments noted. The EIS Transportation Study was conducted using methodologies approved by the lead agency (City of Seattle), and consistent with SEPA requirements and practices. The incremental transportation impacts have been identified and are reflected in the difference between conditions described under the No Action Alternative and any of the Alternatives. There is no requirement or precedent to incorporate mitigation cost information, in total or on the margins, or to speculate on the final distribution of the monies identified in the Memorandum of Agreement. In fact, the \$40 million identified is specifically excluded from use to mitigate identified project impacts.

As identified in the documentation, the overall effect of the added traffic due to the Arena would largely be in the form of increased frequency of events within an overall attendance range consistent with that now experienced as a result of events at the existing, neighboring venues, either as single events or dual events. The number of event days has been documented to increase, however the magnitude of the increased traffic is not expected to dramatically degrade traffic conditions from those occurring today, or from those forecast to occur in the future without the proposal.

When the potential development of office use on the site is considered, a use that contributes to both AM and PM peak hour commute period demands every weekday, it could be concluded that the overall effect of the Arena on areawide traffic is likely to be minimal.

Specific areas of impact were identified, including impacts associated with diverted traffic due to the proposed vacation of Occidental Avenue S. and the crossing of the multiple rail tracks along S. Holgate Street. Mitigation specific to these impacts, consistent with the marginal impacts identified, have been described in more detail in the FEIS.

there is no analysis in the EIS suggesting that this would be sufficient immediately or over time to maintain existing conditions or to improve people and freight mobility across the spectrum of vehicles.

Again, the analysis fails to properly employ an analysis of impact at the margin. Incremental traffic on an underused system has little impact. Incremental traffic on a congested or strained system has a huge impact where the same traffic on a lightly used system would not. A proper marginal cost analysis need to analyze those costs and attribute the cost to the marginal new traffic, vehicular and pedestrian. I expect and that the analysis in the next draft will look at the costs of mitigation investments that retain the status quo traffic congestion and pedestrian safety, assess and value the the impacts that could not be mitigated and assess the acceleration of infrastructure investment needs that the Arena project would require with an analysis of the time value of money cost of accelerating those investments.

This analysis would, of course, need to be performed at each site compared. Without this kind of analysis, I have a hard time fathoming a way that reasonable comparison is possible. I have been told that mitigation investment could cost \$300- \$500 million but I have no idea. I do expect the City to have a point of view on these costs. The EIS does not offer up an alternative estimate.

The Arena could accelerate the need for additional infrastructure investment increasing the present value of those costs. Traffic issues can, in some cases be mitigated with expensive infrastructure investment. There are certainly a range of mitigation possibilities. With greater investment presumably comes greater mitigation. With lesser investment lesser mitigation. I expect that the next draft of the EIS/EIR will perform this analysis.

Some of this investment may be necessary with regional growth even without the Arena but the traffic impact of the Arena could accelerate the need. The present value of a 2013 dollar spent on infrastructure in 5 years instead of 10 years is about \$0.18. This means that the City faces additional infrastructure costs due to traffic of \$50 million, the increase

in the present value of those costs would be about \$10 million. If the city more extensively addresses the traffic problems at a cost of \$1 Billion, the present value of the accelerated costs could reach to \$200 million.

I have heard that the cost of incomplete mitigation of traffic *could cost upwards of \$500 million*. I certainly do not have the resources to assess this number. The City does have the resources and does need to make the proper assessment of the costs of mitigation and of the impacts that cannot be mitigated. Without quantifying these costs, the EIS does not serve its purpose.

6. Failure to account for the impact of Arena Traffic on non-Port and non-Industrial businesses

When there is an NBA or other Arena event clogging the highways, consumers are less likely to travel to downtown or through downtown to shop, dine, or attend other events. They either stay at home or shop locally. Game-day traffic impacts all downtown businesses, particularly Pioneer Square. A good example of this is the Seattle Planning Commission’s own report, dated July 27, 2012. This impact has nothing to do with the substitution effect. Many of these dollars will be spent in the suburbs when people respond to the traffic by staying local.

7. Failure to properly treat Arena taxes. The EIR’s financial projection of a net positive economic impact erroneously assumes the Arena itself will generate local taxes. It will not.

The Arena MOU clearly specifies diversion of most of Arena related tax revenues to service the debt that the City and County would incur to co-finance the Arena while the EIR underscores the benefit to the City and County of the tax revenue – an unambiguous error. Those diverted taxes that do not go to debt service largely go to Key Arena improvements and SODO infrastructure but in no case does meaningful money go to fund city services for a minimum of 20 years.

The EIR analysis was done at a time when interest rate were lower than they are today so presumably taxes would have to be diverted for a longer period and the “Additional Rent”

13. Arena traffic impacts are identified in Appendix E and Section 3.8 of the FEIS.

14. Time Value of Money

Pro Forma Advisors acknowledges that interest rate fluctuations will impact the NPV calculation. However, there is no way to prospectively what interest rates will be in the future or the timing and impact of fluctuations.

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referred to in the MOU would be higher. The EIR should update its analysis to reflect current market conditions.

The EIR's tax analysis is economically incorrect and is systematically mischaracterized, most significantly in the conclusion. The net tax benefit, in present value terms, is probably nominal and in no defensible analysis does it remotely approach the "greater than \$200 million" as characterized in the EIR. Since any net benefits are in the distant future, their impact is significantly reduced by the time value of money.

8. Failure to acknowledge or assess the incremental cost burden to the City and County associated with the Arena.

The proponents of the Arena argue that the incremental revenues are akin to "found money" so the diversion of revenues are not material. The EIS and EIR need to assess the incremental cost burden to the City and County associated with the Arena.

First, the Arena will cost the City and County money. City schools, public safety, parks, administration, infrastructure and other services for most employees in the City are funded primarily by taxes paid by those employees and taxes paid by the employers. This is not the case for employees of the Arena and its Sports teams. Depending on the assumption set used, either city services will need to be cut or tax payers would have to pay higher taxes because the Arena and sports franchises are not paying the taxes that other employers do.

The EIS further neglects to assess the incremental costs to the city of supporting Arena events. MOU does state that the City will be reimbursed for its incremental public safety costs at events. But it does not say that the City will be compensated for the fully loaded costs including (but not limited to): benefits, capital investment associated with staffing levels, administration, etc. These costs add up to increase the cost to the City of \$1.00 spent on direct compensation to roughly 2.5 times what is paid directly. If 50 additional personnel are hired for 5 hours for 100 events per year (NBA, NHL, other), the City will be out of pocket about \$400,000 per year or \$12 million 2013 dollars (closer to \$16 to \$20 million with inflation.)

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- 15.** The economic impact report responds to the analysis requested as part of the MOU to estimate the economic and fiscal benefits generated by the proposed Arena and evaluate potential impacts of the arena on the Port of Seattle.

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9. Failure to correctly assess the “substitution impact.”

The “substitution effect” is the amount by which monies spent on arena events would be spent elsewhere for other types of spectator sport or leisure activities. Thus, the substitution effect lowers the amount of revenue that the Arena is projected to yield to the city and regional economy.

“Few fields of empirical economic research offer virtual unanimity of findings. (Research has) uniformly found that there is no statistically significant positive correlation between sports facility construction and economic development”

(Baade and Dye, 1990; Baim, 1992; Rosentraub, 1994; Baade, 1996; Noll and Zimbalist, 1997; Waldon, 1997; Coates and Humphreys, 1999)

[Journal of Economic Perspectives—Volume 14, Number 3—Summer 2000—Pages 95–114](#)

“There are also an overwhelming number of academic studies that show little or no economic benefits of sport facility subsidization.”

[“The Economic Impact of Sports Facilities”](#), 2010

The EIR alleges modest substitution effects inconsistent with the research but does not justify its novel projections or state a reason for ignoring applicable research. The EIR assumes a “substitution impact” of between 10-20% (EIR, at xviii; 50-51) and concludes that the Arena’s “gross impacts” need only to be reduced by \$27.1 to 82.4 million annually. EIR, at ix. The “substitution effect” is the amount by which monies spent on arena events would be spent elsewhere for other types of spectator sport or leisure activities (or other spending alternatives in general).

There are an overwhelming number of academic studies that show little or no economic benefits of sport facility subsidization. Many of these studies point to extremely high substitution effects. The substitution effect argues that “as sport- and stadium-related

16. Substitution Effect

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As outlined in Pro Forma’s report, a substitution effect was estimated specifically for the report’s market and study jurisdictions (e.g. City of Seattle, King County). There is a component of spending at the proposed new Arena deemed to be a shift from “existing” local entertainment options/venues to the new Arena (“Substitution”). Pro Forma Advisors has accounted for this redistribution and has removed the relevant amounts from the gross impacts. When evaluating the potential impacts to the Seattle market, they considered applicable literature and integrated relevant data into our analysis as appropriate. However, because of critical differences in the literature studies and underlying projects, general “conclusions” of both positive and negative studies cannot be generically applied to the study project.

In deriving their projections, Pro Forma was cautious to not include data which was inconsistent with the case in question and/or included variables that would prove misleading if applied in the study context. Where possible Pro Forma relied on data specific to the Seattle market and the report’s specific study jurisdictions. The analysis was able to use specific Seattle data from before and after the Sonics exited the market and applying the inverse relationship of this departure as an indicator of the impact regarding re-entrance/re-introduction of a team back into the market. Pro Forma believes this along with data on spending behaviors, market factors, geography and other economic factors provided credible and realistic indicators from which to project the relevant impacts.

activities increase, other spending declines because people substitute spending on sports for other spending” (Coats & Humphreys, 2004). Sources that summarize the academic research include (each with a hyperlink to the source):

- [Robbie Robinson, *The Economic Impact of Sports Facilities*, The Sports Digest, 2010](#)
- [Coates and Humphreys, *Do Economists Reach a Conclusion on Subsidies for Sports Franchises, Stadiums, and Mega-Events?*, Economic Journal Watch, 2008](#)
- [Humphreys and Howard, *The Business of Sports* \(a three volume compilation of the literature\), Praeger, 2008](#)
- [Coates and Humphreys, *Caught Stealing*, The Cato Institute, 2004](#)
- [Coates and Humphreys, *The Effect of Professional Sports on the Earnings of Individuals: Evidence from Microeconomic Data*, University of Maryland BC Economics Department Working Paper 03-104, 2003](#)
- [Neil de Mause and Joanna Cagan, *Field of Schemes*, University of Nebraska Press, 2008](#)
- [Gregg Easterbrook, *How the NFL Fleeces Taxpayers*, The Atlantic Monthly, 2013](#)
- [Richard Florida, *Do Basketball Arenas Spur Economic Development?*, The Atlantic Cities, 2012](#)

The EIR’s 10-20% substitution effect figure is wrong for several reasons. First, the literature pertaining to professional sports stadia and arenas reflects that 10-20% is extremely low for the substitution effect of a professional sports stadium or arena. See discussion below. Part of the failure is an assumption that spending on Arena events displaces only “entertainment” budgets. Second, the “substitution impact” figure relative to the loss of the 35-40 events (which produce \$3.2-3.7 million) at Key Arena reflects only the dollar amount of events “lost” at that venue. This estimate completely fails to account for the impact these lost events will have on Key Arena itself, a facility already owned by Seattle. There is no competitive analysis of the Key or an analysis of the ability of Key Arena to absorb these losses and remain profitable. Nor is there an analysis of traffic impacts on other Seattle businesses. The consensus of the literature is that only dollars spent by out-of-region visitors represent meaningful new activity. I would expect that the substitution effect would be closer to 90%.

There is almost no serious independent research that I could find that seriously disputes these conclusions.

The EIR conclusion of limited substitution effect is not supported by the empirical evidence. The substitution effect is high for a variety of reasons. The most obvious is that consumers have finite discretionary budgets. When they spend on the NBA, they spend less elsewhere.

The EIR does not document its rationale for the range of substitution effects that it uses. Nor does it address the considerable body of research that demonstrates that the substitution effect is greater than they project.

The next draft of the EIR must, to maintain any credibility, adjust its projections of the substitution effect upward to reflect the research consensus, include non-entertainment substitution and include non - substitution impacts on other businesses (such as traffic).

10. Failure to adjust economic impact analysis for the higher economic multiplier that should be applied to the businesses displaced by substitution that for team revenues.

The economic impact of spending on athletic events has less impact on the local economy than many of the activities that are being displaced. I.e. \$1.00 spent on an NBA event does far less good to the community than \$1.00 spent on the activities it is displacing. The majority of the direct funds that are spent on attending an NBA event do not stay or recirculate in Seattle. Rather they flow to federal taxes, debt service, distant communities and investments. See the list of sources listed in item 9 above.

Two thirds of the economic impact of the Arena outlined in the EIR stems from operations. But far less than half of this money flows to our community in any way. One piece of the impact, about \$11 million per year pays for debt service on debt that would not otherwise be obligated. The vast majority of the revenues from the franchise will go to the 12 roster players, general manager, head coach and owner profits. 30-40% of their salaries and earnings go to federal taxes and out of the community (versus far less for much of the

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17. The economic multipliers and the inputs used for the economic analysis were specifically adjusted to account for local economy impacts.

By definition, direct impacts include all revenues that occur in a geography. However, as noted by the comment, a significant share of players' salaries may be spent outside of the City of Seattle and King County and the analysis was adjusted to account for this non-local spending. Only 15 to 20 percent of players' salaries have been included in the direct impact. The direct impacts were adjusted downward from \$244 million to \$157 million (Seattle) and \$171.8 (King County) to account for this non-local spending.

Multipliers are used to estimate the indirect and induced impacts. It should be noted that multipliers are applied to projected local expenditures, not total revenues. As described in the Methodology section, local expenditures exclude taxes and licenses as well as rent and lease payments, debt service. It only includes projected local management and other staff spending and purchases made from the local area. Total expenses were in the range of \$193 million, but the local purchases that the multipliers are applied to are approximately \$42 million (Seattle) and \$67 million (King County).

Further multipliers, are calculated to account for the "higher" or "lower" re-spending of dollars within an economy by each industry and their eventual leakage outside of the area.

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The analysis also applies multipliers to the estimates of displaced business from substitution and traffic delay costs.

By specifically accounting for direct local expenditures and using multipliers for both the arena impacts and displaced businesses, the analysis accounts for differentials in multiplier between arena impacts and displaced business impacts.

activity they are displacing). The majority of the players and management live either in suburban Seattle or in other, more distant cities where they spend their money. Even the money they spend in any community is limited. The owners have sufficient wealth that their consumption of goods and services is not impacted by profits. The players whose lifetime earning potential is concentrated in a few years save and invest the majority of their aggregate salaries rather than spending them at all, not to mention locally. These factors combine to account for the low multiplier demonstrated by the research.

The EIS and EIR need to clarify the impact of the lower economic multiplier on Arena and NBA spending versus the money that would have been spent at displaced businesses. The correct multiplier analysis needs to then be applied to both the direct benefits (expect a multiplier of about 0.5X), the induced benefits (expect a multiplier of 2X-3X), the substitution losses (expect a multiplier of 2-3X), the impact on the Port and related businesses (expect a multiplier of 2-3X), the impact of business lost as traffic keeps people away from downtown, commuter time, etc.

11. Failure to look at the impact of Arena Construction on other businesses

The EIS and EIR fail to look at the impact of Arena construction on the construction costs of other residential and commercial projects in the region. Will the demand for concrete, steel or labor raise the costs to other projects? What would the incremental cost to other builders be? Would that limit other construction? These areas are easier to quantify than many of the benefits included.

12. Failure to acknowledge or estimate the regional job losses associated with the Arena and failure to speak to the change in character of the new jobs versus the lost jobs

The EIS and EIR fail to examine the jobs that would be lost as a result of the Arena. In particular, how many well paid light industrial and Port related jobs would be lost? What is the character of the new jobs generated? What percentage are low paid service jobs?

About 60% of the REVENUE (roughly \$100 million per year) of an NBA team goes into the pockets of only 16-18 people – the 12 roster players, the head coach, general manager and

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- 18.** According to the 2013 Downtown Development guide there is approximately \$2.03 billion in development occurring in the downtown, including larger projects such as the Stadium Place Phase I at \$255 million and Insignia Towers at \$208 million. Excluding land and arena FF&E, the hard construction cost of the arena is \$350 million. The arena will be a major local construction project. However, it is not out of line with the scale of current construction projects.

The arena may increase demand for concrete, steel and labor, but it is not conclusive that it would have a significant enough impact on their prices in the local market to limit other construction projects and produce major impacts in the market. Unless costs reach a point where they limit other construction, higher construction costs do not reduce economic impacts, but mean more dollars for laborers and suppliers.

- 19.** The economic impact analysis includes compensation and jobs lost as a result of the substitution impact for arena spending and traffic impacts. Negative traffic impacts to port and non-port businesses and sports and entertainment spending displacement is analyzed by industry, accounting for the differences in income.

The Economic Impact Analysis accounts for compensation and jobs displaced as a result of the substitution impact for arena spending and traffic impacts. Negative traffic impacts to port and non-port businesses and sports and entertainment spending displacement is analyzed by industry, accounting for the differences in income. Other than the Port traffic and non-Port traffic related impacts Pro Forma does not anticipate other quantifiable industrial and Port related job losses.

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the principle investors. Some of the remaining revenue goes to well paid professionals. The bulk of the balance goes to lower paid service jobs.

The jobs in the Port and light industrial areas of SODO and Ballard that are jeopardized are high wage middle class jobs. The majority of the jobs created by the Arena project (other than for an elite handful) are likely to be lower paid.

13. Failure to properly apply Economic theory around elasticity and its impact on demand

In reference to the business lost to the port because of the Arena, not only does the EIS total the possible impact to the port as the time spent by a few truckers in traffic, but it attempts to reference economic theory to buttress this shaky assumption and make it sound like they are applying valid economic theory. "Due to elasticity, a decrease in purchases is unlikely to be one-to-one, but for purposes of this analysis we will consider the worst case 100% reduction in demand purchases of import/export purchases. Based on these cases, we analyze truck cost delay costs as either a reduction in trucker earnings or a reduction in import/export revenues."

This garbles the theory of elasticity and diverts attention from the real issues. Elasticity simply measures the impact on the quantity purchased of a change in price. The EIS essentially maintains that the incremental shipping costs due to traffic may, at worst, represent a 100% reduction in revenue to the port of that cost – still a nominal sum. Elasticity refers to what a customer is willing to pay for an item or service. It is irrelevant to a competitive analysis of what would happen if a cost is added to using a product from one vendor when that cost is not applicable to using the product of a competing vendor (or in this case, Port). If another port is almost as good for a vendor, if the extra shipping cost exceeds the competitive advantage of the Port of Seattle, Seattle will lose 100% of that business. The cost is not, as alleged in the EIS solely the dollars paid to a trucker but also includes a host of other factors as described in section 1.

14. Failure to address tax equity

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20. The paragraph in the report that mentions elasticity is discussing how the truck delay costs (calculated in the previous section) will impact port related business revenues or import/export purchases in the region. The mention of elasticity was meant to refer to the "concept of price elasticity of demand" and the question of how much would additional traffic delay cost, if passed along to import/export customers as an increase in import/export prices, decrease import/export purchases. Price elasticity in demand is the percentage change in quantity demanded divided by the change in percentage price. While importer and exporter customers have a choice of importer/exporters, there are a number of factors that go into their willingness to substitute between importer/exporters.

21. Tax Revenues

Pro Forma Advisors projected tax impacts generated by the construction and operation of the Arena. These revenues are new/incremental (i.e. generated as a direct result of building and operating the Arena). Our report identifies the tax revenues earmarked to pay down debt service (outlined and consistent with the MOU). The focus of the economic report was the tax revenues used to pay debt service. For reference, we have also highlighted additional tax revenues generated from Arena construction (\$33.3M) and annual operations (\$1.9M) which will not be used for debt service and are expected to flow to other taxing districts.

21

The EIS fails to address the tax equity issue in any form. Essentially, the EIR assumes that, because the Arena will be generating incremental tax revenue that the City would not otherwise take in, the City is not “subsidizing” the Arena and, consequently, it poses no negative cost to the city. Aside from the financial risk of the endeavor, its indirect costs, and the fact tax revenues are being used to finance the Arena’s debt service, this argument raises a significant tax equity issue: any new or growing enterprise in the City could make the same argument. For example, Amazon could ask for the same tax diversion to help fund new facilities. To be equitable, small businesses could ask for similar treatment. The EIS needs to clearly state that this is inequitable. The alternative, of course, would be to offer a similar benefit to any new or expanding business. This would shift a growing tax burden to established businesses putting them at an unfair competitive disadvantage.

15. Failure to account for the risk that use permit issues will limit the number of event days at the Arena with significant risk to the project economics.

There is no guarantee that the City will permit the number of events that Arena developers are assuming. Use permits are a separate process and, given other events that may happen concurrently in the SODO area, with existing traffic issues, parking issues and without money budgeted for full mitigation, it is not clear that the Arena will receive the permits to play a full schedule not to mention have the capacity to schedule NHL events and other entertainment. This adds a level of risk to project economics that is overlooked.

In addition, the analysis of traffic and other impacts focuses on the 4 games in an NBA season and ignores the 60- 160 other events that might take place (NHL, playoffs, preseason, other events, etc.)

16. Failure to consistently deal with the range of usage at the Arena

The Arena could be used for more than 100 events per year. Indeed the developer’s economic analysis assumes this. Some of the impacts appear to assume as few as 41 events (the NBA regular season). The EIR needs to be consistent in the analysis and clear about what it is assuming.

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22. The economic impact report responds to the analysis requested as part of the MOU to estimate the economic and fiscal benefits generated by the proposed Arena and evaluate potential impacts of the arena on the Port of Seattle.
23. The DEIS and FEIS fully acknowledge the wide range of events and event types that could occur at the proposed Arena as well as at neighboring venues. To provide comparative analysis, three primary event cases were identified and used as the basis for quantitative evaluations. The programmatic elements of the mitigation measures (Transportation Management Plan) includes elements such as a Traffic Control Plan and site management that will be tailored to the specific event conditions that occur.

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While it is not clear how many event permits the City is willing to give, the EIR needs to assess traffic, parking and mitigation issues assuming more than 100 events per year. It is hard to imagine that, when a full Arena schedule is considered, it is highly likely that events will overlap with events at SafeCo and Century Link stadiums making parking and traffic a nightmare.

17. Failure to analyze the negative impact on the Seattle Center and Key Arena.

The EIR concedes that the Seattle Center is one of the main attractions for visitors to the Seattle area and features a diverse assortment of businesses that serve it, including hotels, restaurants, and commercial spaces. EIR, at 137-38. It also concedes that the NBA games at Key Arena “buoyed” retail lease rates and the departure of the Sonics “had a negative impact on retail lease rates.” EIR, at 139.

It is also my understanding that Key Arena is currently marginally profitable. Will competition from a new Arena make the Key unprofitable? If so, if the City chooses to subsidize the losses, what would that cost? If the city chooses instead to shut down the Key what would the jobs and economic impact be?

The final EIR must consider the Arena’s potential economic impact on Key Arena and Seattle Center.

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24. Potential economic impacts to Seattle Center from the development of a new Arena are discussed in the Economic Impact Report included as Appendix F to the EIS.

24

18. The EIR fails to “reasonability check” its claims of economic benefits

Exhibit E-10: Scenario A Total Impacts

Total Ongoing Annual Arena Impacts	City of Seattle			King County		
	Direct	Indirect & Induced	Total Impacts	Direct	Indirect & Induced	Total Impacts
Onsite Arena Impacts						
Output (Millions)	\$156.7	\$39.7	\$196.3	\$161.8	\$71.6	\$233.4
Earnings (Millions)	\$57.9	\$15.4	\$73.4	\$63.0	\$28.3	\$91.4
Jobs	1,005	338	1,343	1,005	575	1,580
Offsite Arena Impacts						

Total Ongoing Annual Arena Impacts	City of Seattle			King County		
	Direct	Indirect & Induced	Total Impacts	Direct	Indirect & Induced	Total Impacts
Output (Millions)	\$41.2	\$20.3	\$61.5	\$46.3	\$33.5	\$79.8
Earnings (Millions)	\$21.6	\$8.2	\$29.7	\$25.1	\$13.7	\$38.8
Jobs	585	138	702	667	227	894
Onsite and Offsite Impacts						
Output (Millions)	\$197.8	\$60.0	\$257.8	\$208.1	\$105.1	\$313.1
Earnings (Millions)	\$79.5	\$23.6	\$103.1	\$88.1	\$42.0	\$130.1
Jobs	1,570	476	2,045	1,672	802	2,473

Exhibit E-11: Level I - Total Substitution Impact

Total Substitution Impacts	City of Seattle			King County		
	Direct	Indirect & Induced	Total Impacts	Direct	Indirect & Induced	Total Impacts
Output (Millions)	\$15.6	\$6.1	\$21.7	\$17.1	\$10.1	\$27.1
Earnings (Millions)	\$6.3	\$2.4	\$8.8	\$7.4	\$4.1	\$11.5
Jobs	166	42	208	196	69	265

Source: Pro Forma Advisors

³ It is difficult to separate the expenditures that should be allocated only to concerts and other events. Thus, the proportion of gross concert and other revenues to total revenue is used to estimate total expenditures for concerts and other events.

25 25. Comments noted.

These conclusions are absurd. One wonders whether the EIS was ever proof read for internal consistency and reasonability.

Taken together, the EIS asserts a net economic benefit to the community of \$8 billion over 30 years while the research demonstrates that similar projects are typically neutral or negative. These businesses, according to the EIR, will be earning a 40% return on sales. Beyond the oil fields of Arabia, where in the world do a collection of businesses this profitable actually exist? And if the profit projections are this high, does that not suggest that even more of the money is leaving the Seattle economy?

Conclusion

The EIR is unquestionably biased in favor of an arena specifically located at SODO. Major issues are overlooked with potential costs to the region of hundreds of millions of dollars and thousands of jobs. Economic research is ignored. Economic principles are misapplied. The terms of the MOU are not reflected. The EIR includes a selection bias where it gives extensive quantitative analysis of economic benefits while systematically failing to quantify costs or understating them beyond any bounds of reason. It repeatedly substitutes exhaustive analysis of a subset of the issues in lieu of a serious analysis of the most important economic ones. Even the conclusions that were drawn are mischaracterized to the benefit of the Arena. The EIS does not perform economic analysis on the primary factors that differentiate the SODO site from its alternatives.

Investment in being an NBA city may or may not be good for the City but to pretend that the project is the fountain of benefits alleged by the EIR is unambiguously not correct and to put the City and County in a position of weighing alternatives without good data is the height of folly (or cynicism).

It is the responsibility of the City of Seattle to enforce reasonable and unbiased standards of research and presentation on the SEPA process.

I do not doubt that any of the City or County's political leaders and the economists who work for them are as appalled as I am by the quality of the work of their contractors in the current draft and will see that the many issues are addressed. Nor do I doubt the City wants to see decisions made with fair and balanced data. They are likely to either have to find a new contractor to replace Pro Forma Associates or seriously redirect them and manage them.

I implore the City to enforce an unbiased second draft and reopen that draft for comment as the current draft is so incomplete and so biased as to fail to be a reasonable opening point for discussion regardless of the outcome of any legal tussles.

If not, I would expect the people of Seattle to reflect that breach of duty at the ballot box.

Thank you for your consideration.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Randy Cerf". The signature is written in a cursive, slightly slanted style.

Randy Cerf

25
Cont.

John Shaw
30/4/19
1900 1st ave

**Environmental Evaluation of the Arena Proposal
by Tony Formo**

The City of Seattle has allowed a report comparing the profitability of various arena locations to become a substitute for an economic impact analysis but doesn't have to approve Chris Hanson's report without including a literature review on the economic impact of professional sports teams and facilities. There have been many such studies in many cities over many decades, and they generally show that professional sports teams have little if any economic impact. Advocates of professional sports teams try to claim that their economic impact is equal to the total of what fans spend for tickets and refreshments and souvenirs, also with pre-and post-game refreshments and transportation costs, which research by opponents of public subsidies for professional sports has repeatedly shown to be an illusion because the money involved is mostly discretionary spending that would happen anyway in the same local economy. The economic impact of professional sports teams is to have a lot of spending on a sports team and nearby businesses at the loss of other businesses where the pro sports fans would be otherwise entertaining themselves expensively. Has Seattle's economy suffered since the Sonics left town? Expect the same sort of economic benefits from the return of the NBA to Seattle, if you don't include other public costs like Key Arena and traffic impacts.

1

I would like the economic and environmental impact reports on Chris Hansen Arena to include a traffic simulator like on TV news and smart phones which can be programmed into what happens when you add or subtract vehicles to or from different places at different times, and can be made more sophisticated by adding other events in nearby professional sports palaces trying to get through traffic interchanges at the same time seems like bad hydraulics and even worse traffic management and environmental responsibility.

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I would especially like it if someone in Seattle's Government would facilitate a Seattle traffic simulator that could help make a smarter Planet with software that could simulate Seattle traffic flows in various circumstances, and how one traffic jam at a bottleneck can cause gridlock elsewhere, and having a traffic simulator would make it possible to identify trouble spots like on Bothell a week or so ago where traffic was backed up for miles so barricades could be up and traffic restricted and people were stuck in traffic wasting time and turning fossil fuels into pollution. A Seattle traffic simulator would be able to do things like estimate how many vehicles would be involved in various scenarios like Seattle traffic with or without Chris Hansen arena, with spreadsheets full of possibilities for number of vehicles involved, but it seems like a no-brainer that the best amount of traffic to happen is none.

3

Seattle needs less, not more vehicular traffic from professional sports businesses with inadequate public accountability. The default is a situation in which Chris Hansen Arena doesn't happen in a part of Seattle that already has too much traffic from professional sports, especially considering how professional sports teams have treated Seattle.

I was a volunteer signature gatherer for Citizens for More Important Things and Initiative 91, which was a public vote against an arena for the NBA and public subsidies for privately-owned

DONE
Validated on
OCT 07 2019

Formo, Tony

1. Comments noted.
2. Comments noted.
3. Comments noted. The transportation analysis in the FEIS compares traffic and transportation conditions with and without an Arena assuming a variety of possible activities at other sports stadia.

professional sports teams, and not what some people want to limit I-91 to be as an assurance that the City gets fair market value in financial transactions. The public vote about no subsidies for pro sports teams happened in 2006 and public decision-makers have been ignoring I-91 and subsidizing Chris Hansen from the moment Mike McGinn hired expensive consultants (without asking if it was ok), and all the public money that has been spent on hearings and reports and Environmental Impact studies is a considerable public cost that would not happen if Mayor McGinn didn't want to help out the hedge fund guy, who may not be an owner of a professional sports team at this time, and the Mayor seems to be giving Chris Hansen a subsidy. Chris Hansen will be making millions on land flips so he can own parking lots and sports bars near his new arena that would be taking business away from taxpayer-owned Key Arena without seeming to get fair market value in return.

I hope then Environmental Impact Study should keep in mind that people stuck in traffic caused by or worsened because of traffic for professional sports events is paying a subsidy in their time and transportation costs that could be calculated into health care costs and psychological well-being. It seems irresponsible to give Chris Hansen Arena approval because it would so obviously be adding thousands of vehicles to the Seattle traffic grid so a hedge fund guy who wants Seattle to build an arena so he can attempt to buy an NBA team. Please have the EIS include data comparing Seattle traffic when there are no sports events at existing pro sports stadiums compared with having one or two events, and add Chris Hansen Arena to the mix, meaning that Chris Hansen Arena would be adding its thousands of vehicles so traffic would be happening in 2-venue traffic jams and the new phenomenon of a 3-venue traffic jam, none of which needs to happen just to help a hedge fund guy become an NBA Owner, when the NBA attempted to extort \$300 in public subsidy for the NFL and MLB for stadiums and Seattle said "No" to the NBA, and the Sonics moved to Oklahoma City after a post-Jack Sitkma history of Joe McIlvagne (poster child of over-paid big white guy), the ghost of Patrick Ewing, and the 3 Stooges (consecutive first round draft picks used on high school kids who weren't ready to play NCAA basketball instead of being on an NBA roster that other kids were learning with players closer to their skill levels). Just as traffic effects of multiple events in nearby venues can have multiplicative effects, so can stupidity in the decision-making of privately-owned sports teams in ways that it is possible to identify where someone is taking a deliberate dive because the decision-makers for professional sports teams instead of having the professional sports team named for that city being businesses with lots of complicated inter-connections and tax breaks and write-offs, as much as sports fans think of professional sports as businesses that operated as if their only income sources were ticket sales and media revenue, so the professional sports teams were motivated do their best to win for the fans and taxpayers of the city, which is a matter I would be happy to bet my considerable credentials as a sports historian, with special interest in Seattle sports history. It's a long complicated story I would be happy to append, with a bottom line of professional sports dislikes Seattle (with an Arena from the Century 21 Exposition that evolved into Key Arena) and the Kingdome (which was also built as a long-term public resource for professional sports in an indoors multi-purpose sports stadium), both of which were meant to be public investments in venues where professional sports can happen at minimal public expense, which is the opposite of what Owners of professional sports teams want, which is a lot of wasteful spending on the hedge fund guy's wanting to own an NBA team,

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but only it happened at Chris Hansen Arena instead of at Key Arena (where NBA has happened in Seattle since beginnings until endings and Oklahoma City, except for a few seasons in the Kingdome and Tacoma Dome while what is now known as Key Arena was closed for expensive renovations that were mostly about luxury accommodations for people with lots of tax write-offs to entertain others on accounts on ways that seem contrary to the lifestyles of food bank users.

Tony Formo
1427 NW 64th St. #2
Seattle, WA 9810

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Cont.

John Shaw
Senior Transportation Planner
700 5th Avenue, Suite 2000
PO Box 34019
Seattle, Washington 98104

Re: Environmental Impact Statement for the Seattle Arena

Dear Mr. Shaw,

My interest in the Seattle Arena project is twofold. First, I am a supporter of the efforts to bring an NBA team back to Seattle, and second and most important, I am an educator, who is a strong proponent of STEM education and STEM careers for the citizens of the City of Seattle.

In this region, known for its world class, innovative manufacturing, technology and research science businesses, it is important for us to continue to nurture the maintenance and growth of these vital community assets.

In taking a look at the Environmental Impact Statement of the Seattle Arena Project, it is evident that the charge put before the Department of Planning and Development was to examine the “environmental” impact of the project, witnessed by the attention to the natural environment, air, water, plants and animals, built environment, land and shoreline use, transportation, along with public service and utilities. It also appears that very little attention was paid to the “economic” impact.

In the economic analysis involving the SoDo area, the Pro Forma Advisors summary states that, “Due to the proximity and similar market factors for the alternate sites, operation projections remain constant for all sites”. How can that be when only one of them is considered a manufacturing and industrial area? What is being examined, for the most part, is additional revenue rather than the possible negative impact to present and future jobs in the area.

Even as traffic and substitution impacts were examined, only additional jobs related to the arena were accurately accounted for. The summary does not include possible losses due to the businesses and their suppliers that may have to relocate due to the continued dwindling of real property space as a result of the arena. The summary also states that “Industrial space was lost in SoDo as a result of the two existing stadiums...however, since 2005, economic growth and the real estate expansion of downtown has accelerated this loss.” As a city and a region, do we want to continue to shrink our potential for industrial growth?

Shareef, Princess

1. Your comments are noted. The EIS includes an economic report in Appendix F.
2. See Common Response #12 Gentrification

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As the former principal of Seattle Public School's only STEM high school, we worked to create a program to prepare students for internships and ultimately for careers that are supported by this regions strong science, technology and manufacturing business sectors. I fear the research included in the EIS is incomplete leaving open the possibility of further erosion of our maritime, rail and manufacturing businesses thus, the potential for middle-income jobs.

A caution recognized in the summary acknowledges the importance of the Port to the city and warns that the city should be careful to protect industrial development. Our community cannot remain strong if we fail to recognize this and the damage cannot be ameliorated by the, approximated, 3,500 jobs the arena will add. I dare say the majority of those jobs are not long-term middle-income careers. Are we prepared to lose middle class opportunity for part-time lower income jobs?

I've tried to make a few salient points that emphasize my concern for the building of the Seattle arena in SoDo neighborhood. I believe this is important enough to take the time to re-examine.

Thank you for your time and consideration.

Sincerely,

Princess Shareef
Princess Shareef Educational Consulting
rosa7053@gmail.com

cc Seattle City Council
Martin Luther King Jr. County Council

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3. Comments noted.

Please see Common Response #12 Gentrification for more information about potential industrial displacement.

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John Shaw
Sr. Transp. Planner
John.shaw@seattle.gov
Reference No: 3014195

Re: **Comments by I-91 Plaintiffs Mark Baerwaldt and Herb Krohn to Economic Impact Report by Pro Forma Advisors LLC, August 15, 2013**

Dear Mr. Shaw:

I represent plaintiffs Herb Krohn and Mark Baerwaldt in the suit they brought against the City, the County and Chris Hansen alleging that the MOU signed between those parties violated Seattle's I-91. The Court dismissed this suit at the urging of the City which took the position in that litigation that economic impacts of the arena deal could not be known or measured (so that the suit was not yet ripe) - a position it now apparently reverses, in asking for a study to be made of economic impacts of the arena.

1

The study or "Economic Impact Report" is defective for many reasons, principally because I-91 clearly states that general economic benefit is not the test for economic evaluation of services or facilities extended to pro sports organizations by the City. Thus, most of the EIR analysis is simply "out of bounds" under I 91. The notion that general economic benefit can justify aiding a pro sports arena simply represents an illegal argument under this law.

Second, the EIR excludes what is relevant. A proper evaluation of economic impacts would start by conducting an I-91 analysis. This asks if the city is receiving fair value for facilities and services extended by the City or its partner, the County, to ArenaCo in the MOU.

One such element is a proper I 91 return on the \$200 million in public finance amounts. I-91 specifically excludes from this estimate all cost of borrowing. The MOU deal is structured so that rent plus additional rent plus arena related tax credits every six months, only equal the payments the City makes to pay down principal plus interest. Thus, excluding the cost of borrowing, there is **zero return or profit** for the \$200 million public cash contribution to the deal. A proper I 91 return using a thirty year treasury bond rate would mean an **additional amount of several hundred millions of dollars** is required as the I-91 fair value return for this public finance amount. All this assumes no default, no bankruptcy, and full performance of the MOU terms, too.

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Stockmeyer, Cleveland

- 1. See responses to specific comments below

The economic impact report responds to the analysis requested as part of the MOU to estimate the economic and fiscal benefits generated by the proposed Arena and evaluate potential impacts of the arena on the Port of Seattle.

- 2. The economic impact report responds to the analysis requested as part of the MOU to estimate the economic and fiscal benefits generated by the proposed Arena and evaluate potential impacts of the arena on the Port of Seattle.

A second element is the arena related taxes. The City itself estimated these would amount to some \$272 million over the term of the MOU. The MOU provides these are credited to ArenaCo and used to reduce its obligation to repay the \$200 million public finance amount. The MOU has to provide for this credit, because without that provision in the MOU, these amounts would not go to pay down the debt for the public finance amount. Physically, these are monies paid into the city or other entities collecting taxes. The MOU terms taking these amounts and crediting ArenaCo with these amounts amount to simply an additional **extension of public funds to ArenaCo** because tax receipts are owned by the government collecting them. (This is why the MOU has to direct these amounts be extended in the form of credits). In other words, the City is throughout the term of the MOU piling on additional cash equivalents to ArenaCo and the City and County cash contribution in this regard is **some \$272 million**.

All that has to be returned at fair value to the City under I 91. There is no provision in the MOU for doing that. Thus, there is an additional shortfall in fair value based on this element, to the extent of some \$272 million. There is no date for repayment of this amount in the MOU so one cannot calculate the additional amount to be returned as fair value to the City on top of this \$272 million. This is credited every six months for about 30 years. If ArenaCo simply does not pay this principal amount back ever, the I 91 return required on it (interest using the thirty year treasury bond rate) grows ad infinitum. If one assumes they finally do pay back return as required under I 91, say, by the end of the MOU, then the additional amount fir I 91 "interest" is many millions of dollars more.

The amounts for fair value return on the \$200 million, plus fair value return for the \$272 million in arena related tax credits, plus return on those amounts to the extent there is delay in repayment, together appear to add up to over half a billion dollars.

But are a third and fourth element for which fair value return is required. The third element is the City is providing a "Service" of taking title to the property so that ArenaCo escapes real estate taxes for many decades. Using the cost basis of valuation the arena and land would be assessed at a value of some \$490 million. The total real estate tax avoidance provided for in the MOU transaction is thus worth several hundred million dollars more. There is again no provision for return of that value or for fair value being given for this service, in the MOU. The fourth element is that the City is providing the "service" of letting ArenaCo or its owners borrow money (the public finance amount) using municipal bond rates instead of the rates one would find from a conventional lender. This element adds many millions of dollars more in the fair value shortfall amount, because the MOU simply does not provide for any return for this service. Finally, since there is no real security for the obligation in the MOU -- real security would be collateral land or cash or property whose value is not tied to the fate of the team or the arena --

3. Tax Revenues and Debt Service

Pro Forma Advisors projected tax impacts generated by the construction and operation of the Arena. These revenues are new/incremental (i.e. generated as a direct result of building and operating the Arena). Our report identifies the tax revenues earmarked to pay down debt service (outlined and consistent with the MOU). The focus of the economic report was the tax revenues used to pay debt service. For reference, we have also highlighted additional tax revenues generated from Arena construction (\$33.3M) and annual operations (\$1.9M) which will not be used for debt service and are expected to flow to other taxing districts.

4. The economic impact report responds to the analysis requested as part of the MOU to estimate the economic and fiscal benefits generated by the proposed Arena and evaluate potential impacts of the arena on the Port of Seattle.
5. The economic impact report responds to the analysis requested as part of the MOU to estimate the economic and fiscal benefits generated by the proposed Arena and evaluate potential impacts of the arena on the Port of Seattle.
6. The economic impact report responds to the analysis requested as part of the MOU to estimate the economic and fiscal benefits generated by the proposed Arena and evaluate potential impacts of the arena on the Port of Seattle.

none of the obligations of ArenaCo under the MOU are effectively secured. The minimal security alleged to exist includes a personal guarantee by Chris Hansen and a parent guarantee but these are not secured, the team as security is made remote by not being owned by ArenaCo, and it cannot be sold freely under NBA rules and it is subject to senior debt. Since there is no conventional security worth far more than the amount secured, under I 91 all future cash to be paid by ArenaCo simply does not count as fair value return because I-91 requires that all unsecured future cash be excluded.

While there is value in the land, which comes back to the City after the MOU, this value is minimal if one assumes there is no longer a viable arena on the site. If there is to be a viable arena, ArenaCo would exercise its option to purchase and the City would not get the land. Either way, when one nets this cash or land value out against the fair value shortfalls mentioned above, it is clear that the MOU deal for a SODO Arena represents a fair value shortfall of some **\$700 million or more.**

The EIR report either ignores these issues or simply does not address them properly. While it appears to discuss arena related taxes it misses the reality that all businesses generate taxes, those taxes would not exist without those businesses, so all businesses have an equally valid argument to tell the City to credit them the amount of the taxes they generate. For example, a pet shop generates city b and o tax so why can't it get a credit off its City Light bill, if ArenaCo can get a credit off its obligation to repay the public finance amount just because it generates b and o tax or admissions tax? And if every business made this case, and it was accepted, then would be no tax revenue left for the government to collect. (Or the City would take the hit in another department where the credit is given like City Light).

Businesses alone do not generate taxes. We have made a social investment in roads, education, infrastructure, having a port that creates good jobs, all of which supports the customer base of all businesses and builds the roads to take them to the business site and provides public safety and other services we consume collectively. To have one business sector like this NBA arena achieve what amounts to 100% tax crediting or tax exemption when no other business gets this is a huge economic impact that is negative -- because this business is shirking its duty to pay taxes like everyone else, and getting special privileges as if we were under the ancient regime in France, when nobles did not pay taxes, and only peasants did. There is a large economic hit to the City, State, County and Sound Transit in having this huge economic engine at the arena largely exempted from property and other taxes. Put another way -- give this deal to anyone else -- tell them they can escape all property taxes, and get a cash credit for all sales taxes and other taxes they claim to generate -- and you will have a line of applicants from here to the moon seeking the same deal. And this deal will be good for the business involved. Very good, indeed. But each business will continue to generate social costs which the City pays (needs for police,

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7. The economic impact report responds to the analysis requested as part of the MOU to estimate the economic and fiscal benefits generated by the proposed Arena and evaluate potential impacts of the arena on the Port of Seattle.
8. The economic impact analysis is simply presenting the tax benefits generated by the project. It makes no statement on whether the arena should be credited the value of these taxes
9. Comments noted.

road repair, etc.) and if we allow everyone to shirk taxes in this way we will not have government much longer.

I-91 was passed specifically to make these kind of tax subsidy schemes illegal when the City desired to extend them to pro sports organizations. This entire scheme is one built on tax shirking and tax avoidance. The reason ArenaCo is looking to the City and County -- and not to a conventional lender -- is to get these unconventional tax subsidies. By missing the fact the deal is founded on **\$700 million plus in tax subsidies and other services** and benefits lacking the required fair value -- the report at issue simply fails. Of course massive spending and benefit at this arena site or involving ArenaCo and TeamCo causes a great amount of economic activity. But this mountain of revenue and profit is not used to pay the City its required fair value. As a result, the economic impact of the MOU deal is that the City is deprived of its required fair value under law, an amount that is estimated at over \$700 million.

Very truly yours,



Cleveland Stockmeyer
CLEVELAND STOCKMEYER PLLC
Attorneys for Mark Baerwaldt and Herb Krohn

- 10. The economic impact report responds to the analysis requested as part of the MOU to estimate the economic and fiscal benefits generated by the proposed Arena and evaluate potential impacts of the arena on the Port of Seattle.

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*Agreement: Stockmeyer et al. A-P
including new arena, projections
and arena related tax projections.*



City of Seattle

Department of Planning and Development
Diane M. Sugimura, Director

Seattle Arena EIS Draft EIS Comment Sheet

The intent of this meeting is to receive your comments about the proposed Seattle Arena project, project alternatives, identified impacts and proposed mitigation measures that are discussed in the Draft Environmental Impact Statement (EIS). The meeting happens during the public comment period, which ends September 30. At this stage, your written and verbal comments should focus on the analysis contained in the Draft EIS, including identified adverse environmental impacts, and potential mitigation measures.

The proposal is for the future construction of an approximately 750,000 sf., 20,000-seat spectator sports facility (Seattle Arena). Project includes demolition of eight existing structures of approximately 128,087 sf, and grading will occur for construction. Proposal includes a street vacation of the portion of Occidental Avenue South between South Holgate and South Massachusetts Streets. Attendee parking for the facility is proposed to be provided by commercial parking lots off the site.

Key environmental issues identified in the DEIS are primarily potential impacts to traffic and transportation and, to a lesser extent, construction and operational impacts on other elements of the environment. Summary information regarding the project's effects on these elements of the environment is provided in the DEIS beginning on page vii. The DEIS also contains an Economic Analysis (Appendix F) which is included as a result of an agreement between King County, the City of Seattle, and ArenaCo. The Draft EIS also includes an analysis of a facility with fewer seats at the Stadium District site, two alternative locations (KeyArena at Seattle Center and the Seattle School District's Memorial Stadium) and the no action alternative.

Thank you for offering your comments.

Comments:

THE PORTS LEASE (WITH TTI TERMINALS
HANDLING) IS FOR 10 YEARS AT A GREATLY
REDUCED RATE 30% LESS THAN PREVIOUS.
IT HAS A MUTUAL CONCILIATION CLAUSE.
THERE WAS ALSO A FAVORABLE NATURAL CLAUSE
CAUSING AN EQUAL REDUCTION IN RENT
TO THE PORTS OTHER SHIPPING COMPANIES
RESULTING IN A 120 MILLION REDUCTION
IN REVENUE OVER THE NEXT 10 YRS.

Please provide additional comments on the back, if desired.

Would you like to be on the mailing list? Yes No

Name JOHN TORRANCE
Street/P.O. Box 807 LARE ST. S. #101
City KIRKLAND State WA Zip 98033
E-mail JOHN.TORRANCE@CBRE.COM

You may either:

- Place comments in the box today,
- Mail comments to Public Resource Center (on this form or as a letter), or
- E-mail your comments: PRC@SEATTLE.GOV

Torrance, John

1. Comment noted.

Organizations

Contents

Seattle CenterO-1
West Seattle Bike ConnectionsO-3



September 27, 2013

John Shaw
Senior Transportation Planner
City of Seattle Department of Planning and Development
700 – 5th Avenue, Suite 2000
P.O. Box 34019
Seattle, WA 98104-4019

Re: Seattle Arena Draft Environmental Impact Statement Comment

Dear Mr. Shaw:

The Seattle Center Advisory Commission is a volunteer citizen board appointed by the Mayor and confirmed by the City Council. Our purpose is to advise and advocate for the fiscal and programmatic health and well-being of Seattle Center. Seattle Center represents over 50 years of significant public and private investment, and we take our role as stewards of this public asset seriously. As such, we have reviewed the Draft EIS and would like to express our concern about important impacts that we feel have not been adequately addressed.

1. The DEIS Acknowledges an Economic Impact on KeyArena.

Section 3.11, the Economic Analysis, quantifies the number of events moving from KeyArena to the new Arena as 35 to 40 and, in the Level 1 Substitution Impacts section, values the revenue that will be leaving Seattle Center on an annual basis as \$3.2 to \$3.7 million. For reference, this amount represents between 45% and 52% of the KeyArena's total revenue budget for 2013.

2. The Century 21 Master Plan is part of the Regulatory Framework.

The previous section, 3.10, Regulatory Framework, states that the SEPA ordinance requires an EIS to include, "where appropriate, a summary of existing plans...applicable to the proposal, and how the proposal is consistent and inconsistent with them." In section 3.10.2.3 and 3.10.3.3, the DEIS looks at "Consistency with Seattle Center Century 21 Master Plan" for Alternatives 4 and 5, the KeyArena and Memorial Stadium sites. But, the DEIS does not analyze either Alternative 2 or 3 for consistency with the Seattle Center Century 21 Master Plan.

3. The DEIS Should Consider the Impacts of Alternatives 2 and 3 on the Century 21 Master Plan.

Given that the Section 3.11 acknowledges significant ongoing lost revenue to Seattle Center as a result of Alternatives 2 and 3, and given that the Seattle Center Century 21 Master Plan is identified within the body of the DEIS as part of the analyzed regulatory framework, SEPA requires that any negative impacts from Alternatives 2 and 3 on the Seattle Center Century 21 Master Plan should be analyzed and disclosed. We ask that a section on "Inconsistency with Seattle Center Century 21 Master Plan" be included for Alternatives 2 and 3 as part of the DEIS.

City of Seattle
Mike McGinn, Mayor

Seattle Center
Robert Nellams, Director

ARTS
Book-It Repertory Theatre
KCIS 9
Pacific Northwest Ballet
Pottery Northwest
Seattle Children's Theatre
Seattle Opera
Seattle Repertory Theatre
Seattle Shakespeare Company
SIFF Film Center
Teatro ZinZanni
Theatre Puget Sound
The Vera Project

ATTRACTIONS / VENUES
Armory
Bill & Melinda Gates Foundation
Visitor Center
Chihuly Garden and Glass
Cornish Playhouse
EMP Museum
International Fountain
KeyArena
Marion Oliver McCaw Hall
Pacific Science Center
Seattle Center Monorail
Seattle Center Skatpark
Seattle Children's Museum
Space Needle

EDUCATION
Academy of Interactive
Entertainment
The Center School
Cornish College of the Arts

FESTIVALS
Bite of Seattle
Bumbershoot
Northwest Folklife Festival
Seattle PrideFest

SEATTLE CENTER PROGRAMS
Concerts at the Mural
Fest! Cultural Festivals
Movies at the Mural
Naturalization Ceremony
Student Showcases
TeenFix
Whirligig
Winterfest

SPORTS
Seattle Storm (WNBA)
Seattle University Men's
Basketball (NCAA Division I)
Rat City Rollergirls

Accommodations for people with disabilities provided on request

Seattle Center

1. Comments noted.
2. The Seattle Center Century 21 Master Plan is a plan setting the context and direction for the future of Seattle Center. There are no plan elements that pertain to properties outside of the Seattle Center. Potential economic impacts to Seattle Center from the development of a new Arena are discussed in the Economic Impact Report included as Appendix F to the EIS.
3. The Seattle Center Century 21 Master Plan is a plan setting the context and direction for the future of Seattle Center. There are no plan elements that pertain to properties outside of the Seattle Center. Potential economic impacts to Seattle Center from the development of a new Arena are discussed in the Economic Impact Report included as Appendix F to the EIS.

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Before elected officials of Seattle vote to invest \$200 million public dollars in the new Arena, the public is owed an analysis of the financial hardship this new venture may impose on the future of Seattle Center, a publicly owned cultural and entertainment center where over \$750 million in capital funding, \$250 million of which is City funding, has been invested since 1990.

Specifically, if KeyArena, as the commercial engine of the Center, is stripped of its financially lucrative events, how much more General Fund support will need to be added to Seattle Center's annual budget to replace that lost revenue? In addition to filling that revenue hole, what kind of additional subsidy will be required to keep KeyArena viable as a community asset if the commercial clients move to the new publicly-subsidized arena? Please address the possible impacts that might be anticipated, not only to the KeyArena Zone, as defined in the Master Plan, but also to the Theatre District and Center of the Center Zones, which may suffer from relocated sports, entertainment, food and beverage and lost parking revenue as defined by the "Substitution Impacts Level I, II and III," in section 3.11.

Sincerely,

Seattle Center Advisory Commission

cc: Seattle City Councilmembers
Robert Nellams, Director, Seattle Center

4. Potential economic impacts to Seattle Center from the development of a new Arena are discussed in the Economic Impact Report included as Appendix F to the EIS.
5. Potential economic impacts to Seattle Center from the development of a new Arena are discussed in the Economic Impact Report included as Appendix F to the EIS.

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WEST SEATTLE BIKE CONNECTIONS

West Seattle Bike Connections

28 September 2013

TO: City of Seattle
Department of Planning and Development
Attn: John Shaw, Senior Transportation Planner
700 Fifth Avenue, Suite 2000
PO Box 34019
Seattle, Washington 98124-4019
John.Shaw@seattle.gov

FROM: Don Brubeck
West Seattle Bike Connections
5730 SW Admiral Way
Seattle, WA 98116
wsbikeconnections@gmail.com

SUBJECT: **DEIS Comments**
Seattle Arena Project
1700 1st Avenue South
DPD Application Number: 3014195

These comments are on behalf of West Seattle Bike Connections. We are a community organization to provide advocacy and assistance for those traveling by bicycle to, from, and around West Seattle. Our goals include making cycling a safer, efficient and attractive option for travel to downtown and for destinations in and beyond West Seattle neighborhoods.

We submitted comments on the EIS scoping. We appreciate the opportunity to comment. Unfortunately, although issues we raised have been given lip service in the DEIS, they have not been addressed in substantive ways. The final EIS should be revised to respond to the City's and the region's goals for transportation, air quality, climate change and land use.

Transportation

The SODO arena alternatives would impact auto, bus, bike, pedestrian, truck and rail traffic through the Port of Seattle Seaport and the Duwamish Manufacturing and Industrial Center. This concerns residents and businesses in West Seattle because it would impact our connections to SODO, downtown and the rest of the city. It particularly concerns people commuting by bicycle, because the only feasible routes to downtown and points east and north of downtown are along the streets that the proposed arena location in SODO would most impact.

1. Comment noted. Bicycle amenities would be provided within the Arena. Modes splits associated with the Arena are based on sporting event attendee survey information documented in Appendix M 1a (DEIS January 1998) of the Football / Soccer Stadium EIS. Since these surveys, bicycle use throughout the region has increased and the resulting vehicular trip generation provides a conservative estimate of vehicular traffic impacts.

Appendix E of the FEIS outlines specific mitigation measures intended to mitigate the impacts of the projects (Section 4.0 of Appendix E). This includes specific improvements to be constructed by the applicant as well as pro-rata contributions to regional improvement projects including ITS Next Generation improvements and the planned Lander Street grade separation. The project also will be subject to a comprehensive Transportation Management Plan (TMP) that includes demand reduction strategies, performance targets, and pre/post event traffic control requirements.

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On the other hand, if the project impacts are considered thoughtfully, there are opportunities to mitigate vehicle traffic and freight mobility impacts by making street improvements that would encourage use of bikes instead of cars. More bikes means less cars. Less cars means faster truck traffic and less frustration with traffic jams and crowded, delayed buses.

Bike transportation to stadium and arena events is practical if safe routes and parking are available. One of our members bikes from West Seattle to 30 Mariners games a year.

The DEIS does not adequately address the impact on transportation, because its assumptions for modes of travel are out of line with current trends, desires, City and regional planning. Its proposed mitigation measures for the SODO site are illogical and impractical.

The City's *Comprehensive Plan* includes several transportation goals and policies (TG15, TG16 and T34) aimed at increasing walking and bicycling for transportation. Seattle's June 2013 final draft *Bicycle Master Plan Update* goals include:

- Increase the amount and mode share of bicycle riding in Seattle for all trip purposes
- Improve safety for bicycle riders
- A bicycle network that connects to places that people want to go, and provides for a time-efficient travel option

The Puget Sound Regional Council (PSRC) is the agency responsible for the regional component of our state's transportation planning. PSRC's *Destination 2030* is the Metropolitan Transportation Plan for the central Puget Sound region. It says:

"By the year 2030, **biking and walking could account for as much as 20 percent of all trips in the region.** Destination 2030 calls for creating a regionally integrated network of non-motorized facilities linking bicycle and pedestrian infrastructure within urban places, and connecting these facilities to regional transit services. Priority investments are those that complete the non-motorized system by filling gaps in the existing network, creating connections to, and improved circulation within, urban centers and high capacity station areas, and developing intermodal connections."

The DEIS for the proposed SODO arena location ignores the city and regional transportation plans in its assumptions and conclusions.

The DEIS makes extravagant assumptions for arena event travel by ferry and transit. It assumes that event goers will walk or take (unplanned and unfunded) shuttles from transit stops. The Colman Dock Ferry Terminal, the SODO and the International District Stations are at least a mile away, far longer than most people will walk. Accepted planning practice is that people are willing to walk ¼ to ½ mile from a transit station or bus stop. Only the Stadium light rail station is within ½ mile. The transportation calculations in the DEIS should be revised to use realistic walking distances.

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2. Section 3.8 and Appendix E of the FEIS both contain discussions of existing and proposed pedestrian and bicycle access to the SoDo site. See Section 2.3 Pedestrians and 2.4 Bicycle of Appendix E. Each mode of transportation (cars, transit, walking and bicycling) is discussed along with information on how many patrons may arrive on foot or bicycle. For pedestrians and bicyclists, routes between major transit hubs (such as Washington State Ferries Colman Dock and King Street Station) have been analyzed to identify existing deficiencies or issues that may diminish use (such as poor lighting or sidewalk width) and mitigation measures have been proposed for sidewalk improvements. Section 2.4 includes a discussions of existing bicycle facilities, future plans for new facilities, a collection of non-event and event data for bicycle use and an evaluation of potential bicycle impacts that may occur from an increase in volumes. The design includes the provision of bicycle racks.
3. Comment noted. Special event walking distances are typically greater than the general commute-related walking distances. These greater distances have been confirmed by field observations during events at Safeco and CenturyLink fields. It is also noted that the proposed event shuttles recommended for the TMP would provide an additional means to support use of these modes.

Seattle Arena DEIS Comments
West Seattle Bike Connections

28 September 2013

Seattle Center has a Walk Score* of 91, with well-served transit stops immediately outside the current arena doors. The proposed SODO site has a Walk Score of only 68. Under “outdoor places” in the vicinity, the only listing is “train track crossing”.

* from www.walkscore.com:

Bike transportation has been growing significantly as a percentage of all trips in Seattle over the past several years, with no slowing in sight. If the *Seattle Bike Master Plan Update* is approved by City Council and implemented over the next seven to ten years, bike transportation within Seattle could readily achieve the tripling of use goal of Seattle’s *Climate Action Plan* by 2017, and the 20 percent mode share aim of the PRSC *Destination 2030* plan.

Using bikes and pedicabs from station to arena would make it feasible to go to arena events by ferry, bus or train for many people. If safe bike routes were built from the International District, Stadium station, SODO station, and Colman Dock Ferry Terminal, with bike parking, arena patrons and workers could use train-bike, bus-bike and ferry-bike commutes to the arena. The bike portion of the trip would be less than 15 minutes. Pedicabs could use the same routes. That mitigation and those trips should be estimated and included in the DEIS transportation calculations.

Separated cycle tracks or paths on Alaskan Way, East Marginal Way, First Avenue and Railroad Avenue and connections to the Busway Trail at Lander and into downtown would reduce motor vehicle traffic impacts of a SODO arena. These could mitigate the increased traffic safety risks, at lower cost, lower air pollution, reduced water-pollution-generating paved surfaces, and less required right-of-way width than mitigation strategies that rely upon increasing in motor vehicle capacity.

One reason that some people give for not biking is that “Seattle has hills.” That is not the case for the terrain surrounding the SODO arena site. It is on filled tide flats, flatter than Kansas, and stays that way all the way to the nearest transit stations and ferry docks.

The EIS parking study should include a serious look at bicycle parking, not just a mention that there would be “bike racks”. It takes more than a few token bike racks on the sidewalk to make use of bikes practical. Bike parking takes space and cover, less than cars, but real space, None is presently included in the arena design schemes or suggested in the DEIS. .

The DEIS fails to propose mitigation measures that would require the arena project to assume its share of the work in making the mode switch from private auto to transit, bike and foot transportation.

4. Comment noted.
5. Comment noted. The 4 percent of attendees who travel via ferry were assumed to walk or bike to SoDo area events and included as pedestrians within the pedestrian analysis. To the extent that pedicabs (or shuttles) are implemented as recommended for inclusion in the TMP, non-auto mode split could be higher than identified in the FEIS for analysis purposes
6. Comment noted. Transportation mitigation measures identified in the FEIS are focused on pedestrian improvements, using the existing transportation system more efficiently, and reducing vehicle trips through TMP measures, not on increases in motor vehicle capacity.
7. Comment noted.
8. Comment noted. The proposed Arena would include a bicycle valet as well as bicycle racks for 135 bicycles outside the facility.
9. The FEIS outlines specific mitigation measures intended to mitigate the impacts of the projects including the provision of a Transportation Management Plan (TMP) (Section 4.0 of Appendix E). This includes specific improvements to be constructed by the applicant as well as pro-rata contributions to regional improvement projects including ITS Next Generation improvements and the planned Lander Street grade separation. The mitigation section also identified specific improvements to pedestrian facilities including the construction of a pedestrian overpass over the rail yard and tracks on Holgate Street and/or shuttles to connect to transit service.

Air Quality

The DEIS does not adequately address impacts to air quality from the completed project due to added traffic congestion.

Construction and operation of the arena alternatives 2 and 3 in SODO would add to air pollution in one of the worst areas in the region for air quality.

The DEIS fails to recognize the impact of the arena project upon the region's compliance with the Federal Clean Air Act and the Clean Air Washington Act in meeting the Puget Sound Regional Council's *Destination 2030* transportation plan. The DEIS also fails to realistically address the City's *Climate Action Plan*.

Seattle adopted its *Climate Action Plan* this year. The DEIS does not compare the impact of the arena alternatives against the goals of the *Climate Action Plan* to reduce reliance on vehicle miles traveled by 20 percent by 2030, and greenhouse gas emissions per vehicle mile by 75 percent by 2030.

The EIS should connect the dots between air quality; a transportation mode switch to bicycles, pedicabs, and transit; and appropriate mitigation measures to facilitate that mode switch.

The EIS should study improvements in bike routes through the area as a way to mitigate the air pollution and greenhouse gas emissions impacts. If bike routes from south and southwest Seattle through SODO to downtown were improved by separation from high traffic streets and major truck streets like East Marginal and Alaskan Way, a much larger percentage of commuters to and from those areas could be induced to ride bikes instead of drive cars on these routes, reducing their vehicle emissions to zero.

Seattle's *Climate Action Plan* anticipates tripling the amount of bicycle use from 2007 levels by 2017. The DEIS does not include any recommendations that the arena project assume its share of the burden to provide the physically separated bike lanes, off-street bike parking, intersection improvement for cycling, and other strategies that the *Climate Action Plan* relies upon for achieving its goals. It should.

Land and Shoreline Use

The DEIS does not adequately consider the land use impacts of permitting a third huge sports event facility at the far south end of the stadium overlay district. The DEIS ignores the inevitable pressure to convert land outside the overlay district to non-industrial use.

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10. As noted in the introduction to the Air Quality Section (3.2.1.1), in the urban areas of Puget Sound, motor vehicles are the largest source of air emissions. Over the last two decades, many pollutant levels have declined and air quality has generally improved.

Operational impacts under the Proposed Project would be attributable to vehicular traffic during events. Event traffic would primarily emit CO, precursors of ozone, particulate matter, and GHGs from vehicles. Highest event emissions would likely occur during a weekday peak hour with additional traffic arriving at the Arena. The Proposed Project would include traffic mitigation to reduce volumes and congestion, and to encourage transit use, which would reduce traffic emissions of air pollutants during events. See Section 3.8 Transportation.

11. Comment noted. As stated in the DEIS (p. 3.10-1), an EIS is to include a "summary" of existing land use regulations and plans and the extent to which a proposal may be consistent or inconsistent with them, "as appropriate." RCW 36.70B.030.

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The SODO location is a concern regionally. An arena could be located anywhere convenient for transportation. The deep water Port of Seattle cannot be relocated. Our regional economy depends upon this port, and the port depends upon the rail yards and industrial land surrounding it. This obvious linkage is ignored by the DEIS. The negative consequences for our trade-dependent economy could far outweigh the economic benefit of a sports arena.

Impacts are likely to include:

- Economic and social impacts from displacement of shipping and industrial uses on this site and in surrounding areas.
- Loss of high paying manufacturing and shipping jobs within the City. The jobs created by the arena project would be low-wage part-time service jobs that could be at any location. The port and industrial jobs can only be provided in the port and industrially zoned land.
- Permanent loss of industrial land with ship, rail and truck route access. This zoning and land use cannot be replaced within the city limits. The presence of the arena will put pressure on surrounding blocks for conversion from industrial to tourist service uses, and the traffic impacts will also put pressure on shipping companies and industries to leave the City of Seattle if access becomes too difficult.

Many of us depend upon these jobs for our livelihood. All of us depend upon the Port and the Duwamish industrial lands for our economy and all that we use every day.

Thank you for the opportunity to comment.

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12. Potential impacts to the Port of Seattle and to freight mobility are discussed Appendix F Economic Impact Analysis of the FEIS.

13. See Common Response #12 Gentrification. Case studies in the Pro Forma Economic Impact Analysis (Appendix F of the EIS), such as Philadelphia, show that sports zones and industrial areas can function side by side. The location of sports facilities in an area does not necessarily result in the displacement of shipping and industrial uses.

The arena may influence properties in the immediate blocks of the arena, but Pro Forma believes this will be contained within the Stadium Overlay District based on current and planned City of Seattle zoning restrictions to protect industrial lands.

As described in the Economic Impact Analysis, if access becomes too difficult, traffic impacts can impact port businesses, but as shown by the transportation analysis contained in Appendix E of the EIS, only a limited amount of port truck trips are projected to be impacted. The Economic Impact Analysis includes an analysis of the direct costs of these impacts.

Hearings

Contents

Hearing 1H-1
Hearing 2H-22

Hearing 1

Seattle Arena Environmental Impact Statement Scoping Meeting

September 10, 2013

Verbatim Record of Proceedings



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SEATTLE ARENA
ENVIRONMENTAL IMPACT STATEMENT (EIS) SCOPING MEETING

VERBATIM RECORD OF PROCEEDINGS

September 10, 2013

Seattle, Washington

Byers & Anderson, Inc.

Court Reporters/Video/Videoconferencing

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Serving Washington's Legal Community since 1980

**Seattle Arena Environmental Impact Statement Scoping Meeting
September 10, 2013**

1 APPEARANCES

2 Meeting Facilitator:

3 John Shaw, Senior Transportation Planner
4 Department of Planning and Development
5 700 Fifth Avenue, Suite 2000
6 Seattle, WA 98101
7 206.684.5837
8 206.233.7902 Fax
9 John.Shaw@seattle.gov

7 For URS Corporation:

8 Katy Chaney, Vice President and Business Line
9 Manager Transportation and Power
10 1501 Fourth Avenue, Suite 1400
11 Seattle, WA 98101
12 206.438.2061
13 866.489.8791 Fax
14 Katy.chaney@urs.com

13 Public Comments:

14 Michael Merritt
15 Kristopher Brannon
16 Paula Revere

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1 BE IT REMEMBERED that on Tuesday,
2 September 13, 2013, at 600 Fourth Avenue, Bertha Knight
3 Landes Room, Seattle, Washington, at 6:00 p.m., before DIANE
4 M. CULLIVAN, CCR, RPR;

5 WHEREUPON, the following proceedings were
6 had, to wit:

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8 <<<< >>>>
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10 MR. SHAW: It's a few minutes after six.
11 I want to respect everybody's time and thanks for
12 coming out on this beautiful evening.

13 Tonight's meeting is to take public comment on the
14 Seattle Arena Draft Environmental Impact Statement.
15 I'm John Shaw with the Department of Planning and
16 Development. I'm going to speak just for a couple
17 minutes to make sure everybody understands the purpose
18 of tonight's meeting, and the rest of the meeting is
19 for whomever would like to make public comments on the
20 EIS.

21 The Draft EIS was released for the Seattle Arena
22 was released on August 15th. There is a 45-day comment
23 period, which ends on September 3rd.

24 The project description is on a couple of handouts
25 on the table near the entrance. If folks have had a

1 chance to pick those up, you're aware of the project.
2 I'll just go over it briefly.

3 DPD is evaluating a proposal for the future
4 construction of an approximately 750,000 square foot,
5 20,000 seat spectator sports facility called the
6 Seattle Arena. The site -- the address for the site is
7 1700 First Avenue South. The Seattle Arena will become
8 the home arena for professional NBA basketball team and
9 professional NHL hockey team.

10 The project includes demolition of eight existing
11 structures of approximately 128,000 square feet, and
12 grading will be associated with the construction. The
13 proposal also includes a street vacation of a portion
14 of Occidental Avenue South between South Holgate Street
15 and South Massachusetts Street. Attending parking for
16 the facility is proposed to be provided by commercial
17 parking lots off the site.

18 The Draft EIS has analyzed the environmental
19 impacts of four build alternatives. The proposed
20 project, a somewhat smaller project on the space site
21 that would be 18,000 seats, a new arena on the site of
22 the Key Arena at Seattle Center, and a new arena on the
23 site of Memorial Stadium adjacent to Seattle Center.

24 As required by SEPA, the impacts of each of these
25 alternatives are compared to the impacts of a no-action

1 alternative, which assumes no new arena.

2 The purpose of tonight's meeting is to receive
3 your comments on the Draft EIS. Comment sheets are
4 available at the table near the front. Comments can be
5 provided verbally tonight or in writing. There will be
6 another arena public hearing with an opportunity for
7 comment which will be Thursday, September 19 at Seattle
8 Center. That will be in the Fidalgo Room, which is one
9 of the northwest rooms near Key Arena. And, like
10 tonight's meeting, it will start at 6 o'clock.

11 For those of you interested in the design and
12 architectural features of the proposed arena, the
13 design review recommendation meeting for the project
14 will be held one week from today, Tuesday,
15 September 17th. That meeting will start at 5:30 p.m.
16 in Room 4050 in the Seattle Municipal Tower, kitty
17 corner across the street from here. The address is 700
18 5th Avenue.

19 Are there any questions related to this meeting or
20 the comment process before we get started?

21 Okay. I'll call by name anybody who has signed up
22 on the speaker sheet. If you could state your name
23 before you give your comments, we have a court reporter
24 here who will produce a transcript of tonight's
25 meeting, and it will helpful to her to have your name.

1 Okay. Two folks have signed up to speak. First,
2 Mike Merritt.

3 MR. MERRITT: Good evening. Is this on?

4 Good so to see so many old friends again. I'm
5 Mike Merritt with the Port of Seattle, and I have a few
6 preliminary comments about our thoughts about the Draft
7 Environmental Impact Statement.

8 First of all, I'd like to repeat the Port of
9 Seattle's support of the return of professional
10 basketball and, potentially, hockey to Seattle and the
11 region, but we remain concerned about locating an
12 additional arena in SoDo.

13 We don't see the need to rush forward with the
14 decision on the arena since the developer as yet has no
15 firm prospect of securing a team.

16 We are reviewing the city's Environmental Impact
17 Statement, including new arena traffic impacts and
18 potential for job losses to businesses in SoDo. A full
19 response will take time, but we do have preliminary
20 comments and concerns.

21 First of all, the lack of what we think is a full
22 analysis of the potential alternative sites. The
23 review of other potential sites clearly fails to
24 provide the information the public and the City Council
25 needs before they can move forward on this project.

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1. Comment noted. See detailed comments from the Port of Seattle and detailed responses included in "Agency" comments.
2. See Common Response #1 Public vs Private Projects; Range of Alternatives

1 Sites outside the City of Seattle should have been
2 considered, which the EIS failed to do. While the
3 zoning may allow this in SoDo, a direct induced impact
4 to the proposed arena will result in new costs and
5 obligations for the public. It will create conflicts
6 for the Port and related businesses. If we look fully
7 at the full range of impacts, a site elsewhere could
8 have fewer impacts and end up less expensive.

9 Regarding mitigation, we've seen discussion or
10 references to transportation concerns, but the report
11 does not quantify the impacts, and the mitigation does
12 not resolve these issues. Funding for impacts has not
13 been adequately identified to prevent job losses at
14 existing businesses.

15 I'll note that the economic impact analysis itself
16 states, to the extent that higher trucking costs can
17 reduce trucking reliability adversely affect customer
18 and carrier perceptions, the Port's competitive
19 position could be diminished, and the threat of carrier
20 and cargo diversion increase. We don't think the
21 economic analysis impact of the Port fairly represents
22 the true impacts on the port.

23 We think we've identified already that a number of
24 freight mobility and safety improvements will be
25 necessary as a result of the arena. It could cause

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Cont.

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3. See Common Response #6 Mitigation Measures - Traffic
4. Comments noted. Impacts to freight mobility have been updated. See Appendix F Economic Impact Analysis.
5. Comment noted.

1 significant sums that are not budgeted today, including
2 new highway access, east-west truck and pedestrian
3 overpasses, priority for truck streets and truck
4 operations before, during and after games.

5 Safety is another major concern. We note -- we've
6 continually noted on many occasions that the Holgate
7 Street crossing of many rail tracks does create a
8 potential safety concern that must be addressed as the
9 project moves forward.

10 Again, we want to reiterate our concern about the
11 street vacation of Occidental, which will further
12 reduce capacity, street capacity, in an already
13 congested area.

14 As I said, we will have a fuller comment later on.
15 Thanks very much.

16 MR. SHAW: Thank you, Mr. Merritt.

17 Our next speaker is Kris Brannon.

18 MR. BRANNON: Thank you for allowing me
19 to have the opportunity to speak. My name is Kris
20 Brannon. People also call me the Sonics Guy. I go
21 around to numerous events, political, sports,
22 otherwise, advocate for the return of NBA basketball
23 back to the city of Seattle.

24 I'd like to say for the record that I'm glad that
25 the Port of Seattle is also on board with bringing NBA

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6. See Common Response #7 Mitigation Measures – Pedestrian Access
7. Comment noted.
8. Comments noted.

1 basketball and NHL hockey to the City of Seattle. I
2 know that they've expressed some concerns.

3 Some of the things I'd like to talk about just EIS
4 wise is Mr. Hanson has played by the rules. The
5 stadiums are supposed to be built in that district, and
6 he is following the ordinance of the city in doing
7 such. Through the -- through the memo of
8 understanding, he shifted money to traffic improvements
9 in the areas specifically to address some of the issues
10 the Port has brought up.

11 I'd also like to say that right now, if it was a
12 full Mariner stadium, which is a big if, over 40,000
13 people would be there on a given game day. If we had
14 -- we're probably going to have the game of the year on
15 Sunday when the Seahawks are going to play the San
16 Francisco 49ers, and there's going to be over 80,000
17 people downtown in that corridor. The stadium seats
18 about 69, but there's going to be a lot of other people
19 there just hanging out, enjoying the environment in a
20 playoff-like atmosphere. I haven't heard the Port
21 issue a statement about how this foot traffic and all
22 these people are going to be detrimental to them.

23 I just want to say that when the arena is fully
24 built, and -- hockey and basketball aren't going to
25 play on the same day, and they obviously can not play

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Cont.

1 at the same time. So, at most, there would be 28,000
2 people added to the core in the stadium district, which
3 is half of what a full Mariner stadium would be, and
4 about a quarter of what a full Seahawks stadium would
5 be.

6 So I don't see -- I don't see there being a
7 problem in a accommodating an arena in the SoDo
8 District and bringing NBA basketball and NHL hockey
9 back to the city of Seattle.

10 I thank you for your time. Thank you.

11 MR. SHAW: Thank you, Mr. Brannon.

12 Would anybody else like to offer any public
13 comments this evening?

14 MS. REVERE: I do. I'm sorry. I wasn't
15 prepared.

16 MR. SHAW: That's fine.

17 MS. REVERE: Where do I go? I'll stand
18 here. Oh, okay.

19 MR. SHAW: You do need a microphone.

20 MS. REVERE: Okay. I have to do this
21 from memory because it'll take me too long to fish --

22 MR. SHAW: Please state your name.

23 MS. REVERE: Paula Revere.

24 The reason I'm here is I wanted to bring some
25 information to the city that wouldn't be available by

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Cont.

9. Comments noted.

1 any other means. There's an act in the United States
2 called the Logan Act, and it prevents anybody from
3 being able to have a private group or round table
4 influence the United States. And that was done to kind
5 of augment the Constitution, which is we the people.

6 The purpose of it was to prevent the Committee of
7 300, the Bilateral Commission, the Club of Rome, and
8 all of these compartmentalized organizations that have
9 been used to monopolize the planet from monopolizing
10 us. But it didn't work. They're still operating in
11 secret. Even when they're out in the open, no one does
12 anything about it.

13 In 1997, there was a law -- in Congress, there was
14 a proposition made called NASCO, and this was after
15 NAFTA. The purpose of it was to destroy our -- and
16 combine Canada, Mexico and the United States to make
17 one continent, like it did with the European Union, the
18 purpose of which is to destroy the Constitution.

19 Anyway, the guise that it came in was I-35 going
20 from Canada to the port, bypass the coast, destroy
21 longshoreman jobs, destroy our economies on the West
22 Coast, which have the strongest constitutions, and
23 bring all, you know, the poor, desperate people into
24 the labor force, abuse and use them up and down this
25 corridor and make Mexico the port.

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Cont.

1 So as a result of this, Congress was, like, they
2 didn't like that. They voted against it. However, all
3 the foundations, all the private family, all the groups
4 that are actually descendants of the Divine Riders that
5 George Washington fought against, are, basically --
6 they, basically, just went ahead with it.

7 In the final stages between 2007 and now, they're
8 actually doing eminent domain like crazy all over this
9 corridor. We're just going to have trains, all kinds
10 of stuff, secretly kind of compartmentalize the arena.

11 It looks like traffic and all that stuff, but
12 there's another part about the arena that you need to
13 know, and that is that all of the arenas are part of
14 the empire that we left. It's Roman bread and circus.
15 And out of the ashes of George Washington, Celtic
16 Anglo-Saxon Republic is rising, the empire that --
17 they're basically reconquering us using the banking
18 system, which is supposed to be ours. But the Central
19 Bank, private bankers are still at it as a result of
20 the 1913 Federal Reserve Act, which was a coup.

21 And the reason this is important is that -- and I
22 really appreciate being able to get this out because no
23 one ever lets me tell anybody any of these facts. And
24 I do have facts. And I have mountains of information
25 that Google doesn't have, and they tried to destroy

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Cont.

1 Yahoo when I was trying to bring this evidence to the
2 fore, so the way they did it was Microsoft hired three
3 of their key people away and started to disappear all
4 the evidence. So what I did is I printed off as much
5 as I can, and I've been a target ever since.

6 So, basically, what you have is all the
7 foundations building an empire out of the ashes of our
8 country. And it started right here with the Bell
9 Street fire and out of it rose the federal building
10 with the address of 915.

11 And I was blackmailed for three years not to go
12 out without someone else taking me because they didn't
13 trust me with the evidence, and they didn't let me out
14 until September 15, 2010.

15 So I have massive amounts of evidence. But the
16 primary thing is it's Roman canon law, and it stands
17 against ancient codified civil law, which was from
18 Ireland, that during the Battle of the Groin created
19 the Declaration of Rights, got rid of the Catholic King
20 James, who was a dictator, brought in King William of
21 Orange. As a result of that Declaration of Rights, it
22 became part of our Constitution and our beautiful
23 American Revolution.

24 And if you notice, there's not a picture of George
25 Washington anywhere except on a flag. There's no

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Cont.

1 pictures of the Constitution. There's nothing because
2 they want it out of your memory. They took Lincoln
3 away. They took everybody away and merged them to
4 President's Day and very softly, very deceitfully have
5 taken it away.

6 And they've done medical harm. They do all the
7 diabetes and all the disabilities, and they're
8 basically doing a medical, financial, educational
9 inquisition.

10 So the arena, the reason it's so important is that
11 the real reason Schulman sold the team is because I
12 discovered what they were doing in 2007. Number one,
13 you can't own people. Sports teams are illegal and
14 against the Constitution. Number two, they're using
15 Roman canon law, which is to be -- reverse the
16 Constitution of the United States and to reverse the
17 Protestant Reformation, which is freedom of conscious
18 speech, religion and press.

19 By doing so, they're basically taking away and
20 putting in place a pyramid, which is Roman canon law
21 and corporate law, as a Trojan horse. So instead of
22 being a citizen with freedom, you're now an employee
23 slave with a job.

24 And they had it very specific. We were citizen
25 soldiers. We were supposed to guard that Constitution.

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Cont.

1 Now, we're given phony credit scores, and now they're
2 scoring our country.

3 The arena -- they got rid of all that, and they
4 let everybody focus on the Storm because they can
5 control people's schedules that are kind of key in the
6 story. Then as a result, the -- they could bring this
7 arena thing to the fore, and they could take the mayor
8 and the executive and occupy them very forcefully
9 during very key times when I was trying to get their
10 attention. And then also -- then they could occupy the
11 council's time when I was trying to get the attention.

12 I've had three years of police help. Prior to
13 that, I had three years of trying to get police help.
14 No one has any of the evidence. No one is ever going
15 to know the truth.

16 And the arena -- basically, sports teams should be
17 run by themselves. If we enforce the Constitution,
18 they should be run by themselves, not the Knights of
19 Malta where they have a club. And they shouldn't be
20 able to tell these human beings what to do with their
21 bodies, et cetera. That's the first part. That's just
22 the slavery part.

23 The second part --

24 MR. SHAW: Thank you very much. We do
25 need to make sure there is enough time for people who

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Cont.

10. Comments noted.

1 are waiting --
2 MS. REVERE: I thought I was the last
3 one.
4 MR. SHAW: I'm not sure.
5 MS. REVERE: Can I tell you one other
6 thing?
7 MR. SHAW: Make it brief. Yes.
8 MS. REVERE: With the destruction of the
9 longshoremen and the -- I mean, basically, in very slow
10 motion this is all happening because -- I haven't been
11 able to get all of these facts out, but, basically, we
12 can have all of these things if we run our own banking
13 system, and we can -- are very creative people, can,
14 maybe, have husband-wife teams, and they can have
15 Medicare with 50 percent cost rather than 30 percent
16 cost to, you know, private insurance. And we would
17 eliminate all this Trojan horse, CEO style, and
18 everyone would be elected. So you have a board elected
19 on each business, et cetera. All we need to do is use
20 our state power.
21 And as far as if there's going to be an arena,
22 there's -- there's all kind of game playing with
23 layers, but it's control of the people's time. It's to
24 keep them all occupied. It's much better. And there's
25 actually technology they're using on the

10

1 electromagnetic grid, believe it or not, that they use
2 in the stadiums to make people very fan oriented, so
3 you become more a voyeur rather than a thinker.

4 So thank you for your time.

5 MR. SHAW: Thank you very much.

6 Is there anyone else who would like to offer a
7 public comment? Yes.

8 Please state your name.

9 MR. TORRANCE: My name is John Torrance,
10 807 Lake Street South in Kirkland, Washington.

11 A couple of comments on the Port of Seattle. In
12 talking about the arena, the alternative sites that --
13 at the Seattle Center in the last several years, the
14 parking around the Seattle Center has been largely
15 built out by condominiums and apartments and more is
16 going on all the time. So that's becoming less and
17 less of a parking unit situation.

18 Light rail does not service the area, only the
19 monorail. Monorail has the capacity of around -- well,
20 around 1,500 people per hour. So that's, I don't
21 think, a big solution.

22 The envelope of the Key Arena is too small for a
23 new building. It would be a tight fit in the high
24 school stadium site. It probably would be opposed by
25 the Gates Foundation and Seattle Center Master Plan.

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11. Comments noted.

1 Concerning the Port of the Seattle and their
2 continuing objections to the arena, a new arena is
3 going to draw between 1.6 when it's mature, after about
4 five years, 1.6 to 2 million people and more. About
5 60 percent of those people will come from outside of
6 Seattle. So that's tax revenue, tourist attraction
7 money that wouldn't normally be coming here.

8 In the case of Terminals 46 and 30, neither one of
9 them are served by rail. The competing ports of -- of
10 Port Metro Vancouver and Prince Rupert have very modern
11 facilities. With a merger of the Canadian National
12 Railroad, which went private in the late '90s with the
13 Illinois Central, that provides a faster service to the
14 Chicago and middle west area than we have. It's slide
15 free compared to the Seattle-Everett Corridor, which
16 was -- had several problems in products arriving on
17 time for the Christmas rush in the middle west.

18 So the situation was made not to put rail in those
19 terminals. Meanwhile, 75 percent that comes in to
20 Terminal 46 goes to the center part of the country. So
21 maybe the Port should be looking at alternative uses
22 for that terminal, which several people agree with me.
23 We proposed, actually, an arena on the terminal, along
24 with a convention center and return of the cruise ships
25 to Downtown Seattle, which I know is in the record

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Cont.

1 somewhere. Never made it into EIS.

2 That's the only comments I have. Thank you.

3 MR. SHAW: Thank you very much.

4 Is there anybody else who would like to offer any
5 comments tonight?

6 If not, I just want to remind folks we are taking
7 comments through September 30. There are comment forms
8 on the table over there, and if anybody would like to
9 attend next week's public hearing, again, it's
10 Thursday, September 19 at Seattle Center, 6:00 p.m.
11 Thank you very much.

12 (Seattle Arena EIS Scoping
13 Meeting concluded at
14 6:30 p.m.)

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Cont.

1 STATE OF WASHINGTON) I, Diane M. Cullivan, CCR, RPR,
)ss CCR # 3215, a certified court
2 County of King) reporter in the State of
 Washington, do hereby certify:
3

4 That the foregoing SEATTLE ARENA ENVIRONMENTAL
IMPACT STATEMENT (EIS) MEETING was taken before me and
5 completed on September 10, 2013, and thereafter was
transcribed under my direction;
6

7 That I am not a relative, employee, attorney or
counsel of any party to this action or relative or employee
8 of any such attorney or counsel and that I am not
financially interested in the said action or the outcome
thereof;
9

10 That I am herewith securely sealing the said
transcript and promptly delivering the same to Attorney
Jessica M. Clawson.
11

12
13
14
15 Diane M. Cullivan, CCR, RPR
Certified Court Reporter, No. 3215.
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Hearing 2

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1 APPEARANCES

2 Meeting Facilitator:

3 John Shaw
4 Senior Transportation Planner
5 Department of Planning and Development
6 City of Seattle

7 Public Comments:

8 Brian Robinson
9 Joseph Chong
10 Bill Block
11 Peter Goldman
12 Kris Brannon
13 Tres Gallant
14 Walt Tabler
15 Kenan Block
16 Jordan Royer
17 Randy Hedington
18 Mike Elliott
19 John Niles
20 Donovan McBride
21 Richard T. Davidson-Jenkins
22 Randy Cerg
23 Paul McGill
24 John Rider
25 Brad Herman
Cathy Allen
Connie Lyons
Justin Hirsch
Ralph Morton
Josh Turgeon
Scott Martinez
Doug Aamodt
Dave Gering
Herb Krohn
Jeremy Ward
Taro Suyematsu
Paula Riviere
Charley Shore
Rob Eaton

1 BE IT REMEMBERED that on Thursday,
2 September 19, 2013, at 305 Harrison Street, Fidalgo
3 Room, Seattle, Washington, at 6:01 p.m., the
4 following proceedings were had, to wit:

5
6 <<<<< >>>>>

7
8 MR. SHAW: Good evening. I'd like
9 to thank you all for coming out to tonight's public
10 hearing on the Seattle Arena. My name is John Shaw.
11 I'm with the Department of Planning and Development,
12 and tonight's public hearing is to take public
13 comments on the Draft Environmental Impact Statement
14 for the Seattle Arena.

15 The draft EIS was released on August 15th.
16 There's a 45-day comment period which closes on
17 September 30th, a week from Monday. There's a
18 description of the project in the handout on the
19 table in the back that most of you have probably seen
20 since you've come in, but I'll just go through the --
21 the project description briefly so everybody's aware
22 of what's proposed.

23 The DPD is evaluating a proposal for the future
24 construction of an approximately 750,000 square foot,
25 20,000-seat spectator sports facility called the

1 Seattle Arena. The address of the site is 1700 First
2 Avenue South. The Seattle Arena would become the
3 home arena to a professional NBA basketball team and
4 a professional NHL hockey team.

5 The project includes demolition of eight existing
6 structures of approximately 128,000 square feet and
7 grading that's associated with the construction. The
8 proposal also includes a street vacation of the
9 portion of Occidental Avenue South between South
10 Holgate Street and South Massachusetts Street.
11 Attendee parking for the facility is proposed to be
12 provided by commercial parking lots off of the site.

13 The draft environmental impact statement has
14 analyzed the environmental impacts of four build
15 alternatives, the proposed project, the description
16 that I just read.

17 The somewhat smaller project on the same site
18 would have 18,000 seats, a new arena on the site of
19 Key Arena at Seattle Center, and a new arena on the
20 site of Memorial Stadium adjacent to Seattle Center.

21 As required by SEPA, the impacts of each
22 alternative are compared to the impacts of a no
23 action alternative which assumes no new arena.

24 The purpose of tonight's meeting is to receive
25 your comments on the draft EIS. There are comment

1 sheets available at the table in back. Comments can
2 be provided verbally tonight or in writing. You're
3 welcome to send comments in to the Department of
4 Planning and Development up through September 30th.

5 Given the large number of folks that have signed
6 up to speak tonight, please limit your comments to
7 two minutes. Certainly we accept written comments
8 tonight if you have any, and, again, if you have
9 other thoughts or wish to make comments after you
10 leave the meeting, you have until September 30th to
11 do that.

12 Are there any questions related to this meeting
13 or the comment process before we begin?

14 That's good.

15 Okay. I'll get the list of commenters in just a
16 second. Please come up here to the microphone when I
17 call your name. What I can try to do is the call the
18 next three speakers so folks are ready and can
19 anticipate that your turn is coming. And please
20 state your name before your comments because we have
21 a court reporter who will produce a transcript of
22 tonight's meeting. We'll also give you a signal when
23 there are about 30 seconds left because I know two
24 minutes could go pretty quickly. I want to make sure
25 people have a chance to get their main points across.

1 Any questions?

2 Great. Again, thanks for coming -- thank you all
3 for coming out.

4 The first three speakers: Brian Robinson, Joseph
5 Chong, and Bill Block.

6 BRIAN ROBINSON: Thank you. My
7 name is Brian Robinson, and I am formerly the
8 president of ArenaSolution.org. I have testified in
9 favor of this arena on many occasions. And I
10 anticipate today we're going to hear a lot of
11 commentary about traffic impact and the absolute
12 unavoidability of the shutdown of Port of Seattle.

13 I want to say that -- that we've had this debate.
14 This is no longer a rush-through project that's
15 happened in a mere matter of months. For more than
16 seven months every member of our local government was
17 presented with an argument by the ILWU and the Port
18 of Seattle about traffic impact that would be had
19 here. The city attorney, the county executive, the
20 mayor, both the city and county council have both
21 looked -- are involved, looked at those arguments,
22 and determined this project should move forward to
23 the EIS phase where we'll be addressing
24 construction-related issue and matters of design.

25 So as these comments come forward, I ask you to

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1. Comments noted.

1 please consider that and also consider that we still
2 to this day, a year and nine months later, after the
3 project was presented, have no new traffic counts,
4 have no new factual data to support those claims.
5 And I think that's the reason, frankly, they've been
6 dismissed in hand.

7 So I support the project. I encourage the City
8 to move forward with the EIS to determine what the
9 impact is and offer reasonable mitigation to allow it
10 to move forward. Thank you.

11 MR. SHAW: Thank you.

12 Joseph Chong, and then Bill Block and Peter
13 Goldman.

14 JOSEPH CHONG: Thank you very much.
15 I am Joseph Chong, big Sonics fan. I still believe
16 we can bring a team back to Seattle, along with
17 hockey.

18 So there have been concerns about the traffic, of
19 course, with the SoDo arena. That's one of the major
20 concerns, but, as a sports fan, I've been to many
21 Mariners games where they happen usually around
22 seven. So as a -- in a personal story, whenever I go
23 to the games in the SoDo area, like once I get off of
24 I-90, the -- the area itself seems wide open. There
25 was no congestion when I was driving around the

2. Comments noted.

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1 entire area.

2 So, in conclusion, I would like to ask that we
3 move this project forward so we can get to the
4 designs and hopefully construction of this new arena.
5 Thank you.

6 MR. SHAW: Thank you.

7 Bill Block, then Peter Goldman and Kris Brannon.

8 BILL BLOCK: Hi. My name is Bill
9 Block.

10 You're here in Seattle Center tonight which is
11 the most visited venue in the state of Washington.
12 Over 5 million visitors a year, 39 resident
13 organizations. And the Seattle Center Master Plan
14 recognizes the Key Arena as one of the keystones of
15 that success. Key Arena has been rebuilding since
16 the Sonics left. It had over 500,000 visitors last
17 year and made a profit.

18 The proposed arena in SoDo will directly and
19 devastatingly attack the Key Arena's current business
20 plan. What we do not know is whether there is an
21 alternate business plan, what it is, what it would
22 mean for Seattle Center, and if there is no alternate
23 business plan, what the consequences for Seattle
24 Center are.

25 I believe that an informed decision cannot be

3. Comments noted.

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1 made on a new arena in SoDo without knowing what
2 effect it will have on a public asset to which we
3 have put more than three-quarters of a billion
4 dollars of public and nonprofit investments since
5 1990 alone. That information needs to be developed
6 in order for the elected officials to make a proper,
7 informed decision on what alternative to go forward
8 with. Thank you.

9 MR. SHAW: Thank you.

10 Peter Goldman, then Kris Brannon and Tres
11 Gallant.

12 PETER GOLDMAN: Thank you for the
13 opportunity to testify. My name is Peter Goldman,
14 and I'm testifying on behalf of the ILWU and myself.

15 Today I'd like to make these points, and I would
16 like to add that the ILWU will be submitting
17 extensive comments on the EIS.

18 The EIS's consideration of alternative sites is
19 inadequate because of the limitations placed on it by
20 the MOU. The arena is a public not a private project
21 for purposes of this SEPA process. The public
22 project because the MOU was signed by the City and
23 the County because the arena could become publicly
24 owned. It makes no difference the City and County
25 have not yet decided, quote, "whether to

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4. See detailed comments from Peter Goldman on behalf of ILWU and detailed responses included in "Business" comments.
5. See Common Response #1 Public vs Private Projects; Range of Alternatives

1 participate," unquote. It makes no difference that
2 Mr. Hansen only wants to build an arena in SoDo.
3 Because it is a public project, the City and County
4 had a duty to consider all reasonable sites, yet the
5 MOU limited the consideration of alternative sites to
6 only the Seattle Center as opposed to site -- of
7 sites elsewhere in Seattle or even, in fact, in King
8 County at large. This renders this EIS process
9 inadequate as a matter of law and it should really
10 confront that right now.

11 The EIS analysis of traffic impacts on freight
12 mobility in the port is completely wrong and
13 inadequate. The EIS candidly concludes that the
14 arena, coupled with a new tunnel, traffic -- will
15 increase traffic at 64 key intersections and nearby
16 arterials by between 40 to 100 percent by the year
17 2030 cumulatively impacts that. Yet the EIS makes no
18 attempt whatsoever to analyze this increased traffic
19 either economically or environmentally on freight
20 mobility or the Port of Seattle and --

21 MR. SHAW: 30 seconds.

22 PETER GOLDMAN: Thank you.

23 The EIS assumes the arena will generate 2,130
24 cars per event, but yet Mr. Hansen's own document
25 claims 6,000. The EIS needs to be written to -- with

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Cont.

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6. See Common Response #6 Mitigation Measures - Traffic
7. Comments noted.

1 6,000 cars per event in mind as opposed to 2,130 an
2 event.

3 The EIS also failed to consider the conclusions
4 of the Seattle Planning Commission. The economic
5 impact report is simplistic, shallow, and results
6 oriented. It concedes the port's importance to the
7 region economically, yet at the same time it only
8 measures economic impact at \$48 per hour per truck
9 time times the number of hours that delay, which
10 totally does not evaluate the impact of jeopardizing
11 the operation of the port. And, furthermore, it does
12 not consider the fact that public taxes are diverted
13 to pay off the arena bonds, et cetera, et cetera, et
14 cetera.

15 The bottom line is both the environmental and
16 economic impact statements are inadequate. They are
17 a result-oriented process. They need to be
18 reconsidered and strengthened. Thank you.

19 MR. SHAW: Thank you.

20 Kris Brannon, then Tres Gallant and Walt Tabler.

21 KRIS BRANNON: Hi. My name is Kris
22 Brannon. People call me The Sonics Guy. I go around
23 to various events and advocate the return of the
24 basketball team that a lot of us in this town -- not
25 only town but region sorely miss.

8. Comments noted.

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1 I think one of the things that's interesting is
2 we've kind of had this battle. The King County
3 Council voted to approve the arena, the Seattle City
4 Council voted to approve the arena, and now we're on
5 the environmental impact statement of that said arena
6 in the SoDo district.

7 Chris Hansen, through the memo of understanding,
8 had shifted some money and is willing to make some of
9 those retrograde traffic improvements that the port
10 hat is sorely needed for probably a long time. And
11 that should have been done by the City and not by
12 Hansen, but that looks like how it's going to go
13 down.

14 One of the things I think is interesting is when
15 the Mariners were having good seasons, they would
16 bring about 40,000 people down in the SoDo area. I
17 was just out in front of the stadium, Seahawks -- the
18 Clink on Sunday, and there was over 70,000 people
19 there. If you count everybody that was in the bars
20 and tailgating in various places, people that
21 couldn't even get in, 75,000. And I didn't hear the
22 port issuing a statement about how the Seahawk game
23 was going to kill their productivity.

24 The one thing, when this arena is full, whether
25 it be hockey or basketball, it'll top out at 20,000,

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1 which is half of what a full Mariners stadium would
2 be and just a little over a quarter of what a full
3 Seahawks stadium would be. So I don't see where the
4 problem is.

5 Also --

6 MR. SHAW: 30 seconds.

7 KRIS BRANNON: -- all these
8 events -- thank you.

9 Also, all these events will be starting around
10 7 o'clock unless it's a weekend game, so right there
11 you have where there shouldn't be a conflict with the
12 traffic.

13 In closing, I thank you very much for allowing me
14 to speak. Thank you for your time.

15 MR. SHAW: Thank you.

16 Tres Gallant, Walt Tabler, and Kenan Block.

17 TRES GALLANT: Good evening. My
18 name is Tres Gallant, and I am a project supporter
19 and a Seattle supporter.

20 What we're looking at is whether or not to build
21 this project and where to build this project. The
22 environmental impact process studied 21 sites before
23 narrowing the impact statement down to these five
24 alternatives. And we're talking about a part of town
25 that has been the home of sports and entertainments

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9. Comments noted.

10. Comments noted.

1 for 40 years in the city. If you look at a map of
2 the city of Seattle, it's very clear where you would
3 put a major arena. And it is in the stadium
4 district.

5 We are all on the same team. We are all
6 supporters of the maritime industry of labor. They
7 will tell you that they're all Sonics fans, they want
8 to bring basketball and hockey to the city of
9 Seattle, but the choice that we have before us is
10 whether or not to build this arena and what impact it
11 will have.

12 The Environment Impact Statement has shown that
13 there will be traffic impacts which is obvious. That
14 would be true regardless of where the arena is sited.
15 Those impacts can be mitigated and should be
16 mitigated.

17 I dispute that the Port of Seattle and the ILWU
18 will be impacted to the extent that they claimed. In
19 evaluating those claims, one might want to consider
20 the fact that the ILWU has shut down the Alaskan Way
21 tunnel project, a \$2 billion project, over four jobs
22 per shift. So we understand that we need to look at
23 this issue from a community-wide perspective and what
24 is best for our city.

25 MR. SHAW: 30 seconds.

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Cont.

1 TRES GALLANT: The alternatives
2 that we're studied are in the city of Seattle. That
3 is where the arena belongs. This is the cultural,
4 sports, and entertainment heart of the region. And
5 it continues -- will continue to be that way as we
6 site the arena here; otherwise, we see those
7 entertainment dollars going to other communities,
8 other jurisdictions.

9 We support the mitigation of traffic impact. We
10 support siting this arena in SoDo and building it as
11 soon as possible. Thank you.

12 MR. SHAW: Thank you.

13 Walt Tabler, then Kenan Block, and Jordan Royer.

14 WALTER TABLER: Good evening. My
15 name is Walter Tabler. I'm the executive director of
16 Puget Sound Pilots.

17 Puget Sound Pilots is a group of ship pilots who
18 board vessels in Port Angeles and bring them to the
19 various ports around Puget Sound. We serve all of
20 the ports in Puget Sound including Seattle and
21 Tacoma.

22 And Seattle is a -- a port city with a rich
23 maritime history with a large amount of family-wage
24 jobs that depend upon that industry. And Seattle is
25 uniquely suited to handle some of the larger ships

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11. Comments noted.

12. Comments noted.

1 that come into our area. And that capability will be
2 severely damaged by this arena.

3 Seattle has deep water. It has rail access. It
4 has highway access. And it also has SoDo which is an
5 industrial area that supports the maritime industry
6 and is unique to many of the cities around the
7 country.

8 And the -- our problem with the EIS is that
9 there's virtually no discussion in any substantive
10 way of the impact of this project on that maritime
11 business. And there's no discussion -- you know,
12 people say that we've had this debate. Well, if
13 we've this a debate and these discussions, where is
14 it in the EIS? And I don't think we've had this
15 debate, and we need to because this is an important
16 business for the city of Seattle and the state of
17 Washington. And there's no reason why the EIS can't
18 discuss issues like the impact on these family-wage
19 jobs that the project will bring about, the impact on
20 the competitive posture of the Port of Seattle.

21 The Port of Seattle has recently lost a large
22 container business line, and that trend will be
23 exacerbated by this project. And there's also no
24 discussion of why this -- people of the city of
25 Seattle can't have both. We had basketball for

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13. See Economic Impact Analysis included as Appendix F to the FEIS.

1 40 years, and we had a vibrant maritime community,
2 and there's no reason why we can't have the Seattle
3 Sonics perhaps right here in Seattle Center where
4 they were for 40 years. They do not need to be in
5 SoDo and interfere with the maritime commerce. Thank
6 you.

7 MR. SHAW: Thank you.

8 Kenan Block, then Jordan Royer, Randy Hedington.

9 KENAN BLOCK: Good evening. My
10 name's Kenan Block, and I have the pleasure of
11 reading a statement from Ron Sims, long-time King
12 County executive who wanted to be here tonight but is
13 in Minneapolis on business.

14 Ron is strongly opposed to siting this arena in
15 SoDo. He says, "In my past capacities, I've been
16 involved in siting two sports arenas in the SoDo
17 area. The overpasses over the rail line and parking
18 were a coordinated action by the Port of Seattle,
19 City of Seattle, King County, the State of
20 Washington, the Stadium Authority, BNSF, the
21 Mariners, Seahawks, and exhibitors. It was a
22 balancing act designed to serve multiple interests.
23 That agreement also balanced pedestrian, automobile,
24 and transit traffic and the need to move freight from
25 the port in a timely manner. The Port interest

14. Comments noted.

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1 cannot be ignored. They are a significant economic
2 value to our region.

3 All of the legislation to keep and save the
4 Sonics was drafted and actively supported by King
5 County. The efforts to locate a new or rebuilt arena
6 for the Sonics were directed to Bellevue, Seattle
7 Center, I-90 corridor and South King County. Those
8 places offered opportunities that would not impact
9 the Port of Seattle. What hasn't been discussed also
10 is the impact of the rebuilding of I-5 which must
11 occur. This will have a stunning effect on traffic.
12 It is important to maintain traffic capacity on First
13 and Fourth Avenues because a significant amount of
14 traffic is going to use those corridors in lieu of
15 I-90 when the I-5 congestion -- construction, rather,
16 is initiated."

17 MR. SHAW: 30 seconds.

18 KENAN BLOCK: Thank you.

19 "In addition, the new tunnel's leakage effect is
20 going to increase traffic at this same key hub. I am
21 sympathetic to those now in governance. They are
22 responsible for doing what's right, and I urge them
23 please take a hard look at this and you will see why
24 we cannot afford to let the arena be built in SoDo as
25 currently proposed. The siting of a sports arena is

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15. Comments noted.

1 an extremely complicated and difficult task. But a
2 decision to increase traffic for another arena is not
3 wise or a prudent decision." Thank you.

4 MR. SHAW: Thank you.

5 Jordan Royer, Randy Hedington, Mike Elliott.

6 JORDAN ROYER: Good evening. My
7 name is Jordan Royer, and I represent the container
8 shipping lines and terminal operators that operate
9 the Port of Seattle. We're the Port's customers.

10 I'm also a lifelong Sonics fan. I was there when
11 we won the championship. I really want the Sonics
12 back, and I think we can do all of these things. We
13 can have the Sonics back. We can have a vibrant
14 maritime manufacturing sector in the city. We just
15 can't do it all in the same place.

16 The EIS does not do an adequate job analyzing the
17 economic impact of this facility, of this regional
18 facility in what is essentially one of North
19 America's largest rail yards. And we depend on that
20 rail yard to connect to Chicago to Memphis, to points
21 east to New York from China, frankly, from Asia, from
22 lots of other places. We are not just an island
23 here. And I think the EIS unfortunately does not
24 identify the importance regionally and nationally of
25 this major port complex that we have.

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16. Comments noted.

17. See Economic Impact Analysis included as Appendix F to the FEIS.

1 We can have an arena in lots of different places,
2 but we can only have a deep water port where we have
3 it. We can't move that deep water port. So it seems
4 crazy to me that we would think that we have to have
5 this all-or-nothing discussion. It would be a much
6 more, I think, important community discussion to have
7 to look at where we could have it all.

8 Again, we can have it all, just not all in one
9 place. The EIS does not do an adequate job of
10 looking at other alternatives that would work far
11 better for everybody in the community all combined.
12 Thank you.

13 MR. SHAW: Thank you.

14 Randy Hedington, then Mike Elliott and John
15 Niles.

16 RANDY HEDINGTON: Hi, my name is
17 Randy Hedington. I've been a long-time longshore
18 employee since 1972.

19 We've got a lot more congestion now down there.
20 If I leave my job at 5 o'clock when I get dispatched
21 at night to get to Pier 46, which is approximately
22 two miles, it takes me an hour to get there when
23 there's a game. So if the game starts at 7, it
24 doesn't mean that's when the people are there. No.
25 They're there before that trying to get a parking

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18. Comments noted.

19. See Common Response #1 Public vs Private Projects; Range of Alternatives

20. Comments noted.

1 place and get to the stadium.

2 So -- and we're ready to lose our shipping
3 industry because of all of this. I went to see the
4 Sonics there (indicating) from the time I was a kid,
5 and that's where it should still be. You know,
6 there's room for it. There's no room downtown. And
7 if some person decides it's supposed to be one place,
8 well, that's not the place where it needs to be or
9 we're going to lose our industry. Thank you.

10 MR. SHAW: Thank you.

11 Mike Elliott, then John Niles and Donovan
12 McBride.

13 MIKE ELLIOTT: Good evening. Mike
14 Elliott, Brotherhood of Locomotive Engineers and
15 Trainmen, Washington State Legislative Board. We
16 have over 750 members here in Washington state and a
17 big contingency here in the west side, the
18 Seattle/Tacoma area.

19 We're most concerned about our jobs. We've been
20 at Stacy yard, at Argo yard for over a hundred years.
21 We're the oldest labor union in the country. This
22 year we celebrated 150 years. So we'd like for the
23 EIS to take a look at our jobs, protection of our
24 jobs, protection of our industry, protection of the
25 port and freight traffic to and fro. And I just

21. Comments noted. See Economic Impact Analysis included as Appendix F to the FEIS.

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Cont.

21

1 don't really feel like there's been an adequate
2 discussion on overall traffic impacts.

3 And we've been burned in the past on these grade
4 separations, and they're trying to bring up red
5 herrings about some of the trains or commodities we
6 haul and how that's going to impact, you know, the
7 west side, which we don't think is right at all. So
8 let's have a proper discussion about this. Let's
9 bring in the people that we need to bring in from the
10 state level to look at this.

11 And -- and our -- our Port of Seattle is the most
12 important resource for this region for our jobs for
13 not only rail jobs, longshore and -- and all the
14 other union crafts and support jobs across the
15 region. So it's not just for Seattle. It's not just
16 about Seattle. And, personally, I'm -- I'm for the
17 NBA. I want an NBA team here too, but we can't have,
18 in my opinion, both in the same place, you know. We
19 want the Sonics back here. We're going to have the
20 Sonics back here. But let's -- let's be smart about
21 how we do it and make sure that the family-wage jobs
22 that we've had for generations, since the turn of the
23 century, in this town right here stay right here, and
24 this port stays right here.

25 MR. SHAW: 30 seconds.

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Cont.

22. Comments noted.

1 MIKE ELLIOTT: Thank you very much.
2 That's about where I wanted to wrap up. Thank you.

3 MR. SHAW: Thank you very much
4 again.

5 John Niles, then Donovan McBride and Richard
6 Davidson-Jenkins.

7 JOHN NILES: Good evening. My name
8 is John Niles, a 30-year resident of Seattle. I
9 stand with the Port of Seattle and the customers of
10 the Port of Seattle and the people who work there
11 that this idea of putting the new arena down in that
12 neighborhood doesn't seem like a very good idea.

13 I think what we're about here is an EIS that
14 provides good information, and I think we've heard a
15 lot of evidence here already. And my own assessment
16 would be that the scope of the economic analysis,
17 even the scope of the regional possibilities for this
18 site is way, way too narrow. I think with the EIS
19 only in draft and with teams not yet identified,
20 there's plenty of time to make sure that the EIS
21 covers all the points that are being made in this
22 room that it comes out to be I think at the end of
23 the day a much closer call than a slam dunk for SoDo.
24 And I -- I hope the city and the region proceeds to
25 write an even better EIS than the draft we have

22

1 already. Thank you.

2 MR. SHAW: Thank you.

3 Donovan McBride, then Richard Davidson-Jenkins
4 and Randy Cerg.

5 DONOVAN MCBRIDE: Good evening.

6 Thank you for letting me share. My name's Donovan
7 McBride. I'm a longshoreman at the Port of Seattle,
8 third generation, here to support my union today.
9 I'm also a Sonics fan.

10 I'd like to say that the Port of the Seattle is
11 heavily congested as it is now. And we do have a
12 very good rail system that supports the piers. Our
13 job is a 24-hours-a-day job. We don't -- we don't
14 rest. We have three different shifts we work. I've
15 looked at some of these -- the figures that some of
16 the people have been showing and talking about, you
17 know, in support of the stadium which I am in
18 support. Let it be here, though. Let it be at the
19 Seattle Center. We can't really take any more
20 traffic.

21 The city is growing exponentially. It's getting
22 larger and larger each year. We've got a huge
23 immigration population in Seattle that makes a good
24 living driving trucks on the waterfront. There's
25 probably six or seven different languages spoken

23. Comments noted.

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1 by the new immigrants that work in the Port of
2 Seattle. Please don't cut the jugular vein of
3 commerce in the -- in the Port of the Seattle.

4 You know, I don't know what drugs these people
5 are taking, but, you know, everybody loves sports,
6 but, you know, let's -- let's keep our jobs going
7 too. Let's -- let's keep families, you know, living
8 good off -- off -- off this commerce that we have in
9 our city. Thank you.

10 MR. SHAW: Thank you.

11 Richard Davidson-Jenkins, then Randy Cerg and
12 Paul McGill.

13 RICHARD DAVIDSON-JENKINS: Richard
14 Davidson-Jenkins, Local 19.

15 I can just follow up on what Donovan was talking
16 about as far as the family concerns, but I did hear
17 one thing that you spoke about, sir, when we first
18 came in, is that you made a statement of 20,000 seats
19 in the new arena, correct?

20 MR. SHAW: Correct.

21 RICHARD DAVIDSON-JENKINS: All
22 right. Isn't Key Arena 20,000 seats?

23 MR. SHAW: I believe it's slightly
24 smaller.

25 UNIDENTIFIED SPEAKER: It's 15,000.

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Cont.

24. Comments noted.

24

1 RICHARD DAVIDSON-JENKINS: 15,000.
2 So we're going to build an arena and congest up
3 everything over 5,000 more seats. And so you're
4 talking about -- that doesn't seem -- I mean, I don't
5 know, but those numbers doesn't play too well with
6 me, and I don't think it plays too well with anybody
7 else. We're going to do a lot of the things on 5,000
8 seats when we can probably take that money and add
9 those 5,000 seats to the Key Arena and still have a
10 basketball team which we don't really have in the
11 first place because I think it's Sacramento Kings
12 decided no. So we're standing here fighting over
13 something that we might have. That makes a lot of
14 sense to me too.
15 But, on the other hand, I'm just a local worker
16 19 that works for a living. We don't make big
17 decisions, but we do fight for our decisions. And
18 this is probably why we're here. And the other
19 gentleman spoke on that we're just fighting over
20 traffic. I don't think traffic is just the issue
21 that we're fighting over. I think we're fighting
22 over jobs and families and people that need to work
23 which we keep saying that we need to build up our
24 economy, correct? And so if we give up the jobs,
25 we're not building our economy.

25. Comments noted.

1 MR. SHAW: 30 seconds.
2 RICHARD DAVIDSON-JENKINS: Thank
3 you.

4 MR. SHAW: Thank you.
5 Randy Cerg, then Paul McGill and John Rider.

6 RANDY CERG: Hi, I'm Randy Cerg,
7 35 years Seattle resident and Sonics fan.

8 Have any of you actually read this? Well, I
9 have. And then I've got special background to
10 actually read this kind of stuff, and I got to tell
11 you, when I read it, I was flabbergasted by the
12 number of serious analytical errors and deliberate
13 mischaracterizations. It does not contain the
14 information we need to support a decision.

15 If the traffic caused by the arena arose the
16 competitiveness of the Port versus its competitors
17 and reduces shipping volumes, it could cost thousands
18 of jobs and hundreds of millions of dollars.
19 Incredibly, the report simply declines to assess this
20 economic impact and yet it still pretends to compare
21 site economics. I kid you not. Instead, the report
22 has the gall to characterize the hourly cost of a few
23 truckers stuck in traffic as the, quote, "upper limit
24 of the potential impact on the report." That is
25 irresponsible.

25

1 A lot of research has been done on the economics
2 of sports arenas. And by the way, I want sports to
3 come here. I'm even willing to do so at some cost to
4 the city, but we need good data.

5 There's a remarkable consensus. The research
6 agrees that the net economics -- the net impact net
7 of substitution is negligible or negative. Most of
8 the money not spent by out-of-towners from visiting
9 professional sports is simply diverted from other
10 businesses. For a litany of reasons, about half the
11 money spent on professional sports leaves the
12 community immediately while money spent on the
13 business it displaces has an amplified effect as more
14 of it recirculates.

15 MR. SHAW: 30 seconds.

16 RANDY CERG: Analysis is supposed
17 to reflect research consensus. If it rejects the
18 research, it's supposed to articulate a rationale for
19 doing so. This is basic if you ever went to college.
20 This did not happen here. Instead, the report
21 fabricates 230 million of economic contribution
22 earning an incredible hundred million a year.
23 Apparently this enterprise and the indirect activity
24 it generates are supposed to become the most
25 profitable businesses in Seattle history. Incredible

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Cont.

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26. Comments noted.

1 but without credibility.

2 The report inexcusably argues that taxes
3 generated would benefit the city when we all know
4 that they all virtually go -- virtually all go to
5 debt service.

6 Seattle -- I could go on and on, but I obviously
7 don't have time. Seattle deserves to understand what
8 it is getting into before it takes the plunge. This
9 environmental impact report is so deeply flawed that
10 it failed to offer a reasonable starting point for
11 comment. Maybe this is the intent. I can think of
12 no other possibility. We've deserve better.

13 Thank you all for your time.

14 MR. SHAW: Thank you.

15 Paul McGill, then John Rider and Brad Herman.

16 PAUL MCGILL: Good evening. My
17 name is Paul McGill. I'm a conductor on the
18 Burlington Northern Santa Fe Railway, and I'm here as
19 a concerned citizen as well.

20 There's been a lot of information put out. One
21 of the things that -- a nod to Mr. Sims, but one of
22 the things that's been put out is the mitigation of
23 traffic in the area and the previous stadiums that
24 were voted on actually voted down and we still ended
25 up with them. And the, say, the lack of mitigation

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Cont.

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27. See Common Response #6 Mitigation Measures – Traffic and Common Response #7 Mitigation Measures – Pedestrian Access

1 that was put forth. Lander Street and Holgate Street
2 were supposed to be mitigated along with those last
3 two stadiums, and we're not even talking about that
4 now.

5 I don't know if you've ever seen somebody run
6 over by a train. Pretty ugly. Stacy yard is
7 two blocks away from these stadiums, and on game
8 days, I actually witness people handing their
9 children through a train because they couldn't wait
10 for the train to pass in the switching yard. And
11 they have no idea when that train is going to move.

12 Now, this new proposed stadium, actually, there
13 isn't even a setback for the Amtrak Sounder yard. I
14 don't think there's 20 feet. So I work the Sounders
15 right now, and when we pull the trains out, the
16 backup from traffic there causes people to actually
17 get caught in between the main lines.

18 MR. SHAW: 30 seconds.

19 PAUL MCGILL: So there's a huge
20 public safety problem with this whole project that
21 needs to be looked at and addressed and not forgotten
22 when the promises are made that we, Oh, yeah, we'll
23 take care of it. The Burlington Northern Sante Fe is
24 putting a huge amount of money into this corridor
25 because of the economic advantages and not only from

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Cont.

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28. Comments noted.

1 coal and from the Bakken oil fields. Also from auto.
2 Orillia has a huge auto yard that we bring our auto
3 trains down. The Port of Seattle, we have Pier 90.
4 Container traffic. It's all growing. Do we want to
5 stifle this traffic? I don't think so. And the
6 rail's been here for a long, long, time.

7 Thank you.

8 MR. SHAW: John Rider, then Brad
9 Herman and Cathy Allen.

10 JOHN RIDER: Thank you.

11 I'm a member of Local 19, and I like basketball,
12 but commerce is the life blood of Seattle, not
13 basketball. Our livelihoods are supposed to revolve
14 around whether there's -- are our livelihoods
15 supposed revolve around whether there's game that day
16 or our livelihoods revolve around whether there's a
17 ship at Pier 46 that day?

18 I work at the gate at the Pier 46 as a clerk
19 often. I see trucks backed up all the way down
20 Marginal Way. I know that there's a traffic problem
21 already. I mean, I don't care what the statement
22 says. I see with my eyes when I work there every
23 day.

24 There's something else also. I really have to
25 wonder whether there's anything else going on here

29. Comments noted.

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Cont.

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1 besides a land grab. We all know when the viaduct
2 comes down that land down there is going to skyrocket
3 in value. And so why are we, the public, supposed to
4 make sacrifices so a small group of people can make
5 huge profits to own that land? And so that's all I
6 have to say.

7 MR. SHAW: Thank you.

8 Brad Herman and Cathy Allen.

9 BRAD HERMAN: Brad Herman, Local
10 19.

11 I didn't come here expecting this to be so Here
12 we go. Look, we're not your enemies. We're your
13 neighbors. You know, I'm the guy at home. I'm a
14 fan. I'm the guy that's screaming at my TV.

15 UNIDENTIFIED SPEAKER: Me too.

16 BRAD HERMAN: You know what I mean?
17 I love sports. I need my job. There are other areas
18 this place can be. And it may end up there. I don't
19 know, but if it may end up there, it needs to be
20 looked at. Every fact, every penny of our tax
21 dollars, everything that is done needs to be followed
22 verbatim, and it needs to be done proper. Our
23 governments have been cutting corners and doing
24 things and shoving things down our throats for a long
25 time. I'm not saying that's happening here, but I'm

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Cont.

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30. Comments noted.

1 saying there's two stadiums that prove it's happened.
2 I've lived in West Seattle since 1981. Traffic
3 has increased. Traffic is worse with these stadiums.
4 I'm telling you. I drive there. I've lived there
5 since 1981. It is more congested.

6 So I'm not going to say a lot, but when we stand
7 up here, we support what you support, but we're
8 actually looking at the bigger picture. You guys are
9 emotional about your teams. We're emotional about
10 your teams. But we're also looking at all the jobs
11 down the line, not just ours, but all the way down
12 the line that are going to be affected by this
13 decision. So when you see us, shake our hand, smile.
14 We're not your enemy. We're just thinking for our
15 families, for you, for our neighbors. Okay?

16 Thank you.

17 MR. SHAW: Thank you.

18 Ms. Allen, before you speak, let me pause for one
19 minute and get the next speaker sheet.

20 CATHY ALLEN: This always happens
21 when you're the first woman.

22 MR. SHAW: Thank you, Ms. Allen.

23 CATHY ALLEN: You're welcome.

24 Well, as a -- my name is Cathy Allen, and I
25 helped write five of the city's neighborhood plans,

31. Comments noted.

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Cont.

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1 and this arena bears no resemblance to how good
2 projects come to be. It arrives as an end-run idea
3 which has thrown public process, good land use, and,
4 oh, by the way neighborhood priorities to the side so
5 a rich guy could make more money.

6 UNIDENTIFIED SPEAKER: Yeah.

7 CATHY ALLEN: From a maritime and
8 Seattle Center perspective, our base of good jobs,
9 the same good jobs, oh, by the way, that let us out
10 of the recession before anybody else in the country.
11 The fact is that it's the same kind of jobs that are
12 going to keep our kids staying here. And you know
13 what? That comes from our maritime and our port
14 jobs. This is the commerce sitting on the edge of
15 this proposed debacle.

16 Where is the industry supposed to grow and
17 expand? Someplace else? Oh, let's build some more
18 manmade islands. Perhaps more to the point, how long
19 do we have to continue with a city government that
20 seems blind and hostile to the maritime potential and
21 the Port of Seattle? I'm tired of it.

22 I live on Queen Anne hill, and I have to change
23 my plans every time there's a big event here. Justin
24 Bieber notwithstanding, but I'm a believer in this
25 jewel, the Seattle Center of ours. It just keeps

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Cont.

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32. Comments noted.

1 getting better. Why are we not making Seattle Center
2 and its natural expansion, as much of an alternative
3 as the basketball team as this boondoggle in SoDo?
4 Whatever happened to making decisions based on the
5 highest and best use of each piece of property?

6 And, because I couldn't avoid it, I thought I'd
7 speak as a woman, a woman activist. So what happens
8 here is that, you know, I've heard this story one too
9 many times before, John. The fact is a former
10 hometown guy, good looking, rich, white comes to town
11 after making millions of dollars, a hedge fund guru.
12 Most of us don't know how to even explain what that
13 is.

14 MR. SHAW: 30 seconds.

15 CATHY ALLEN: He's got lots of
16 money which no one can track when it comes from --
17 where it comes from. He offers to make my dreams
18 come true. He says everything's okay and he's got
19 everything greased. As the story unravels, we learn
20 he has a mass property at a fraction of what it's
21 worth now. He can't produce a basketball team he
22 promised. He misled us about the impact of the
23 location. And now he's been caught with his hand
24 stomping the California laws that said he would not
25 fess up to bankrolling the initiative to stop the

33. Comments noted.

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Cont.

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1 Sacramento records.

2 By the way, I'm a woman and I get 30 seconds
3 more.

4 Area -- area bullying insider view, I can't
5 figure out if it's more like the Music Man or the
6 cable TV's Under the Dome, but the story is too
7 familiar.

8 And, finally, from a political perspective, I'm
9 worried. General consensus is that the arena goes
10 away if and when Mayor McGinn is defeated in the
11 mayoral race, but that's not necessarily true. Every
12 day this bad location and this EIS process continues
13 to be harder to stop.

14 Last comment. We can do better than this.
15 Seattle deserves a great new basketball team and an
16 arena put in the right place at the right time. This
17 entire process, its sullied leader and its proposed
18 location is beneath us.

19 Thank you.

20 MR. SHAW: Now, you're all
21 wondering who's speaking next.

22 The next three speakers are Cin Lyons, Justin
23 Hirsch, Ralph Morton.

24 CONNIE LYONS: Hi. My name is
25 Connie Lyons.

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Cont.

1 MR. SHAW: Sorry.

2 CONNIE LYONS: Oh, it's quite all
3 right.

4 I'm going to give you a little background. I've
5 been working as a traffic control supervisor for 13
6 years between Portland and Seattle, also been a
7 longshoreman now for about ten years. In my spare
8 time, I'm a volunteer emergency medical technician.
9 So I see a lot of stuff from a lot of different
10 angles. And one of the things I keep hearing here is
11 this traffic impact study. What nobody seems to
12 understand is the additional traffic impact on top of
13 what we already have.

14 The longshore -- the maritime industry is
15 providing 30 percent -- supports 30 percent of our
16 local economy. And it used to be, actually, even
17 more. We can't just jeopardize that. It's not just
18 about the maritime industry either. Who's going to
19 provide all the extra security that's going to be
20 needed with that many additional people in that
21 particular area? That's all going to be costing the
22 taxpayer. It all starts out as a wonderful party and
23 it ends up with a brawl here and a brawl there when
24 too many people get together. That's just the nature
25 of things. Who's going to pay for all that? Who's

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34. Comments noted.

1 going to take care of -- and I tell you from
2 experience as a traffic control supervisor, you have
3 a congested area, the local businesses suffer.
4 Nobody wants to go there because nobody wants to deal
5 with the traffic, nobody wants to try to find
6 parking, it's a mess. So it's not just the maritime
7 industry that suffers.

8 I kinda got to touch on something that was said
9 earlier with regards to the ILW supposedly shutting
10 down the tunnel project. That was the grossest
11 misstatement I've heard in a very long time thanks to
12 the media not putting out the truth. The machine is
13 broke. I spoke to the engineer who's building the
14 conveyor belt. It's not functional yet. So let's be
15 a little bit more informed before we make these big
16 misstatements.

17 Lastly, I would like to ask this local
18 government: Do you have a responsibility to all the
19 people living and working in this city, in this
20 community? Yes, we all would love to have a
21 basketball team. I would love to see a hockey team.
22 It's wonderful stuff. But choose your location. I
23 don't keep my TV in the bathroom. It doesn't belong
24 there, much as I like it. Well, that's just what
25 you're doing right now. That's an industrial area,

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Cont.

1 the SoDo District. Yes, we've got other arenas
2 there. We're already topped out. We don't need the
3 additional. We've got this beautiful Key Arena right
4 next to our Space Needle. Beautiful area. Let's
5 give it a little shine. It'll be beautiful to have a
6 team right here.

7 Your responsibility as the local government is
8 not to Chris Hansen, with his underhanded dealings.
9 Your responsibility is to the local people, to the
10 voters who have elected you and trust in you that you
11 do the right thing, that you do all the studies as
12 need to be done, that you have a little open policy,
13 not have these MOUs discussed behind closed doors. I
14 don't know where the money went or who -- who got
15 money or how it got exchanged, but it needs to be
16 public. You're public servants in this local
17 government. I ask you to do your job with your
18 responsibility to the local public. Thank you.

19 MR. SHAW: Justin Hirsch, then
20 Ralph Morton and Josh Turgeon.

21 JUSTIN HIRSCH: Hi, Justin Hirsch.
22 Justin Hirsch brought the Union Longshoremen, Local
23 19, Port of Seattle.

24 It's been said we've had this debate before.
25 Well, if we got it right, we probably wouldn't need

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35. Comments noted.

1 to be still here. We haven't gotten it right just
2 yet. The draft EIS ignores so much about the impact
3 of a new arena in the SoDo neighborhood. While the
4 EIS focuses primarily on trucking impacts, which is
5 not negligible, it ignores a lot of the long-term
6 effects of the uncertainty that would be created by
7 the port. And I would say that creating another
8 arena in the SoDo neighborhood is going to telegraph
9 exactly the wrong message to shippers and ocean
10 carriers throughout the world. It's going to tell
11 them -- it's going to tell them that Seattle doesn't
12 prioritize its port.

13 It is abundantly clear in the modern supply chain
14 industry that it is not the Port that decides where
15 the cargo goes. Further, it is not the ocean carrier
16 that decides where the cargo goes. Rather, it is the
17 shippers, the owners of the cargo who will ultimately
18 decide where that cargo goes. Please understand in
19 no uncertain terms that increased congestion in
20 Seattle, with the Seattle bottleneck, will cause
21 uncertainty around the crucial truck and rail
22 connections that shippers need to complete their
23 shipments. This is not a small issue.

24 Balancing truck and rail schedules with maritime
25 schedules, the ship schedules, is one of the more

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Cont.

1 complex tasks in the modern supply chain industry.
2 Now, bear in mind that roughly 70 percent of the
3 cargo coming to the port goes inland. Right? It's
4 discretionary. It's not bound to the Seattle market.
5 It doesn't have to stay here. It'll go to
6 Minneapolis, Chicago, Memphis, Atlanta, New York. If
7 we create a Seattle bottleneck, then cargo leaves the
8 region. Tacoma simply can't absorb it all.

9 MR. SHAW: 30 seconds.

10 JUSTIN HIRSCH: Canada will get it,
11 Prince Rupert, the Delta port Fraser River, the Gulf
12 Coast will get it. We all know the Panama Canal is
13 going to expand probably next year. The point here
14 is that lip service to the supply chain industry is
15 not sufficient. Lip service isn't going to get it.
16 You can fudge the numbers in the EIS all you want,
17 but ultimately the market will respond.

18 Thank you very much.

19 MR. SHAW: Ralph Morton, then Josh
20 Turgeon and Scott Martinez.

21 RALPH MORTON: Ralph Morton,
22 Seattle Sports Commission. I love the fact that
23 Justin Bieber has been brought into this argument, so
24 I think that raises the bar.

25 I think we all can agree that Seattle is an

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36. Comments noted.

37. Comments noted.

1 amazing city that has grown in incredible ways from
2 the World's Fair, and then where it's going, who
3 knows, but we're based on a very diverse economy in
4 this community that began from the lumber industry to
5 Boeing to Amazon to Microsoft. If you look at what
6 happened, and we're part of the tourism industry.
7 Cruise ships were moving about 8,000 people. Look at
8 what we've been able to accommodate, suddenly moving
9 300,000 people as we grow all these different
10 industries. We're right in the middle of downtown.
11 I grew up in New Orleans. It has a vibrant port in
12 the downtown area. And this is part of where our
13 challenge is.

14 Seattle's past is now meeting our future, and our
15 future is incredible. We're growing and these
16 hearings are important. But what we have right now
17 downtown are two world-class facilities in a world --
18 and we want to keep that -- a world-class stadium
19 district. We believe that -- in this arena being a
20 part of that world-class district and listening to
21 concerns and making it better. The better the
22 experience for the people who attend not only that
23 arena but the other stadiums is better for everybody
24 involved including people on both sides of the
25 argument.

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Cont.

1 If you look at what we have now, we have a
2 68,000-seat stadium. We have a 46,000-seat stadium.
3 We're talking about an 18-, 20,000-seat stadium.
4 It's roughly a 15 percent increase in capacity, but
5 these are -- these are venues that do not all operate
6 at one time. We're talking about frequency, and we
7 want you to be able to consider what the true facts are
8 and what the impact will be. And plus, consider the
9 impact on the economy and the positive things that
10 these people coming to town. An out of plate [sic]
11 license on the back of a person's car is economic
12 impact. Somebody coming to visit our community.

13 And also as a sports arena --

14 MR. SHAW: 30 seconds.

15 RALPH MORTON: -- we're hosting the
16 NCAA volleyball championships, NCAA basketball. We
17 believe in the future of Key Arena with or without
18 the stadium. I think a lot of people, when the
19 Sonics left, said that's going to die, and it has
20 not. It has grown.

21 So we believe in future of this, but I think
22 these things are important, but we also believe in
23 the project and also a greater stadium district.
24 Thank you.

25 MR. SHAW: Josh Turgeon, Scott

38. Comments noted.

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Cont.

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1 Martinez, and -- I may get the name incorrect -- Doug
2 Aamodt.

3 JOSH TURGEON: Okay. I'm Josh
4 Turgeon, ILWU Local 19.

5 You know, I'm a Sonics fan. I went to probably
6 at least half the games of the home games their last
7 season here, and I want to see the Sonics come back.
8 I just don't want to see it in SoDo because I'm also
9 a longshoreman and that's where I work. It's been
10 said before, the SoDo region is about a third of the
11 city's economic activity, and we shouldn't take that
12 lightly.

13 Just want to see the scope of this study expanded
14 to include the impacts on other regions, even
15 statewide. You know, we have agriculture that --
16 that needs to travel to the port, other manufacturers
17 and stuff. The port goes both ways, or our traffic
18 goes both ways, so there's that.

19 And I guess the bottom line is not -- I won't hem
20 and haw too long, but the bottom line is that we've
21 got a great facility here. You know, obviously it
22 probably needs to be improved, but, you know, if we
23 can just work on a viable alternative and kick Chris
24 Hansen to the curb, we'd probably be doing a good
25 thing.

39. Comments noted.

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1 MR. SHAW: Thank you.
2 Scott Martinez, Doug Aamodt, and Dave Gering.
3 SCOTT MARTINEZ: Hello. My name is
4 Scott Martinez. I'm a longshoreman, Seattle
5 resident, and I've lived here all my life. And
6 previously I heard that one of the gentlemen talked
7 about the report here, and he said the numbers were
8 skewed. And a report is only as good as its numbers,
9 and if the numbers aren't good, I mean, we need to
10 really take a look at it. But my perspective is just
11 as seeing what's happening around the area right now,
12 I mean, I can't believe that we have -- we don't have
13 more road rage the way it is because -- and the way
14 things are because if you go and look on the West
15 Seattle bridge at 9:00 in the morning, that thing's
16 backed up. I don't know how people can even make it
17 to work on time in downtown Seattle because
18 there's -- it's crawling. There's nothing -- it's
19 not even moving. And then you got, from the north
20 end, you got the Battery Street tunnel. If you don't
21 get on Aurora by -- by at least by 6:30, it's
22 starting to back up already. By 8:00, it's choked.
23 I mean, and now they're going to make a tunnel that's
24 even smaller. I just don't understand where the
25 numbers are coming from because it doesn't make

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1 sense.

2 I went to a -- when they had a soccer
3 game/football game, and I was downtown, and it took
4 me an hour and a half just to get from down- -- from
5 the ferry dock down to Spokane Street, and I couldn't
6 believe it. There was no way I -- I couldn't get
7 anywhere. I couldn't move. I couldn't get out of --
8 you know, there was just nowhere to go. I'm going,
9 What's going on here? So now we're going to add more
10 traffic on top of that? I mean, it's getting
11 ridiculous. I mean, sooner or later we're going to
12 really have some real problems in Seattle, and
13 there's just going to be no way around it. I mean --

14 MR. SHAW: 30 seconds.

15 SCOTT MARTINEZ: -- we're going --
16 we're going down a road here that we better open our
17 eyes up because, soon or later, when it's done, it's
18 done. I mean, what are we going to do then? Then
19 we're stuck. We're going to try to figure it out.

20 But so we really need to make sure that this
21 impact statement is true, and it should be true and
22 the government should be looking at it, and they owe
23 it to us as our overseeing what's going to happen.
24 So I think that's what is. You know, do your due
25 diligence and do what's right for us, who you are

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Cont.

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41. Comments noted.

1 here to serve.

2 So that's all I have to say. Thank you.

3 MR. SHAW: Thank you.

4 Doug Aamodt, Dave Gering, Herb Krohn.

5 DOUG AAMODT: Hi, my name is Doug
6 Aamodt.

7 MR. SHAW: Sorry.

8 DOUG AAMODT: I'm also a third
9 generation longshoreman. I used to live, for five
10 years, just a few blocks over in lower Queen Anne,
11 and I know that any time there's an event, game,
12 ballet or whatever, that traffic in this area is
13 pretty jammed, but they have made a lot of
14 improvements recently. If you try to go on or off of
15 I-5 at Mercer, they've done a lot of remodelling.
16 Amazon paid for a lot of that, or helped provide for
17 a lot of that. And there's places already -- the
18 infrastructure's already grown up around this arena
19 that's already here and can facilitate whatever we
20 need with the Sonics or any sports team. So I'm here
21 to speak against the shore side proposal to put
22 anything arena-like in SoDo.

23 The shipping industry, there's margins, and if we
24 put a limit, even if it's a 15 percent increase,
25 that's a 15 percent increase on potential limit of

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42. Comments noted. See Common Response #1 Public vs Private Projects; Range of Alternatives

1 growth. Why would we stymie the bread and butter of
2 the Seattle economy? There's no reason to do it.
3 We'd be shooting ourselves in the foot for no reason,
4 for no gain. It would just be completely myopic on
5 everybody's part, and you're responsible to let such
6 a thing happen in this community -- in the SoDo
7 neighborhood I mean.

8 There's plenty of other sites. There's plenty of
9 other ways and places. I don't know why it has to be
10 in this very, very narrow place that is very
11 disruptive for not just the longshore and shipping
12 industry but all kinds of people who actually live --
13 there's software companies down there. There's other
14 industries trying to grow.

15 And I know that there's a lot of fans in this
16 room, and I would love to see Sonics or any team
17 return, but the word "fan" is actually short for
18 "fanatic," which might be why this thing has gone as
19 far as it has.

20 MR. SHAW: 30 seconds.

21 DOUG AAMODT: That's all I have.

22 Thank you.

23 MR. SHAW: Thank you.

24 Dave Gering, then Herb Krohn and Jeremy Ward.

25 DAVE GERING: My name is Dave

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Cont.

1 Gering. I'm the executive director of Manufacturing
2 Industrial Council of Seattle. We've been engaged
3 with the City of Seattle for the past 15 years in
4 implementing the Greater Duwamish Manufacturing
5 Industrial Center Plan. In that connection we -- our
6 group formed the city's first ever Freight Mobility
7 Advisory Committee. We tracked this legislation
8 closely, as my friends know, as it was adopted just a
9 year ago by the city council and county council.

10 They required that the executive branch of these
11 governments conduct a freight plan because of all the
12 freight issues that were raised in this. Twelve
13 months later, that planning process has not even been
14 started, and yet you're coming to the end of the
15 environmental review process and you have no analysis
16 of the most important issue that was raised in this
17 concern.

18 The county council ordinance that adopted the
19 memorandum of understanding, which I know many of you
20 remember, required the county executive to file by
21 March 15th, 2013, a report about how he would go
22 about a heavy haul corridor and work with the Port of
23 Seattle. That deadline was never kept. That report
24 has never been filed. So, again, you're coming to
25 the end of the environmental review process without

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43. Comments noted. See detailed comments from MIC and detailed responses included in "Business" comments.

1 the City or the County having responded to the
2 requirements of the city council and the county
3 council the actual laws that were set down to govern
4 and initiated this entire process had not been
5 followed. On the first two arenas, it took them
6 about ten years to not keep the commitments that they
7 had made. This time around it didn't even take them
8 ten months.

9 The EIS, I have read, it totally underestimates
10 the impact of the railroad in this part of town. The
11 mayor's study showed on September 28th, 2012, in a
12 24-hour period Holgate Street being closed 107 times
13 by railroad activity, and yet that's going to be the
14 pedestrian promenade leading to the arena. There's
15 nothing in the EIS that reflects anywhere near the
16 seriousness of that issue or what it'll be like for
17 the pedestrians that navigate that at night during
18 the winter.

19 And so, again, it took them about ten years to
20 not keep their past promises. This time it hasn't
21 even taken ten months. Thank you.

22 MR. SHAW: Thank you.

23 Herb Krohn and Jeremy Ward.

24 HERB KROHN: Hi, I'm Herb Krohn.
25 I'm the state legislative director for the United

44. Comments noted.

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Cont.

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1 Transportation Union and Smart Transportation
2 Division. We represent approximately 2,000 railroad
3 workers across the state of Washington, brakemen,
4 conductors, switchmen, foremen, et cetera. I'm also
5 a citizen of the city of Seattle.

6 Last year the Grand Alliance Shipping moved their
7 operations from Terminal 18 to the Port of Tacoma
8 because Seattle's become too difficult for freight
9 mobility in and out of the ports and rail yards
10 because of the failure to develop promised freight
11 mobility quarters once Safeco and CenturyLink fields
12 were completed. The funding for these projects
13 instead shifted to fix the Mercer Mess here at the
14 Seattle Center. Now the arena proponents wish to
15 ignore the millions of tax dollars spent for traffic
16 improvements here to instead develop another facility
17 in the middle of the last major industrial area of
18 Seattle.

19 One of our greatest concerns of this proposal,
20 and we ask you to look into this, is that the east
21 side of this proposed arena would be -- would abut
22 the Amtrak service yards. The tracks will be within
23 a few feet of the back wall of the arena, the public
24 entrance at First and Massachusetts is within a few
25 hundred yards of the main entrance to the BNSF north

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Cont.

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46. Comments noted.

1 SIG yard at Utah and Massachusetts Street, and the
2 major Stacy Street yard behind it. The triple main
3 lines, the major north/south corridor, is just to the
4 east between Occidental and Third. Currently there's
5 an average of close to 60 trains a day that move
6 through that corridor. That's not including the
7 Amtrak switchings and other things along the main
8 corridor. The rail yards and major grade crossings
9 are not pedestrian-prone places. You add in the
10 patrons of an arena that's been consuming alcohol at
11 events and this is going to become a very dangerous,
12 volatile mix that's going to certainly result in
13 numerous critical incidents and deaths of arena
14 patrons who think they can beat the train or who walk
15 plugged -- walked plugged into earphones not paying
16 attention or those who wander into the rail
17 facilities and the yards.

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Cont.

18 MR. SHAW: 30 seconds.
19 HERB KROHN: It's tragic for our
20 families and for the families of people who die, and
21 it also has a profoundly devastating effect on rail
22 crew members working on trains. There are many other
23 places the arena could be built. Here at the Seattle
24 Center would be an economic competitiveness in the
25 community.

46

1 And I just want to close by commenting on a few
2 things. They want to make a Staple Center down here.
3 And the biggest problems facing this world and this
4 country are AIG: Arrogance, indifference, and greed.
5 And the developer's underlying eye is on Terminal 46
6 and the central waterfront. And if they can make
7 that noncompetitive by blocking traffic, they'll get
8 their hands on it. And that'll be the end of the
9 Port of Seattle and those facilities. This is about
10 billionaires making billions more. Thank you.

11 MR. SHAW: Jeremy Ward.

12 JEREMY WARD: My name is Jeremy
13 Ward. I support the arena on making comments.

14 The notion that Key Arena is going to work as
15 a -- as an NBA arena is just not a nonstarter. I
16 mean, the NBA has said it doesn't work. Chris Hansen
17 has said he won't build there. No one is offering to
18 build at Key Arena and bring a team there. So for
19 one, it's off the table. It would be kind of
20 laissez-faire for me to say, Why don't you move your
21 port to Tacoma? I mean, I'm not saying that, but
22 that's about as uninformed as let's have the NBA Key
23 Arena is.

24 Secondly, you know, I'm a union guy and I support
25 the unions a lot and I support everybody here, but

47. Comments noted.

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Cont.

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1 what I see is a lot of people caterwauling about
2 jobs, and I haven't seen a single shred of proof
3 anywhere. No document, no study that indicates that
4 a single job should would be lost. Not one. This is
5 a fairly advanced report that's professionally
6 produced, and I don't see anything that counters it
7 that has a single job being lost to due to the
8 construction or the existence of an arena in the SoDo
9 arena district.

10 I would also say that where's the solidarity for
11 all your construction workers and all the other
12 people who were going to be working at the arena?
13 Are those jobs not important? You know, where's the
14 solidarity?

15 MR. SHAW: Let's just have comments
16 addressing the EIS.

17 JEREMY WARD: Okay. Well, that's
18 all I have. Thank you.

19 Oh, one more. The trains. You know, there's
20 \$40 million to mitigate this stuff, trains and
21 overpasses. That's seed money. The state and the
22 feds are going to double and triple that money, so
23 don't go around saying that it's just, you know,
24 people are going to get run over by trains, and
25 that's just -- that's just caterwauling and

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Cont.

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48. Comments noted.

1 catastrophizing. Thank you.

2 MR. SHAW: We have one more person
3 signed up to speak. Taro Suyematsu.

4 TARO SUYEMATSU: Hello. Thank you
5 for giving us the opportunity to speak here. Taro
6 Suyematsu, Local 1348 railroad worker here in
7 Seattle. And I just had a question of why aren't
8 other areas that can actually facilitate and happily
9 accommodate a new arena being seriously considered,
10 like Bellevue or right here at the Seattle Center. I
11 believe the answer is because this
12 arena/entertainment district project is a special
13 interest investment and development project
14 spearheaded by billionaires looking to make billions
15 more. This project is one that's encroaching on
16 living-wage jobs, some that have been around for
17 generations, and could continue for generations to
18 come.

19 So I ask you, sir, to do what's best for working
20 class Seattle and our families. And let's find a
21 better place for this new arena.

22 MR. SHAW: That completes the list
23 of folks who signed up to speak. We do have a little
24 bit more time, so if there are -- is anybody who has
25 not signed up to speak and wishes to do so, we do

49. Comments noted.

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Cont.

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50. Comments noted.

1 have an opportunity for that.

2 PAULA RIVIERE: Appreciate it.

3 Thank you.

4 MR. SHAW: Please state your name.

5 PAULA RIVIERE: Yes. Paula Riviere
6 [phonetic]. And there's a lot of information that
7 people here don't know. One is, the city -- lovely
8 water covered city event has become so luxurious --
9 luxury-ized -- I'm not sure what the word is -- that
10 the people who live there or lived there had to move
11 out. And that's exactly what's happening to our
12 emerald jewel.

13 And the way it's happening is in 2007 there was a
14 precipitous crash with the purpose of foreclosing on
15 the city of Seattle, on the state of Washington, on
16 the United States, and all the other beautiful
17 sovereign nations of the planet, but they got caught.
18 But in the process, they monopolized the press, so
19 the corporate FCC had came out, did hearings, and
20 merged TV, radio, and newspaper so that they could
21 control everything we see, everything we hear, and so
22 with the knowledge I had, they would prevent me from
23 getting truth to power.

24 And so the lawmakers aren't really to blame.

25 It's because during those three years I was

50

1 blackmailed not to tell anybody and to drive on my
2 own with the evidence, and I have tons of evidence.
3 And then the following three years I got police help,
4 but the problem was they kept -- they got everybody
5 infiltrated to the point where all the information
6 was blocked. So there's some key issues that you
7 don't know because none of us were really ever
8 educated on it. One is that all of these
9 corporations are actually run by the private bankers
10 and the divine right people who that George
11 Washington -- they're descendants of the people who
12 George Washington fought against.

13 MR. SHAW: 30 seconds.

14 PAULA RIVIERE: Gosh. Can I have
15 60 seconds?

16 Okay. So what they did is all of their
17 foundations, Trilateral Commission, Club of Rome, et
18 cetera, got together, and in 1997 they pushed through
19 Congress the NASCO SuperCorridor I-35 from Canada to
20 Mexico to bypass the West Coast and crush it
21 financially, destroying all the unions. And this is
22 what they were doing in 2007. They were going to
23 cease Social Security, seize all the -- and break all
24 the biggest unions, the postal, et cetera. And
25 that's why the postal service is being destroyed.

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Cont.

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51. Comments noted.

1 It's going to be replaced by FedEx and UPS.
2 I have an engineering degree and an MBA. And the
3 most important thing about that spot is that the
4 electromagnetic grid of the Earth allows them to
5 affect the players. So just like the Marco point
6 [sic]. It's a hot point on the Earth's
7 electromagnetic grid. If you sit in a special chair,
8 you can actually hear the thoughts of a person in
9 Cornwall, England. And IET and Tesla, all of this
10 stuff happened in the '70s. There was -- there was a
11 congressional hearing. And they basically said that,
12 you know, congress didn't want to fund it anymore.
13 They were doing ritual sacrifices, mental, all kind
14 of horrible things. But the thing is, ITT took it
15 up. And in 1983 they buried it in concrete.
16 And so I have all this evidence, and Yahoo! is
17 the only place that had it, and as I was finding it,
18 while I was trying to raise them so that no one would
19 find out. And so they did it. They took -- they
20 picked away all three people, this key systems guy,
21 this key technology guy, and the key CEO, and they
22 started disappearing. A lot of evidence which I
23 have. And I have been targeted ever since.
24 The other thing is the technology that we all
25 see --

51
Cont.

1 MR. SHAW: Ms. Rivera, I think,
2 your time --

3 PAUL RIVERA: Okay. The technology
4 we will see is 80 years old, and they've been
5 hoarding it. So there's a lot more to this whole
6 picture than people realize. And that's why the
7 reports don't make any sense.

8 MR. SHAW: Thank you very much.
9 Is there anybody else who would like to speak?
10 Come on up. Please state your name.

11 CHARLEY SHORE: Hello. My name is
12 Charley Shore. I'm the executive director for the
13 Queen Anne chamber.

14 UNIDENTIFIED SPEAKER: Woo.

15 CHARLEY SHORE: Thank you.
16 I'm sorry that I'm late. I just left the SoDo
17 district. We've had an all-chamber meeting there and
18 taking a look at that, looking at a prospective.
19 We -- I represent over 150 businesses in the Queen
20 Anne area and many more in the surrounding area that
21 I haven't gotten membership yet. I'm working on it.
22 And what we were saying is we need the support and we
23 need the Key Arena to stay where it is, and we need
24 to be able to bring it up to the standards that they
25 seem to want to have for our sports as well as any

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52. Comments noted.

53. Comments noted.

1 other entertainment factors.

2 I remember when the Sonics left us, as everybody
3 else does, and it was very heart-wrenching, but if
4 you can imagine that for yourselves, imagine it for
5 all the small businesses that were able to get that
6 boost whenever the Sonics came. When they left, it
7 was a huge hit for all of us, the people in Uptown
8 Queen Anne -- we used to call it Lower Queen Anne --
9 and even upper Queen Anne. This -- taking this away
10 from us and putting it in the SoDo District will be
11 another huge hit.

12 People like Chihuly have come into the Seattle
13 Center. We have brought it up with the brand-new
14 armory. We're building up a place for all of us, all
15 of the community, all of the Seattle people, the
16 surrounding areas, to build a future for our
17 community, our children. If you take this away, you
18 take away our future.

19 There was an old saying called If you build it,
20 they will come. You build it in SoDo, they will go,
21 but they'll go away from us. We need to keep it
22 here. Please listen to what we're saying on behalf
23 of all the Queen Anne businesses. Please consider
24 keeping our Key Arena here, and let's make it great
25 so that they will bring back the Sonics immediately.

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Cont.

1 Thank you for your time.

2 ROB EATON: My name is Rob Eaton,
3 director of government affairs for Amtrak. And,
4 actually, the Amtrak Pacific Northwest Divisional
5 Headquarters as you know is north and south of
6 Holgate Street, so the street actually bisects our
7 operations. Amtrak will be submitting written
8 testimony for the EIS, and I just want to make a
9 couple of highlights for our comments.

10 It is our major concern, actually, obviously, is
11 safety. Safety with pedestrians, safety of workers
12 in SoDo, and, actually, safety of our employees. We
13 have over 300 employees in the SoDo area at our
14 headquarters, and right now congestion, as it is,
15 is -- impacts service delivery, safety, freight
16 mobility, mobility in the region, economic
17 development for the region and the state. So we're
18 concerned on the additional impact of congestion on
19 those points, but also points is the additional
20 future of rail traffic going north/south.

21 We have between -- east of the proposed site,
22 should the proposal be constructed there, 12 to 14
23 tracks east of the stadium. And that's a significant
24 impact for us. So looking at potential mitigation
25 and additional mitigation for that area would be

54

54. Comments noted. See detailed comments from Amtrak and detailed responses included in "Business" comments.

1 needed.

2 Those would be included in the written comment.

3 Thank you.

4 MR. SHAW: Thank you.

5 Is there anybody else who has not yet spoken
6 tonight that would like to make any comments?

7 Thank you. I just want to remind folks that the
8 opportunity to submit written comments goes till
9 September 30th. Comment forms are on the back table.
10 And thank you all again for coming out.

11 (Meeting concluded at
12 7:13 p.m.)
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2) a certified court reporter in
3 County of King) the State of Washington, do hereby
4 certify:


5 That the foregoing SEATTLE ARENA ENVIRONMENTAL
6 IMPACT STATEMENT (EIS) SCOPING MEETING was had in my
7 presence and completed on September 19, 2013, and thereafter
8 was transcribed under my direction; that the transcript is a
9 full, true and complete transcript of the proceedings,
10 transcribed to the best of my ability;

11 That I am not a relative, employee, attorney or
12 counsel of any party to this action or relative or employee
13 of any such attorney or counsel and that I am not
14 financially interested in the said matter or the outcome
15 thereof;

16 That I am herewith securely sealing the said
17 transcript and promptly delivering the same to
18 Attorney Jessica M. Clawson.

19 IN WITNESS WHEREOF, I have hereunto set my
20 signature this 25th day of September, 2013.

21
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24
25


Eva P. Jankovits, CCR
Certified Court Reporter No. 1915
(Certification expires 7/3/14.)



Seattle Arena



FEIS Appendix E - Transportation (Appendices A – D are bound with the FEIS Appendices F – G are bound separately)

Date Published: May 7, 2015

**City of Seattle
Department of Planning and Development**

The intent and purpose of this Final Environmental Impact Statement is to satisfy the procedural requirements of the State Environmental Policy Act (RCW 43.21c) and City Ordinance 114057. This document is not an authorization for an action, nor does it constitute a decision or a recommendation for an action; in its final form it will accompany the final decision on the proposal.

Table of Contents

1.0 INTRODUCTION	1-1
1.1 SUMMARY OF ALTERNATIVES.....	1-3
1.2 HORIZON YEARS FOR ANALYSIS	1-5
1.3 EVENT ANALYSIS CASES	1-5
1.3.1 Stadium District Alternatives	1-6
1.3.2 Seattle Center Area Alternatives	1-13
1.4 EVENT TRANSPORTATION DEMANDS.....	1-17
1.4.1 Stadium District Alternatives	1-18
1.4.2 Seattle Center Area Alternatives	1-24
1.4.3 General Study Areas.....	1-27
1.4.4 Document Structure and Organization.....	1-27
2.0 STADIUM DISTRICT ALTERNATIVES (ALTERNATIVES 2 AND 3).....	2-1
2.1 STREET SYSTEM.....	2-1
2.1.1 Methodology.....	2-1
2.1.2 Affected Environment.....	2-3
2.1.3 Impacts of No Action Alternative.....	2-8
2.1.4 Impacts of Alternative 2.....	2-13
2.1.5 Impacts of Alternative 3.....	2-13
2.1.6 Mitigation Measures.....	2-13
2.1.7 Secondary and Cumulative Impacts	2-14
2.1.8 Significant Unavoidable Adverse Impacts.....	2-14
2.2 PUBLIC TRANSPORTATION.....	2-14
2.2.1 Methodology.....	2-14
2.2.2 Affected Environment.....	2-21
2.2.3 Impacts of No Action Alternative.....	2-29
2.2.4 Impacts of Alternative 2.....	2-38
2.2.5 Impacts of Alternative 3.....	2-58
2.2.6 Mitigation Measures.....	2-58
2.2.7 Secondary and Cumulative Impacts	2-58
2.2.8 Significant Unavoidable Adverse Impacts.....	2-59
2.3 PEDESTRIANS	2-59
2.3.1 Methodology.....	2-59
2.3.2 Affected Environment.....	2-65
2.3.3 Impacts of No Action Alternative.....	2-78
2.3.4 Impacts of Alternative 2.....	2-84
2.3.5 Impacts of Alternative 3.....	2-92
2.3.6 Mitigation Measures.....	2-92
2.3.7 Secondary and Cumulative Impacts	2-94
2.3.8 Significant Unavoidable Adverse Impacts.....	2-94
2.4 BICYCLE	2-94
2.4.1 Methodology.....	2-94
2.4.2 Affected Environment.....	2-95

2.4.3	Impacts of No Action Alternative.....	2-97
2.4.4	Impacts of Alternative 2.....	2-98
2.4.5	Impacts of Alternative 3.....	2-98
2.4.6	Mitigation Measures.....	2-98
2.4.7	Secondary and Cumulative Impacts	2-99
2.4.8	Significant Unavoidable Adverse Impacts.....	2-99
2.5	TRAFFIC VOLUMES.....	2-99
2.5.1	Methodology.....	2-99
2.5.2	Affected Environment.....	2-106
2.5.3	Impacts of No Action Alternative.....	2-112
2.5.4	Impacts of Alternative 2.....	2-126
2.5.5	Impacts of Alternative 3.....	2-138
2.5.6	Mitigation Measures.....	2-141
2.5.7	Secondary & Cumulative Impacts.....	2-141
2.5.8	Significant Unavoidable Adverse Impacts.....	2-141
2.6	TRAFFIC OPERATIONS	2-142
2.6.1	Methodology.....	2-142
2.6.2	Affected Environment.....	2-146
2.6.3	Impacts of No Action Alternative.....	2-156
2.6.4	Impacts of Alternative 2.....	2-170
2.6.5	Impacts of Alternative 3.....	2-190
2.6.6	Mitigation Measures.....	2-190
2.6.7	Secondary and Cumulative Impacts	2-191
2.6.8	Significant Unavoidable Adverse Impacts.....	2-191
2.7	FREIGHT AND GOODS MOVEMENT	2-191
2.7.1	Methodology.....	2-191
2.7.2	Affected Environment.....	2-191
2.7.3	Impacts of No Action Alternative.....	2-199
2.7.4	Impacts of Alternative 2.....	2-205
2.7.5	Impacts of Alternative 3.....	2-210
2.7.6	Mitigation Measures.....	2-210
2.7.7	Secondary and Cumulative Impacts	2-210
2.7.8	Significant Unavoidable Adverse Impacts.....	2-211
2.8	PARKING.....	2-211
2.8.1	Methodology.....	2-211
2.8.2	Affected Environment.....	2-221
2.8.3	Impacts of No Action Alternative.....	2-230
2.8.4	Impacts of Alternative 2.....	2-239
2.8.5	Impacts of Alternative 3.....	2-250
2.8.6	Mitigation Measures.....	2-250
2.8.7	Secondary and Cumulative Impacts	2-251
2.8.8	Significant Unavoidable Adverse Impacts.....	2-251
2.9	SAFETY.....	2-251
2.9.1	Methodology.....	2-251

2.9.2	Affected Environment.....	2-252
2.9.3	Impacts of No Action Alternative.....	2-253
2.9.4	Impacts of Alternative 2.....	2-253
2.9.5	Impacts of Alternative 3.....	2-253
2.9.6	Mitigation Measures.....	2-253
2.9.7	Secondary and Cumulative Impacts	2-254
2.9.8	Significant Unavoidable Adverse Impacts.....	2-254
2.10	OCCIDENTAL AVENUE SOUTH STREET VACATION	2-254
2.10.1	Context.....	2-254
2.10.2	Local Circulation Issues	2-255
2.10.3	Methodology.....	2-256
2.10.4	Impacts of the Vacation	2-256
2.10.5	Secondary and Cumulative Impacts	2-268
2.10.6	Significant Unavoidable Adverse Impacts.....	2-268
2.11	SITE ACCESS.....	2-268
2.12	SOUTH WAREHOUSE GARAGE SENSITIVITY ANALYSIS	2-271
3.0	SEATTLE CENTER AREA ALTERNATIVES (ALTERNATIVES 4 AND 5).....	3-1
3.1	STREET SYSTEM.....	3-1
3.1.1	Methodology.....	3-1
3.1.2	Affected Environment.....	3-1
3.1.3	Impacts of No Action Alternative.....	3-6
3.1.4	Impacts of Alternative 4.....	3-10
3.1.5	Impacts of Alternative 5.....	3-10
3.1.6	Mitigation Measures.....	3-11
3.1.7	Secondary and Cumulative Impacts	3-11
3.1.8	Significant Unavoidable Adverse Impacts.....	3-11
3.2	PUBLIC TRANSPORTATION.....	3-11
3.2.1	Methodology.....	3-11
3.2.2	Affected Environment.....	3-12
3.2.3	Impacts of No Action Alternative.....	3-20
3.2.4	Impacts of Alternative 4.....	3-28
3.2.5	Impacts of Alternative 5.....	3-29
3.2.6	Mitigation Measures.....	3-36
3.2.7	Secondary and Cumulative Impacts	3-36
3.2.8	Significant Unavoidable Adverse Impacts.....	3-36
3.3	PEDESTRIANS	3-36
3.3.1	Methodology.....	3-36
3.3.2	Affected Environment.....	3-37
3.3.3	Impacts of No Action Alternative.....	3-39
3.3.4	Impacts of Alternative 4.....	3-40
3.3.5	Impacts of Alternative 5.....	3-40
3.3.6	Mitigation Measures.....	3-40
3.3.7	Secondary and Cumulative Impacts	3-40
3.3.8	Significant Unavoidable Adverse Impacts.....	3-40

3.4	BICYCLE	3-41
3.4.1	Methodology.....	3-41
3.4.2	Affected Environment.....	3-41
3.4.3	Impacts of No Action Alternative.....	3-43
3.4.4	Impacts of Alternative 4.....	3-43
3.4.5	Impacts of Alternative 5.....	3-44
3.4.6	Mitigation Measures.....	3-44
3.4.7	Secondary and Cumulative Impacts	3-44
3.4.8	Significant Unavoidable Adverse Impacts.....	3-44
3.5	TRAFFIC VOLUMES	3-44
3.5.1	Methodology.....	3-44
3.5.2	Affected Environment.....	3-49
3.5.3	Impacts of No Action Alternative.....	3-53
3.5.4	Impacts of Alternative 4.....	3-63
3.5.5	Impacts of Alternative 5.....	3-70
3.5.6	Mitigation Measures.....	3-77
3.5.7	Secondary & Cumulative Impacts.....	3-78
3.5.8	Significant Unavoidable Adverse Impacts.....	3-78
3.6	TRAFFIC OPERATIONS	3-78
3.6.1	Methodology.....	3-78
3.6.2	Affected Environment.....	3-80
3.6.3	Impacts of No Action Alternative.....	3-86
3.6.4	Impacts of Alternative 4.....	3-94
3.6.5	Impacts of Alternative 5.....	3-105
3.6.6	Mitigation Measures.....	3-115
3.6.7	Secondary and Cumulative Impacts	3-115
3.6.8	Significant Unavoidable Adverse Impacts.....	3-115
3.7	FREIGHT AND GOODS MOVEMENT	3-116
3.7.1	Methodology.....	3-116
3.7.2	Affected Environment.....	3-116
3.7.3	Impacts of No Action Alternative.....	3-118
3.7.4	Impacts of Alternative 4.....	3-121
3.7.5	Impacts of Alternative 5.....	3-122
3.7.6	Mitigation Measures.....	3-123
3.7.7	Secondary and Cumulative Impacts	3-124
3.7.8	Significant Unavoidable Adverse Impacts.....	3-124
3.8	PARKING.....	3-124
3.8.1	Methodology.....	3-124
3.8.2	Affected Environment.....	3-133
3.8.3	Impacts of No Action Alternative.....	3-137
3.8.4	Impacts of Alternative 4.....	3-146
3.8.5	Impacts of Alternative 5.....	3-151
3.8.6	Mitigation Measures.....	3-157
3.8.7	Secondary and Cumulative Impacts	3-157

3.8.8	Significant Unavoidable Adverse Impacts.....	3-157
3.9	SAFETY.....	3-157
3.9.1	Methodology.....	3-157
3.9.2	Affected Environment.....	3-158
3.9.3	Impacts of No Action Alternative.....	3-158
3.9.4	Impacts of Alternative 4.....	3-158
3.9.5	Impacts of Alternative 5.....	3-159
3.9.6	Mitigation Measures.....	3-159
3.9.7	Secondary and Cumulative Impacts	3-159
3.9.8	Significant Unavoidable Adverse Impacts.....	3-159
4.0	SUMMARY OF MITIGATION MEASURES.....	4-1
4.1	CONSTRUCTION MANAGEMENT PLAN (CMP).....	4-1
4.2	OPERATION	4-2
4.2.1	Physical Capacity and Safety Improvements	4-2
4.2.2	Programmatic Measures/Transportation Management Plan Applicable to All Action Alternatives	4-6
5.0	LIST OF REFERENCES.....	5-16

List of Figures

Figure 1–1 Transportation / Parking Analysis Study Areas.....	1-2
Figure 1–2 Regional Transportation Project Timeline	1-5
Figure 1–3 Stadium District – Combined Event Schedules (Typical)	1-9
Figure 1–4 Event Traffic Arrival Patterns	1-17
Figure 2–1 Stadium District Study Intersections	2-2
Figure 2–2 Stadium District Street System	2-6
Figure 2–3 Stadium District Intersections Subject to Traffic Control Plans.....	2-7
Figure 2–4 Stadium District Bus Routes.....	2-16
Figure 2–5 Stadium District Transit Facilities and Corridors.....	2-22
Figure 2–6 Stadium District Transit Passengers Inbound – Existing Weekday (5:00 to 7:00 PM)	2-23
Figure 2–7 Stadium District Transit Passengers Outbound – Existing Weekday (9:00 to 11:00 PM)	2-23
Figure 2–8 Stadium District Bus Passengers Inbound – Existing Weekday (5:00 to 7:00 PM) .	2-25
Figure 2–9 Stadium District Bus Passengers Outbound – Existing Weekday (9:00 to 11:00 PM)	2-25
Figure 2–10 Stadium District Bus Transit Inbound - 2018 No Action Case S3.....	2-30
Figure 2–11 Stadium District Bus Transit Outbound - 2018 No Action Case S3.....	2-30
Figure 2–12 Stadium District Light Rail - 2018 No Action.....	2-31
Figure 2–13 Stadium District Streetcar - 2018 No Action.....	2-32
Figure 2–14 Stadium District WSF - 2018 No Action	2-33
Figure 2–15 Stadium District Bus Transit Inbound – 2030 No Action Case S3	2-34
Figure 2–16 Stadium District Bus Transit Outbound – 2030 No Action Case S3	2-34
Figure 2–17 Stadium District Light Rail – 2030 No Action	2-36
Figure 2–18 Stadium District Streetcar – 2030 No Action.....	2-37
Figure 2–19 Stadium District WSF – 2030 No Action.....	2-37
Figure 2–20 Stadium District Bus Transit Inbound – 2018 Alternative 2 Case S3	2-39
Figure 2–21 Stadium District Bus Transit Outbound – 2018 Alternative 2 Case S3	2-39
Figure 2–22 Stadium District Light Rail – 2018 Alternative 2	2-40
Figure 2–23 Stadium District Streetcar – 2018 Alternative 2.....	2-41
Figure 2–24 Stadium District WSF – 2018 Alternative 2.....	2-41
Figure 2–25 Stadium District Bus Transit Inbound – 2030 Alternative 2 Case S3	2-43
Figure 2–26 Stadium District Bus Transit Outbound – 2030 Alternative 2 Case S3	2-43
Figure 2–27 Stadium District Light Rail – 2030 Alternative 2	2-44
Figure 2–28 Stadium District Streetcar – 2030 Alternative 2.....	2-45
Figure 2–29 Stadium District WSF – 2030 Alternative 2.....	2-45
Figure 2–30 Stadium District Bus Transit Outbound – 2018 No Action Case S3: 9:30 to 10:30 PM.....	2-47
Figure 2–31 Stadium District Light Rail – 2018 No Action: Outbound 9:30 to 10:30 PM.....	2-47
Figure 2–32 Stadium District Streetcar – 2018 No Action: Outbound 9:30 to 10:30 PM	2-48
Figure 2–33 Stadium District WSF– 2018 No Action: Outbound 9:30 to 10:30 PM.....	2-48

List of Figures (Continued)

Figure 2–34 Stadium District Bus Transit Outbound– 2030 No Action Case S3: 9:30 to 10:30 PM.....	2-49
Figure 2–35 Stadium District Light Rail – 2030 No Action: Outbound 9:30 to 10:30 PM.....	2-50
Figure 2–36 Stadium District Streetcar – 2030 No Action: Outbound 9:30 to 10:30 PM	2-51
Figure 2–37 Stadium District WSF – 2030 No Action: Outbound 9:30 to 10:30 PM	2-51
Figure 2–38 Stadium District Bus Transit Outbound – 2018 Alternative 2 Case S3: 9:30 to 10:30 PM.....	2-52
Figure 2–39 Stadium District Light Rail – 2018 Alternative 2: Outbound 9:30 to 10:30 PM.....	2-53
Figure 2–40 Stadium District Streetcar – 2018 Alternative 2: Outbound 9:30 to 10:30 PM.....	2-54
Figure 2–41 Stadium District WSF – 2018 Alternative 2: Outbound 9:30 to 10:30 PM	2-54
Figure 2–42 Stadium District Bus Transit Outbound – 2030 Alternative 2 Case S3: 9:30 to 10:30 PM.....	2-55
Figure 2–43 Stadium District Light Rail – 2030 Alternative 2: Outbound 9:30 to 10:30 PM....	2-56
Figure 2–44 Stadium District Streetcar – 2030 Alternative 2: Outbound 9:30 to 10:30 PM.....	2-57
Figure 2–45 Stadium District WSF – 2030 Alternative 2: Outbound 9:30 to 10:30 PM	2-57
Figure 2–46 Stadium District Key Pedestrian Routes	2-60
Figure 2–47 S. Holgate Street Existing and Future Rail Crossing Locations.....	2-63
Figure 2–48 Stadium District Pedestrian Facilities	2-66
Figure 2–49 Stadium District Pedestrian Route: Stadium Station.....	2-68
Figure 2–50 Stadium District Pedestrian Route: SoDo Station.....	2-69
Figure 2–51 Stadium District Pedestrian Route: International District	2-70
Figure 2–52 Stadium District Pedestrian Route: Ferry	2-71
Figure 2–53 Stadium District Pedestrian Lighting Review	2-72
Figure 2–54 Stadium District Existing Post-Event Pedestrian Volumes.....	2-75
Figure 2–55 Stadium District Pedestrian Route: First Hill Streetcar.....	2-80
Figure 2–56 Stadium District No Action Post-Event Pedestrian Volumes.....	2-81
Figure 2–57 Stadium District No Action and Alternative 2 Case S1 Post-Event Pedestrian Volumes.....	2-86
Figure 2–58 Stadium District No Action and Alternative 2 Case S2 Post-Event Pedestrian Volumes.....	2-87
Figure 2–59 Stadium District No Action and Alternative 2 Case S3 Post-Event Pedestrian Volumes.....	2-88
Figure 2–60 Stadium District Bicycle Facilities.....	2-96
Figure 2–61 Stadium District Study Intersections	2-100
Figure 2–62 Stadium District Non-Event and Event Weekday Traffic Volume Comparison ...	2-102
Figure 2–63 Stadium District Alaskan Way Viaduct / Seattle Arena EIS Study Area Comparison	2-104
Figure 2–64 Stadium District Event Trip Distribution Map.....	2-107
Figure 2–65 Stadium District Existing Non-Event Weekday PM Peak Hour Traffic Volumes..	2-108
Figure 2–66 Stadium District Existing Non-Event Site Vicinity Weekday PM Peak Hour Traffic Volumes.....	2-111
Figure 2–67 Stadium District Existing With Event Weekday PM Peak Hour Traffic Volumes.	2-113
Figure 2–68 Stadium District Existing With Event Weekday PM Peak Hour Site Vicinity Traffic Volumes.....	2-114

List of Figures (Continued)

Figure 2–69 Stadium District 2018 No Action Case S1 Weekday PM Peak Hour Traffic Volumes.....	2-115
Figure 2–70 Stadium District 2018 No Action Case S2 Weekday PM Peak Hour Traffic Volumes.....	2-116
Figure 2–71 Stadium District 2018 No Action Case S3 Weekday PM Peak Hour Traffic Volumes.....	2-117
Figure 2–72 Stadium District 2018 No Action S1 Site Vicinity Weekday PM Peak Hour Traffic Volumes.....	2-119
Figure 2–73 Stadium District 2030 No Action Case S1 Weekday PM Peak Hour Traffic Volumes.....	2-121
Figure 2–74 Stadium District 2030 No Action Case S2 Weekday PM Peak Hour Traffic Volumes.....	2-122
Figure 2–75 Stadium District 2030 No Action Case S3 Weekday PM Peak Hour Traffic Volumes.....	2-123
Figure 2–76 Stadium District 2030 No Action S1 Site Vicinity Weekday PM Peak Hour Traffic Volumes.....	2-125
Figure 2–77 Stadium District Alternative 2 2018 Case S1 Weekday PM Peak Hour Traffic Volumes.....	2-127
Figure 2–78 Stadium District Alternative 2 2018 Case S2 Weekday PM Peak Hour Traffic Volumes.....	2-128
Figure 2–79 Stadium District Alternative 2 2018 Case S3 Weekday PM Peak Hour Traffic Volumes.....	2-129
Figure 2–80 Stadium District 2018 Alternative 2 S1 Arena Site Vicinity Weekday PM Peak Hour Traffic Volumes.....	2-131
Figure 2–81 Stadium District Alternative 2 2030 Case S1 Weekday PM Peak Hour Traffic Volumes.....	2-133
Figure 2–82 Stadium District Alternative 2 2030 Case S2 Weekday PM Peak Hour Traffic Volumes.....	2-134
Figure 2–83 Stadium District Alternative 2 2030 Case S3 Weekday PM Peak Hour Traffic Volumes.....	2-135
Figure 2–84 Stadium District 2030 Alternative 2 S1 Arena Site Vicinity Weekday PM Peak Hour Traffic Volumes.....	2-137
Figure 2–85 Stadium District Corridor Travel Time Routes	2-144
Figure 2–86 Stadium District Existing Intersection LOS Comparison	2-146
Figure 2–87 Stadium District Existing Weekday PM Peak Hour Level of Service	2-147
Figure 2–88 S. Holgate Street Existing Rail Crossing Locations	2-150
Figure 2–89 I-5 and I-90 Existing Weekday Congestion	2-152
Figure 2–90 I-5 and I-90 Existing Weekday Travel Times Non-Event and With Event	2-153
Figure 2–91 Stadium District No Action Case S1 Weekday PM Peak Hour Level of Service ...	2-157
Figure 2–92 Stadium District No Action Case S2 Weekday PM Peak Hour Level of Service ...	2-158
Figure 2–93 Stadium District No Action Case S3 Weekday PM Peak Hour Level of Service ...	2-159
Figure 2–94 Stadium District 2018 No Action Intersection LOS Comparison.....	2-160
Figure 2–95 Stadium District 2030 No Action Intersection LOS Comparison.....	2-161
Figure 2–96 S. Holgate Street Existing and Future Rail Crossing Locations.....	2-165

List of Figures (Continued)

Figure 2–97 Stadium District Alternative 2 Case S1 Weekday PM Peak Hour Level of Service	2-171
Figure 2–98 Stadium District Alternative 2 Case S2 Weekday PM Peak Hour Level of Service	2-172
Figure 2–99 Stadium District Alternative 2 Case S3 Weekday PM Peak Hour Level of Service	2-173
Figure 2–101 Stadium District 2030 Alternative 2 Intersection LOS Comparison.....	2-174
Figure 2–102 Weekday Post-Event 2030 LOS & Volume.....	2-188
Figure 2–103 Holgate Closure Weekday Post-Event 2030 LOS & Volume	2-189
Figure 2–104 Stadium District Rail and Freight Facilities	2-193
Figure 2–105 Stadium District Parking Study Area	2-213
Figure 2–106 Stadium District Hourly Parking Demand – Weekday: Non-Event	2-214
Figure 2–107 Stadium District Hourly Parking Demand – Weekday: Arena Only	2-215
Figure 2–108 Stadium District Hourly Parking Demand – Weekday: Non-Event Plus Arena .	2-215
Figure 2–109 Stadium District Hourly Parking Demand – Existing Weekend: Non-Event	2-216
Figure 2–110 Stadium District Hourly Parking Demand - Weekend: Arena Only.....	2-217
Figure 2–111 Stadium District Hourly Parking Demand – Weekend: Non-Event Plus Arena.	2-217
Figure 2–112 Stadium District Existing On- and Off-Street Event Parking Supply	2-220
Figure 2–113 Stadium District Parking Occupancy – Weekday: Existing Non-Event 7:00 p.m. (Primary Study Area)	2-222
Figure 2–114 Stadium District Parking Occupancy – Weekday: Existing Non-Event 7:00 p.m. (Expanded Study Area)	2-223
Figure 2–115 Stadium District Parking Occupancy – Weekday: Existing With Event, 22,900 Attendance 7:00 p.m. (Primary Study Area)	2-224
Figure 2–116 Stadium District Parking Occupancy – Weekday: Existing With Event, 22,900 Attendance 7:00 p.m. (Expanded Study Area).....	2-225
Figure 2–117 Stadium District Parking Occupancy – Weekend: Existing Non-Event 8:00 p.m. (Primary Study Area)	2-226
Figure 2–118 Stadium District Parking Occupancy – Weekend: Existing Non-Event 8:00 p.m. (Expanded Study Area).....	2-227
Figure 2–119 Stadium District Parking Occupancy – Weekend: Existing With Event, 23,500 Attendance 8:00 p.m. (Primary Study Area)	2-228
Figure 2–120 Stadium District Parking Occupancy – Weekend: Existing With Event, 23,500 Attendance 8:00 p.m. (Expanded Study Area).....	2-229
Figure 2–121 Stadium District Parking Occupancy – Weekday: No Action Case S1 7:00 p.m. (Primary Study Area)	2-231
Figure 2–122 Stadium District Parking Occupancy – Weekday: No Action Case S1 7:00 p.m. (Expanded Study Area).....	2-232
Figure 2–123 Stadium District Parking Occupancy – Weekday: No Action Case S2 (Primary Study Area)	2-232
Figure 2–124 Stadium District Parking Occupancy – Weekday: No Action Case S2 7:00 p.m. (Expanded Study Area).....	2-233
Figure 2–125 Stadium District Parking Occupancy – Weekday: No Action Case S3 7:00 p.m. (Primary Study Area)	2-233

List of Figures (Continued)

Figure 2–126 Stadium District Parking Occupancy – Weekday: No Action Case S3 7:00 p.m. (Expanded Study Area)	2-234
Figure 2–127 Stadium District Parking Occupancy – Weekend: No Action Case S1 8:00 p.m. (Primary Study Area)	2-235
Figure 2–128 Stadium District Parking Occupancy – Weekend: No Action Case S1 8:00 p.m. (Expanded Study Area)	2-236
Figure 2–129 Stadium District Parking Occupancy – Weekend: No Action Case S2 8:00 p.m. (Primary Study Area)	2-236
Figure 2–130 Stadium District Parking Occupancy – Weekend: No Action Case S2 8:00 p.m. (Expanded Study Area)	2-237
Figure 2–131 Stadium District Parking Occupancy – Weekend: No Action Case S3 8:00 p.m. (Primary Study Area)	2-237
Figure 2–132 Stadium District Parking Occupancy – Weekend: No Action Case S3 8:00 p.m. (Expanded Study Area)	2-238
Figure 2–133 Stadium District Parking Occupancy – Weekday: No Action and Alternative 2 Case S1 7:00 p.m. (Primary Study Area)	2-240
Figure 2–134 Stadium District Parking Occupancy – Weekday: No Action and Alternative 2 Case S1 7:00 p.m. (Expanded Study Area)	2-240
Figure 2–135 Stadium District Parking Occupancy – Weekday: No Action and Alternative 2 Case S2 7:00 p.m. (Primary Study Area)	2-241
Figure 2–136 Stadium District Parking Occupancy – Weekday: No Action and Alternative 2 Case S2 7:00 p.m. (Expanded Study Area)	2-241
Figure 2–137 Stadium District Parking Occupancy – Weekday: No Action and Alternative 2 Case S3 7:00 p.m. (Primary Study Area)	2-242
Figure 2–138 Stadium District Parking Occupancy – Weekday: No Action and Alternative 2 Case S3 7:00 p.m. (Expanded Study Area)	2-242
Figure 2–139 Stadium District Parking Occupancy – Weekend: No Action and Alternative 2 Case S1 8:00 p.m. (Primary Study Area)	2-244
Figure 2–140 Stadium District Parking Occupancy – Weekend: No Action and Alternative 2 Case S1 8:00 p.m. (Expanded Study Area)	2-244
Figure 2–141 Stadium District Parking Occupancy – Weekend: No Action and Alternative 2 Case S2 8:00 p.m. (Primary Study Area)	2-245
Figure 2–142 Stadium District Parking Occupancy – Weekend: No Action and Alternative 2 Case S2 8:00 p.m. (Expanded Study Area)	2-245
Figure 2–143 Stadium District Parking Occupancy – Weekend: No Action and Alternative 2 Case S3 8:00 p.m. (Primary Study Area)	2-246
Figure 2–144 Stadium District Parking Occupancy – Weekend: No Action and Alternative 2 Case S3 8:00 p.m. (Expanded Study Area)	2-246
Figure 2–145 Stadium District Parking Occupancy – Weekday: No Action, Alternative 2, and Alternative 2 Adjusted (No CenturyLink & Safeco Parking) Case S1 7:00 p.m. (Primary Study Area)	2-248
Figure 2–146 Stadium District Parking Occupancy – Weekday: No Action, Alternative 2, and Alternative 2 Adjusted (No CenturyLink & Safeco Parking) Case S1 7:00 p.m. (Expanded Study Area)	2-249

List of Figures (Continued)

Figure 2–147 Stadium District Parking Occupancy – Weekend: No Action, Alternative 2, and Alternative 2 Adjusted (No CenturyLink & Safeco Parking) Case S1 8:00 p.m. (Primary Study Area)	2-249
Figure 2–148 Stadium District Parking Occupancy – Weekend: No Action, Alternative 2, and Alternative 2 Adjusted (No CenturyLink & Safeco Parking) Case S1 8:00 p.m. (Expanded Study Area)	2-250
Figure 2–149 Occidental Avenue S. Street Vacation 2030 Weekday PM Peak LOS & Volumes	2-260
Figure 2–150 Occidental Avenue S. Street Vacation 2030 Weekday AM Peak Hour LOS & Volumes	2-261
Figure 2–151 Occidental Avenue S. Street Vacation 2030 Weekday Midday Peak Hour LOS & Volumes	2-262
Figure 2–152 Stadium District Proposed Arena Site Plan	2-269
Figure 2–153 South Warehouse Conceptual Site Plan	2-272
Figure 3–1 Seattle Center Area Study Intersections	3-2
Figure 3–2 Seattle Center Area Street System	3-5
Figure 3–3 Seattle Center Area Transit Facilities and Corridors	3-13
Figure 3–4 Seattle Center Area Bus Routes	3-14
Figure 3–5 Seattle Center Area Transit Passengers Inbound – Existing Weekday (5:00 to 7:00 PM)	3-15
Figure 3–6 Seattle Center Area Transit Passengers Outbound – Existing Weekday (9:00 to 11:00 PM)	3-16
Figure 3–7 Seattle Center Area Bus Passengers Inbound – Existing Weekday (5:00 to 7:00 PM)	3-17
Figure 3–8 Seattle Center Area Bus Passengers Outbound – Existing Weekday (9:00 to 11:00 PM)	3-17
Figure 3–9 Seattle Center Area Bus Transit Inbound – 2018 No Action Case K2/M2	3-22
Figure 3–10 Seattle Center Area Bus Transit Outbound – 2018 No Action Case K2/M2	3-22
Figure 3–11 Seattle Center Area Streetcar – 2018 No Action	3-23
Figure 3–12 Seattle Center Area Monorail – 2018 No Action	3-24
Figure 3–13 Seattle Center Area Bus Transit Inbound – 2030 No Action Case K2/M2	3-25
Figure 3–14 Seattle Center Area Bus Transit Outbound – 2030 No Action Case K2/M2	3-26
Figure 3–15 Seattle Center Area Streetcar – 2030 No Action	3-27
Figure 3–16 Seattle Center Area Monorail – 2030 No Action	3-28
Figure 3–17 Seattle Center Area Bus Transit Inbound – 2018 Alternative 5 Case M2	3-30
Figure 3–18 Seattle Center Bus Transit Area Outbound – 2018 Alternative 5 Case M2	3-30
Figure 3–19 Seattle Center Area Streetcar – 2018 Alternative 5	3-31
Figure 3–20 Seattle Center Area Monorail – 2018 Alternative 5	3-32
Figure 3–21 Seattle Center Area Bus Transit Inbound – 2030 Alternative 5 Case M2	3-33
Figure 3–22 Seattle Center Area Bus Transit Outbound – 2030 Alternative 5 Case M2	3-34
Figure 3–23 Seattle Center Streetcar – 2030 Alternative 5	3-35
Figure 3–24 Seattle Center Area Monorail – 2030 Alternative 5	3-35
Figure 3–25 Seattle Center Area Pedestrian Facilities	3-38
Figure 3–26 Seattle Center Area Bicycle Facilities	3-42
Figure 3–27 Seattle Center Area Study Intersections	3-45

List of Figures (Continued)

Figure 3–28 Seattle Center Area Event Trip Distribution Map	3-50
Figure 3–29 Seattle Center Area Existing Weekday PM Peak Hour Traffic Volumes	3-52
Figure 3–30 Seattle Center Area Alaskan Way Viaduct / Seattle Arena EIS Study Area Comparison	3-54
Figure 3–31 Seattle Center Area 2018 No Action Case K1 Weekday PM Peak Hour Traffic Volumes	3-56
Figure 3–32 Seattle Center Area 2018 No Action Case M1 Weekday PM Peak Hour Traffic Volumes	3-57
Figure 3–33 Seattle Center Area 2018 No Action Case K2/M2 Weekday PM Peak Hour Traffic Volumes	3-58
Figure 3–34 Seattle Center Area 2030 No Action Case K1 Weekday PM Peak Hour Traffic Volumes	3-60
Figure 3–35 Seattle Center 2030 Area No Action Case M1 Weekday PM Peak Hour Traffic Volumes	3-61
Figure 3–36 Seattle Center Area 2030 No Action Case K2/M2 Weekday PM Peak Hour Traffic Volumes	3-62
Figure 3–37 Seattle Center Area 2018 Alternative 4 Case K1 Weekday PM Peak Hour Traffic Volumes	3-64
Figure 3–38 Seattle Center Area 2018 Alternative 4 Case K2 Weekday PM Peak Hour Traffic Volumes	3-65
Figure 3–39 Seattle Center Area 2030 Alternative 4 Case K1 Weekday PM Peak Hour Traffic Volumes	3-67
Figure 3–40 Seattle Center Area 2030 Alternative 4 Case K2 Weekday PM Peak Hour Traffic Volumes	3-68
Figure 3–41 Seattle Center Area 2018 Alternative 5 Case M1 Weekday PM Peak Hour Traffic Volumes	3-72
Figure 3–42 Seattle Center Area 2018 Alternative 5 Case M2 Weekday PM Peak Hour Traffic Volumes	3-73
Figure 3–43 Seattle Center Area 2030 Alternative 5 Case M1 Weekday PM Peak Hour Traffic Volumes	3-75
Figure 3–44 Seattle Center Area 2030 Alternative 5 Case M2 Weekday PM Peak Hour Traffic Volumes	3-76
Figure 3–45 Seattle Center Area Corridor Travel Time Routes	3-81
Figure 3–46 Seattle Center Area Existing Weekday PM Peak Hour Level of Service	3-82
Figure 3–47 Existing Seattle Center Area Intersection LOS Overview	3-83
Figure 3–48 I-5 and I-90 Existing Weekday Congestion	3-84
Figure 3–49 I-5 and I-90 Existing Weekday Travel Times with and without an Event	3-85
Figure 3–50 Seattle Center Area No Action Case K1 Weekday PM Peak Hour Level of Service	3-87
Figure 3–51 Seattle Center Area No Action Case M1 Weekday PM Peak Hour Level of Service	3-88
Figure 3–52 Seattle Center Area No Action Case K2/M2 Weekday PM Peak Hour Level of Service	3-89
Figure 3–53 Seattle Center Area 2018 No Action LOS Comparison	3-90

List of Figures (Continued)

Figure 3–54 Seattle Center Area 2030 No Action LOS Comparison	3-91
Figure 3–56 Seattle Center Area Alternative 4 Case K1 Weekday PM Peak Hour Level of Service	3-95
Figure 3–57 Seattle Center Area Alternative 4 Case K2 Weekday PM Peak Hour Level of Service	3-96
Figure 3–55 Seattle Center Area 2018 Alternative 4 Intersection LOS Comparison	3-97
Figure 3–58 Seattle Center Area 2030 Alternative 4 Intersection LOS Comparison	3-97
Figure 3–59 Seattle Center Area 2018 Alternative 5 Intersection LOS Comparison	3-105
Figure 3–60 Seattle Center Area Alternative 5 Case M1 Weekday PM Peak Hour Level of Service	3-106
Figure 3–61 Seattle Center Area Alternative 5 Case M2 Weekday PM Peak Hour Level of Service	3-107
Figure 3–62 Seattle Center Area 2030 Alternative 5 Intersection LOS Comparison	3-108
Figure 3–63 Seattle Center Area Freight Facilities.....	3-117
Figure 3–64 Seattle Center Area Parking Study Area	3-126
Figure 3–65 Seattle Center Area Hourly Parking Demand – Weekday: Non-Event	3-127
Figure 3–66 Seattle Center Area Hourly Parking Demand – Weekday: Arena Only	3-128
Figure 3–67 Seattle Center Area Hourly Parking Demand – Weekday: Non-Event Plus Arena	3-128
Figure 3–68 Seattle Center Area Hourly Parking Demand – Weekend: Non-Event	3-129
Figure 3–69 Seattle Center Area Hourly Parking Demand – Weekend: Arena Only	3-130
Figure 3–70 Seattle Center Area Hourly Parking Demand – Weekend: Non-Event Plus Arena	3-130
Figure 3–71 Seattle Center Area Existing On- and Off-Street Event Parking Supply.....	3-132
Figure 3–72 Seattle Center Area Parking Occupancy – Weekday: Existing Non-Event 7:00 p.m. (Primary Study Area)	3-134
Figure 3–73 Seattle Center Area Parking Occupancy – Weekday: Existing Non-Event 7:00 p.m. (Expanded Study Area).....	3-135
Figure 3–74 Seattle Center Area Parking Occupancy – Weekend: Existing Non-Event 8:00 p.m. (Primary Study Area)	3-136
Figure 3–75 Seattle Center Area Parking Occupancy – Weekend: Existing Non-Event 8:00 p.m. (Expanded Study Area).....	3-136
Figure 3–76 Seattle Center Area Parking Occupancy – Weekday: No Action Case K1 7:00 p.m. (Primary Study Area)	3-138
Figure 3–77 Seattle Center Area Parking Occupancy – Weekday: No Action Case K1 7:00 p.m. (Expanded Study Area).....	3-139
Figure 3–78 Seattle Center Area Parking Occupancy – Weekday: No Action Case M1 7:00 p.m. (Primary Study Area)	3-139
Figure 3–79 Seattle Center Area Parking Occupancy – Weekday: No Action Case M1 7:00 p.m. (Expanded Study Area).....	3-140
Figure 3–80 Seattle Center Area Parking Occupancy – Weekday: No Action Case M2/K2 7:00 p.m. (Primary Study Area)	3-140
Figure 3–81 Seattle Center Area Parking Occupancy – Weekday: No Action Case M2/K2 7:00 p.m. (Expanded Study Area).....	3-141

List of Figures (Continued)

Figure 3–82 Seattle Center Area Parking Occupancy – Weekend: No Action Case K1 8:00 p.m. (Primary Study Area)	3-142
Figure 3–83 Seattle Center Area Parking Occupancy – Weekend: No Action Case K1 8:00 p.m. (Expanded Study Area)	3-143
Figure 3–84 Seattle Center Area Parking Occupancy – Weekend: No Action Case M1 8:00 p.m. (Primary Study Area)	3-143
Figure 3–85 Seattle Center Area Parking Occupancy – Weekend: No Action Case M1 8:00 p.m. (Expanded Study Area)	3-144
Figure 3–86 Seattle Center Area Parking Occupancy – Weekend: No Action Case M2/K2 8:00 p.m. (Primary Study Area)	3-144
Figure 3–87 Seattle Center Area Parking Occupancy – Weekend: No Action Case M2/K2 8:00 p.m. (Expanded Study Area)	3-145
Figure 3–88 Seattle Center Area Parking Occupancy – Weekday: No Action and Alternative 4 Case K1 7:00 p.m. (Primary Study Area)	3-147
Figure 3–89 Seattle Center Area Parking Occupancy – Weekday: No Action and Alternative 4 Case K1 7:00 p.m. (Expanded Study Area)	3-147
Figure 3–90 Seattle Center Area Parking Occupancy – Weekday: No Action and Alternative 4 Case K2 7:00 p.m. (Primary Study Area)	3-148
Figure 3–91 Seattle Center Area Parking Occupancy – Weekday: No Action and Alternative 4 Case K2 7:00 p.m. (Expanded Study Area)	3-148
Figure 3–92 Seattle Center Area Parking Occupancy – Weekend: No Action and Alternative 4 Case K1 8:00 p.m. (Primary Study Area)	3-149
Figure 3–93 Seattle Center Area Parking Occupancy – Weekend: No Action and Alternative 4 Case K1 8:00 p.m. (Expanded Study Area)	3-150
Figure 3–94 Seattle Center Area Parking Occupancy – Weekend: No Action and Alternative 4 Case K2 8:00 p.m. (Primary Study Area)	3-150
Figure 3–95 Seattle Center Area Parking Occupancy – Weekend: No Action and Alternative 4 Case K2 8:00 p.m. (Expanded Study Area)	3-151
Figure 3–96 Seattle Center Area Parking Occupancy – Weekday: No Action and Alternative 5 Case M1 7:00 p.m. (Primary Study Area)	3-152
Figure 3–97 Seattle Center Area Parking Occupancy – Weekday: No Action and Alternative 5 Case M1 7:00 p.m. (Expanded Study Area)	3-153
Figure 3–98 Seattle Center Area Parking Occupancy – Weekday: No Action and Alternative 5 Case M2 7:00 p.m. (Primary Study Area)	3-153
Figure 3–99 Seattle Center Area Parking Occupancy – Weekday: No Action and Alternative 5 Case M2 7:00 p.m. (Expanded Study Area)	3-154
Figure 3–100 Seattle Center Area Parking Occupancy – Weekend: No Action and Alternative 5 Case M1 8:00 p.m. (Primary Study Area)	3-155
Figure 3–101 Seattle Center Area Parking Occupancy – Weekend: No Action and Alternative 5 Case M1 8:00 p.m. (Expanded Study Area)	3-155
Figure 3–102 Seattle Center Area Parking Occupancy – Weekend: No Action and Alternative 5 Case M2 8:00 p.m. (Primary Study Area)	3-156
Figure 3–103 Seattle Center Area Parking Occupancy – Weekend: No Action and Alternative 5 Case M2 8:00 p.m. (Expanded Study Area)	3-156

List of Tables

Table 1-1 Arena Event Attendance Ranges	1-10
Table 1-2 Stadium District Cumulative Event Day Attendance Levels and Frequency	1-11
Table 1-3 Stadium District - Event Cases for Analysis.....	1-12
Table 1-4 Summary of Seattle Center High Attendance Days	1-15
Table 1-5 Seattle Center Area Alternatives - Event Cases for Analysis.....	1-15
Table 1-6 Stadium District Event Transportation Demands (by Venue).....	1-18
Table 1-7 Stadium District Event Case Transportation Demands Alternative 2 (2018)	1-20
Table 1-8 Stadium District Event Case Transportation Demands Alternative 2 (2030)	1-21
Table 1-9 Stadium District Event Case Transportation Demands Alternative 3 (2018)	1-22
Table 1-10 Stadium District Event Case Transportation Demands Alternative 3 (2030)	1-23
Table 1-11 Seattle Center Area Alternatives Event Transportation Demands.....	1-24
Table 1-12 Seattle Center Area Event Case Transportation Demands Alternative 4 (2018)....	1-25
Table 1-13 Seattle Center Area Event Case Transportation Demands Alternative 4 (2030)....	1-26
Table 1-14 Seattle Center Area Event Case Transportation Demands Alternative 5 (2018)....	1-26
Table 1-15 Seattle Center Area Event Case Transportation Demands Alternative 5 (2030)....	1-27
Table 2-1 Stadium District Existing Street System Summary.....	2-4
Table 2-2 Stadium District: Key Study Area Planned Transportation Projects	2-8
Table 2-3 Pedestrian Flow Assessment – Existing Post-event (9:00 p.m.)	2-76
Table 2-4 Existing Eastbound Pedestrian Accumulation at Holgate Train Crossing (Post-Event or 9:00 p.m.)	2-77
Table 2-5 Pedestrian Flow Assessment – No Action (Post-Event or 9:00 p.m.)	2-82
Table 2-6 No Action Eastbound Pedestrian Accumulation at Holgate Train Crossing (Post-Event or 9:00 p.m.).....	2-83
Table 2-7 Pedestrian Flow Assessment – Comparison of No Action and Alternative 2 (Post-Event or 9:00 p.m.)	2-89
Table 2-8 Action Eastbound Pedestrian Accumulation at Holgate Train Crossing (Post-Event or 9:00 p.m.).....	2-91
Table 2-9 24-Hour Count Comparison (Weekday vs. Weekend).....	2-101
Table 2-10 2018 Alternative 2 Arena Site Vicinity Weekday PM Peak Hour Traffic Volumes	2-130
Table 2-11 2030 Alternative 2 Arena Site Vicinity Weekday PM Peak Hour Traffic Volumes	2-136
Table 2-12 Alternative 2 Transportation Concurrency Analysis	2-138
Table 2-13 2018 Alternative 3 Arena Site Vicinity Weekday PM Peak Hour Traffic Volumes	2-139
Table 2-14 2030 Alternative 3 Arena Site Vicinity Weekday PM Peak Hour Traffic Volumes	2-140
Table 2-15 Level of Service Criteria.....	2-143
Table 2-16 Existing Weekday PM Peak Hour Travel Times Non-Event & With-Event Conditions	2-148
Table 2-17 S. Holgate Street and S. Lander Street Rail Crossing Summary – Existing Weekday PM Peak Hour	2-151
Table 2-18 Stadium District Existing Ramp Terminal Weekday PM Peak Hour LOS Summary	2-155
Table 2-19 Stadium District 2018 No Action Weekday PM Peak Hour Corridor Travel Times	2-163
Table 2-20 Stadium District 2030 No Action Weekday PM Peak Hour Corridor Travel Times	2-164

List of Tables (Continued)

Table 2-21 Stadium District No Action S. Holgate Street and S. Lander Street Rail Crossing Impact Summary	2-166
Table 2-22 Stadium District No Action Weekday PM Peak Hour Ramp Terminal LOS Summary	2-168
Table 2-23 2018 Alternative 2 Weekday PM Peak Hour Intersections at LOS E or LOS F	2-176
Table 2-24 2030 Alternative 2 Weekday PM Peak Hour Intersections at LOS E or LOS F	2-177
Table 2-25 2018 Alternative 2 Weekday PM Peak Hour Corridor Travel Times.....	2-178
Table 2-26 2030 Alternative 2 Weekday PM Peak Hour Corridor Travel Times.....	2-179
Table 2-27 Alternative 2 S. Holgate Street and S. Lander Street Rail Crossing Impact Summary	2-180
Table 2-28 2018 Alternative 2 Increase in Weekday PM Peak Hour Traffic on Freeway Corridors	2-182
Table 2-29 2018 Alternative 2 Weekday PM Peak Hour Ramp Terminal LOS Summary	2-183
Table 2-30 2030 Alternative 2 Weekday PM Peak Hour Ramp Terminal LOS Summary	2-184
Table 2-31 Stadium District Existing Weekday PM Peak Hour Intersection Operations at Key Freight Intersections	2-196
Table 2-32 Existing Weekday PM Peak Hour Travel Times Non-Event & With-Event Conditions on Key Freight Corridors	2-197
Table 2-33 S. Holgate Street and S. Lander Street Rail Crossing Summary – Existing PM Peak Hour	2-198
Table 2-34 Anticipated Future Changes to Daily Rail Activity	2-200
Table 2-35 Stadium District No Action Weekday PM Peak Hour Intersection Operations at Key Freight Intersections	2-201
Table 2-36 Stadium District 2018 No Action Weekday PM Peak Hour Freight Corridor Travel Times	2-202
Table 2-37 Stadium District 2030 No Action Weekday PM Peak Hour Freight Corridor Travel Times	2-203
Table 2-38 No Action S. Holgate Street and S. Lander Street Rail Crossing Impact Summary	2-203
Table 2-39 Stadium District Alternative 2 Weekday PM Peak Hour Intersection Operations at Key Freight Intersections	2-206
Table 2-40 Stadium District 2018 Alternative 2 Weekday PM Peak Hour Freight Corridor Travel Times	2-207
Table 2-41 Stadium District 2030 Alternative 2 Weekday PM Peak Hour Freight Corridor Travel Times	2-208
Table 2-42 Alternative 2 S. Holgate Street and S. Lander Street Rail Crossing Impacts Summary	2-209
Table 2-43 Occidental Avenue S. Street Vacation Weekday PM Peak Hour Trip Generation Summary – 2030 Horizon year.....	2-258
Table 2-44 Parking Garage Sensitivity Analysis.....	2-273
Table 3-1 Seattle Center Area Existing Street System Summary.....	3-3
Table 3-2 Seattle Center Area: Key Study Area Planned Transportation Projects	3-6
Table 3-3 Seattle Center Area 24-hour Count Comparison (Weekday versus Weekend).....	3-46
Table 3-4 Seattle Center Area Existing Intersection Traffic Count Comparison (Weekday vs. Weekend).....	3-47

List of Tables (Continued)

Table 3-5	2018 Alternative 4 Weekday PM Peak Hour Traffic Volumes Comparison.....	3-66
Table 3-6	2030 Alternative 4 Weekday PM Peak Hour Traffic Volumes Comparison.....	3-69
Table 3-7	Alternative 4 Transportation Concurrency Analysis	3-70
Table 3-8	2018 Alternative 5 Weekday PM Peak Hour Traffic Volumes Comparison.....	3-71
Table 3-9	2030 Alternative 5 Weekday PM Peak Hour Traffic Volumes Comparison.....	3-74
Table 3-10	Alternative 5 Transportation Concurrency Analysis	3-77
Table 3-11	Level of Service Criteria.....	3-79
Table 3-12	Seattle Center Area Existing Weekday PM Peak Hour Corridor Travel Times.....	3-83
Table 3-13	Seattle Center Area Existing Weekday PM Peak Hour Ramp Termini Intersection Operations	3-86
Table 3-14	Seattle Center Area 2018 No Action Weekday PM Peak Hour Corridor Travel Times	3-92
Table 3-15	Seattle Center Area 2030 No Action Weekday PM Peak Hour Corridor Travel Times	3-93
Table 3-16	Seattle Center Area No Action Weekday PM Peak Hour Ramp Terminal Intersection Operations	3-94
Table 3-17	2018 Alternative 4 Weekday PM Peak Hour Intersections at LOS E or LOS F	3-99
Table 3-18	2030 Alternative 4 Weekday PM Peak Hour Intersections at LOS E or LOS F	3-100
Table 3-19	2018 Alternative 4 Weekday PM Peak Hour Corridor Travel Times.....	3-101
Table 3-20	2030 Alternative 4 Weekday PM Peak Hour Corridor Travel Times.....	3-102
Table 3-21	2018 Alternative 4 Increase in Weekday PM Peak Hour Traffic on Freeway Corridors	3-103
Table 3-22	2018 Alternative 4 Weekday PM Peak Hour Ramp Terminal Intersection Operations	3-104
Table 3-23	2030 Alternative 4 Weekday PM Peak Hour Ramp Terminal Intersection Operations	3-104
Table 3-24	2018 Alternative 5 Weekday PM Peak Hour Intersections at LOS E or LOS F	3-109
Table 3-25	2030 Alternative 5 Weekday PM Peak Hour Intersections at LOS E or LOS F	3-110
Table 3-26	2018 Alternative 5 Weekday PM Peak Hour Corridor Travel Times.....	3-111
Table 3-27	2030 Alternative 5 Weekday PM Peak Hour Corridor Travel Times.....	3-112
Table 3-28	2018 Alternative 5 Weekday PM Peak Hour Increase in Traffic on Freeway Corridors	3-113
Table 3-29	2018 Alternative 5 Weekday PM Peak Hour Ramp Terminal Intersection Operations	3-114
Table 3-30	2030 Alternative 5 Weekday PM Peak Hour Ramp Terminal Intersection Operations	3-114
Table 3-31	2030 Alternative 4 Weekday PM Peak Hour Traffic Volumes Comparison.....	3-121
Table 3-32	2030 Alternative 4 Weekday PM Peak Hour Corridor Travel Times.....	3-122
Table 3-33	2030 Alternative 5 Weekday PM Peak Hour Traffic Volumes Comparison.....	3-123
Table 3-34	2030 Alternative 5 Weekday PM Peak Hour Corridor Travel Times.....	3-123
Table 4-1	Weeknight Transportation Management Program Goals	4-7

Acronyms

ADA	Americans with Disabilities Act
AVO	Average Vehicle Occupancy
BNSF	Burlington Northern Santa Fe Railway
CBD	Central Business District
CONCACAF	Confederation of North, Central American and Caribbean Association Football
CPTED	Crime Prevention Through Environmental Design
DEIS	Draft Environmental Impact Statement
DPD	Department of Planning and Development
EIS	Environmental Impact Statement
FRA	Federal Railroad Administration
GMA	Growth Management Act
gsf	gross square feet
HCM	Highway Capacity Manual
I-5	Interstate (Highway) 5
I-90	Interstate (Highway) 90
ITS	Intelligent Transportation System
LOS	Level of Service
MLB	Major League Baseball
MLS	Major League Soccer
mph	miles per hour
NBA	National Basketball Association
NFL	National Football League
NHL	National Hockey League
p/min/ft	pedestrians per minute per foot
PSRC	Puget Sound Regional Council
SDOT	Seattle Department of Transportation
SEPA	State Environmental Policy Act
SIG	Seattle Intermodal Gateway
SoDo	South Downtown
SPD	Seattle Police Department
Sounders FC	Sounders Football Club
SLU	South Lake Union
SMC	Seattle Municipal Code
SR	State Route
ST	Sound Transit
SUAI	Significant unavoidable adverse impact
TCP	Traffic Control Plans
TDM	Transportation Demand Management
TEU	Twenty-foot equivalent units
TOD	Transit Oriented Development
TMP	Transportation Management Plan
UP	Union Pacific

Acronyms (Continued)

U-link	University Link Light Rail
UW	University of Washington
v/c	volume to capacity
vph	vehicles per hour
WAMU Theatre	Washington Mutual Theatre
WSDOT	Washington State Department of Transportation
WSF	Washington State Ferries
WNBA	Women's National Basketball Association
WSF	Washington State Ferries

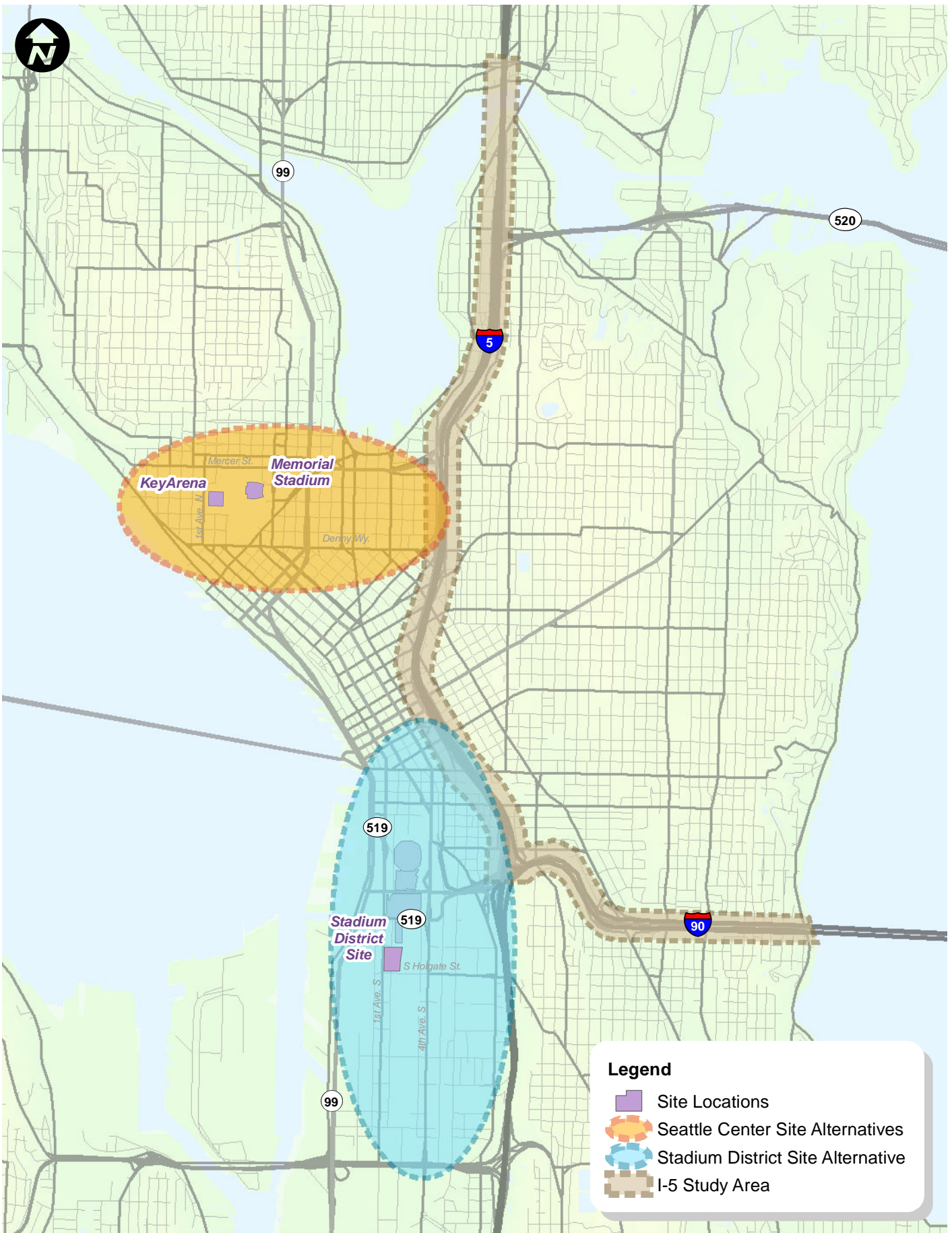
1.0 INTRODUCTION

This document provides technical information in support of the transportation element of the Environmental Impact Statement (EIS) for the proposed up to 20,000-seat multipurpose sports arena in Seattle. Four alternatives were identified for evaluation, including the Proposed Project. All of the site alternatives are located amidst the evolving transportation infrastructure of Seattle's downtown area. Major investments in transportation infrastructure underway include the Alaskan Way Viaduct / State Route (SR) 99 replacement project, SR 520 Bridge Replacement, the Waterfront Seattle Project, the Mercer Corridor Project, and investments in regional transit infrastructure. Specific transportation changes related to these mega-projects will affect regional transportation patterns as well as those in the vicinity of the Stadium District site, the KeyArena site and the Memorial Stadium site for years into the future; all are in different stages of visioning, design and / or construction.

This study considers four alternatives for the Arena, two at its proposed location in the Stadium Transition Area (Overlay District) of South Downtown (SoDo), and two alternatives in the Seattle Center area, as described below. Figure 1–1 shows the locations of the Alternatives in the greater downtown area of Seattle.

The Stadium District site is located immediately south of two other larger event venues, Safeco Field and CenturyLink Field. Further north lies Pioneer Square, with its blend of residential, commercial and office uses. The Port of Seattle operates several port and intermodal terminals immediately to the west, along the Duwamish waterway. The Port operates four major terminals including Terminal 5 in West Seattle, Terminal 18 on Harbor Island, Terminal 25/30, and Terminal 46. Terminal 46 is the largest of these, with primary access via the Atlantic Street / 1st Avenue intersection. South and east of the site, SoDo has a mix of commercial, industrial, and freight supportive uses over an area that extends south to Spokane Street. The site currently includes a mix of commercial and industrial uses as well as public parking.

The KeyArena lies within what is collectively known as the Seattle Center, home of the 1962 Century 21 Exposition. Seattle Center is located in the Lower Queen Anne neighborhood, east of the redeveloping South Lake Union (SLU) neighborhood. The world headquarters for the Bill and Melinda Gates Foundation is located across 5th Avenue N. to the east of the Seattle Center, where they share a parking garage at the corner of 5th Avenue N. and Harrison Streets. The Seattle Center is currently home to a wide range of cultural and educational organizations, sports teams, festivals, community programs and entertainment facilities.



Transportation/Parking Analysis Study Areas

Seattle Arena

KeyArena is a multipurpose arena with a capacity of over 17,000 people for basketball, about 15,000 people for hockey, and 15,000 to over 17,000 people for concerts, depending on the stage set up and seating configuration. It lies on the west edge of the Seattle Center along 1st Avenue N. KeyArena was the result of refurbishing the original 12,500-seat Seattle Center Coliseum from 1994-1995. It historically housed the Seattle Supersonics basketball team, and minor league hockey. Recently, it has been home to the Seattle University men's basketball team, the Seattle Storm WNBA team, and a range of other events. KeyArena sits in the heart of the Lower Queen Anne neighborhood, which bounds the Seattle Center on the west and north.

Memorial Stadium, owned by the Seattle School District, lies adjacent to the eastern boundary of Seattle Center. Memorial Stadium was originally constructed in 1947. It currently has a capacity of 12,000 people; historically, capacity has been as high as over 17,000 people when the Seattle Sounders professional soccer team played there in the mid-1970s. It is located between Harrison and Republican Streets, west of 5th Avenue N., and separated from 5th Avenue N. by a surface parking lot also owned by Seattle Schools.

The balance of this section is organized to present global assumptions and analysis components that are universal to all elements of the transportation analysis. These include a summary of the Alternatives, the Horizon Years for Analysis, Event Analysis Cases, Event Transportation Demands, General Study Areas, and Analysis Approach and Document Organization.

1.1 Summary of Alternatives

The alternatives are defined as follows for the purposes of the transportation review. The Proposed Action has more information developed for it as a basis for analysis, including a site plan and preliminary concept drawings. No site plans have been developed in association with Alternative 4 or 5 in the Seattle Center area.

- **Alternative 1 – No Action Alternative.**
- **Alternative 2 – Proposed Project:** Stadium District 20,000-Seat Arena: state-of-the-art 20,000-seat spectator sports arena to be located at 1700 – 1st Avenue S.
- **Alternative 3 – Stadium District 18,000-Seat Arena:** State-of-the-art 18,000-seat spectator sports arena to be located at 1700 – 1st Avenue S.
- **Alternative 4 – KeyArena 20,000-Seat Arena:** Demolish the KeyArena at Seattle Center and replace it with a state-of-the-art 20,000-seat spectator sports arena
- **Alternative 5 – Memorial Stadium 20,000-Seat Arena:** Demolish the Seattle School District's Memorial Stadium and replace it with a state-of-the-art 20,000-seat spectator sports arena (KeyArena would remain)

The proposed site of the Arena (Alternatives 2 and 3) is located between 1st Avenue S. and the Burlington Northern Santa Fe (BNSF) right-of-way and between S. Holgate and S. Massachusetts Streets. It is in the SoDo neighborhood of Seattle in the Stadium Overlay District, and is zoned for the proposed spectator sports facility. The site is currently occupied by a mix of warehouse, distribution, light manufacturing, and restaurants (2) totaling approximately 129,000 gross

square feet (gsf). The Safeco Field garage is located immediately north of the site, east of Occidental Avenue S. between S. Atlantic and S. Massachusetts Streets. The year-of-opening was identified as 2015, based on initial discussions around the possibility of an NBA team relocating to Seattle.

A number of site plan components are relevant to the transportation impact evaluation. These include:

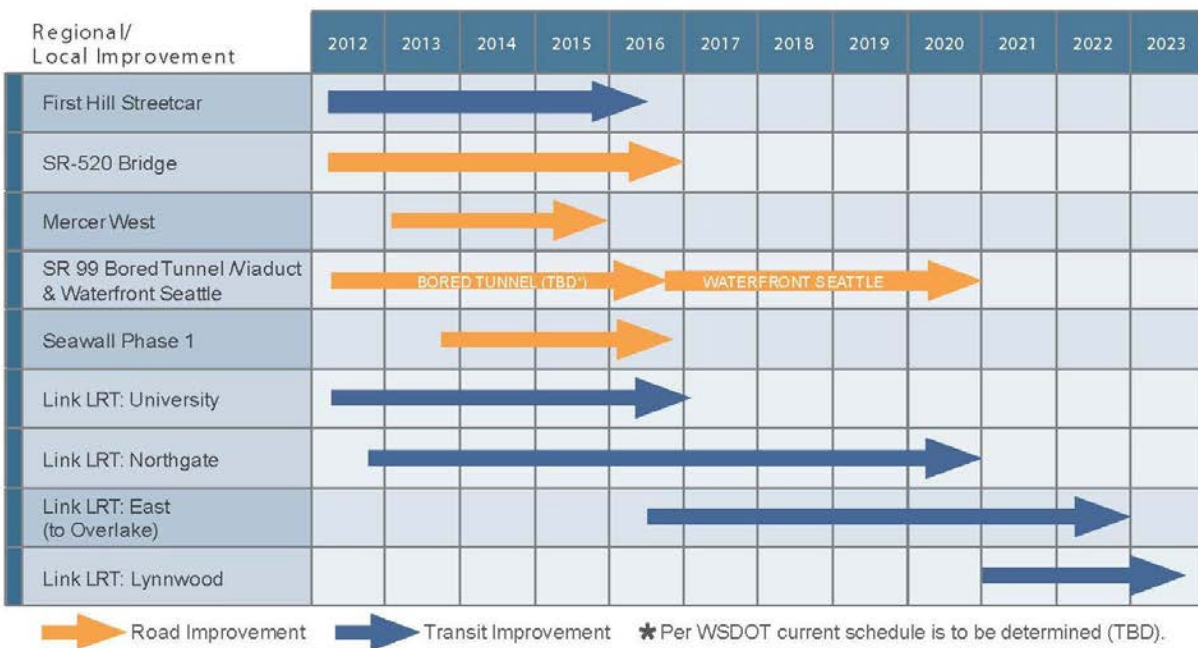
- **Proposed Street Vacation** – As part of the project application, the proponent has requested the vacation of Occidental Avenue S. from S. Holgate Street to S. Massachusetts Street.
- **New North-South Connection** – A new north / south connection is proposed to be constructed on the east edge of the site extending from S. Holgate Street to S. Massachusetts Street. It is understood that this connection would generally not be open to the public, except during event conditions, as it will provide primary access to Safeco Field parking garage.
- **S. Massachusetts Street Realignment** – This roadway will be realigned to the north between 1st and Occidental Avenues S. The new roadway alignment will allow for a pedestrian plaza on the north side of the Arena. It will also eliminate the S. Massachusetts Street offset at the 1st and Occidental Avenues S. intersections. The improvements will provide alignment of S. Massachusetts Street across 1st Avenue S. and coordinate with improvements on the southwest corner of the intersection.
- **Pedestrian Access** – Primary pedestrian access to the site is proposed to be located on the northwest and southwest quadrants of the building. In addition, frontage modifications along S. Holgate Street, 1st Avenue S. and S. Massachusetts Street would include wider sidewalks, street furniture, street trees, rain gardens and understory planting and related building elements.
- **Public / Pedestrian Feature** – A large public plaza that includes seating, water features, pedestrian concrete, and incorporation of permeable pavements, trees and landscaping would be located on the north end of the site.
- **Service and Loading** – The service and loading area would be accessed from the proposed north / south roadway connection, north of S. Holgate Street.
- **Parking** – The applicant has proposed to provide parking by either use of existing off-site parking, or by the construction of new off-site parking on a lot south of Holgate Street (referred to in this document as the “South Warehouse Site”). Since there are no agreements in place, a sensitivity analysis was conducted to provide an understanding of transportation impacts if the Proponent was to build parking; this evaluation assumes an approximately 2,025-stall parking garage with access along Occidental Avenue S. south of Holgate Street.

1.2 Horizon Years for Analysis

Transportation impact analysis considered not only the 2018 year of opening, but the status of the major infrastructure projects affecting transportation in the region and downtown area. The analysis was designed to recognize two primary horizon years, with additional consideration of the short-term transition during the early years of operation. This is outlined as follows:

- 2018 Horizon** – This horizon year enables short term analysis that encompasses the completion of those projects identified on Figure 1–2. This includes the expansion of the Streetcar, SR 520, Mercer West, SR 99, Waterfront Seattle, and Phase 1 of the Seawall project.
- 2030 Horizon** – This horizon year is consistent with area-wide transportation modeling of the future condition with all of the transportation infrastructure in-place, as well as the extension of Sound Transit (ST) Link Light Rail east and north as indicated.

Figure 1–2 Regional Transportation Project Timeline



1.3 Event Analysis Cases

This section describes the basis for determining event cases for analysis of the Stadium District Alternatives and the Seattle Center Area Alternatives, separately, as the factors influencing the determination of the event cases varied between the two site areas. Alternatives 2 and 3 would be located on the same site in the Stadium District of SoDo, and would be influenced by events at CenturyLink Field and Event Center and Safeco Field. Alternatives 4 and 5 would be located on or adjacent to the Seattle Center and would be influenced by activities occurring at

the Seattle Center. In the case of the Seattle Center Area Alternatives, each of the alternatives would displace one of the existing event venues.

Event cases were determined considering these factors:

- **Event Venue Major Tenant Activities** – Major tenant activities were identified for Safeco Field, CenturyLink Field and Event Center, KeyArena, and Memorial Stadium. For the Seattle Center Area Alternatives, the background level of events at the other surrounding venues was assumed to be the same for each alternative.
- **Event Calendars** – Existing and future (with Arena) event calendars were reviewed as available to assist in identifying potential seasonal overlaps between venue tenants.
- **Event Attendance Frequencies** – Using the seasonal calendars as appropriate, the frequency of event attendance levels at differing thresholds was summarized.
- **Event Analysis Cases** – Using the combination of the tenant activities and attendance, event calendars / schedules and event frequencies, analysis cases were identified that provide a basis for understanding impacts of a single event at the Proposed Arena as well as multiple event conditions.

1.3.1 Stadium District Alternatives

1.3.1.1 Event Venues - Major Tenant Activities

The following provides a more detailed summary of the activities associated with the major tenant teams at each of the existing event venues:

- **Safeco Field** – Safeco Field is home to the Seattle Mariners. The regular season runs from early April to early October. With playoffs, the season generally extends through October. There were 81 home games during the 2012 season with an average attendance of 21,2581. Based on a review of the 2012 master events calendar² for Safeco Field, there was a total of 209 days in which an event of some type was held. Considering the 81 home baseball games and overlapping baseball and non-baseball events, a total of 129 additional non-baseball activities occurred. Non-Major League Baseball (MLB) events had significantly lower attendance ranging from a 3,000-person attendance for a college baseball game to 50-200 person receptions or meetings.
- **CenturyLink Field and Event Center** - CenturyLink Field is home to the Seattle Seahawks, Sounders FC, and the WAMU theatre. These facilities host football games, soccer matches, and other events such as Fanfest events, exhibition shows, graduations, and concerts. Seahawks football, inclusive of pre-season and playoffs runs from early August to early January. In 2012 there were 10 home games³. In addition to the

¹ Baseball Almanac, 2013

² Email transmittal from Susan Ranf, Seattle Mariners, March 2013

³ Includes two home playoff games in January 2012

Seahawks games, there were a number of other events held at CenturyLink Field such as the Supercross, concerts, University of Washington (UW) commencement, and the Susan G. Komen 3-Day Walk event.

The Sounders FC season runs from mid- March through mid-November. Sounders FC play in a number of non-MLS leagues, including the US Open Cup and Confederation of North, Central American and Caribbean Association Football (CONCACAF). Considering pre-season, post-season, and all leagues, a total of 24 home games were played, averaging approximately 3 home games per month. A total of 116 concerts, flat shows, and other events were held at the Event Center and WAMU theatre in 2012. There were only 19 times in 2012 that events at CenturyLink Field overlapped with events at the Event Center. This excludes Fanfest type events that occurred or were related to CenturyLink Field events.

- **Multi-Venue Events** - When considering the 2012 Safeco Field and CenturyLink Field event calendars there were approximately 80 days that events occurred at Safeco Field and the CenturyLink Field and Event Center. Most of the events that overlapped between the two venues included smaller meetings, conferences, and flat show / concert events in the Event Center. For the occasions where major sporting events were held in both venues on the same day, the City requirement for event separation was utilized. A review of the 2012 sports team schedules shows sporting events on the same day occurred less than 10 times.
- **NBA / NHL Arena** - An event calendar for the proposed Seattle Arena was developed incorporating schedules for the NBA, NHL, and WNBA sports teams. In addition, a number of concerts and community events were identified based on information provided by the applicant.

1.3.1.2 Event Calendars

Event calendars for existing venues and the Proposed Arena were developed based on review of historical data, discussions and information from existing venue operators, and review of similar facilities in other cities.

Safeco Field and the CenturyLink Field and Event Center host a number of different events throughout the year; from major professional sports, to concerts, to flat shows, to community meetings and events. Given the size and significance of some of the events that are programmed, a typical year's worth of activity at each existing venue was compiled. The EIS team worked with each of the event venues to review the 2012 calendar year.

NBA, NHL, and WNBA schedules at the Proposed Arena were developed considering pre-season, regular season, and post season activities. Schedules were developed using other sports franchises as general guidance in frequency and proportion of home and away games. Schedules from the NBA and NHL 2009-2010 and 2010-2011 seasons were identified and projected forward to 2018 conditions, representing the anticipated year of opening. WNBA schedules from the 2010 Seattle Storm were utilized and modified to represent a 2018 calendar

year. The 2012 event calendar previously discussed was also modified (*i.e. date-shifted to generally characterize consistent weekday and weekend event frequency*) to represent a 2018 horizon year.

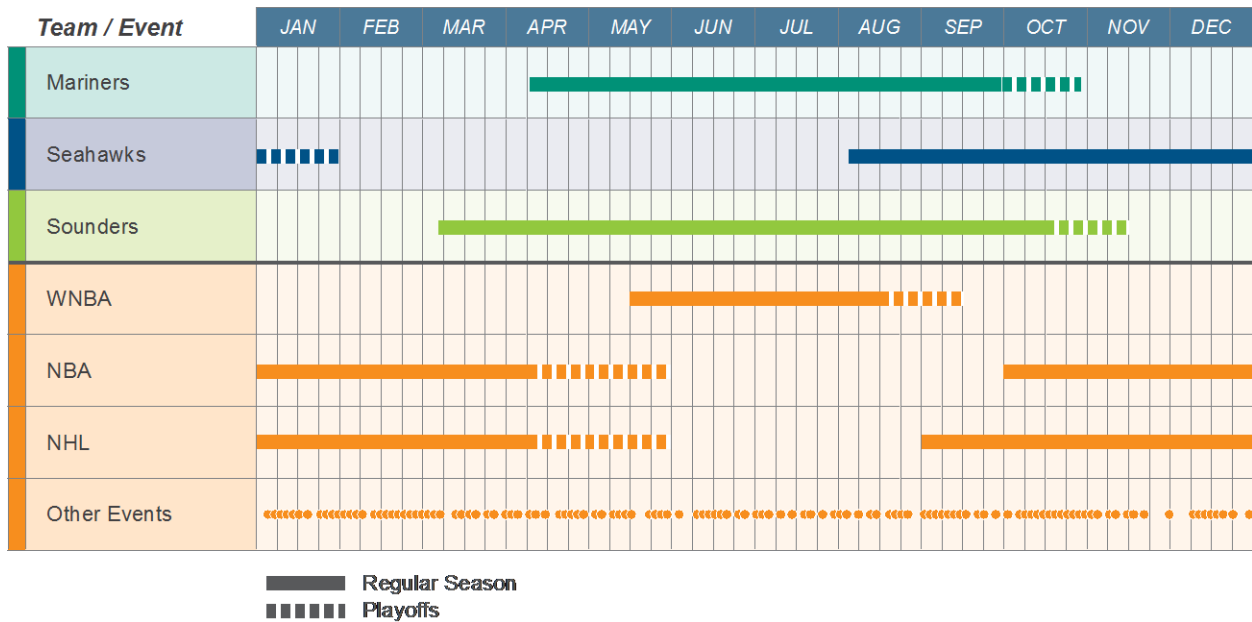
Figure 1–3 summarizes an overview of the annual event calendars for the current and future venues.

- Seattle Mariners professional baseball games at Safeco Field
- Seattle Seahawks professional football at CenturyLink Field
- Seattle Sounder soccer matches at CenturyLink Field
- Seattle Storm professional women’s basketball at New Seattle Arena
- Seattle Sonics professional men’s basketball at New Seattle Arena
- Seattle professional hockey team at New Seattle Arena
- Other smaller and / or less frequent events occurring at all of the venues

As shown, a number of the existing venues have overlapping tenant seasons. The Mariners and Sounders FC schedules overlap from April through November. The Seahawks season starts in August, resulting in a third existing overlapping schedule. Considering the potential for playoffs, there is a generally a four-month window (August to November) where all three existing sports teams could be playing regular season or playoff games.

The street vacation and Master Use Permit approval for Safeco Field and CenturyLink Field requires that when multiple events are anticipated, the attendance is expected to exceed 58,000 people for a weekday event or 65,000 people for a weekend event, the events must be separated by a minimum of 4 hours from the completion of one to the start of another.

Figure 1–3 Stadium District – Combined Event Schedules (Typical)



The transportation analysis relied on the following assumptions regarding event frequency in the new Arena:

- NBA Basketball – 41 regular season and 3 pre-season home games between November and mid-April; up to 16 home playoff games⁵ in April and May; and pre-season games in October.
- NHL Hockey - Similar to NBA with additional NHL games occurring in September.
- With a new Arena, the NBA and NHL seasons would generally run concurrently.
- WNBA Basketball – 17 home games from mid-May to late September, plus playoffs.
- Other Arena Events - There is also the potential for increased events unrelated to the professional sports teams. Based on discussion with the proponent a total of 60-65 additional events were assumed to occur, distributed throughout the year, with a slightly higher concentration around the Thanksgiving / Christmas holidays.

The primary overlap in schedules introduced due to the Proposed Arena would be associated with the WNBA season. This would occur between May and September for the WNBA regular season, extending to October with WNBA playoffs. During these months, the Sounders FC and the WNBA averaged four home games a month. During this same period, the Mariners in 2012

⁵ Note that the event frequency information provided by Pro Forma Advisors, LLC included only 2 playoff games. This section of the EIS assumes a higher number of playoff games to provide a conservative analysis regarding potential impacts.

averaged 11-16 home games per month, typically played via 2 week-long home stands. The Mariners and NHL would overlap in September.

The most significant potential overlap in schedules would occur in the event that the tenant of the Proposed Arena, professional basketball or soccer, is playing a home playoff game and overlapping with a well-attended baseball game in Safeco Field.

1.3.1.3 Frequency of Event Attendance Levels

Table 1-1 summarizes the events anticipated at the Arena. The information presented below is based on data provided by Pro Forma Advisors, LLC. This is based on data for other arenas in similar markets. Pro Forma Advisors, LLC is preparing the economic impact analysis included in this EIS. Information regarding event attendance provided by Pro Forma Advisors, LLC was based on an 18,000-seat arena. While this assumption yields a conservative analysis with respect to economic impacts, it does not represent the higher venue size as evaluated as part of Alternative 2. As such, the attendance figures provided by Pro Forma Advisors, LLC for the 18,000-seat Arena have been modified (increased) to represent a 20,000-seat Arena.

**Table 1-1
Arena Event Attendance Ranges**

Attendance Range (Persons)	Frequency
0 to 500	2
501 to 2,500	0
2,501 to 5,000	10
5,001 to 10,000	52
10,001 to 15,000	88
15,001 to 18,000	12
18,001 to 20,000	22
Total No. Events	186

A total of 186 events were identified as potentially occurring in the Arena. Based on typical attendance of 75 to 65 percent for NBA and NHL, respectively, the majority of the events are anticipated to have an attendance of 15,000 or less. The larger attendance events were assumed to be large concerts or playoff games where attendance is higher.

Table 1-2 illustrates the change in the number of Stadium District event days within various attendance ranges.

With the addition of arena events, there is not a direct correlation making it possible to add to the No Action condition given the varying event levels. The change due to the project reflects the overlap of some event levels, and the addition of arena events on background levels near an attendance range transition causing a reclassification in the with arena case. The decrease in event days with lower attendance levels is related to increases in attendance due to the Arena that result in reclassifying an event day as a larger attendance range. The overall number

of events days occurring in the Stadium District would increase by approximately 55; events over 18,000 persons would increase by approximately 30 days. This reflects the anticipated attendance at NBA and NHL events.

**Table 1-2
Stadium District Cumulative Event Day Attendance Levels and Frequency**

Attendance Range (Persons)	Number of Days			Change due to Project
	Existing	No Action	Future with Arena	
0 to 500	84	84	38	-46
501 to 2,500	53	53	21	-32
2,501 to 5,000	18	18	14	-4
5,001 to 10,000	10	10	36	+26
10,001 to 15,000	21	21	81	+60
15,001 to 18,000	9	9	28	+19
18,001 to 20,000	4	4	13	+9
20,001 to 30,000	39	39	46	+7
30,001 to 40,000	14	14	22	+8
40,001 to 50,000	13	13	16	+3
50,001 to 60,000	2	2	5	+3
Over 60,001	17	17	18	+1
Totals	284	284	338	+54
<i>Events over 18,000</i>	<i>89</i>	<i>89</i>	<i>120</i>	<i>+31</i>

1.3.1.4 Event Analysis Cases

Table 1-3 illustrates the event cases developed for transportation and parking analysis for the Stadium District alternatives. They represent the most frequent level of arena impact (Case S1 – Single Event), as well as an illustration of more significant potential, though comparatively rare, multiple event scenarios. Because of the complexity of the analysis and the inclusion of multiple event venues as part of baseline conditions under multiple no action comparison, the event cases have been defined (S1 – S3, reflecting Stadium District Cases 1-3) as follows:

- **Case S1 - Single Event (Arena Only)** – This designation will always describe the event case that includes the Proposed Arena, compared to a no action background condition that has no other event added in.
- **Case S2 – Dual Event (Arena plus Mariners)** – A well-attended baseball game together with a capacity event in the Proposed Arena would represent an infrequent, but significant dual event case to illustrate. In this case, the Mariner game would be added to the non-event baseline to provide a Case 2 No Action baseline for analysis comparison.

For purposes of this analysis, and given the proximity of Safeco Field to the Stadium District site, the dual (and triple) event case is characterized as including a high attendance event at Safeco Field. It should be recognized that the analysis could just as easily represent a similarly sized event at CenturyLink Field. The event case analysis assumes simultaneous events with uniform arrival and departure times as well as total cumulative attendance.

- **Case S3 – Triple Event (Arena + Mariners + CenturyLink Concert)** – A triple event scenario was identified that includes activity at all three venues as described above. While even these scenarios may be addressed, limited, or prohibited as a result of a revised event scheduling agreement, the total attendance level likely from this combination was similar to that occurring in the event of a major event at CenturyLink Field, such as Monday night football. It is assumed that a triple event case that included Soccer, Baseball, and a major event at the arena would not be scheduled; this would be clarified in the conditions of approval and event scheduling agreement. In this case, the Case 3 No Action baseline would include both the Mariner game and event at CenturyLink. As noted above, the analysis is constructed to reflect a total cumulative event of the attendance indicated.

For all analyses going forward, Case 1 will always reflect a single, Arena only event, Case 2 will always reflect a dual event (with a single event in the background) and Case 3 will always reflect a triple event with a dual event in the background.

**Table 1-3
Stadium District - Event Cases for Analysis**

Description	Attendance (Persons)		
	No Action	Action	Project Impact
Alternative 2 - 20,000 Seat Arena			
1) Case S1 – Single Event (Arena Only)			
New Arena	0	20,000	+20,000
Safeco Field	0	0	+0
CenturyLink	0	0	+0
Total Attendance	0	20,000	20,000
2) Case S2 – Dual Event (Arena + Mariners)			
New Arena	0	20,000	+20,000
Safeco Field	40,500	40,500	+0
CenturyLink	0	0	+0
Total Attendance	40,500	60,500	20,000
3) Case S3 - Triple Event (Arena + Mariners + CenturyLink)			
New Arena	0	20,000	+20,000
Safeco Field	47,500	47,500	+0

Table 1-3 (Cont.) Stadium District - Event Cases for Analysis

Description	Attendance (Persons)		
	No Action	Action	Project Impact
CenturyLink	5,000	5,000	+0
Total Attendance	52,500	72,500	20,000
Alternative 3 - 18,000 Seat Arena			
Case S1 – Single Event (Arena Only)			
New Arena	0	18,000	+18,000
Safeco Field	0	0	+0
CenturyLink	0	0	+0
Total Attendance	0	18,000	18,000
Case S2 – Dual Event (Arena + Mariners)			
New Arena	0	18,000	+18,000
Safeco Field	40,500	40,500	+0
CenturyLink	0	0	+0
Total Attendance	40,500	58,500	18,000
Case S3 - Triple Event (Arena + Mariners + CenturyLink)			
New Arena	0	18,000	+18,000
Safeco Field	47,500	47,500	+0
CenturyLink	5,000	5,000	+0
Total Attendance	52,500	70,500	18,000

1.3.2 Seattle Center Area Alternatives

The determination of event cases for the Seattle Center Area Alternatives was conducted with the same overall philosophy as those in the Stadium District alternatives. Differences in context between the Seattle Center and SoDo require a different methodology for determining appropriate event cases for analysis. For the Seattle Center Area Alternatives, the arena would replace an existing event venue of significance. For Alternative 4, the KeyArena would be replaced; for Alternative 5, Memorial Stadium would be replaced.

1.3.2.1 Event Activities and Frequency Data

Seattle Center is comprised of numerous event and activity venues and attractions. In contrast to the Stadium District, where fewer larger venues determine the event schedule and scenarios, the Seattle Center has many smaller venues in addition to the 17,072-seat KeyArena. There are a few large festivals that occur annually, beginning with Folklife over Memorial Day weekend, the Bite of Seattle during July, and Bumbershoot over Labor Day weekend. Other Seattle Center attractions that contribute to attendance and transportation demands include Armory, Children’s Theater, Pacific Science Center, Space Needle, Experience Music Project, as

well as theaters along the arts corridor on Mercer Street including Seattle Repertory Theater and McCaw Hall.

Given this diversity and frequency of smaller events, inconsistent schedules and variations in attendance, developing a representative event calendar comparable to the Stadium District Site alternatives is not a reliable basis for understanding probable cumulative event / activity scenarios at the Seattle Center. The Seattle Center provided historical and projected information on “high attendance days” for projected 2013 conditions.

The following observations were noted in the review of the Seattle Center data:

- A total of 80 high attendance days with expected attendance at or above 7,000 attendees.
- The events comprised a mix of time-specific events such as Seattle Storm basketball games in KeyArena, and daily attendance with demands occurring throughout the day such as festivals.
- 52 high attendance days would occur on weekends or holidays and 28 high attendance days would occur on weekdays.
- Festivals (Folklife, Bite, and Bumbershoot) with daily attendance averaging 30,000-60,000 persons represent 10 of the highest attendance days and are on weekends and holidays.
- Events at KeyArena represent all or a portion of 37 high attendance event days, including the festivals.
- Events at KeyArena range from private business meetings, to graduations, to concerts, to basketball games, including the Seattle University men, Seattle Storm, and the PAC 12 Women’s Basketball Tournament.
- Memorial Stadium events range from community scale events with attendance levels of approximately 500-1,500 people to School District sporting events with attendance between 3,500 and 5,000 people.
- There are also a number of non-ticketed “events” that range from informal gatherings on the Center grounds to post-event gatherings (such as after a local foot race), which can reportedly range from 2,000 to 5,000.

Table 1-4 summarizes weekday and weekend “high attendance days” within attendance ranges provided by the Seattle Center.

Arena events related to NBA and NHL, as well as a number of others were assumed to reflect the full 20,000 capacity attendance levels. While this may overestimate actual achieved levels, it is assumed as a basis for worst-case analysis and equal comparison of alternatives. In the case of Alternative 4, existing events at the KeyArena would be replaced with the event

program identified for the new arena. For Alternative 5, existing events at Memorial Stadium would be replaced by events at the new arena. Since the high end of recent Memorial Stadium

**Table 1-4
Summary of Seattle Center High Attendance Days**

Daily Attendance Range	Number of Days		
	Weekday	Weekend / Holiday	Total
7,000 -12,999	24	22	46
13,000 -19,999	4	9	13
20,000 -60,000	0	21	21
Totals	28	52	80

Source: Seattle Center Facilities Management for KeyArena and Bookings Database from the Seattle Center’s Event Management System, February 2013.

events for Seattle School District functions is approximately 5,000, and the existing KeyArena regularly has events achieving over 10,000 in attendance, the “net effect” of an arena at the Memorial Stadium site would be greater than the net effect of an arena replacing the existing KeyArena.

1.3.2.2 Event Analysis Cases

Table 1-5 illustrates the event cases developed for the Seattle Center Area Alternatives. Similar to the Stadium District, analysis cases are linked to each alternative (Cases K1 and K2 for the KeyArena site; Cases M1 and M2 for the Memorial Stadium site). As mentioned before, Case 1 reflects single events (Arena only), Case 2 reflects dual events (Arena plus a background event). In the case of Alternative 4 (KeyArena site), Case K2 reflects a dual event condition with Memorial Stadium event added to no action. In the case of Alternative 5, Case M2 reflects a dual event condition with an event at KeyArena in the background.

**Table 1-5
Seattle Center Area Alternatives - Event Cases for Analysis**

Description	Attendance (Persons)		
	No Action	Action	Project Impact
Alternative 4 - KeyArena Site			
1) Case K1 - Single Event (Arena Only)			
KeyArena	12,000	20,000	+8000
Memorial Stadium	0	0	+0
Total Attendance	12,000	20,000	+8000
2) Case K2 - Dual Event (Arena + Memorial Stadium Event)			
KeyArena	12,000	20,000	+8000
Memorial Stadium	5,000	5,000	+0

Table 1-5 (Cont.) Seattle Center Area Alternatives - Event Cases for Analysis

Description	Attendance (Persons)		
	No Action	Action	Project Impact
Total Attendance	17,000	25,000	+8000
Alternative 5 - Memorial Stadium Site			
1) Case M1 - Single Event (Arena Only)			
KeyArena	0	0	+0
Memorial Stadium	5,000	20,000	+15000
Total Attendance	5,000	20,000	+15000
2) Case M2 - Dual Event (Arena + KeyArena Event)			
KeyArena	12,000	12,000	+0
Memorial Stadium	5,000	20,000	+15000
Total Attendance	17,000	32,000	+15000

The event cases for analysis were designed to reflect typical anticipated levels of occurrence for events at the Seattle Center. The multi-event case (Case 2) described a basis for understanding a reasonable worst case scenario for multi-venue attendance at the Seattle Center.

The following reflects the assumptions and basis of the assumptions in the table and event case summary:

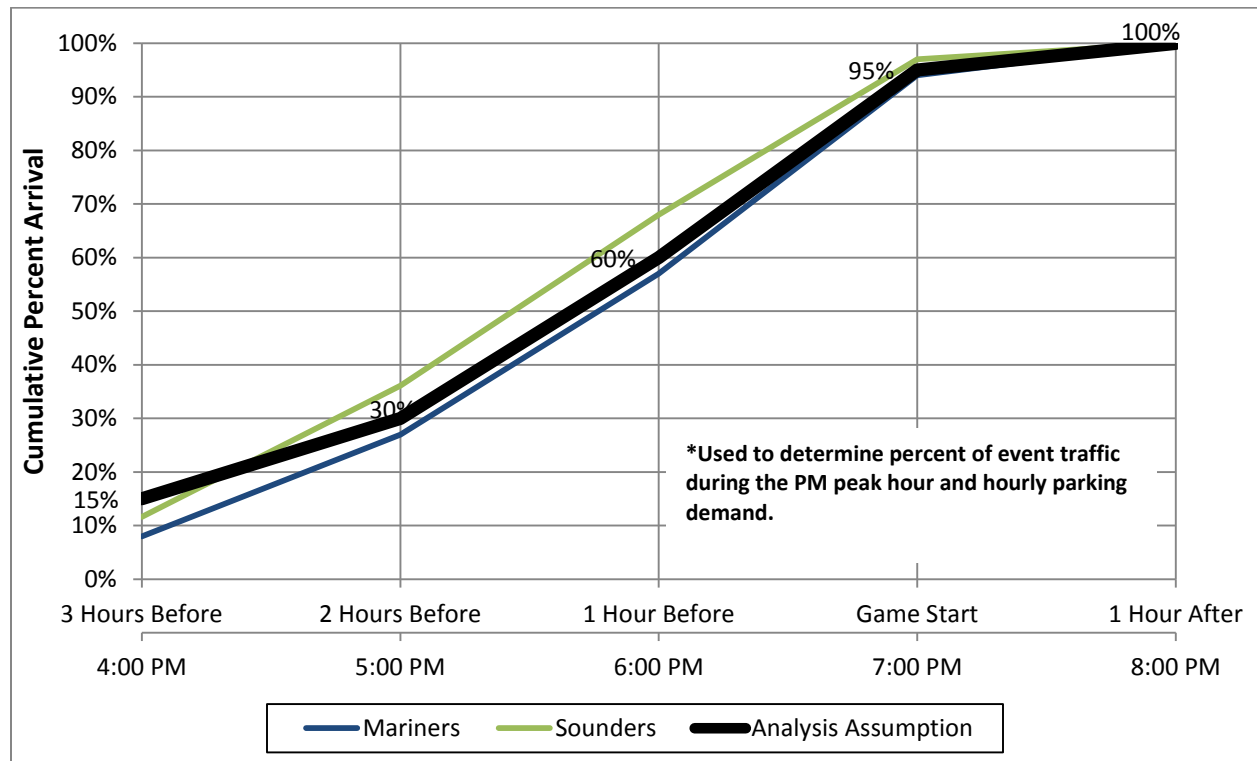
- **Existing KeyArena** – A range of attendance information for events at KeyArena was provided by Seattle Center staff. KeyArena events account for the vast majority of higher attendance experience at the Seattle Center not related to one of the three major multiday festivals. During the past year, data from the KeyArena shows that the highest achieved attendance was 16,000 persons, associated with a concert event. Other higher attendance events ranged from 7,000 to 12,000 persons. This analysis assumed an attendance level of 12,000 persons.
- **Existing Memorial Stadium** – Limited information was available from the Seattle School District. The stadium is used by both the School District for events such as high school football and soccer games, as well as the community for smaller gatherings and events. The higher attendance events occurring relate to high school sporting events. This analysis assumed an attendance level of 5,000 persons.
- **New Arena** – This analysis assumed a capacity attendance level of 20,000 persons for each Seattle Center Area Alternative, similar to Alternative 2. It is recognized that an arena would not operate at capacity for every event. However, for purposes of traffic analysis and event case illustration, all events have been assumed to be at capacity of an arena of 20,000-seats.

1.4 Event Transportation Demands

This section summarizes the methodology and resulting trip generation and parking demands for the No Action and Alternative event analysis cases. Forecasting of event-related traffic volumes and parking demands considers the identified event case attendance levels, mode-splits, and general arrival patterns. As the event cases defined are unique to each alternative, the following provides a discussion of the Stadium District Alternatives followed by the Seattle Center Area Alternatives.

Sporting event-related arrival patterns were for purposes of the analysis, assumed to be consistent between the Stadium District and Seattle Center Area Alternatives, based on limited available data and the intention to provide consistency in analysis comparisons. The arrival patterns developed for the project are based on a review of parking accumulation data for SoDo area garages, data from other NBA facilities, and review of traffic volume data in SoDo. Based on this information, approximately 30 percent of the event-related demand overlaps with the PM peak hour commute period (4:30 – 5:30 PM). Arrival pattern curves for the events are illustrated on Figure 1–4.

**Figure 1–4
Event Traffic Arrival Patterns**



1.4.1 Stadium District Alternatives

This section presents the event transportation demands associated with each analysis case described in the preceding section. First, the actual trip generation and parking demand for each venue case is identified in Table 1-6. Then, Table 1-7 through Table 1-10 present the event case demands for the packaged event cases described in the Event Case discussion above. This section covers Alternative 2 and Alternative 3.

1.4.1.1 Event Venue Transportation Demands

Table 1-6
Stadium District Event Transportation Demands (by Venue)

Event Venue	Attendance	% Auto ³	AVO ⁴	Total Auto Demand (Parking)	Weekday PM Peak Hour			
					% Total Inbound Demand ⁵	In	Out	Total
2018 Horizon Year								
Mariners (Case 2)	40,500 ¹	80%	3.16	10,253	30%	3,076	205	3,281
Mariners (Case 3)	47,500 ²	80%	3.16	12,025	30%	3,608	361	3,969
CenturyLink	5,000	85%	2.50	1,700	20%	340	85	425
Alternative 2	20,000	82%	2.40	6,833	30%	2,050	137	2,187
Alternative 3	18,000	82%	2.40	6,150	30%	1,845	123	1,968
2030 Horizon Year								
Mariners	40,500	74%	3.16	9,484	30%	2,845	190	3,035
Mariners (Case 3)	47,500	74%	3.16	11,123	30%	3,337	334	3,671
CenturyLink	5,000	85%	2.50	1,700	20%	340	85	425
Alternative 2	20,000	79%	2.40	6,583	30%	1,975	132	2,107
Alternative 3	18,000	79%	2.40	5,925	30%	1,778	119	1,897

Notes: AVO = average vehicle occupancy

1. 85th percentile attendance based on Baseball Almanac, 2013
2. Assumes maximum attendance for baseball games at Safeco Field.
3. Mariners and Alternatives 2 and 3 auto mode split is based on Appendix M 1a of the Football / Soccer Stadium EIS presenting results from the 1997 Washington State Public Facilities District Mariner Fan Survey, as well as *Seattle Arena Multi-Modal Access & Parking Study*, May 2012. CenturyLink Field Event Center auto mode split based on *Football / Soccer Stadium and Exhibition Center Draft Environmental Impact Statement (DEIS)*, January 1998.
4. Mariners AVO based on 2001 Travel Survey, CenturyLink Field Event Center AVO based on *Football / Soccer Stadium and Exhibition Center Draft Environmental Impact Statement (DEIS)*, January 1998, and Alternatives 2 and 3 AVO based on research of available data for WNBA, NBA, and NHL Arena events.
5. Based on review of parking accumulation data for SoDo area garages, data from other NBA facilities, and review of traffic volume data in SoDo and *Football / Soccer Stadium and Exhibition Center Draft Environmental Impact Statement (DEIS)*, January 1998.

The following provides a general overview of the assumptions applied to each of the events identified in Table 1-6.

Mariners Baseball (40,500 – 47,500 Attendance): Information regarding mode splits, attendance levels, and arrival patterns were provided by the Seattle Mariners staff. The 40,500

attendance level represents the 85th percentile attendance levels experienced at Safeco Field since it opened; however, it substantially exceeds recent experience. The 47,500 attendance level represents a maximum attendance scenario for baseball games at Safeco Field. As discussed previously, this could just as easily represent a CenturyLink Field event with similar attendance levels. Auto mode split data was based on information collected in 2001 and assumed an auto-usage of 80 percent (2018 horizon year). There have been substantial transit improvements in the area since 2001. As such, this higher percentage of auto-usage by the Mariners likely overstates the current level of auto demand associated with events. This would result in higher background traffic volumes and parking demand for the with Mariners event cases. Average Vehicle Occupancy (AVO) data assumed for the Mariners is based on annual TMP reports provided to the EIS consultant team by the Mariners staff. With increased transit service projected in the area by 2030 via extension of NorthLink and EastLink the auto-usage assumed for the 2030 analysis was reduced to 74 percent with the additional demand shifted to transit usage.

CenturyLink Field Event Center (5,000 Attendance): As described previously, events of varying types and sizes occur at the CenturyLink Field Event Center throughout the year. For the purposes of this analysis a non-football event with an evening attendance of 5,000 people was assumed, consistent with a concert event. Twenty percent of the total attendance was assumed to arrive during the PM peak hour. This assumption is consistent with the Football / Soccer Stadium and Exhibition Center Draft Environmental Impact Statement (DEIS).

Seattle Arena (18,000 – 20,000 Attendance): The event cases analyzed within this report focus on an NBA basketball game with attendance levels of 20,000 (Alternative 2) and 18,000 (Alternative 3). In developing the trip generation forecasts for the NBA events, extensive research was conducted regarding available information for other venues in the US. Mode splits and arrival patterns are unique to each venue; influenced by local congestion, availability of transit, parking supply, and density of ancillary retail / commercial uses that influence arrival patterns and mode choices.

For purposes of this analysis, assumptions regarding general mode splits were made to be consistent with those assumed for the Seattle Center Alternatives 4 and 5 for both the 2018 and 2030 horizon years. While baseball and basketball / hockey are different event types, review of national experience revealed no pattern of mode split that could be tied directly to the type of event. In all cases, it appeared that travel mode split to events were, where data was available, unique to each location, suggesting a greater correlation to availability and convenience of alternative travel modes than any other event-specific factor. AVO was assumed to be more-reflective of the type of event. Research of other Arenas found on average an AVO of 2.5 with data ranging between 2.0 and 2.75; therefore, the an AVO of 2.4 persons is on the lower end of the range and slightly less than the average, provide a conservative evaluation of vehicular impacts.

1.4.1.2 Event Analysis Case Transportation Demands

**Table 1-7
Stadium District Event Case Transportation Demands
Alternative 2 (2018)**

Event Case	Attendance	Total Parking Demand	PM Peak Hour		
			In	Out	Total
Case S1 - Arena Only					
<i>Total With Proposal Events</i>	20,000	6,833	2,050	137	2,187
- Proposed Arena	20,000	6,833	2,050	137	2,187
- Mariners Game	-	-	-	-	-
- CenturyLink Field Event	-	-	-	-	-
Less No Action Events					
- Mariners Game	-	-	-	-	-
- CenturyLink Field Event	-	-	-	-	-
Net Increase	20,000	6,833	2,050	137	2,187
Case S2 - Dual Event (Arena + Mariners)					
<i>Total With Proposal Events</i>	60,500	17,086	5,126	342	5,468
- Proposed Arena	20,000	6,833	2,050	137	2,187
- Mariners Game	40,500	10,253	3,076	205	3,281
- CenturyLink Field Event	-	-	-	-	-
Less No Action Events					
- Mariners Game	40,500	10,253	3,076	205	3,281
- CenturyLink Field Event	-	-	-	-	-
Net Increase	20,000	6,833	2,050	137	2,187
Case S3 - Triple Event (Arena + Mariners + CenturyLink)					
<i>Total With Proposal Events</i>	72,500	20,558	5,998	583	6,581
- Proposed Arena	20,000	6,833	2,050	137	2,187
- Mariners Game	47,500	12,025	3,608	361	3,969
- CenturyLink Field Event	5,000	1,700	340	85	425
Less No Action Events					
- Mariners Game	47,500	12,025	3,608	361	3,969
- CenturyLink Field Event	5,000	1,700	340	85	425
Net Increase	20,000	6,833	2,050	137	2,187

**Table 1-8
Stadium District Event Case Transportation Demands
Alternative 2 (2030)**

Event Case	Attendance	Total Parking Demand	PM Peak Hour		
			In	Out	Total
Case S1 (Arena Only)					
<i>Total With Proposal Events</i>	20,000	6,583	1,975	132	2,107
- Proposed Arena	20,000	6,583	1,975	132	2,107
- Mariners Game	-	-	-	-	-
- CenturyLink Field Event	-	-	-	-	-
Less No Action Events					
- Mariners Game	-	-	-	-	-
- CenturyLink Field Event	-	-	-	-	-
Net Increase	20,000	6,583	1,975	132	2,107
Case S2 - Dual Event (Arena+Mariners)					
<i>Total With Proposal Events</i>	60,500	16,067	4,820	322	5,142
- Proposed Arena	20,000	6,583	1,975	132	2,107
- Mariners Game	40,500	9,484	2,845	190	3,035
- CenturyLink Field Event	-	-	-	-	-
Less No Action Events					
- Mariners Game	40,500	9,484	2,845	190	3,035
- CenturyLink Field Event	-	-	-	-	-
Net Increase	20,000	6,583	1,975	132	2,107
Case S3 - Triple Event (Arena+Mariners+CenturyLink)					
<i>Total With Proposal Events</i>	72,500	19,406	5,652	551	6,203
- Proposed Arena	20,000	6,583	1,975	132	2,107
- Mariners Game	47,500	11,123	3,337	334	3,671
- CenturyLink Field Event	5,000	1,700	340	85	425
Less No Action Events					
- Mariners Game	47,500	11,123	3,337	334	3,671
- CenturyLink Field Event	5,000	1,700	340	85	425
Net Increase	20,000	6,583	1,975	132	2,107

**Table 1-9
Stadium District Event Case Transportation Demands
Alternative 3 (2018)**

Event Case	Attendance	Total Parking Demand	PM Peak Hour		
			In	Out	Total
Case S1 (Arena Only)					
<i>Total With Proposal Events</i>	18,000	6,150	1,845	123	1,968
- Proposed Arena	18,000	6,150	1,845	123	1,968
- Mariners Game	-	-	-	-	-
- CenturyLink Field Event	-	-	-	-	-
Less No Action Events					
- Mariners Game	-	-	-	-	-
- CenturyLink Field Event	-	-	-	-	-
Net Increase	18,000	6,150	1,845	123	1,968
Case S2 - Dual Event (Arena+Mariners)					
<i>Total With Proposal Events</i>	58,500	16,403	4,921	328	5,249
- Proposed Arena	18,000	6,150	1,845	123	1,968
- Mariners Game	40,500	10,253	3,076	205	3,281
- CenturyLink Field Event	-	-	-	-	-
Less No Action Events					
- Mariners Game	40,500	10,253	3,076	205	3,281
- CenturyLink Field Event	-	-	-	-	-
Net Increase	18,000	6,150	1,845	123	1,968
Case S3 - Triple Event (Arena+Mariners+CenturyLink)					
<i>Total With Proposal Events</i>	70,500	19,875	5,793	569	6,362
- Proposed Arena	18,000	6,150	1,845	123	1,968
- Mariners Game	47,500	12,025	3,608	361	3,969
- CenturyLink Field Event	5,000	1,700	340	85	425
Less No Action Events					
- Mariners Game	47,500	12,025	3,608	361	3,969
- CenturyLink Field Event	5,000	1,700	340	85	425
Net Increase	18,000	6,150	1,845	123	1,968

**Table 1-10
Stadium District Event Case Transportation Demands
Alternative 3 (2030)**

Event Case	Attendance	Total Parking Demand	PM Peak Hour		
			In	Out	Total
Case 1 – Arena Only					
<i>Total With Proposal Events</i>	18,000	5,925	1,778	119	1,897
- Proposed Arena	18,000	5,925	1,778	119	1,897
- Mariners Game	-	-	-	-	-
- CenturyLink Field Event	-	-	-	-	-
Less No Action Events					
- Mariners Game	-	-	-	-	-
- CenturyLink Field Event	-	-	-	-	-
Net Increase	18,000	5,925	1,778	119	1,897
Case 2 - Dual Event (Arena+Mariners)					
<i>Total With Proposal Events</i>	58,500	15,409	4,623	309	4,932
- Proposed Arena	18,000	5,925	1,778	119	1,897
- Mariners Game	40,500	9,484	2,845	190	3,035
- CenturyLink Field Event	-	-	-	-	-
Less No Action Events					
- Mariners Game	40,500	9,484	2,845	190	3,035
- CenturyLink Field Event	-	-	-	-	-
Net Increase	18,000	5,925	1,778	119	1,897
Case 3 - Triple Event (Arena+Mariners+CenturyLink)					
<i>Total With Proposal Events</i>	70,500	18,748	5,455	538	5,993
- Proposed Arena	18,000	5,925	1,778	119	1,897
- Mariners Game	47,500	11,123	3,337	334	3,671
- CenturyLink Field Event	5,000	1,700	340	85	425
Less No Action Events					
- Mariners Game	47,500	11,123	3,337	334	3,671
- CenturyLink Field Event	5,000	1,700	340	85	425
Net Increase	18,000	5,925	1,778	119	1,897

1.4.2 Seattle Center Area Alternatives

This section presents the event transportation demands associated with each analysis case described in the preceding section. First, the actual trip generation and parking demand for each venue case is identified in Table 1-11. Then, Table 1-12 through Table 1-15 present the event case demands for the packaged event cases described in the Event Case discussion above. This section covers Alternative 4 and Alternative 5.

1.4.2.1 Event Venue Transportation Demands

Table 1-11
Seattle Center Area Alternatives Event Transportation Demands

Event Venue	Attendance	% Auto	AVO	Total Auto Demand (Parking)	Weekday PM Peak Hour			
					% Total Inbound Demand	In	Out	Total
2018 Horizon Year								
Existing KeyArena ¹	12,000	85%	3.0	3,400	20	680	170	850
Existing Memorial Stadium ¹	5,000	85%	3.0	1,417	20	283	71	354
Arena ²	20,000	82%	2.4	6,833	30	2,050	137	2,187
2030 Horizon Year								
Existing KeyArena	12,000	82%	3.0	3,280	20	656	164	820
Existing Memorial Stadium	5,000	82%	3.0	1,367	20	273	68	341
Arena	20,000	79%	2.4	6,583	30	1,975	132	2,107

Notes: AVO = average vehicle occupancy

1. KeyArena and Memorial Stadium assumptions based on *Seattle Center Master Plan EIS*, January 2008.
2. Arena auto mode split based on *Seattle Arena Multi-Modal Access & Parking Study*, May 2012 and Mariners 2001 Travel Survey. AVO based on research of available data for WNBA, NBA, and NHL Arena events. Percent inbound demand based on parking accumulation data for SoDo area garages and data from other NBA facilities.

The following provides a summary of the assumptions for each venue.

KeyArena – Background Events (12,000 Attendance): For purposes of the No Action event analysis cases and evaluating the impacts of Alternatives 4 and 5, an event with a 12,000-person attendance was assumed. This assumed level of attendance is based on a review of past events at the facility from information provided by the Seattle Center. The capacity of the KeyArena is noted to be approximately 17,072. Only a limited number of maximum capacity events occur throughout the year. Mode split and percent arrival assumptions for the event traffic was based on information published in the Seattle Center Plan EIS and consideration of regional transportation improvement projects. This analysis assumes an 85 percent auto mode split for the 2018 horizon year, an 82 percent auto mode split for the 2030 horizon year, AVO of 3.0, and 20 percent arrival of event traffic during the weekday PM peak hour.

Memorial Stadium – Background Events (5,000 Attendance): For purposes of the No Action and Alternatives 4 and 5 event analysis cases an event with a 5,000-person attendance was assumed at Memorial Stadium. Mode split and percent arrival assumptions for the event traffic was based on information published in the Seattle Center Plan EIS and consideration of regional transportation improvement projects. This analysis assumes an 85 percent auto mode split for the 2018 horizon year, an 82 percent auto mode split for the 2030 horizon year, AVO of 3.0, and 20 percent arrival of event traffic during the weekday PM peak hour. As compared to the larger 20,000 attendance levels at the arena, a lower peak hour percentage was assumed due to the lower attendance levels and the nature of the events that occur in Memorial Stadium.

Arena (20,000 Attendance): As noted in the description of the Stadium District alternatives discussion, there are a number of event types that are likely to occur in the Proposed Arena. The event cases analyzed within this report focus on a NBA basketball game with attendance levels of 20,000 for both Alternative 4 and Alternative 5. For the 2018 horizon year, an auto mode split of 82 percent was used. This is consistent with the auto usage assumed for the Stadium District Alternatives. Average vehicle occupancies of 2.4 for the event-related traffic was consistent with the Alternative 2 and Alternative 3 analyses. For the 2030 analysis, the auto mode split was reduced from 82 percent to 79 percent. This decrease was assumed in response to increases in transit service as assumed in the regional plans.

1.4.2.2 Event Case Transportation Demands

The following tables summarize the event case transportation demands for each Seattle Center Area Alternative, for all event cases, for 2018 and 2030 conditions.

**Table 1-12
Seattle Center Area Event Case Transportation Demands
Alternative 4 (2018)**

Event Case	Attendance	Total Parking Demand	PM Peak Hour		
			In	Out	Total
Case K1 (Arena Only)					
<i>Total With Proposal Events</i>	20,000	6,833	2,050	137	2,187
- Proposed Arena	20,000	6,833	2,050	137	2,187
- Memorial Stadium	0	0	0	0	0
Less No Action Events	12,000	3,400	680	170	850
- Existing KeyArena	12,000	3,400	680	170	850
- Memorial Stadium	0	0	0	0	0
Net Increase	8,000	3,433	1,370	-33	1,337
Case K2 - Dual Event (Arena+Memorial Stadium)					
<i>Total With Proposal Events</i>	25,000	8,250	2,333	208	2,541
- Proposed Arena	20,000	6,833	2,050	137	2,187
- Memorial Stadium	5,000	1,417	283	71	354
Less No Action Events	17,000	4,817	963	241	1,204
- Existing KeyArena	12,000	3,400	680	170	850
- Memorial Stadium	5,000	1,417	283	71	354
Net Increase	8,000	3,433	1,370	-33	1,337

**Table 1-13
Seattle Center Area Event Case Transportation Demands
Alternative 4 (2030)**

Event Case	Attendance	Total Parking Demand	PM Peak Hour		
			In	Out	Total
Case K1 (Arena Only)					
<i>Total With Proposal Events</i>	20,000	6,583	1,975	132	2,107
- Proposed Arena	20,000	6,583	1,975	132	2,107
- Memorial Stadium	0	0	0	0	0
Less No Action Events	12,000	3,280	656	164	820
- Existing KeyArena	12,000	3,280	656	164	820
- Memorial Stadium	0	0	0	0	0
Net Increase	8,000	3,303	1,319	-32	1,287
Case K2 - Dual Event (Arena+Memorial Stadium)					
<i>Total With Proposal Events</i>	25,000	7,950	2,248	200	2,448
- Proposed Arena	20,000	6,583	1,975	132	2,107
- Memorial Stadium	5,000	1,367	273	68	341
Less No Action Events	17,000	4,647	929	232	1,161
- Existing KeyArena	12,000	3,280	656	164	820
- Memorial Stadium	5,000	1,367	273	68	341
Net Increase	8,000	3,303	1,319	-32	1,287

**Table 1-14
Seattle Center Area Event Case Transportation Demands
Alternative 5 (2018)**

Event Case	Attendance	Total Parking Demand	PM Peak Hour		
			In	Out	Total
Case M1 (Arena Only)					
<i>Total With Proposal Events</i>	20,000	6,833	2,050	137	2,187
- Proposed Arena	20,000	6,833	2,050	137	2,187
- KeyArena	0	0	0	0	0
Less No Action Events	5,000	1,417	283	71	354
- Existing Memorial Stadium	5,000	1,417	283	71	354
- KeyArena	0	0	0	0	0
Net Increase	15,000	5,416	1,767	66	1,833
Case M2 - Dual Event (Arena+KeyArena)					
<i>Total With Proposal Events</i>	32,000	10,233	2,730	307	3,037
- Proposed Arena	20,000	6,833	2,050	137	2,187
- KeyArena	12,000	3,400	680	170	850
Less No Action Events	17,000	4,817	963	241	1,204
- Existing Memorial Stadium	5,000	1,417	283	71	354
- KeyArena	12,000	3,400	680	170	850
Net Increase	15,000	5,416	1,767	66	1,833

Table 1-15
Seattle Center Area Event Case Transportation Demands
Alternative 5 (2030)

Event Case	Attendance	Total Parking Demand	PM Peak Hour		
			In	Out	Total
Case M1 (Arena Only)					
Total With Proposal Events	20,000	6,583	1,975	132	2,107
- Proposed Arena	20,000	6,583	1,975	132	2,107
- KeyArena	0	0	0	0	0
Less No Action Events	5,000	1,367	273	68	341
- Existing Memorial Stadium	5,000	1,367	273	68	341
- KeyArena	0	0	0	0	0
Net Increase	15,000	5,216	1,702	64	1,766
Case M2 - Dual Event (Arena+KeyArena)					
Total With Proposal Events	32,000	9,863	2,631	296	2,927
- Proposed Arena	20,000	6,583	1,975	132	2,107
- KeyArena	12,000	3,280	656	164	820
Less No Action Events	17,000	4,647	929	232	1,161
- Existing Memorial Stadium	5,000	1,367	273	68	341
- KeyArena	12,000	3,280	656	164	820
Net Increase	15,000	5,216	1,702	64	1,766

1.4.3 General Study Areas

The study areas for the Stadium District, Seattle Center’s KeyArena, and Memorial Stadium Alternatives were developed based on a review of previous studies, planned transportation improvements, comments received during the scoping process, location of major parking facilities, and key travel corridors serving the respective sites. Figure 1–1 (on page 1-2) illustrates the general study areas defined for the analysis. More detailed figures showing the study area intersections and parking-specific study areas are included in subsequent sections.

1.4.4 Document Structure and Organization

This Technical Appendix is organized into three primary sections:

- **Introduction** – Describes the alternatives and universal assumptions regarding analysis horizon years, event analysis cases, and related event case transportation demands.
- **Stadium District Alternatives** – Each element of the transportation environment is discussed in its entirety. Elements of the transportation environment include:
 1. *Street System*
 2. *Public Transportation*
 3. *Pedestrian Travel*
 4. *Bicycle Travel*
 5. *Traffic Volumes*

6. *Traffic Operations*
 7. *Freight and Goods Movement*
 8. *Parking*
 9. *Safety*
- **Seattle Center Area Alternatives** – This section is organized the same as the Stadium District Alternatives outlined above:
 1. *Street System*
 2. *Public Transportation*
 3. *Pedestrian Travel*
 4. *Bicycle Travel*
 5. *Traffic Volumes*
 6. *Traffic Operations*
 7. *Freight and Goods Movement*
 8. *Parking*
 9. *Safety*

Within the discussion of the transportation environment elements, the organization generally follows this outline:

- Methodology – The approach taken to evaluate the element of the environment
- Affected Environment (*existing conditions*)
- No Action (*Alternative 1*)
- Impacts of the Alternatives
- Mitigation Measures
- Secondary and Cumulative Impacts
- Significant Unavoidable Adverse Impacts

2.0 STADIUM DISTRICT ALTERNATIVES (ALTERNATIVES 2 AND 3)

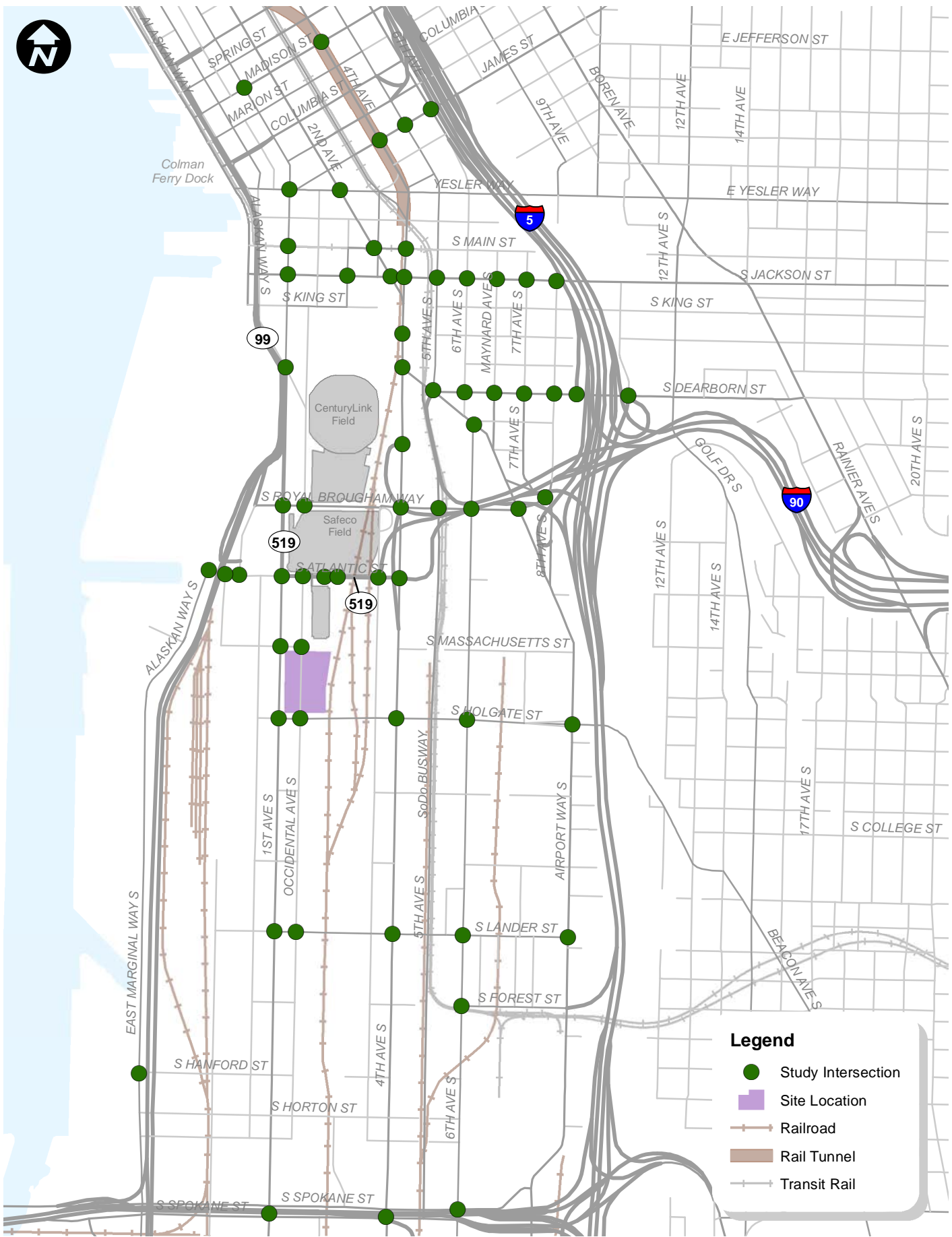
Within the Stadium District, the proposed Seattle Arena would be located at 1700 – 1st Avenue S. on the northeast corner of the 1st Avenue S. / S. Holgate Street intersection. Figure 2–1 shows the study area defined for the Stadium District alternatives. The analysis area was determined in consideration of the primary travel patterns to and from the Stadium District in SoDo, as well as the primary parking areas. The study area generally extends from E. Marginal Way to the west, Interstate 5 (I-5) to the east, Madison Street to the north, and S. Spokane Street to the south. The ensuing transportation analysis fully encompasses these corridors and includes an evaluation of 64 study intersections inclusive of regional access points to the freeway System. This section provides an overview of the current transportation infrastructure serving the Stadium District area and provides and identifies changes resulting from planned and funded projects, as well as any changes proposed by the development alternatives.

2.1 Street System

2.1.1 Methodology

The general approach to the evaluation of street system impacts included:

- Inventory of existing roadway infrastructure to determine the current condition of the street system.
- Identification of future transportation projects that would be constructed prior to project completion.
- Evaluation of street system impacts considering three changes to the street network proposed or required as a result of Alternatives 2 and 3.



Stadium District Study Intersections

Seattle Arena

FIGURE 2-1

2.1.2 Affected Environment

Regional Access: Regional access to the study area is provided primarily via Interstate 90 (I-90) to the east and I-5 and SR 99 to the north and south. Roadways in the immediate vicinity of the Stadium District site consist mainly of principal and minor arterials with traffic signals at major intersections. Table 2-1 summarizes the characteristics of major corridors within the study area, highlighting the roadway classification, speed limit, number of lanes, and general characterization of the non-motorized facilities. The primary routes providing north-south vehicular access in the site vicinity are Alaskan Way S., 1st Avenue S., and 4th Avenue S. East-west circulation is provided along S. Royal Brougham Way, S. Atlantic Street (Edgar Martinez Drive), S. Massachusetts Street, S. Holgate Street, and S. Lander Street.

There is a direct access ramp from 4th Avenue S. at S. Atlantic Street to I-90 and I-5. In addition, I-5 can be accessed via Spokane Street at 4th Avenue S. further south of the site. Improvements allowing the southbound left-turn from 4th Avenue S. to Spokane Street were completed recently and are not reflected in the operations analysis; given the travel patterns of Arena traffic it is anticipated that use of this movement to access I-5 would be somewhat limited. The main transit corridor in the site vicinity is the SoDo Busway along 5th Avenue S., although a large number of buses travel along 4th Avenue S., near the Stadium District site.

Rail crossings: There are a number of rail facilities, both mainline tracks and tail tracks in the area resulting in numerous at-grade crossings along both S. Holgate Street and S. Lander Street. A comprehensive discussion of the rail facilities and freight activity is included in the Freight and Goods section. Notably, the S. Holgate Street railroad crossings extend from immediately east of the Arena to west of 3rd Avenue, a distance over 500 feet of intermittent track crossings.

**Table 2-1
Stadium District Existing Street System Summary**

Roadway	Arterial Classification	Posted Speed Limit	Number of Travel Lanes	Parking?	Sidewalks?	Bicycle Facilities?
1st Ave S. (South of S. Royal Brougham Way)	Principal Arterial	35 mph	5 lanes	Most Blocks	Yes	Yes
1st Ave S. (North of S. Royal Brougham Way)	Minor Arterial	30 mph	4 to 5 lanes	Most Blocks	Yes	Yes
Occidental Ave S.	Access Street	25 mph	2 lanes	Yes	Some Blocks	No
S. Lander St	Minor Arterial	30 mph	5 lanes	Most Blocks	Yes	Yes
4th Ave S.	Principal Arterial	35 mph	6 lanes	Most Blocks	Yes	No
6th Ave S.	Minor Arterial	30 mph	2 lanes	Most Blocks	Most Blocks	Yes
Airport Way S.	Principal Arterial	30 to 35 mph	4 to 5 lanes	Few Blocks	Most Blocks	Yes
S. Holgate St (East of 4th Ave S.)	Minor Arterial	35mph	4 lanes	Some Blocks	Some Blocks	No
S. Holgate St (West of 4th Ave S.)	Minor Arterial	30 mph	4 lanes	Most Blocks	Some Blocks	No
S. Atlantic St (West of 1st Ave S.)	Collector Arterial	30 mph	4 lanes	Yes	Yes	No
S. Atlantic St (East of 1st Ave S.)	Access Street	30 mph	4 lanes	No	Yes	No
S. Royal Brougham Way	Principal Arterial/ Access Street	35 mph	4 lanes	Most Blocks	Yes	Most Blocks
S. Massachusetts	Access Street	25 mph	2 lanes	Most Blocks	Some Blocks	No
S. Jackson St	Principal Arterial	30 mph	2 to 4 lanes	Few Blocks	Yes	Yes
Yesler Way	Minor Arterial	30 mph	2 lanes	Yes	Yes	Yes
James St	Principal Arterial/ Minor Arterial	30 mph	2 to 4 lanes	Most Blocks	Yes	No
2nd Ave	Principal Arterial	35 mph	3 lanes	Most Blocks	Yes	Yes
2nd Ext Ave S.	Principal Arterial	35 mph	3 lanes	Most Blocks	Yes	Yes

Event Function – Event Traffic Control Plans: Figure 2–2 shows the street functional classifications for the study area. The effective use of several intersections and roadway segments change between without and with event conditions due to closures and restrictions implemented as part of the Traffic Control Plans (TCPs) for Mariners, Seahawks, and Sounders FC games. Figure 2–3 illustrates the locations included in the existing TCPs for Safeco Field and

CenturyLink Field. The TCPs employed are part of the transportation management for events in the Stadium District and are a function of the event location as well as anticipated attendance levels and associated auto demands. The Seahawks TCPs impacts more locations than the Sounders FC or Mariners due to the higher attendance levels.

Freight Designations: Several of the arterials within the SoDo area have freight designations. These designations include truck streets and seaport and intermodal connectors. These routes are used by freight operators to access Port of Seattle facilities, intermodal rail yards, and other industrial uses in the SoDo area. Those designations are discussed further in the Freight and Goods section of the report and also shown on Figure 2-103 and Figure 2-104. Adjacent to the Arena site, 1st Avenue S. and S. Holgate Street are designated freight routes.

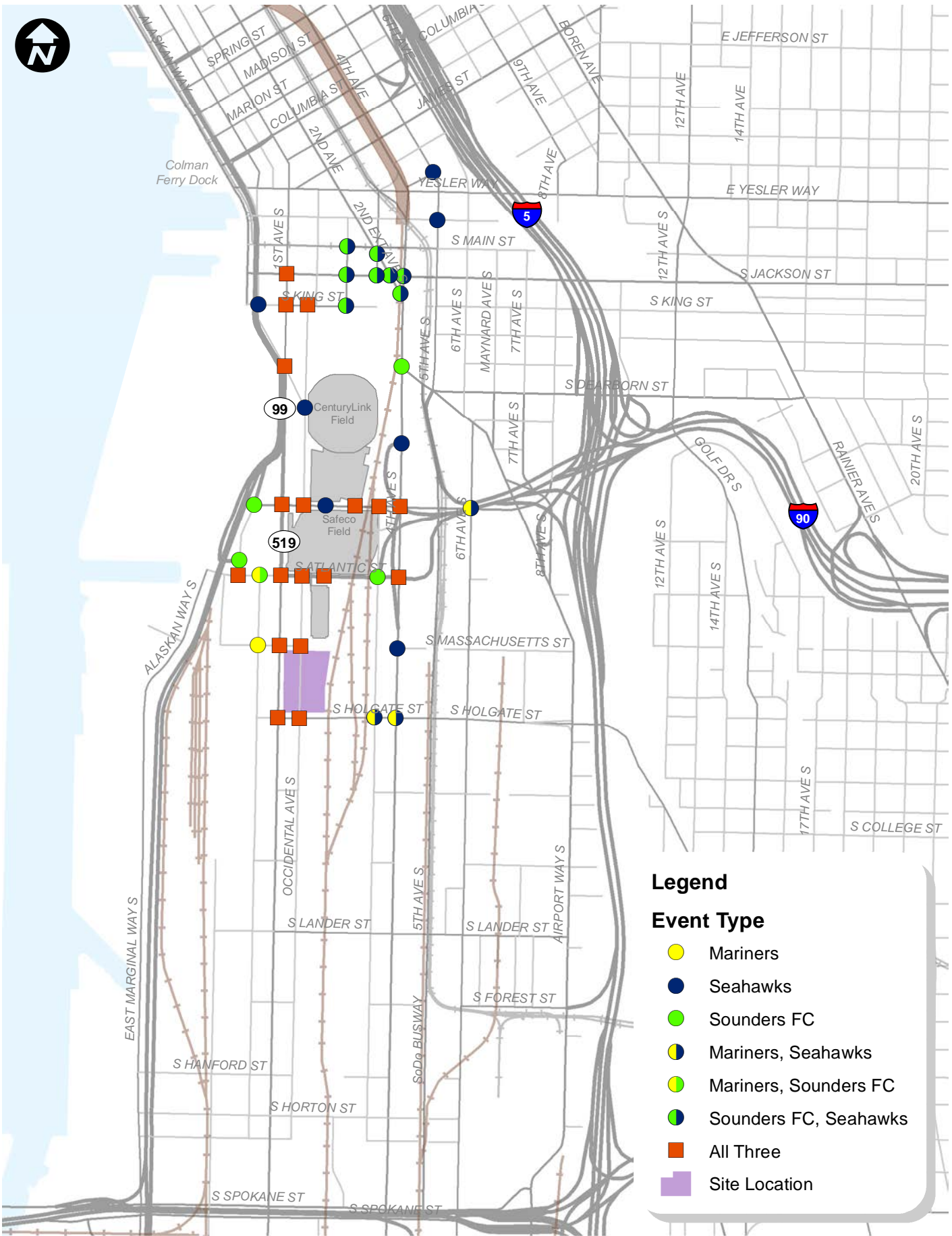
Occidental Avenue S. Use: Occidental Avenue S. is proposed to be vacated as part of either Alternative 2 or 3. The proposed vacation would likely impact the functions described herein. Occidental Avenue S. and S. Massachusetts Street provide local access in the immediate site vicinity. The primary functions of Occidental Avenue S. include access to / from the Safeco Field parking garage, an alternative corridor to 1st Avenue S. for north / south travel, access route for commercial business between S. Holgate Street and S. Atlantic Street, and charter bus and Metro Access bus staging for Safeco Field events. S. Massachusetts Street links also provides access to the Safeco Field parking garage, commercial businesses between 1st and Occidental Avenues S. and along Occidental Avenue S.



Stadium District Street System

Seattle Arena

FIGURE 2-2



Stadium District Intersections Subject to Traffic Control Plans

Seattle Arena

FIGURE 2-3

2.1.3 Impacts of No Action Alternative

The study area is undergoing major transportation system changes. A review of local and regional capital improvement programs and long-range transportation plans was conducted to determine planned funded and unfunded transportation projects that would impact the study area. The review included, but was not limited to, transportation plans from the Washington State Department of Transportation (WSDOT), City of Seattle, King County, ST, and the Port of Seattle. Table 2-2 provides a summary of key future transportation projects in the study area. In addition, the table provides an understanding of how these transportation projects were incorporated into the No Action Alternative evaluation. Many of the major street system projects impacting vehicular movements would be completed by 2018. Projects slated to be completed beyond 2018 are primarily related to the non-motorized and transit system and would likely encourage a decrease in dependence on the auto mode, during both typical commuter periods, as well as for events in the Stadium District. Following the tables is a more detailed discussion on how specific transportation projects impact the study area.

**Table 2-2
Stadium District: Key Study Area Planned Transportation Projects**

Project Description	Responsible Agency	Expected Completion Date	Funded? ¹	Assumed in Analysis? ²	
				2018	2030
Alaskan Way Viaduct Replacement: SR 99 viaduct replaced with a tunnel between S. Royal Brougham Way and Mercer Street.	WSDOT	TBD ³	Yes	✓	✓
SR 520 Bridge Replacement: Construction of a new SR 520 floating bridge with two general purpose lanes and one HOV / transit lane per direction. Transit and non-motorized projects between SR 202 and I-5 including adding pedestrian/bicycle facilities across Lake Washington. The eastside, west approach and floating bridge segments are funded. The westside projects in the Montlake Interchange vicinity are not funded.	WSDOT	2017	Partial	✓	✓
Mercer Corridor: Convert Mercer Street, Roy Street, and Valley Street to two-way operations and improve non-motorized access.	SDOT	2015	Yes	✓	✓
First Hill Streetcar: Two-mile streetcar line serving Capitol Hill, First Hill and International District with connections to Link Light Rail, Sounder commuter rail and bus service.	SDOT	2015	Yes	✓	✓

Project Description	Responsible Agency	Expected Completion Date	Funded? ¹	Assumed in Analysis? ²	
				2018	2030
Link Light Rail: Extension of the regional light rail system. All segments are funded in ST2, but the year of completion may vary depending on revenue available to fund construction. The segments include:	Sound Transit				
North—University District and Capitol Hill		2016	Yes	✓	✓
North—Northgate		2021	Yes		✓
North—Lynnwood		2023	Yes		✓
East—Bellevue and Redmond		2023	Yes		✓
South—Extension to S. 200th Street		2016	Yes	✓	✓
South—Extension to Kent-Des Moines Road		2023	Yes		✓
King Street Station Multimodal Terminal: Improve station access including opening of the Grand Stairs to connect the upper Jackson plaza and King Street Station entrance and a new entrance on Jackson plaza. These connections will transform the station into a transportation hub with easy access to express buses, commuter trains and light rail service.	SDOT	Completed 2013	Yes	✓	✓
Elliott Bay Seawall Replacement: Replacement of the existing seawall along the Seattle waterfront from S. Washington Street to Broad Street.	SDOT	2019	Yes		✓
Waterfront Seattle: This project creates a continuous public waterfront between S. King Street and Bell Street and includes the design and construction of the new surface Alaskan Way and Elliott Way arterial streets.	SDOT	2014 and beyond	Partial	✓	✓
Southend Transit Pathway: This project creates a new transit corridor on Alaskan Way and Columbia Street with a pair of bus stops near the Stadium District to replace service currently on the Alaskan Way Viaduct	SDOT / King County Metro Transit	2017	Yes	✓	✓
Convention Place TOD: Expansion of the Washington State Convention Center to include a reconfiguration or relocation of transit access, layover and passenger amenities at Convention Place Station. The EIS is under way for this project.	King County Metro Transit / King County	Unknown	No		

Project Description	Responsible Agency	Expected Completion Date	Funded? ¹	Assumed in Analysis? ²	
				2018	2030
Rapid Ride: Bus rapid transit service in six corridors (A through F) and the potential to expand into additional corridors in the future. Service has been initiated in four of the six corridors, and the E and F Lines are expected to start service in 2014.	King County Metro Transit	Completed 2014	Yes	✓	✓
Electric Trolleybus Fleet Replacement: King County Metro Transit will replace its fleet of 159 trolleybus with modern low-floor vehicles providing more capacity on these routes	King County Metro Transit	2015	Yes	✓	✓
Industrial Way Direct Access Ramps: This project would provide a direct connection from I-5 to and from the south to the SoDo Busway.	King County Metro Transit / WSDOT	Unknown	No		
Downtown Neighborhood Projects: Installation of pedestrian countdown signals and sidewalk repairs at the 1st Avenue S. intersections with S. Main Street and S. King Street.	SDOT	Completed 2013	Yes	✓	✓
S. Lander Street Grade Separation: This project grade separates S. Lander St. roadway and the BSNF mainline railroad tracks between 1st Avenue S. and 4th Avenue S.	SDOT	Unknown	No		

1. "Yes" means the project is fully funded for construction, "partial" means the project has some, but not complete funding for construction, and "no" means the project does not have any construction funding.
2. A check indicates that the project was assumed in the analysis related to the horizon year.
3. Due to construction delays, the timing of this is to be determined (TBD) per WSDOT's website March 30, 2015. The improvement was assumed in this analysis for both 2018 and 2030 conditions.

Planned projects assumed in the 2018 and 2030 analyses are described in more detail in the following sections.

2.1.3.1 2018 Planned Improvements

The planned transportation projects assumed to be completed by 2018 and key features of each project are described in this section:

- **Alaskan Way Viaduct Replacement – South Portal:** This project connects the tunnel to SoDo with other key study area projects including:
 - **S. Royal Brougham Way and S. King Street Tunnel Access.** New connections to the tunnel with access to the northbound on-ramp and southbound off-ramp at the S. Royal Brougham Way / E. Frontage Road intersection and access to the northbound off-ramp and southbound on-ramp at the Alaskan Way S. / S. Dearborn Street intersection.
 - **Grade separation near S. Atlantic Street (Little 'h').** An overpass has been constructed near S. Atlantic Street between Colorado Avenue S. and E. Marginal Way S. connecting at the Alaskan Way S. / S. Dearborn Street intersection and along S. Atlantic Street at the Alaskan Way S. and Colorado Avenue S.

intersections. It provides an additional east-west connection and allows access when roadways are blocked by railroad cars.

- **Pedestrian / Bike Trails.** Two multi-use paths are being constructed – Port Side Trail along the west side of the reconfigured Alaskan Way S. and the City Side Trail replacing the existing trail along the east side of Alaskan Way S. and extending from S. King Street to S. Atlantic Street.
- **Frontage Roads.** East and west SR 99 frontage roads will be provided to help circulate traffic. These roads will connect with S. Atlantic Street and S. Royal Brougham Way to the east and S. Atlantic Street and S. Dearborn Street to the west. S. Royal Brougham Way will no longer connect between Alaskan Way S. and 1st Avenue S. In addition to the Frontage Roads, the existing Railroad Way S. will be replaced with a new one-way northbound-only street connecting S. Dearborn Street and Alaskan Way S.
- **North Link Light Rail – University:** This extension will connect the UW and Capitol Hill neighborhood to downtown Seattle via the Westlake Station. The project includes two stations; one near Seattle Central Community College on Capitol Hill and one near Husky Stadium. Construction is underway and service is anticipated in 2016.
- **South Link Light Rail – S. 200th Extension:** This extension will add one additional station and a new park-and-ride facility to the system south of SeaTac Airport. The project is scheduled to open for service in 2016.
- **First Hill Streetcar:** The project is a new streetcar line along S. Jackson Street, 14th Avenue, Yesler Way, and Broadway connecting Capitol Hill to Pioneer Square. The line will operate 7 days a week with 10-minute headways during the weekday peak commute hours and 15-minute headways during other periods. Service is anticipated by spring of 2015 with more than 3,000 trips per day expected. This project will also install a two-way cycle track along Broadway between Yesler Way and Denny Way.

2.1.3.2 2030 Planned Improvements

Transportation projects assumed as part of the 2030 evaluation for the SoDo study area include:

- **Waterfront Seattle:** This project extends from S. King Street to Bell Street and focuses on creating a continuous public waterfront along the edge of the City bordering Elliott Bay. The project is currently being designed and includes:
 - New Alaskan Way S. surface arterial street with flex lanes to accommodate transit and / or ferry traffic during peak periods.
 - New Elliott Way arterial connection from Alaskan Way to the Elliott Avenue / Western Avenue one-way couplet north of Pike Place Market.

- Transit plaza and enlarged sidewalk along Columbia Street.
- Replacement of the Marion Street Pedestrian Bridge with a wider pedestrian bridge.
- Pedestrian and bicycle facilities throughout the Waterfront corridor.
- Conversion of the existing Railroad Way S. into a pedestrian street.
- Improving east-west pedestrian connections at various locations.
- Construction of a majority of this project cannot begin until the Elliott Bay Seawall is built and the Alaskan Way Viaduct is demolished. The current estimate is for construction of the Waterfront Seattle project to begin in 2016; however, some individual projects could move forward earlier such as the Railroad Way S. pedestrian street and east-west pedestrian connection projects.
- **Link Light Rail:** The regional light rail system is anticipated to extend beyond Seattle by 2030 with four extensions planned:
 - **Northgate (North):** The light rail will extend between the University extension and Northgate. The three locations where stations are planned are the U-District near NE 45th Street and Brooklyn Avenue NE, Roosevelt High School near 12th Avenue NE and NE 65th Street, and Northgate Mall / Transit Center near NE 103rd Street. This project is under construction and service is expected in 2021.
 - **Lynnwood (North):** This segment will connect from the northern point of the Northgate extension and terminate in Lynnwood. Several stations are planned along the route at NE 130th / 145th / 155th Street in Seattle / Shoreline, NE 185th Street in Shoreline, 236th Street SW in Mountlake Terrace, and 200th Street SW in Lynnwood which follows the I-5 corridor. Construction would begin in 2018 with service expected to begin in 2023.
 - **East:** This extension will link Bellevue and Mercer Island to the International District / Chinatown Station in Seattle. Several stations are planned along the route: Rainier Avenue S.; Mercer Island; South Bellevue, East Main, Bellevue Transit Center, Overlake Hospital, 120th Avenue NE, and 130th Avenue NE in Bellevue; and Overlake Village and Overlake Transit Center in Redmond. Construction is expected to begin in 2015 with service in 2023.
 - **South:** This segment would extend from S. 200th Street in SeaTac to add one additional station at Kent-Des Moines Road in the vicinity of Highline Community College. The project is anticipated to open for service in 2023.

Although included within the *Move Seattle* strategic plan (published Spring 2015), the analysis does not assume completion of the S. Lander Street Grade Separation for either the 2018 or 2030 conditions since it is currently unfunded; however, the need for this improvement is

anticipated to increase as traffic and rail activity grows. This improvement would help to maintain east-west connectivity across rail facilities in the study area as they become increasingly active with growth in freight activity.

2.1.4 Impacts of Alternative 2

Construction impacts related to the street system would mostly occur on 1st and Occidental Avenues S. and S. Massachusetts and Holgate Streets adjacent to the site. A construction management plan would mitigate these impacts. The plan could include scheduling street closures and other disruptions to the street system during off-peak periods to minimize impacts to the system.

As part of Alternative 2, Occidental Avenue S. between S. Massachusetts and S. Holgate Streets would be vacated. Occidental Avenue S. currently provides secondary access to and from the Safeco Field parking garage, an alternative route for north-south travel, access to the commercial businesses, and charter bus staging area for Safeco Field events.

With development of Alternative 2, the businesses along Occidental Avenue S. between S. Holgate and S. Massachusetts Streets would be removed and the land would be redeveloped with the Seattle Arena. A private access road would be constructed east of the site allowing for the potential for continued local access to the Safeco Field parking garage (for both the 2018 and 2030 horizon years) through an easement. This connection is only proposed to function during events that would use the garage. Traffic currently using Occidental Avenue S. as an alternate north-south route would shift to the parallel 1st Avenue S. corridor.

Other street system changes would occur along the project frontage with the reconstruction of curb faces and the removal of all existing driveways on 1st Avenue S. and S. Holgate Street along the project frontage. S. Massachusetts Street will also be realigned to the north between 1st and Occidental Avenues S. expanding the size of the pedestrian plaza on the north side of the Arena and eliminating the existing roadway offset at its intersections with 1st and Occidental Avenues S.

2.1.5 Impacts of Alternative 3

Construction impacts and mitigation related to development of Alternative 3 would be the same as described for Alternative 2.

No additional modifications to the street system are proposed under Alternative 3 than have been noted for Alternative 2.

2.1.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements. The following identifies those potential mitigation measures considered to have a high

influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 2 and Alternative 3.

- North-South private connection located on the east side of the project site, connecting S. Holgate Street to the Safeco Field property
- Realignment of S. Massachusetts Street between 1st Avenue S. and Occidental Avenue
- Construction management plan
- Central construction coordinator
- Street and sidewalk closure detour plans (construction)
- Proportionate share contribution towards S. Lander Street Grade Separation
- Transportation Management Plan
- Pedestrian access improvements

2.1.7 Secondary and Cumulative Impacts

There are no identified secondary or cumulative impacts associated with the modifications to the street system associated with Alternative 2 or 3, including the vacation of Occidental Avenue S. As noted the impacts associated with the rerouting of traffic currently using Occidental Avenue S. are addressed in the analysis of the primary impacts.

2.1.8 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts were identified. Occidental Avenue between S. Massachusetts and Holgate Streets would be vacated; however, its function serving Safeco Field garage access and access to the Safeco Field service and emergency vehicle access could be provided by the new private north-south connection on the east side of the Arena, together with the enhanced alignment of S. Massachusetts Street between 1st and Occidental Avenues South.

2.2 Public Transportation

2.2.1 Methodology

The general approach to the evaluation of public transportation impacts included:

- Determination of existing transit passenger capacity during pre-and post-event periods for weekday and weekend events
- Identification of future 2018 and 2030 growth in ridership and change in capacity
- Consideration of event ridership associated with event cases for No Action and Alternatives 2 and 3

- Evaluation of capacity needed to support Alternatives 2 and 3
- Consideration of speed and reliability under existing and future conditions

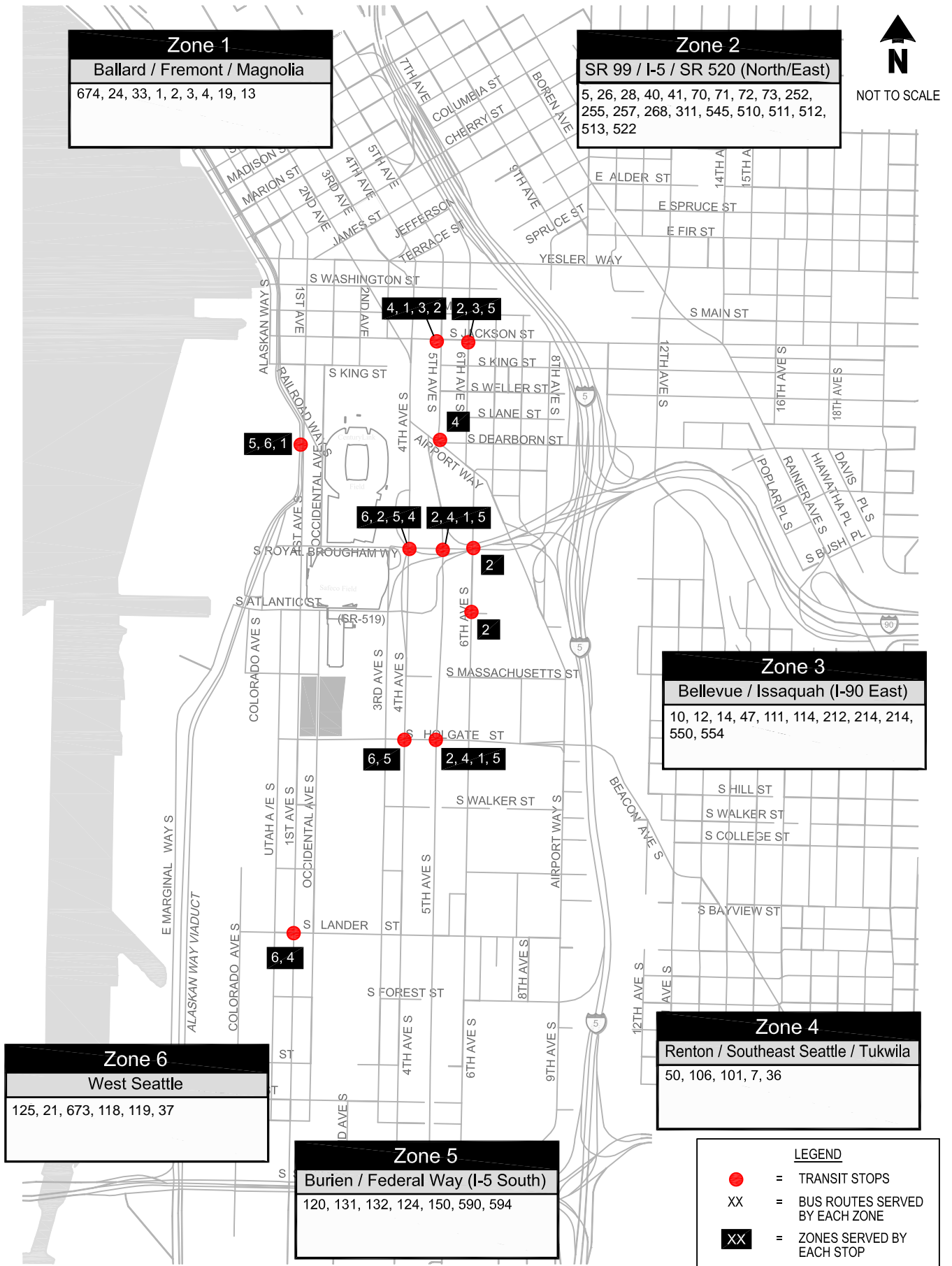
The analysis focuses on weekday event conditions because transit ridership and motorized volumes are highest during this timeframe; this provides a conservative estimate of transit capacity and reliability impacts. The following describes how transit capacity, ridership, and reliability was determined for the transit modes serving the Stadium District site.

In Fall 2014, Seattle voters approved Proposition 1 to provide funding to maintain current transit service on existing routes in the City of Seattle. The measure came after King County Metro had announced that it would cut 180,000 service hours starting in February 2015.

Transit capacity and route assumptions were not revised to reflect Proposition 1 in this analysis. Proposition 1 affects only Seattle routes, which serve less than half of the event patrons who use transit; thus, the impact of the service change would be minimal. The specific schedule changes resulting from Proposition 1 have not yet been released, however, the added transit capacity is not anticipated to change the analysis results in the over capacity zones.

2.2.1.1 Bus Transit

Existing Bus Ridership. Bus ridership and passenger capacity data was determined by identifying King County Metro Transit and ST buses in service from 5:00 to 7:00 PM to downtown (inbound) and 9:00 to 11:00 PM out of downtown (outbound) with bus stops near the Stadium District site. Figure 2–4 summarizes bus routes serving the Stadium District by roadway, stop location, and general downtown Seattle outbound service areas.



Stadium District Bus Routes

Fall 2012 FIGURE

Passenger loads were calculated for buses operating inbound (to the Arena) from 5:00 to 7:00 PM and outbound (away from the Arena) from 9:00 to 11:00 PM. Data was provided by King County Metro Transit and ST, which reflects their Fall 2012 service changes. It was assumed that the 'average load at the most crowded point on the route' (King County Metro Transit) and 'boarding average' (Sound Transit) represented the number of people traveling on buses through SoDo. This is because the highest number of people on buses is generally in the downtown Seattle area. Also, inbound bus routes from the north or SR-520 (such as 510, 511, 522, and 545) would drop-off non-event passengers through downtown Seattle and have some capacity to pick-up additional patrons. The use of these buses and other buses with end/start points to the north of Stadium District site provides additional capacity to the system; however, conservatively, this was not factored into the analysis.

Total passenger capacity: King County Metro Transit bus capacity was calculated using their guidelines of multiplying the number of seats on a bus by a factor of 1.25 to account for standing passenger space. ST typically uses a factor of 1.5. Data provided by King County Metro Transit and ST included the number of seats on each bus or the type of bus serving the route by time of day and direction.

Speed and Reliability: Existing transit reliability information was provided by King County Metro Transit for most routes in the study area and some ST routes. Bus reliability is one indicator for how attractive bus transit is to people as a choice for making a trip. Reliability was reported as a percentage of on-time, early, or late buses. On-time performance information is measured at time points along each route. Time points are locations buses are scheduled to be at a specified time and the time the bus passes these points is recorded. The data provided was collected at all time points for all routes during a three to four month service period. King County Metro Transit considers a route on-time that is no more than one minute early to no more than five minutes late. Buses that are more than 10 minutes early or 30 minutes late are not included in the analysis. This data was used to determine the reliability of buses to meet schedules. Bus reliability is one indicator for how attractive bus transit is to people as a choice for making a trip.

Buses in the Stadium District generally travel in mixed flow lanes except within the SoDo Busway; therefore, an assessment of travel speed and time is provide in the Traffic Operations section with the evaluation of key corridors.

2018 Bus Ridership: The number of bus riders was anticipated to increase by approximately two percent annually from 2013 to 2018; this growth in ridership was based on Puget Sound Regional Council's (PSRC) Transportation 2040 long-range plan increase in transit ridership⁶. No change in bus passenger capacity (service levels) was assumed because of the uncertainty of transit funding before the passing of Proposition 1 in Fall 2014. Any changes in ridership as a result of Proposition 1 were not taken into account in this analysis for reasons documented in the methodology (Section 2.2.1). Although some transit agencies serving the Seattle area are

⁶ Puget Sound Regional Council (PSRC). Transportation 2040. May 20, 2010. Accessed May 17, 2013 at <http://www.psrc.org/assets/4847/T2040FinalPlan.pdf>

experiencing service cuts, the trend for transit ridership is increasing; this could provide justification for increased or sustained transit service.

2030 Bus Ridership: 2030 bus ridership was also calculated using an annual growth rate of approximately two percent based on PSRC's Transportation 2040 long-range plan. With the addition of ST Link Light Rail service, it was assumed that some of King County Metro Transit's service would no longer be offered along light rail routes. A comparison of buses operating during the analysis time periods (5:00 to 7:00 PM and 9:00 to 11:00 PM) and future Link Light Rail alignments was conducted. It was assumed that service hours for routes 41, 71, 72, 73, 510, 511 and 550 would be redistributed to other bus routes.

2.2.1.2 Light Rail

Existing Light Rail Ridership: ST provided passenger ridership and capacity data for the Spring 2012 service; this data contained information for average boardings, average maximum load, and total capacity for each train operating from 5:00 to 7:00 PM into Seattle and 9:00 to 11:00 PM out of Seattle for Central Link light rail. It was assumed each train's average maximum load would occur in downtown Seattle.

2018 Light Rail Ridership: Light rail ridership for Central Link was developed from the estimated boardings in the *ST 2013 System Implementation Plan*⁷. ST estimates an average increase in ridership of approximately 8 percent annually from 2012 to 2015; from 2016 to 2018 this growth was projected to increase by approximately 54 percent annually. This represents an increase in weekday ridership from 2011 to 2018 of approximately 350 percent. The *System Implementation Plan* also identifies there would be fifteen two-car train sets and four three-car train sets during peak service. These train sets were assumed to provide service from 5:00 to 7:00 PM and from 9:00 to 11:00 PM proportionately.

2030 Light Rail Ridership: Light rail ridership, passenger capacity, and frequency of service was provided by ST for South Link, North Link, and East Link light rail services from 5:00 to 7:00 PM and from 9:00 to 11:00 PM.

2.2.1.3 Sounder Commuter Rail Service

Sounder commuter rail service was not included in this public transportation impact analysis based on the existing schedule; trains leave Seattle approximately every 30 minutes during the evening commuter period or pre-event. Only one train enters Seattle from Everett and two trains from Tacoma (Lakewood stop is not used) during the late evening. The last train south to Lakewood leaves Seattle at 6:15 PM and to Everett at 6:50 PM. Given that there is no return service for post-event, event attendees would need to find alternative modes; therefore, Sounder commuter rail service was not evaluated.

⁷ Sound Transit (ST). 2013 Service Implementation Plan. December 20, 2012. Access April 30, 2013 at http://www.soundtransit.org/Documents/pdf/planning/2013_SIP_Final_20130212.pdf

2.2.1.4 Washington State Ferry

The number and type of vessels serving Colman Dock were used to determine the available passenger capacity based on scheduled inbound (eastbound to Seattle) crossings from 5:00 to 7:00 PM and outbound (westbound to destination) crossings from 9:00 to 11:00 PM as follows:

Seattle-Bainbridge Island (Approximately 35-minute crossing time)

Outbound (Westbound—leaving Seattle):

- Monday through Friday
 - 9:00 PM – Wenatchee: Max passengers = 2,500; Max vehicles = 202
 - 10:05 PM – Tacoma: Max passengers = 2,500; Max vehicles = 202
 - 10:55 PM – Wenatchee
- Weekends and Holidays
 - 9:00 PM – Tacoma
 - 9:45 PM – Wenatchee
 - 10:40 PM – Tacoma
 - 11:15 PM – Wenatchee

Inbound (Eastbound—leaving Bainbridge Island):

- Monday through Friday
 - 4:35 PM – Wenatchee
 - 5:30 PM – Tacoma
 - 6:30 PM – Wenatchee
 - 7:10 PM – Tacoma
- Weekends and Holidays
 - 4:35 PM – Tacoma
 - 5:30 PM – Wenatchee
 - 6:30 PM – Tacoma
 - 7:10 PM – Wenatchee

Seattle- Bremerton (Approximately 60-minute crossing time)

Outbound (Westbound—leaving Seattle):

- Daily
 - 9:05 PM – Kitsap: Max passengers = 1,200; Max vehicles = 124
 - 10:30 PM – Chelan: Max passengers = 1,076; Max vehicles = 124

Inbound (Eastbound—leaving Bremerton)

- Daily

- 5:30 PM – Kitsap
- 6:45 PM – Chelan

The Wenatchee and Tacoma ferries operate on the Seattle to Bainbridge route and can carry a maximum of 2,500 passengers and 202 vehicles. The Kitsap and Chelan ferries operate on the Seattle to Bremerton route and can carry a maximum of 1,200 passengers and 124 vehicles.

Currently, WSF only collects ridership information for westbound (outbound) ferries at Colman Dock. The eastbound (inbound) ridership from 5:00 to 7:00 PM was estimated by assuming westbound passengers leaving from 7:00 to 9:00 AM (2012 counts) would return to Seattle from 5:00 to 7:00 PM. Also, this ridership was increased by ten percent to account for people traveling to Seattle for events not related to the Stadium District. It is anticipated that the passengers driving on the ferry to go to the Arena would be minimal given the cost of driving onto the ferry and parking at the event venue. For this analysis, it was assumed that of the 4 percent of the Arena attendees using the ferry 90 percent of ferry users would be walk-on passengers and the remaining 10 percent would drive their vehicles onto the ferry. Passengers driving were assumed to be either working in the downtown area or traveling to Seattle for a day trip while taking in an Arena event; therefore, parking demand would be encompassed in any background forecasts.

2.2.1.5 Monorail Transit

Discussions with Seattle Center Monorail staff and the existing monorail schedule were used to develop the passenger capacity and existing ridership for inbound trips to Seattle Center area from Westlake from 5:00 to 7:00 PM and the outbound trip to Westlake Center from 9:00 to 11:00 PM. Existing ridership was based on the average number of passengers typically using monorail during an average month (not the peak summer months when ridership can be higher).

2.2.1.6 Streetcar Transit

Existing Streetcar Ridership: Existing passenger capacity for the SLU Streetcar was provided by City of Seattle staff and by consulting the existing schedule. Currently, the SLU Streetcar operates from 6:00 AM to 9:00 PM, Monday through Thursday, and 6:00 AM to 11:00 PM on Friday and Saturday. Sunday service is operated from 10:00 AM to 7:00 PM. With the existing service, streetcar would not be available after events from Sunday to Thursday. Each streetcar can accommodate a maximum of 140 passengers. Existing ridership was provided by the City of Seattle, from which the average boarding, alightings, and passenger load for the Terry and Thomas and Westlake and Thomas stations were used. This information did not include detail for weekdays with and without an event at the existing venues.

2018 Streetcar Ridership: Operating hours and alignment details for the First Hill Streetcar were taken from the project's website⁸ and the Environmental Checklist⁹. Passenger capacity

⁸ <http://www.seattlestreetcar.org/firsthill.htm>

⁹ Seattle Department of Transportation. *First Hill Streetcar Environmental Checklist*. September 29, 2010. Accessed

was determined by review of these documents and discussion with City of Seattle staff. Ridership from 5:00 to 7:00 PM and 9:00 to 11:00 PM was estimated from the projected daily ridership developed by ST.¹⁰ The observed July 2012 SLU Streetcar ridership was used as a basis for estimating First Hill Streetcar ridership during the weekday time periods.

2030 Streetcar Ridership: ST's ridership forecast, using its regional travel model in the initial planning for project, estimated a daily ridership of 3,000 to 3,500 passengers in 2030.¹¹ Currently, the SLU Streetcar has an average of 2,225 daily riders and during the peak summer months, ridership can exceed 3,000 weekday riders.¹² The observed July 2012 SLU Streetcar ridership (of approximately 2,500 daily passengers) was used to determine a ridership growth rate. It was calculated that an annual growth rate in ridership of approximately two percent would achieve the projected 2030 ridership of 3,250 passengers on the First Hill Streetcar. Ridership for the SLU Streetcar was also assumed to increase by approximately two percent per year.

2.2.2 Affected Environment

Regional public transit providers offer a number of ways for people to access the Stadium District including bus, light rail, commuter rail and ferry as illustrated on Figure 2–5.

The capacity of these transit services to transport people to and from the Stadium District varies by day (weekday or weekend service) and by the time of day (peak commuter period, evening services, etc.). This section summarizes the total passenger transit ridership and available passenger capacity to and from the Stadium District during a weekday evening; this includes inbound to downtown Seattle transit service from 5:00 to 7:00 PM and outbound from downtown Seattle transit service from 9:00 to 11:00 PM. The total and available passenger capacities for an average weekday on all available transit services are illustrated on Figure 2–6 and Figure 2–7.

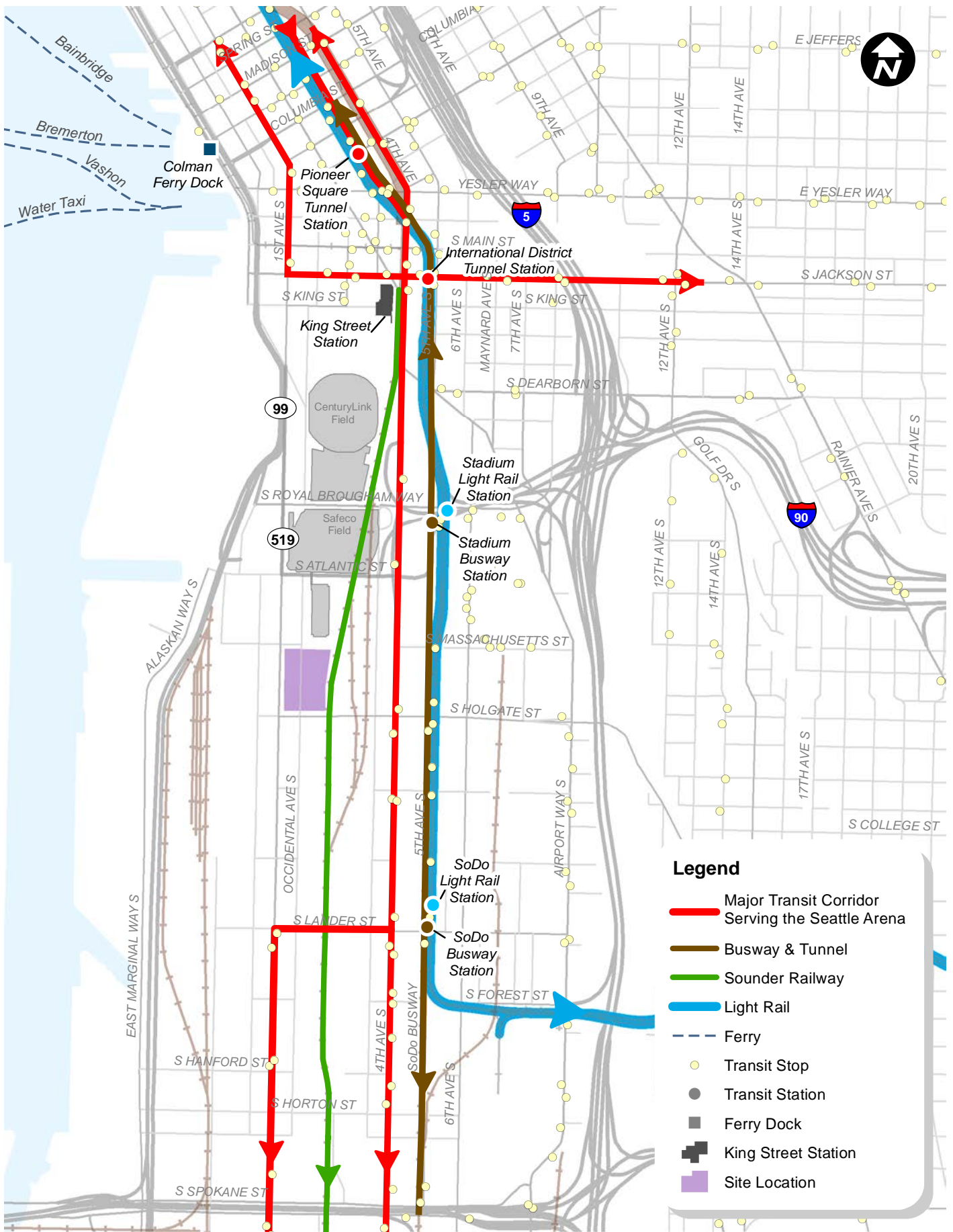
April 20, 2013 at

<http://www.seattlestreetcar.org/about/docs/sepa/First%20Hill%20Streetcar%20SEPA%20Checklist.pdf>

¹⁰ Sound Transit (ST). *First Hill Transit Connector Alternatives Summary Report*. April 17, 2007. Accessed April 20, 2013 at <http://www.soundtransit.org/Documents/pdf/projects/link/north/FHTransitAltsRpt2007-04-17.pdf>

¹¹ Sound Transit (ST). *First Hill Transit Connector Alternatives Summary Report*. April 17, 2007. Accessed April 20, 2013 at <http://www.soundtransit.org/Documents/pdf/projects/link/north/FHTransitAltsRpt2007-04-17.pdf>

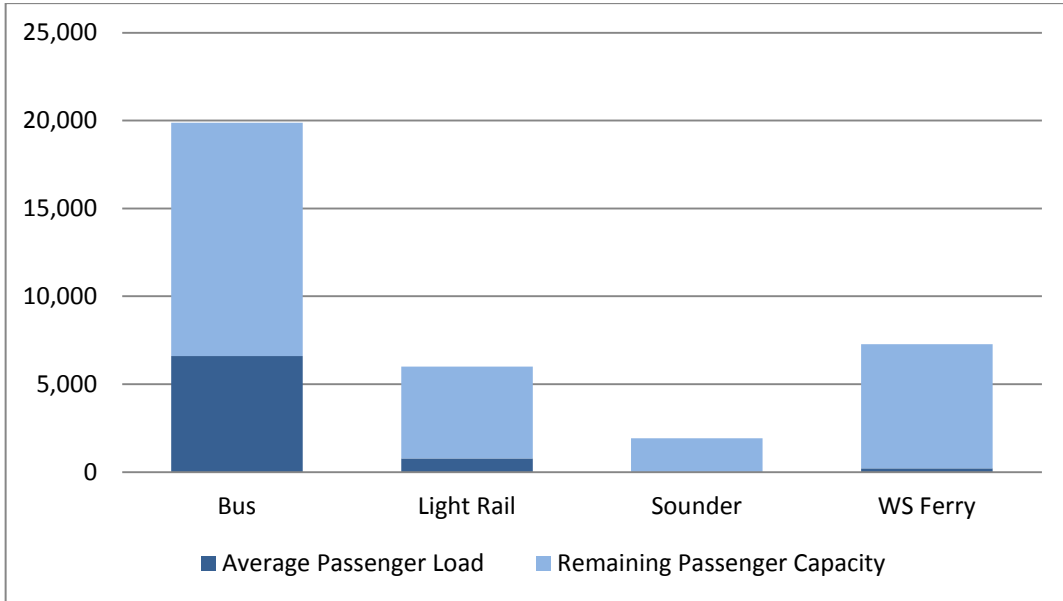
¹² Seattle Streetcar website. FAQ About the Seattle Streetcar. Accessed April 20, 2013 at <http://www.seattlestreetcar.org/faq.htm>



Stadium District Transit Facilities and Corridors

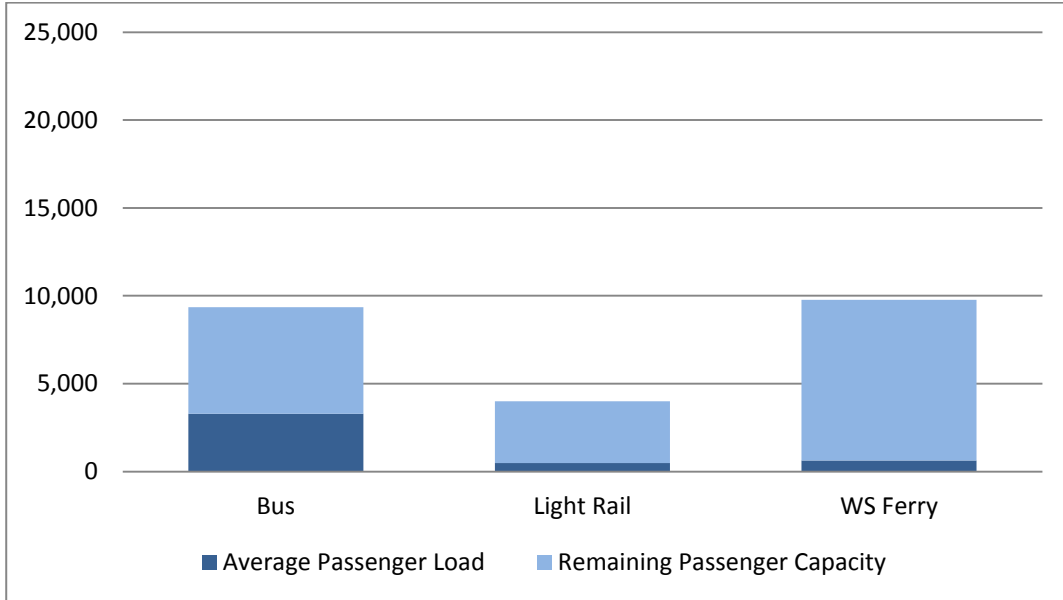
FIGURE 2-5

**Figure 2–6 Stadium District Transit Passengers Inbound
– Existing Weekday (5:00 to 7:00 PM)**



Note: Remaining passenger capacity was not available for ST Sounder and King County Passenger Ferry service capacity was not included.

**Figure 2–7 Stadium District Transit Passengers Outbound
– Existing Weekday (9:00 to 11:00 PM)**



Note: Remaining passenger capacity was not available for ST Sounder and King County Passenger Ferry service capacity was not included.

2.2.2.1 Bus Transit

Bus transit for the Stadium District is concentrated along SR 99 / Alaskan Way, 1st Avenue S., S. Jackson St., 4th Avenue S., SoDo Busway (5th Avenue S.), 6th Avenue S., and the International District Station (see Figure 2–5). Bus service to the Stadium District is currently provided by King County Metro Transit and ST. The primary bus stops serving the Stadium District are located on 4th Avenue S. and 5th Avenue S., near S. Royal Brougham Way and S. Lander Street.

The number of buses in service on routes through the Stadium District during the peak weekday afternoon commuter period is higher leaving the downtown Seattle core than entering. The number of buses in service in the late evening is less than the weekday afternoon commuter period. Bus headways, the time between buses at a bus stop, are shorter during peak weekday afternoon commuter periods (10 to 30 minutes) compared to late evening and weekend service (30 to 60 minutes).

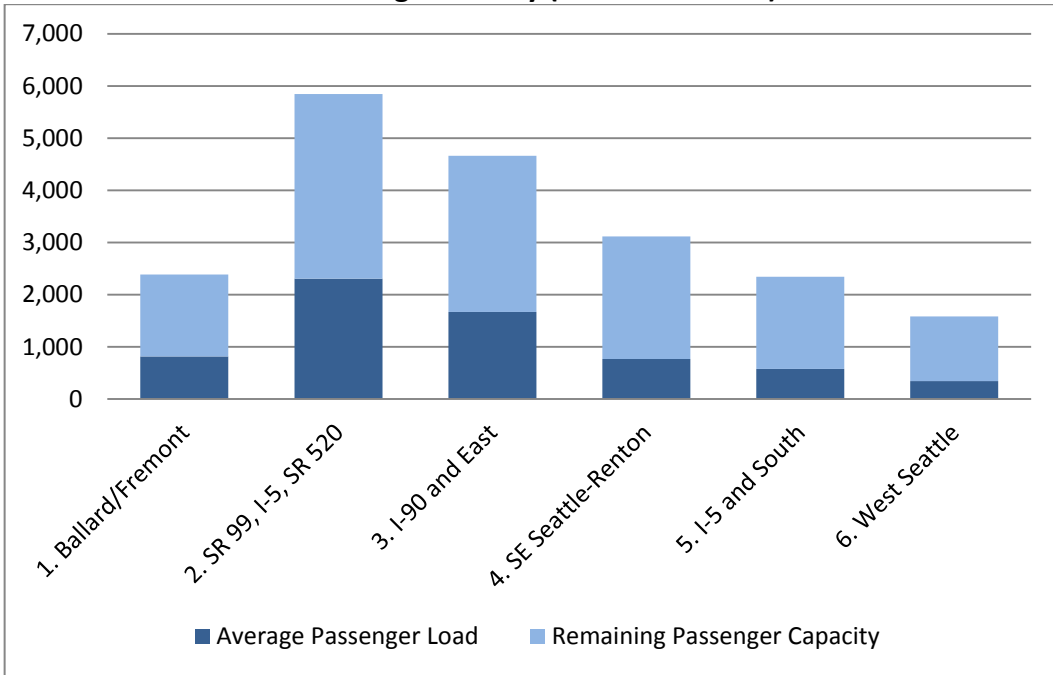
Bus Ridership

Existing bus ridership was provided by King County Metro Transit and ST for buses serving the Stadium District that travel to downtown Seattle from 5:00 to 7:00 PM and out of downtown Seattle from 9:00 to 11:00 PM. The available bus service was grouped into six service zones or corridors for analysis based on the distribution of service in the region:

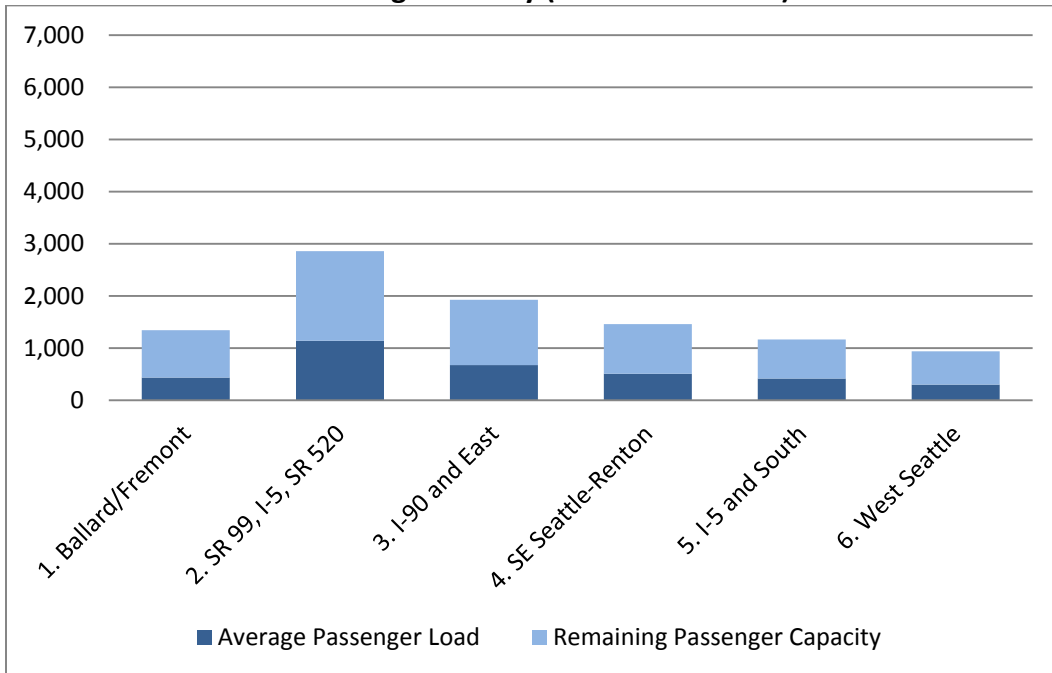
- Zone 1: Magnolia, Ballard and Fremont area of Seattle
- Zone 2: Along SR 99, I-5, and SR 520, and areas to the north and northeast
- Zone 3: Bellevue, Issaquah, and I-90 to the east
- Zone 4: Southeast Seattle, Tukwila, and Renton
- Zone 5: South on I-5, Federal Way, Burien, and areas to the south
- Zone 6: West Seattle

Bus transit provides almost double the passenger capacity for bringing people to an event from 5:00 to 7:00 PM (see Figure 2–8) compared to leaving an event from 9:00 to 11:00 PM (see Figure 2–9). The amount of bus passenger capacity varies to the different areas of King County; there is more bus service along SR 99, I-5, and SR 520 compared to other service centers for buses operating through the SoDo area. The occupancy rate for these buses, which is the total number of passengers on buses through the Stadium District divided by the total passenger capacity of those buses, is approximately 33 percent for inbound (5:00 to 7:00 PM) service and 35 percent for outbound (9:00 to 11:00 PM) service. This means that approximately 6,600 people were traveling to the Stadium District and 3,300 people were traveling away from the Stadium District to areas served by the selected King County Metro Transit and ST routes. The remaining capacity on all buses could accommodate approximately 13,300 passengers inbound and 6,000 outbound during these time frames. During peak commute periods and event days, specific buses and routes within the six zones experience higher ridership and overcrowding.

**Figure 2–8 Stadium District Bus Passengers Inbound
– Existing Weekday (5:00 to 7:00 PM)**



**Figure 2–9 Stadium District Bus Passengers Outbound
– Existing Weekday (9:00 to 11:00 PM)**



Compared to weekdays, bus service (passenger capacity) is reduced by approximately 30 percent from 5:00 to 7:00 PM on weekends and approximately 10 percent from 9:00 to 11:00 PM (for combined King County Metro Transit and ST service). Based on King County Metro Transit ridership, the average number of passengers is approximately 25 percent less on weekends from 5:00 to 7:00 PM compared to weekdays and 5 percent less from 9:00 to 11:00 PM.

Speed and Reliability. As discussed in the methodology, on-time performance information was provided by King County Metro Transit for routes serving the Stadium District, including some ST routes (routes 522, 545, and 550). King County Metro Transit and ST bus service to downtown Seattle from 5:00 to 7:00 PM were on-time approximately 75 percent of the time. This indicates that buses were no more than 1 minute early to no more than 5 minutes late 75 percent of the time. Buses leaving downtown Seattle from 9:00 to 11:00 PM were on-time approximately 77 percent for King County Metro Transit and 81 percent for ST.

The travel time for buses (an indication of speed and reliability) would be similar to general purpose traffic because they operate in mixed flow through the Stadium District. The traffic operations impact analysis of this report provides a detailed evaluation of four key routes within the Stadium District including 4th Avenue S., which has bus service. The corridor travel time evaluation for existing weekday PM peak hour non-event and event conditions shows that increases in travel time as a result of an event are minimal with travel time differences of 30 seconds or less.

Other Service Information. King County Metro Transit has previously provided special service for sporting events such as Seahawks weekend games and Sounder FC games. This special service is paid for by the sports teams (Mariners, Sounders FC, and Seahawks). Special park-and-ride services were provided between Northgate Transit Center, South Kirkland Park-and-ride, and the Eastgate Park-and-ride for Seahawks games — this special service has not been provided for weekday games. For Sounders FC games, the special bus service was cancelled in May 2012 due to low demand. Instead of the special park-and-ride service, extra coaches were added on regular King County Metro Transit service to downtown Seattle, as needed, to accommodate Sounders FC fans (source: King County Metro Transit website).

The effects of the passing of Proposition 1, which provides the funding needed to maintain current levels of bus service in the City of Seattle through 2020, were not taken into account in this analysis for reasons documented in the methodology section.

Some of the bus service on the Alaskan Way Viaduct is currently subsidized by mitigation funding from WSDOT, which expires in 2015. An extension of the funding is being considered by the Washington State Legislature. If not renewed, this could reduce the capacity on the routes currently providing service to SoDo.

ST provides additional bus service as necessary to accommodate passenger loads to special events. Prior to events, an assessment of extra service is determined based on ticket sales for the event.

2.2.2.2 Light Rail

ST currently provides light rail service from downtown Seattle to the Seattle-Tacoma International (Sea-Tac) Airport via the Central Link light rail. The nearest light rail stations serving the Stadium District are located along the SoDo Busway (5th Avenue S.) at S. Royal Brougham Way (Stadium Station) and Lander Street (SoDo Station). Light rail service provides riders with a reliable and uncongested trip into and out of Seattle because routes are entirely within dedicated right-of-ways.

Light rail service currently operates with two car trains per trip; each train was assumed to have a capacity of approximately 200 people. Headways, the times between trains at a station, for inbound service (to downtown Seattle) are 7.5 minutes from 5:00 PM to 6:30 PM and 10 minutes from 6:30 PM to 7:00 PM. Outbound service operates on 10-minute headways from 9:00 PM to 10:00 PM and 15-minute headways from 10:00 PM to the end of service, which is approximately 1:00 AM on weekdays. Weekday light rail service (passenger capacity) is reduced by approximately 20 percent from 5:00 to 7:00 PM on weekends and does not change from 9:00 to 11:00 PM.

Light Rail Ridership

As illustrated on Figure 2–6 and Figure 2–7, light rail provides a total capacity for approximately 6,000 passengers traveling inbound to the Stadium District from 5:00 to 7:00 PM and 4,000 passengers outbound from 9:00 to 11:00 PM. During Spring 2012 service, trains had an average maximum load of approximately 50 passengers; approximately 770 passengers were traveling inbound and 480 outbound from downtown Seattle. This represents average maximum passenger loads of less than 30 percent on each train. Total train maximum passenger capacity is approximately 400 people for two car train sets.

2.2.2.3 Sounder Commuter Rail Service

ST's Sounder commuter rail service provides service between Lakewood and Seattle with additional stops in Tacoma, Puyallup, Sumner, Auburn, Kent, and Tukwila and between Everett and Seattle with intermediate stops in Mukilteo and Edmonds. The Seattle stop is located at King Street Station. Sounder currently has only regular weekday morning and afternoon service. Trains enter Seattle approximately every 30 minutes during morning commuter periods, from 6:00 to 8:00 AM, and leave approximately every 30 minutes during the evening commuter period. Only one train enters Seattle from Everett and two trains from Tacoma (Lakewood stop is not used) during the late evening. The last weekday train south to Lakewood leaves Seattle at 6:15 PM and to Everett at 6:50 PM. There is no regularly scheduled weekend commuter rail service.

Sounder Commuter Rail Ridership

Only one train provides service to downtown Seattle from Lakewood during the 5:00 to 7:00 PM timeframe. This provides capacity for more than 1,900 passengers. Specific ridership information was not available at this time.

Other Service Information

Currently, ST provides scheduled special Sounder service to sporting events for the Mariners and Sounder FC games. One train from Lakewood to Seattle and one train from Everett to Seattle are provided for select weekend and holiday games for the Mariners and select weekend games for the Sounder FC. Trains depart Seattle 35 minutes after the end of the event, providing capacity for approximately 1,900 people to Lakewood and 1,100 people to Everett.

As discussed previously, Sounder commuter rail was not assumed as part of the Arena analysis because of no outbound service is provided or planned in the evening and event attendees would be required to use another mode to leave the Stadium District.

2.2.2.4 Washington State Ferries Transit

Washington State Ferries (WSF) provides ferry service to Seattle at Colman Dock, located near Alaskan Way and Yesler Way. Colman Dock is approximately one-mile north of the Stadium District site. Ferries to / from Seattle serve Bainbridge Island and Bremerton. The ferries have arrivals and departures scheduled throughout the day with headways of approximately 60 minutes for Bainbridge Island service and approximately 75 minutes for Bremerton service. Ferries serving both of these routes are some of the largest ferries in WSF's fleet, providing combined vehicle and passenger service. According to WSF's website, these ferries are capable of transporting 2,500 passengers per trip, in addition to vehicles. Weekend ferry service (passenger capacity) increases by approximately ten percent over weekday ferry service.

Ferry Ridership

As illustrated on Figure 2–6 and Figure 2–7, WSF Colman Dock service provides a total capacity for approximately 7,300 passengers traveling inbound to the Stadium District from 5:00 to 7:00 PM and 9,800 passengers outbound from 9:00 to 11:00 PM. Based on the assumptions described in the methodology section, an average inbound passenger load of approximately 210 passengers is estimated. During May 2012 service, ferries had an average load of approximately 640 passengers traveling outbound from 9:00 to 11:00 PM.

2.2.2.5 Passenger Ferry Transit

The King County Ferry District provides passenger-only ferry service between Seattle at Pier 50, and West Seattle and Vashon Island. Ferry departures and arrivals to Pier 50 for the West Seattle route operate on 30-to 60-minute headways, depending on the time of day. Typically, this route stops service at 7:00 PM with no weekend service, but for the summer-fall schedule (April-October), Fridays, Saturdays, and evening events for Mariners, Sounders FC and Seahawks, ferry service is extended to 10:30 PM with 60-minute headways. Passenger-only service between Pier 50 and Vashon Island operates on weekdays only with 60-minute headways.

These vessels have capacity for 170 passengers and 18 bicycles. The West Seattle route provides only two return sailings after sporting events, transporting a total of approximately

340 passengers. The Vashon Island route does not provide return service for sporting events. Ridership information was not available at this time. King County passenger ferries were not assumed to be used by event attendees because of limited service frequency during the winter months.

2.2.3 Impacts of No Action Alternative

This section describes the impacts of the No Action Alternatives for analysis years 2018 and 2030. Future weekend and weekday service characteristics were assumed to be similar to existing conditions.

2.2.3.1 Year 2018

The Waterfront Seattle project will provide a pair of bus stops for the SR 99 / Alaskan Way route closer to the Stadium District. Although the exact placement of these bus stops has not been determined, they will likely provide a shorter walking distance or eliminate the need to transfer to another transit mode for people accessing the Stadium District. This is because the current routing is along the Alaskan Way Viaduct and has stops along Columbia Street or Seneca Street depending on direction of travel. No change in passenger capacity is assumed. The anticipated completion date for the Waterfront Seattle Project has been delayed to the year 2020, but the improvements were assumed to be in place in the analysis.

The new fleet of King County Metro Transit trolleybuses are anticipated to reduce bus loading / unloading times at bus stops, but are not assumed to impact transit passenger demand or capacity. SR-520 will have a new West Approach Bridge North in 2016 which will add a third westbound lane and bike-pedestrian facilities across Lake Washington.

ST is scheduled to complete the U-Link light rail extension and add a new station south of Sea-Tac Airport on the Central Link alignment, which would extend service. Light rail capacity would be expanded with the addition of up to four three-car trains. Also, the First Hill Streetcar is schedule to be completed in late 2015; this would provide a station near 1st Avenue S. and S. Jackson Street north of the Stadium District. First Hill Streetcar hours of operation and headways between streetcars were assumed to be similar to the existing SLU Streetcar operations. This would add streetcar service to the Stadium District. No other passenger capacity changes were assumed.

Bus Transit

As described in the methodology, the number of bus riders was anticipated to increase by approximately two percent per year and headways were assumed to remain unchanged. Bus transit passenger loads would increase by approximately 3,060 inbound passengers and 2,700 outbound passengers for the No Action Case S3 compared to existing conditions. The increase in passengers would be slightly less for the No Action Case S1 and Case S2.

As illustrated on Figure 2–10 and Figure 2–11, the total passenger load for No Action Case S3 (i.e., Mariners and CenturyLink Event) could be accommodated with assumed bus service levels for all service zones. Because this scenario has the highest assumed passenger demand, the No

Action Case S1 and Case S2 could also be accommodated. Similar to existing conditions, some bus routes would experience higher levels of passenger ridership and potentially overcrowding.

Figure 2–10 Stadium District Bus Transit Inbound - 2018 No Action Case S3

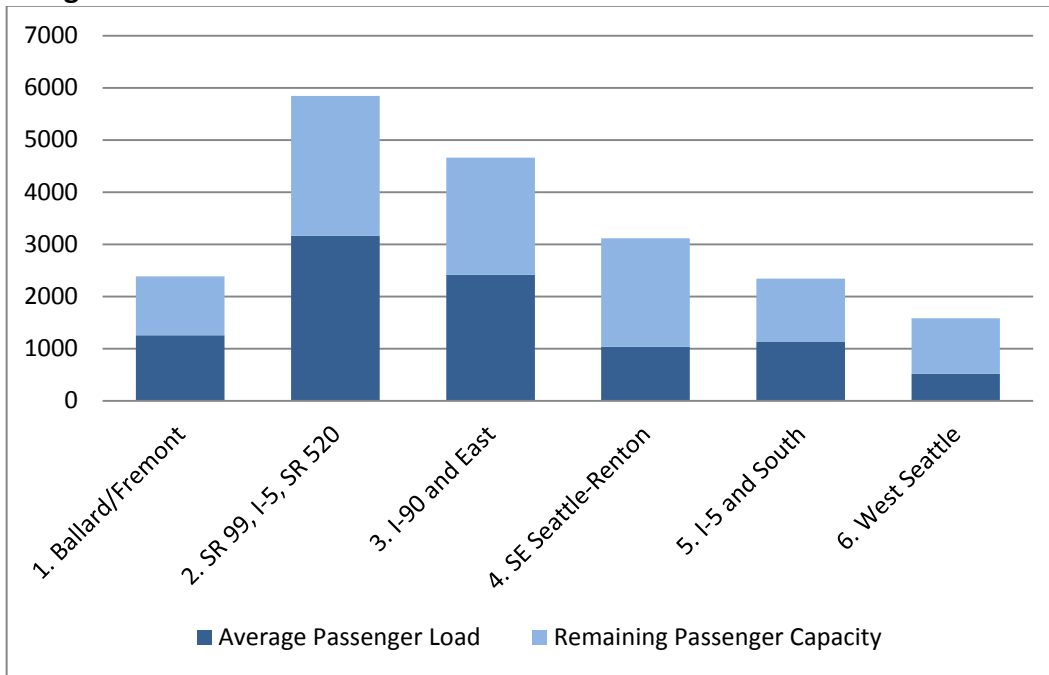
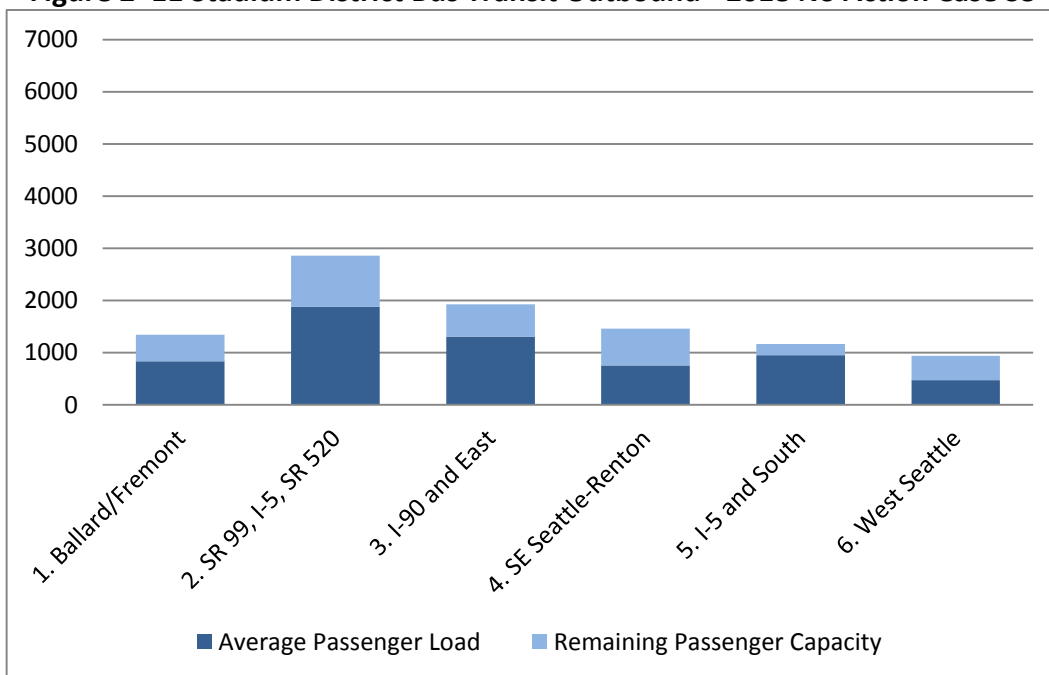


Figure 2–11 Stadium District Bus Transit Outbound - 2018 No Action Case S3



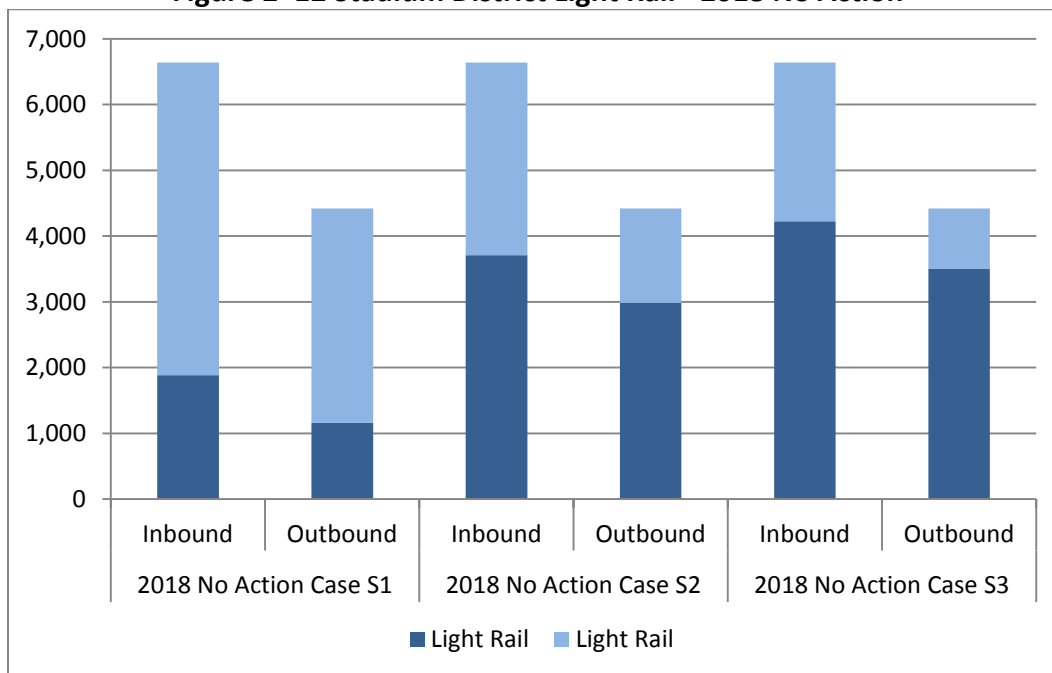
The travel time for buses (an indication of speed and reliability) would be similar to general purpose traffic because they operate in mixed flow through the Stadium District (not including the time it takes for buses to serve bus stops). As indicated in the traffic operations section of this report, travel times under 2018 conditions noticeably increase from existing conditions and further increase with the addition of event traffic, compared to existing conditions (see Section 2.6 Traffic Operations Table 2-19).

Light Rail

As described in the methodology section, ST estimates light rail ridership will increase approximately 350 percent, or 19.5 percent annually from the year 2013 to 2018. This is largely associated with 2016 completion of U-Link extension and two new stations on the Central Link light rail alignment. ST would also operate fifteen two car train sets and four three car train sets during peak service.

Headways were assumed to remain at 7.5 to 10 minutes from 5:00 to 7:00 PM and 10 to 15 minutes from 9:00 to 11:00 PM. Light rail passenger loads would increase by approximately 3,455 inbound passengers and 3,025 outbound passengers for No Action Case S3 compared to existing conditions. The increase in passengers would be slightly less for the No Action Case S1 and Case S2. As illustrated on Figure 2–12, the total passenger load for these scenarios could be accommodated with assumed light rail service levels.

Figure 2–12 Stadium District Light Rail - 2018 No Action



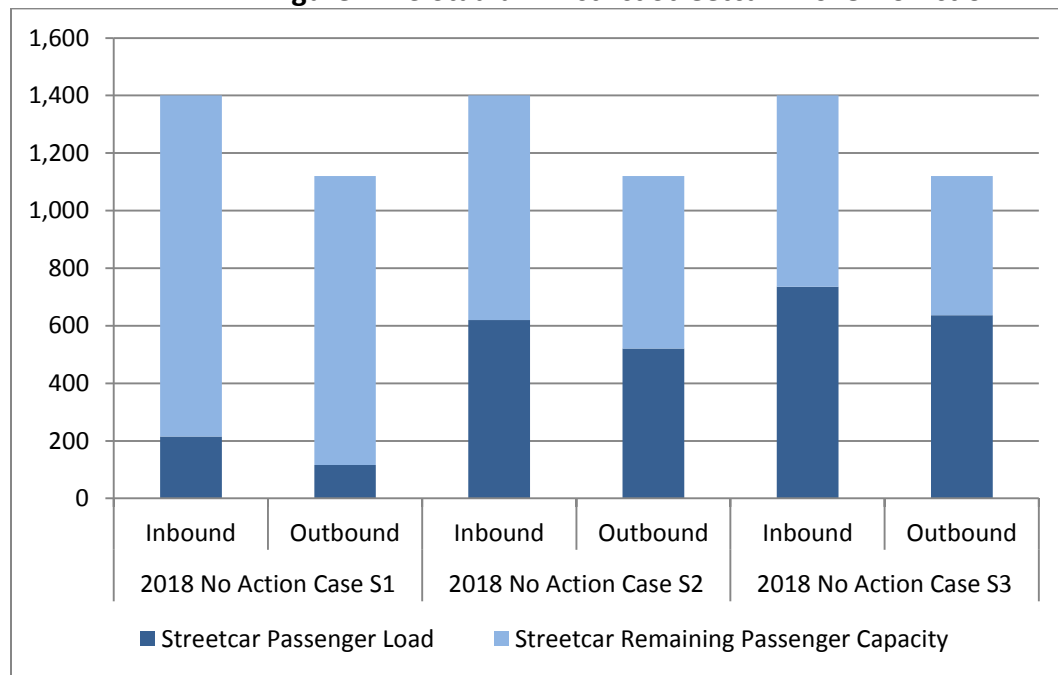
Streetcar Transit

The First Hill Streetcar would provide new service to the Stadium District, and could accommodate over 1,100 passengers from 5:00 to 7:00 PM and 9:00 to 11:00 PM. This would

provide a new station near 1st Avenue S. and S. Jackson Street, north of the Stadium District. The First Hill Streetcar is anticipated to operate on 10-minute headways during the peak period and 10-to 15-minute headways during off-peak periods¹³. It is likely the peak period extends into the 5:00 to 7:00 PM time frame, but 15-minute headways, similar to the existing SLU Streetcar operations, were assumed.

Streetcar passenger loads would increase by approximately 735 inbound passengers and 635 outbound passengers for No Action Case S3 compared to existing conditions. The increase in passengers would be slightly less for the No Action Case S1 and Case S2. As illustrated on Figure 2–13, the total passenger load for these scenarios could be accommodated with assumed light rail service levels.

Figure 2–13 Stadium District Streetcar - 2018 No Action

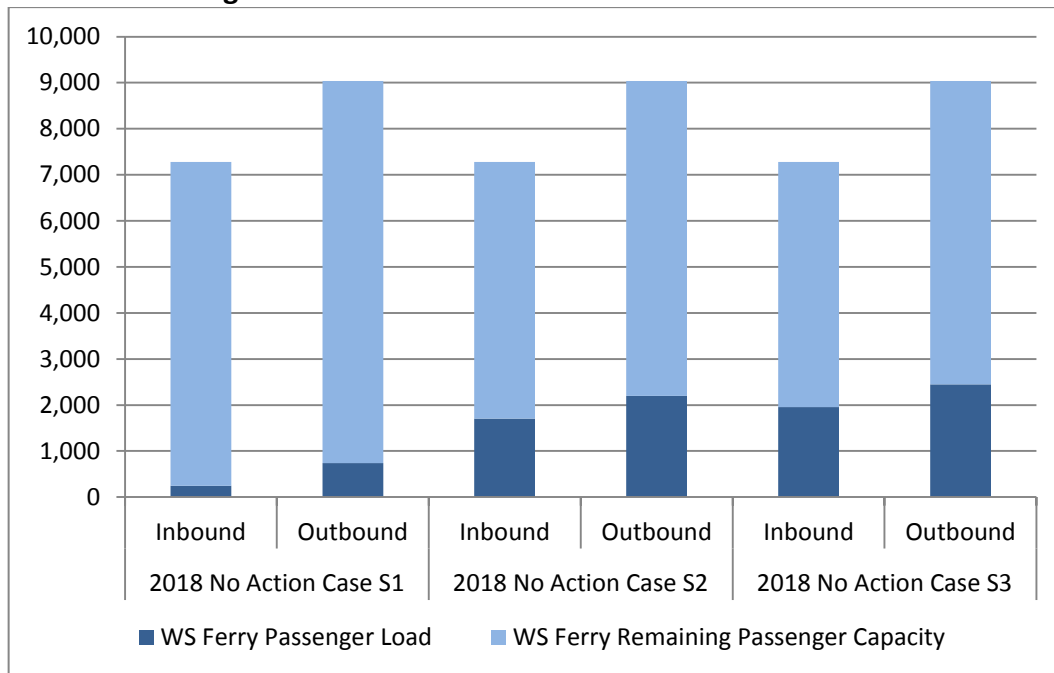


Washington State Ferry Service

No change in the number of WSF vessels serving Colman Dock was assumed from the year 2013 to 2018. The number of walk-on passengers was anticipated to increase by approximately three percent annually from 2013 to 2018. WSF passenger loads would increase by approximately 1,745 inbound passengers and 1,810 outbound passengers for the No Action Case S3 compared to existing conditions. The increase in passengers would be the same for the No Action Case S2 and less for the No Action Case S1. As illustrated on Figure 2–14, the total passenger load for these scenarios could be accommodated with assumed WSF service levels.

¹³ Seattle Department of Transportation. *First Hill Streetcar Environmental Checklist*. September 29, 2010. Accessed April 20, 2013 at <http://www.seattlestreetcar.org/about/docs/sepa/First%20Hill%20Streetcar%20SEPA%20Checklist.pdf>

Figure 2–14 Stadium District WSF - 2018 No Action



2.2.3.2 Year 2030

By 2030, ST is anticipated to expand light rail service connecting Central Link light rail to downtown Seattle and the eastside communities of Bellevue and Redmond (Overlake) and the Lynnwood Link light rail Extension would extend light rail service north from the University of Washington (UW) in Seattle to the City of Lynnwood. South Link light rail would be extended one additional station to Kent / Des Moines in the vicinity of Highline Community College. This expanded light rail service could result in a reduction in available bus transit capacity in some of the service zones, but King County Metro Transit would redeploy these transit service hours to other parts of the region. Overall transit passenger capacity would increase by 2030.

For all other transit modes (i.e., bus, streetcar, ferry), no change in passenger capacity (service levels) was assumed because of the uncertainty of transit funding.

Bus Transit

The number of people who would use bus service was anticipated to increase by approximately two percent annually to year 2030. Headways were assumed to remain unchanged.

With the addition of ST Link Light Rail service, this analysis assumed that some transit service hours would be redeployed for buses serving areas along I-5 to the north (Zone 2: Routes 41, 71, 72, 73, 510 and 511) and I-90 to the east (Zone 3: Route 550), to other locations in the transit network not served by Link light rail. This would result in a reduction in passenger capacity of approximately 3,520 inbound to downtown Seattle and 1,940 out of downtown

Seattle. It was assumed that the redeployed service would not be allocated to bus routes serving the SoDo area.

Bus transit passenger loads would increase by approximately 4,310 inbound passengers and 2,910 outbound passengers for the No Action Case S3 (slightly less for No Action Cases S1 and S2) compared to existing conditions. As illustrated on Figure 2–15 and Figure 2–16, The total passenger demand could be accommodated with assumed bus service levels for all zones. This analysis includes the assumed redeployment of bus service hours for routes that are redundant and would be discontinued with light rail service extensions to the north. If the redeployment of bus service hours does not occur, then projected passenger demands could be accommodated under all No Action scenarios.

Figure 2–15 Stadium District Bus Transit Inbound – 2030 No Action Case S3

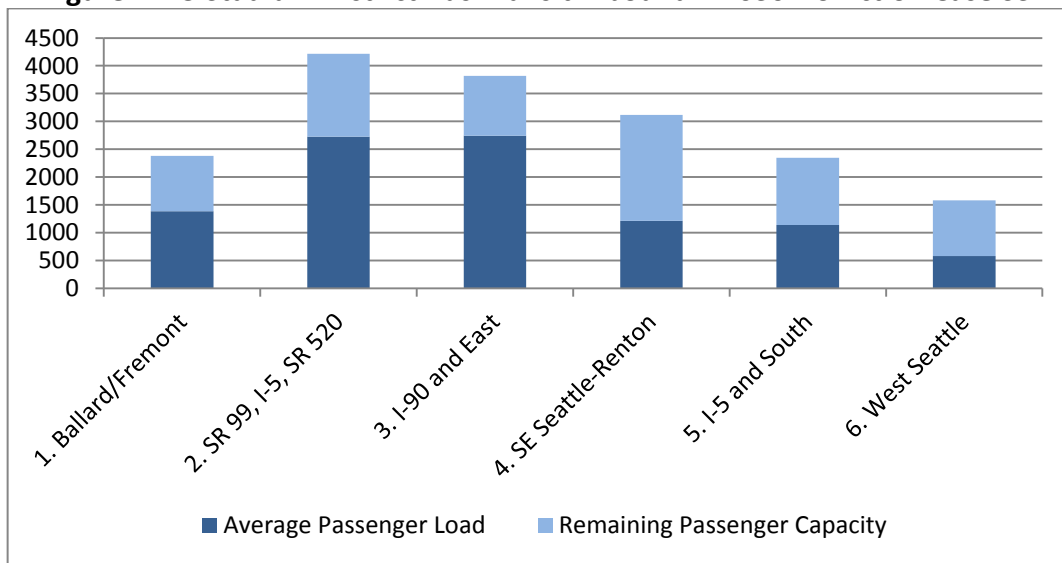
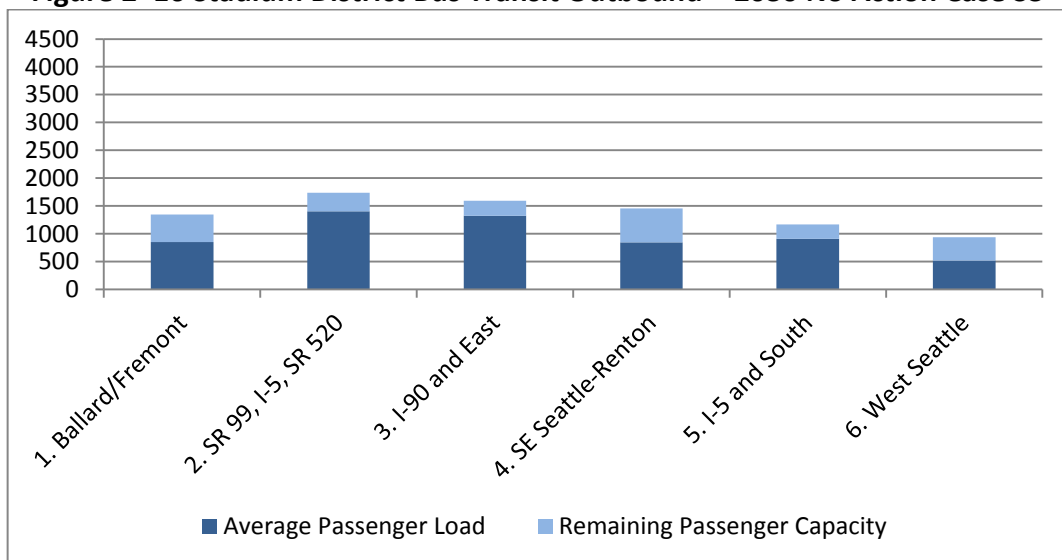


Figure 2–16 Stadium District Bus Transit Outbound – 2030 No Action Case S3



Due to the redeployment of bus service, it was assumed some bus riders would transfer to other bus routes and / or light rail, which provides connections similar to current bus routes (such as downtown). Complimentary light rail service has the available passenger capacity (approximately 20,000 inbound and 16,500 outbound) to serve these event attendees. This could place additional demand on park-and-ride lots in north Seattle, Shoreline, Mountlake Terrace, and Lynnwood and increase passenger loads on buses connecting to light rail stations.

The travel time for buses (an indication of speed and reliability) would be similar to general purpose traffic because they operate in mixed flow through the Stadium District (not including the time it takes for buses to serve bus stops). As indicated in the traffic operations section of this report, travel times under 2030 conditions are generally similar to 2018 conditions with some improvement as a result of decreased in vehicular traffic and increases in transit use (see Section 2.6 Traffic Operations Table 2-20).

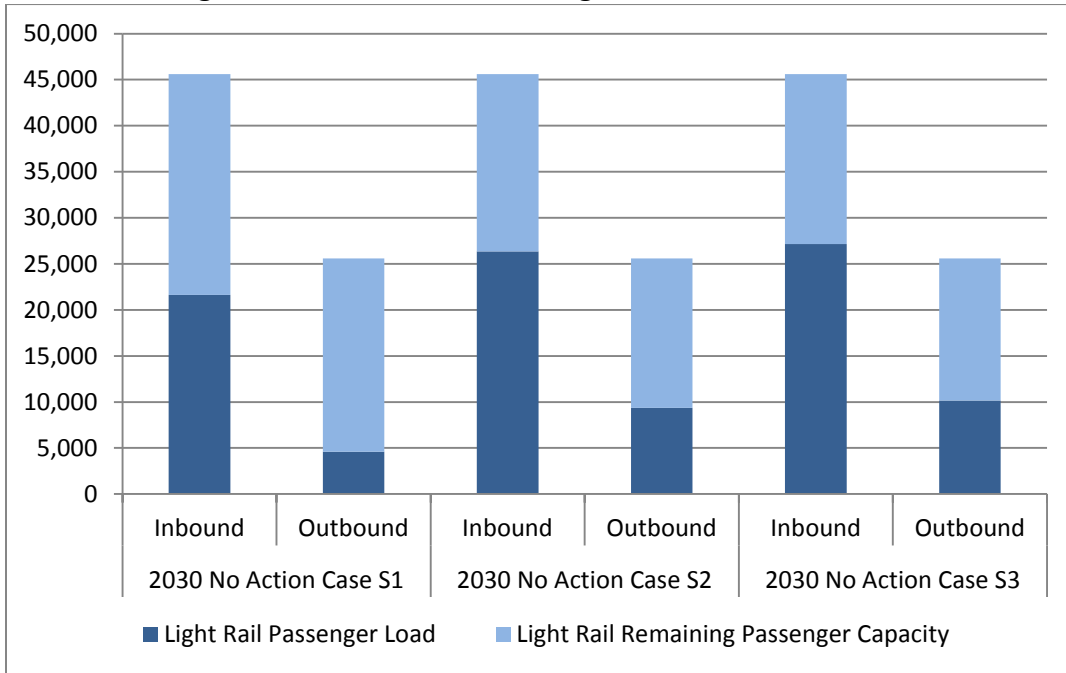
Light Rail

The project future ridership and system operations information for the new North Link Extension, Central Link, and East Link Light Rail was provided by ST. Headways change in the future with the addition of North Link Extension and East Link. North Link Extension trains would operate with 4-minute headways from 5:00 PM to 6:30 PM and 7.5-minute headways from 6:30 PM to 7:00 PM. The North Link trains split service in downtown Seattle to travel east for East Link service or south for Central Link service; headways are 8 minutes for East Link and Central Link service from 5:00 PM to 6:30 PM and 15 minutes from 6:30 to 7:00 PM. From 9:00 to 11:00 PM, North Link Extension would operate with 7.5-minute headways and East Link and Central Link would operate with 15-minute headways. Each train would consist of four cars. In 2021, 6-minute headways are planned.

Light rail passenger loads would increase by approximately 26,380 inbound passengers and 9,670 outbound passengers for the No Action Case S3 compared to existing conditions. The increase in passengers would be slightly less for the No Action Case S1 and Case S2. More than half of the inbound ridership from 5:00 to 7:00 PM would be on the North Link Extension. Ridership estimates predict that trains would be near capacity through downtown; however, trains would not yet reach maximum load capacity. Many of the passengers boarding in downtown would be connecting to commuter rail at King Street Station. Similar to passenger loads from 5:00 to 7:00 PM, approximately half of the outbound ridership from 9:00 to 11:00 PM would be on North Link.

As illustrated on Figure 2–17, light rail passenger loads for 2030 No Action Cases could be accommodated with assumed light rail service levels.

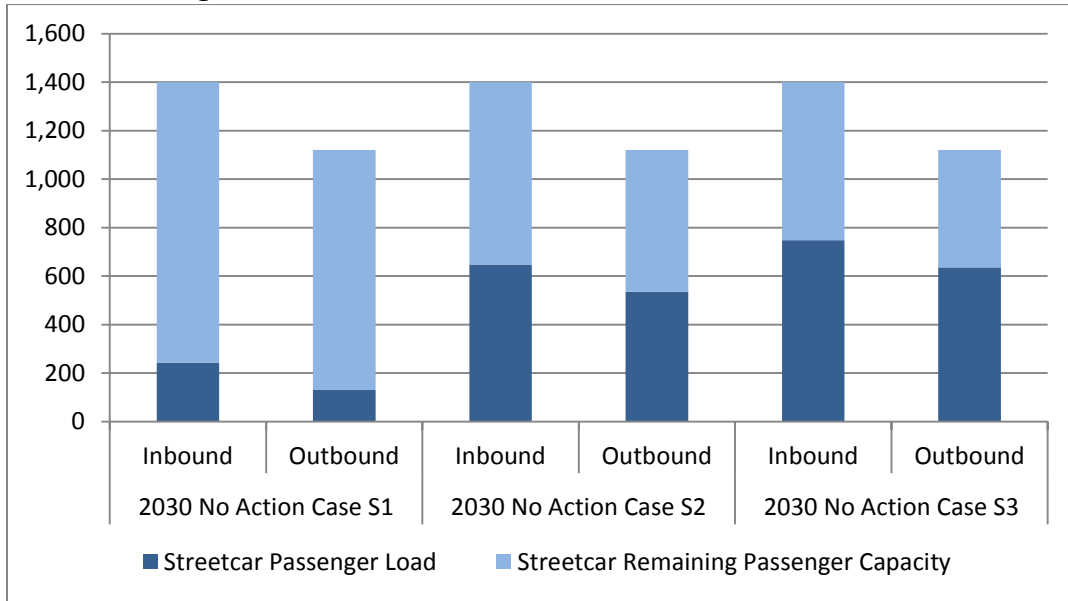
Figure 2–17 Stadium District Light Rail – 2030 No Action



Streetcar Transit

The number of people who would use streetcar transit was anticipated to increase by approximately two percent annually to the year 2030. Headways were assumed to remain unchanged. Streetcar passenger loads would increase by approximately 750 inbound passengers and 635 outbound passengers for the No Action Case S3 compared to existing conditions. The passenger loads would be slightly less for the No Action Case S1 and Case S2. As illustrated on Figure 2–18, the total passenger load for these scenarios could be accommodated with assumed streetcar service levels.

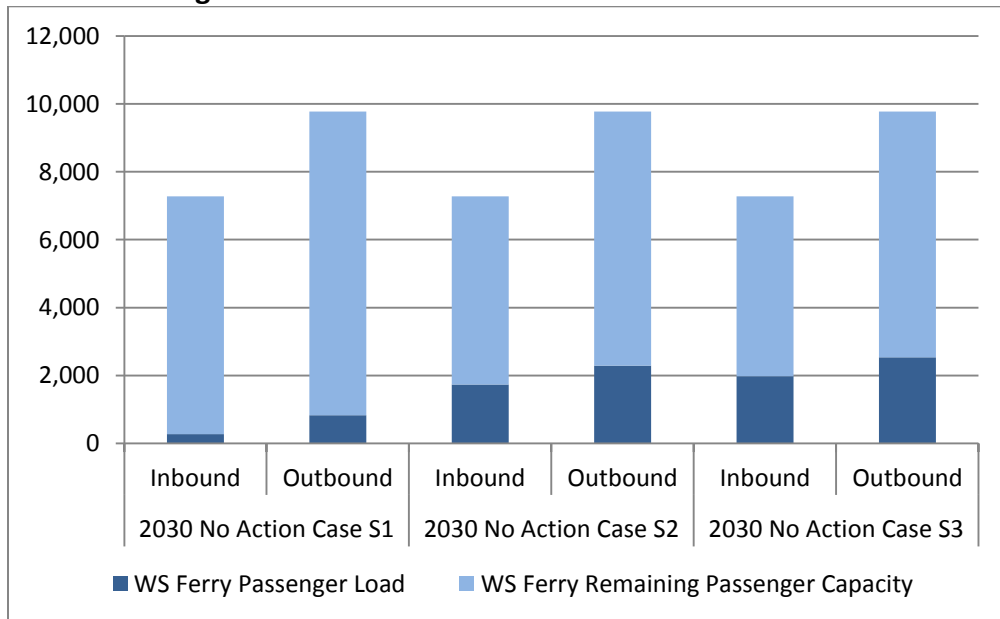
Figure 2–18 Stadium District Streetcar – 2030 No Action



Washington State Ferry Service

The number of people who would use ferry was anticipated to increase by approximately three percent annually to the year 2030. No change in the number of WSF vessels serving Colman Dock was assumed from the year 2018 to 2030. WSF passenger loads would increase by approximately 1,775 inbound passengers and 1,905 outbound passengers for No Action Case S3 compared to existing conditions. The increase in passengers would be the same for Case S2 and less for Case S1. As illustrated on Figure 2–19, the total passenger load for these scenarios could be accommodated with assumed WSF service levels.

Figure 2–19 Stadium District WSF – 2030 No Action



2.2.4 Impacts of Alternative 2

Construction of Alternative 2 could result in some increase in ridership as a result of construction workers traveling to and from the site. It is anticipated that public transportation impacts related to construction would be less than a 20,000-seat event at the Seattle Arena. In addition, construction related activities could impact nearby transit routes and stops as well as pedestrian accessibility to these facilities. A construction management plan could be prepared and impacts to transit could be coordinated with the transit agency in advance and appropriate relocation and signage provided.

The following section describes the impacts of the Alternative 2 event cases 2018 and 2030.

2.2.4.1 Year 2018

Approximately 12 percent of Arena event attendees were estimated to use transit to travel to and from events. The travel forecasts were developed based on review of the TMPs for CenturyLink Field and Safeco Field, which included information on how event attendees currently travel events; a review of what facilities in other cities generally experience in terms of how event attendees travel to events; and an evaluation of the available passenger capacity on all transit serving the Stadium District. The analysis assumes a fully-attended event, with approximately 2,320 event attendees arriving by bus, light rail, streetcar, or ferry.

Approximately 80 event attendees would be ferry passengers who take their vehicle on the ferry and could arrive outside the analysis period such as during the morning commute period as they take ferry to work and then attend an Arena event in the evening. As such, they are included in the No Action condition for parking and are not additive to the impact of the project. Transit service provided in the study area is assumed consistent with No Action conditions.

Bus Transit

It was estimated that approximately 28 percent of event attendees on transit would use existing bus service to the Proposed Arena. This would add approximately 640 bus passengers traveling to and from the Stadium District for the Proposed Action Case S2 and Case S3 event scenarios.

As illustrated on Figure 2–20 and Figure 2–21, Alternative 2 Case S3 could be accommodated with assumed bus service levels. Because this scenario has the highest assumed passenger demand, the Alternative 2 Case S1 and S2 could also be accommodated. Similar to existing conditions, some bus routes would experience higher levels of passenger ridership and potentially overcrowding. Also, park-and-ride lots served by transit to the Stadium District would likely experience increased use during events.

Figure 2–20 Stadium District Bus Transit Inbound – 2018 Alternative 2 Case S3

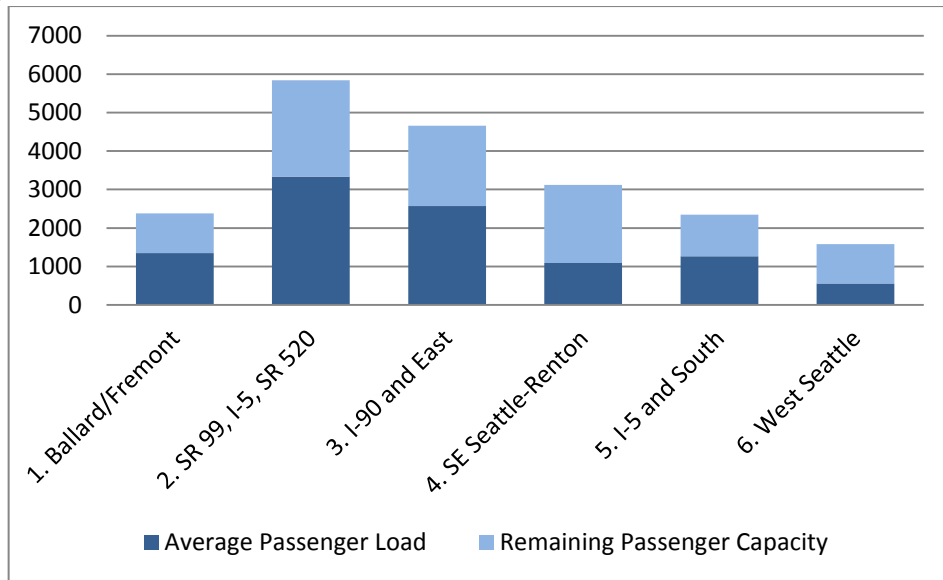
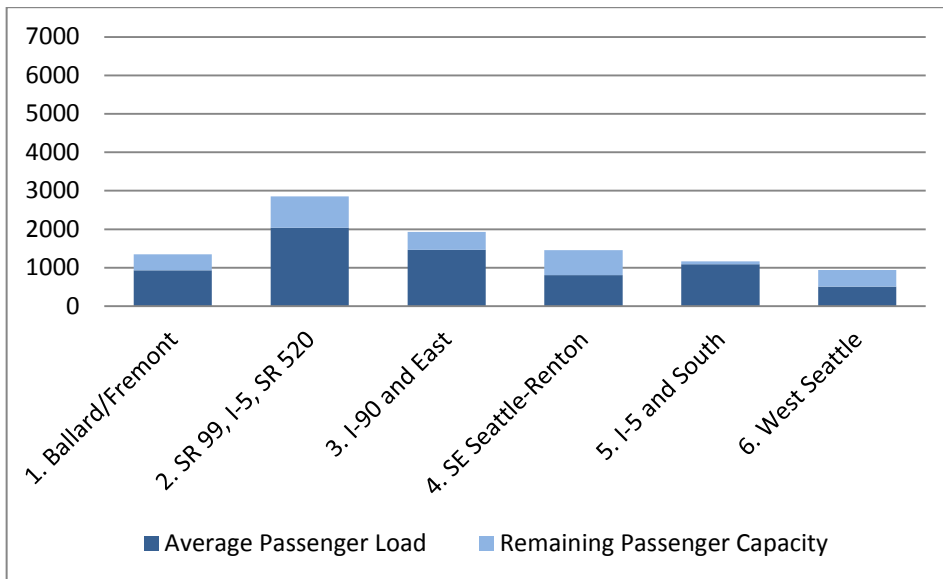


Figure 2–21 Stadium District Bus Transit Outbound – 2018 Alternative 2 Case S3

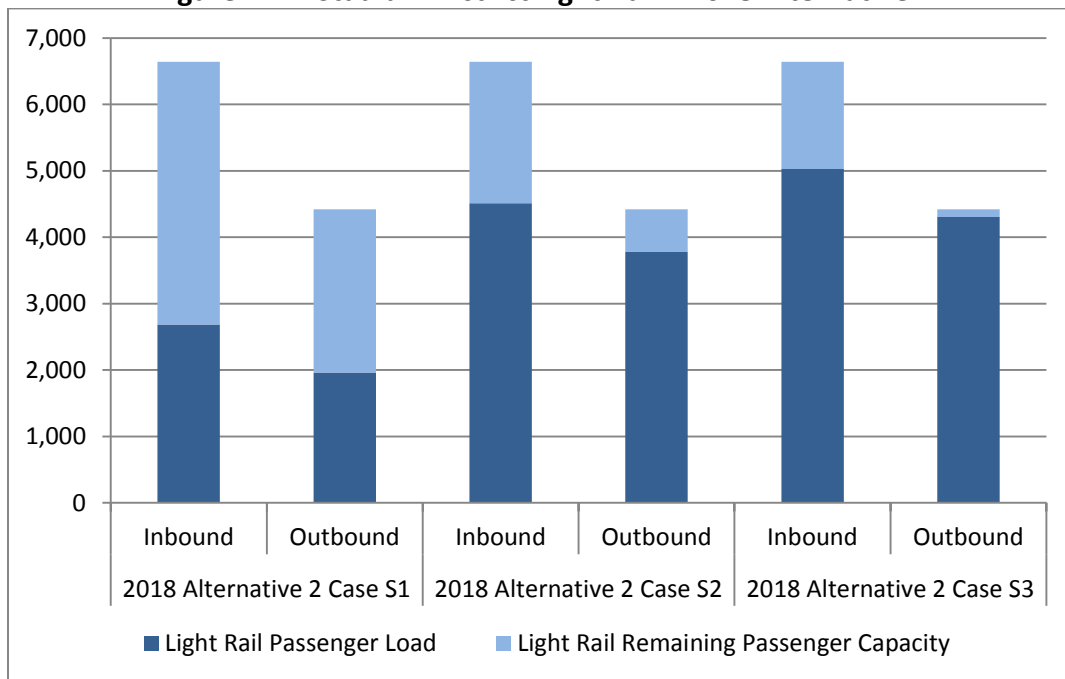


The travel time for buses (an indication of speed and reliability) would be similar to general purpose traffic because they operate in mixed flow through the Stadium District (not including the time it takes for buses to serve bus stops). As indicated in the traffic operations analysis for Alternative 2, travel times increase with the addition of Arena event traffic as compared to No Action conditions and generally the direction of travel for each route that serves vehicle arrivals for the Arena event experiences the greatest travel time increase while the opposing direction experiences a lesser increase. In addition, travel times are estimated to see large increases with multiple concurrent events (i.e., Alternative 2 Cases S2 and S3). Additional detail related to corridor travel times is provided in Section 2.6 Traffic Operations Table 2-25.

Light Rail

It was estimated that approximately 34 percent of event attendees on transit would use existing and planned light rail service to the Proposed Arena. This would add approximately 800 light rail passengers traveling to and from the Stadium District on Central and North Link for Alternative 2 Case S2 and S3. As illustrated on Figure 2–22, all 2018 Alternative 2 Cases could be accommodated with assumed light rail service levels. The available passenger capacity assumed fifteen two car train sets and four three car train sets during peak service. The existing Tukwila and planned Angle Lake park-and-ride lots, the only public park-and-ride lots served by the light rail to the Stadium District, are likely to experience increased use during events.

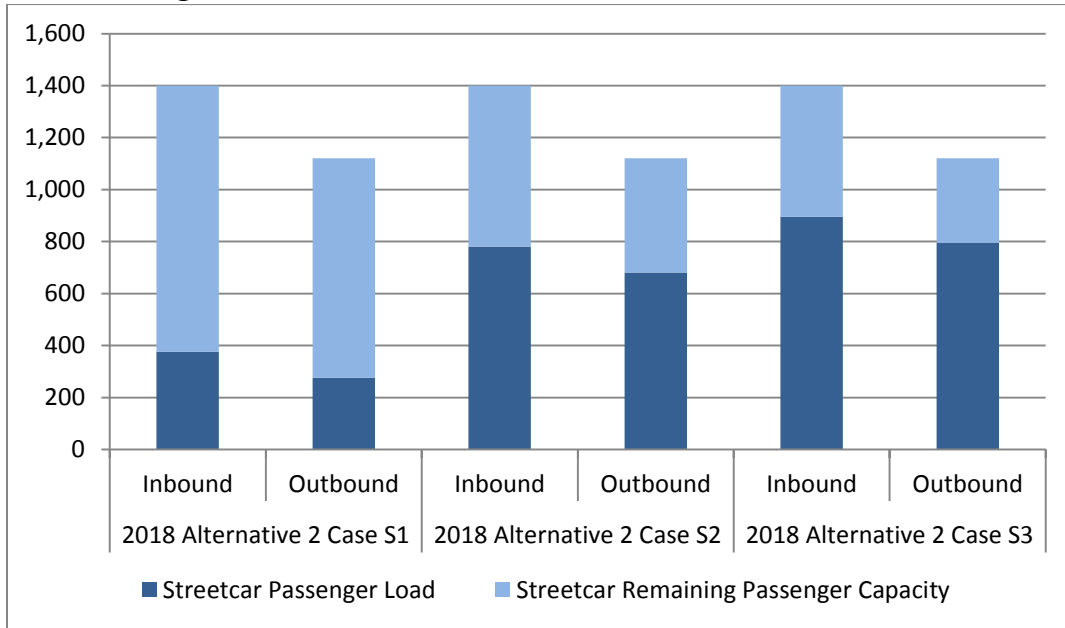
Figure 2–22 Stadium District Light Rail – 2018 Alternative 2



Streetcar

It was estimated that approximately seven percent of event attendees on transit would use streetcar service to the Proposed Arena. This would add approximately 160 streetcar passengers traveling to and from the Stadium District on the First Hill streetcar for Alternative 2 Case S2 and S3. As illustrated on Figure 2–23, these scenarios, including Alternative 2 Case S1, could be accommodated with assumed streetcar service levels.

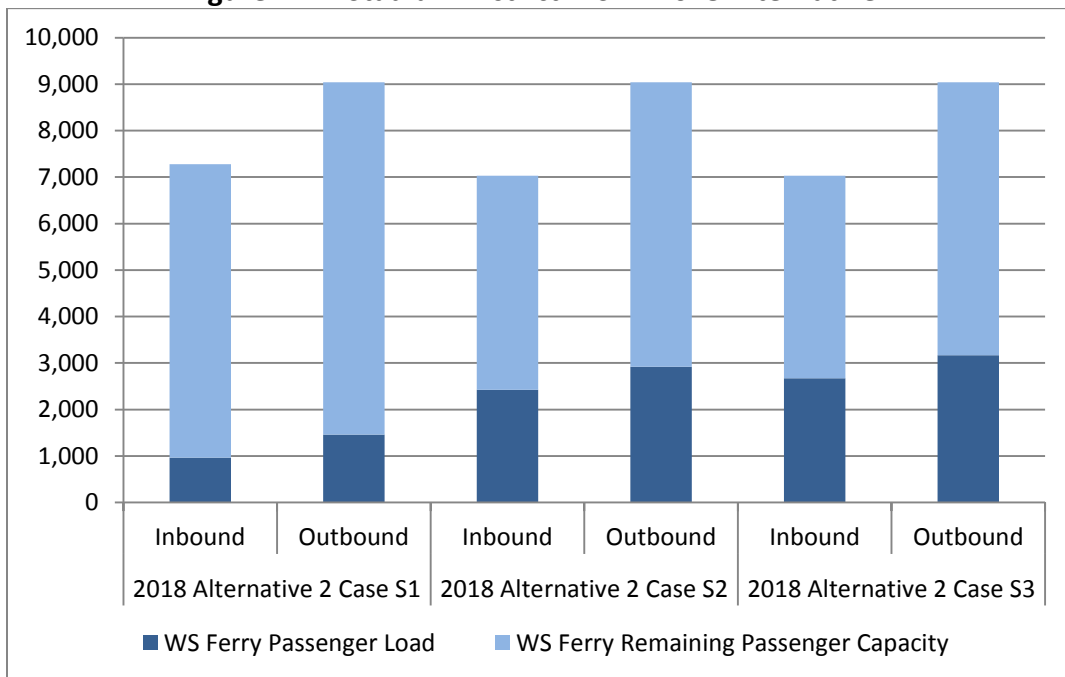
Figure 2–23 Stadium District Streetcar – 2018 Alternative 2



Washington State Ferry Service

It was estimated that approximately 31 percent of event attendees on transit would use ferry service to the Proposed Arena; this would add approximately 720 ferry passengers traveling to and from the Stadium District for Alternative 2 Case S2 and S3. As illustrated on Figure 2–24, these scenarios, including the 2018 Alternative 2 Case S1, could be accommodated with assumed WSF service levels.

Figure 2–24 Stadium District WSF – 2018 Alternative 2



2.2.4.2 Year 2030

The Proposed Project would construct a new 20,000 person Arena in the Stadium District. Approximately 14 percent of event attendees were estimated to use transit to travel to and from events. The analysis assumes a fully-attended event, with approximately 2,720 event attendees arriving by bus, light rail, streetcar, and ferry during the weekday analysis period. Consistent with the 2018 conditions, approximately 80 event attendees would be ferry passengers who take their vehicle on the ferry and could arrive outside the analysis period such as during the morning commute period as they take ferry to work and then attend an Arena event in the evening. As such, they are included in the No Action condition for parking and are not additive to the impact of the project. Transit service provided in the study area is assumed consistent with No Action conditions.

Bus Transit

It was estimated that approximately 15 percent of event attendees on transit would use bus service to the Proposed Arena. This reduction, as compared to 2018, was assumed to occur because of the North Link Light Rail system expansion to Lynnwood, East Link service to Bellevue and Redmond, South Link extension to Kent / Des Moines and replacement of some of the bus transit service. This would result in approximately 400 bus passengers traveling to and from the Stadium District for Alternative 2 Case S2 and S3. Figure 2-25 and Figure 2-26 illustrate inbound passenger load and remaining capacity for 2030 Alternative 2 Case S2 and S3.

Bus riders are likely to shift from bus routes to light rail service, which would connect to similar destinations (such as downtown). Light rail service has available passenger capacity (approximately 17,000 inbound and 14,000 outbound) to serve these riders (see Figure 2-27). This could place additional demand on park-and-ride lots in north Seattle, Shoreline, Mountlake Terrace, and Lynnwood and increase passenger loads on buses connecting to light rail stations. In addition, park-and-ride lots served by transit to and from the Stadium District would likely experience increased use during events.

The travel time for buses (an indication of speed and reliability) would be similar to general purpose traffic because they operate in mixed flow through the Stadium District (not including the time it takes for buses to serve bus stops). As described in the traffic operations section, the travel time changes resulting from an Arena event are similar between 2018 and 2030 conditions with 2030 travel time generally greater than 2018 conditions. Additional detail related to corridor travel times is provided in Section 2.6 Traffic Operations Table 2-26.

Figure 2–25 Stadium District Bus Transit Inbound – 2030 Alternative 2 Case S3

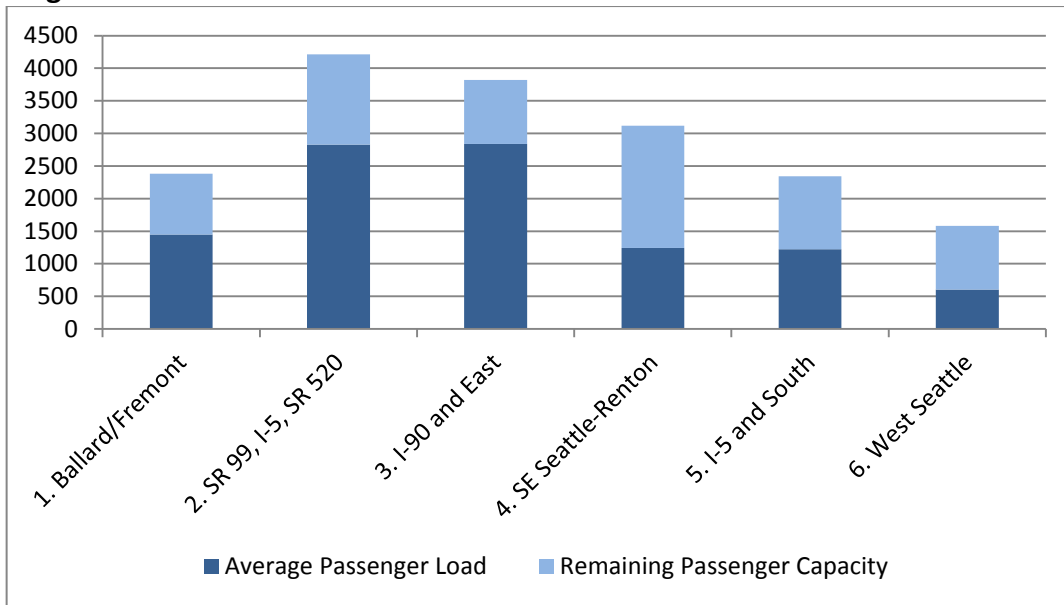
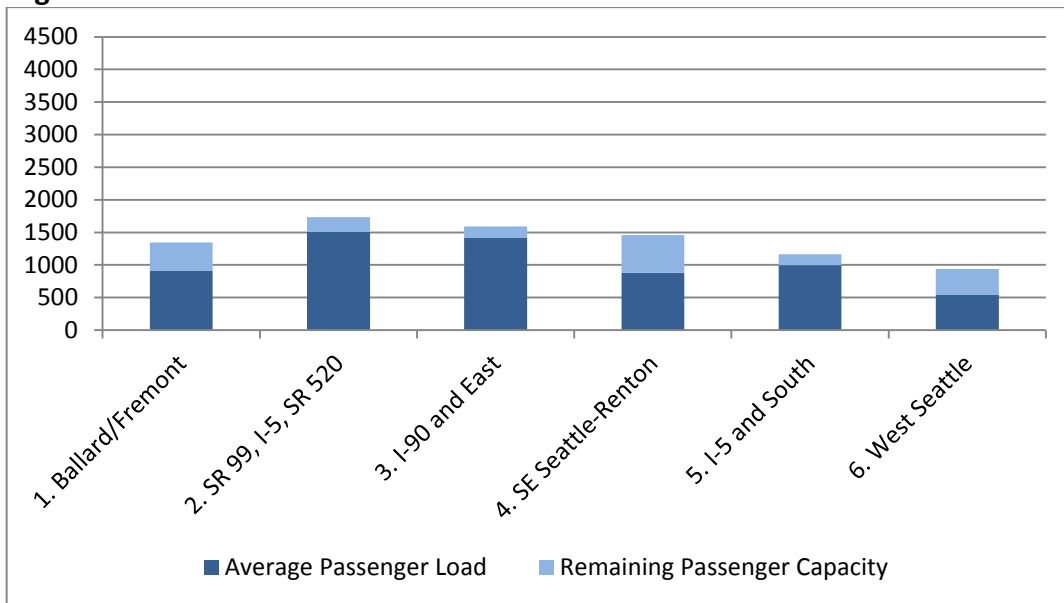


Figure 2–26 Stadium District Bus Transit Outbound – 2030 Alternative 2 Case S3

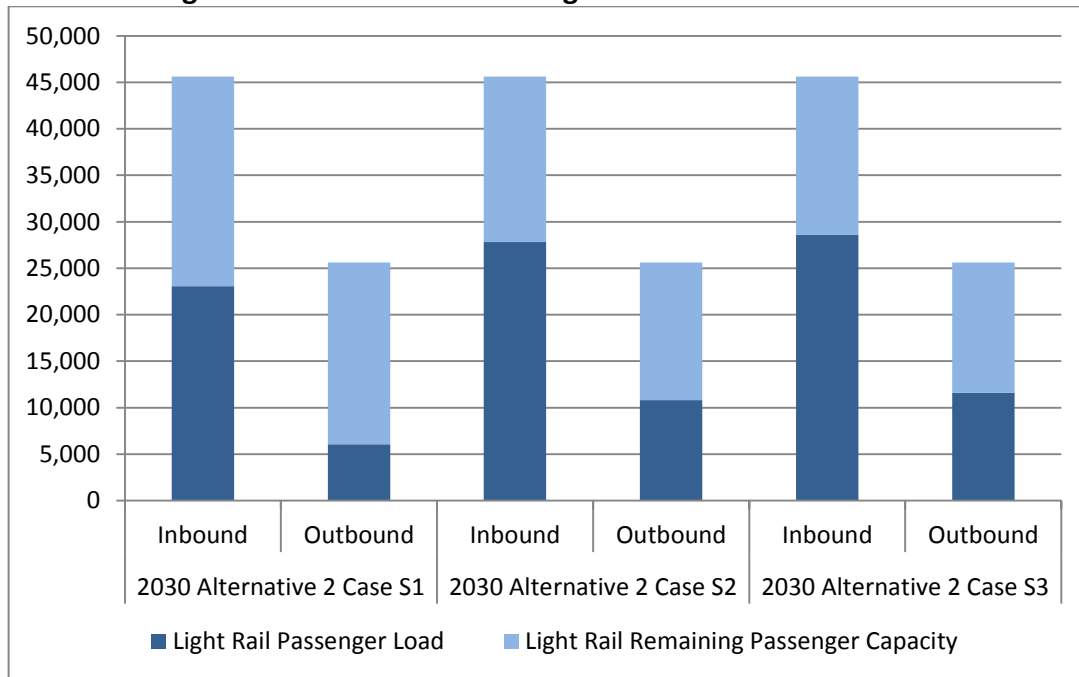


Light Rail

With the expanded light rail system, it was estimated that approximately 54 percent of event attendees on transit would use light rail service to the Proposed Arena. This would add approximately 1,460 light rail passengers traveling to and from the Stadium District on Central, North and East Link for Alternative 2 Case S2 and S3. As illustrated on Figure 2–27, these scenarios, including the 2030 Alternative 2 Case S1, could be accommodated with assumed light rail service levels. Light rail trains would be highly utilized through downtown Seattle during events with the increased light rail ridership. Non-event riders boarding trains in downtown to

connect to Sounder commuter rail at King Street station could experience near capacity trains and choose to walk or ride a connecting bus as an alternative to light rail during events. Also, park-and-ride lots served by light rail to the Stadium District would likely experience increased use on event days.

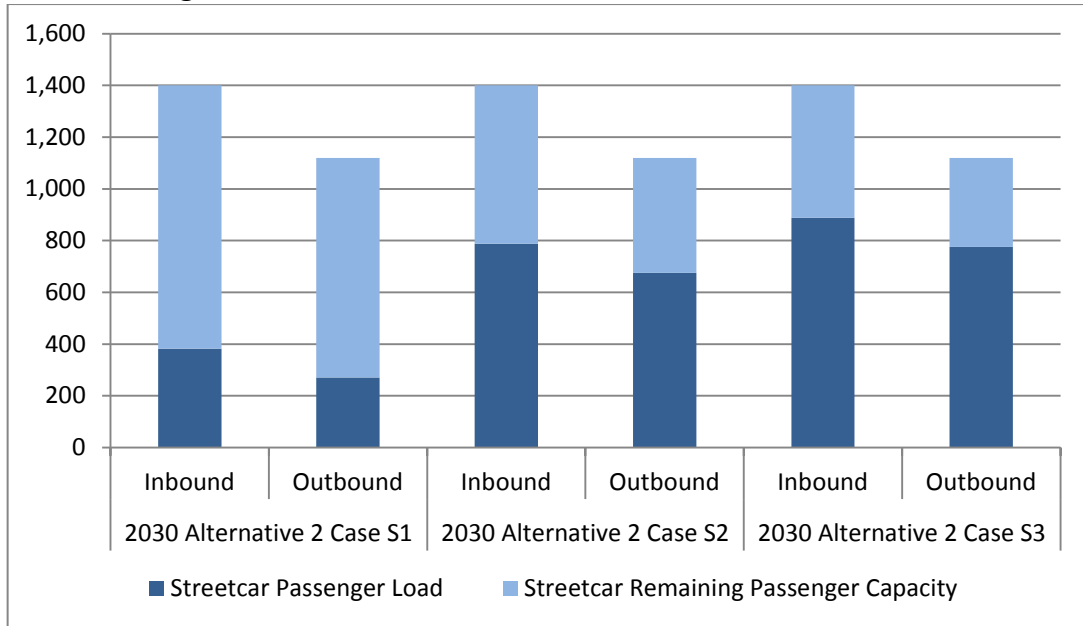
Figure 2–27 Stadium District Light Rail – 2030 Alternative 2



Streetcar

It was estimated that approximately five percent of event attendees on transit would use streetcar service to the Proposed Arena. This would add approximately 140 streetcar passengers traveling to and from the Stadium District for Alternative 2 Case S2 and S3. As illustrated on Figure 2–28, these scenarios, including the 2030 Alternative 2 Case S1, could be accommodated with assumed streetcar service levels.

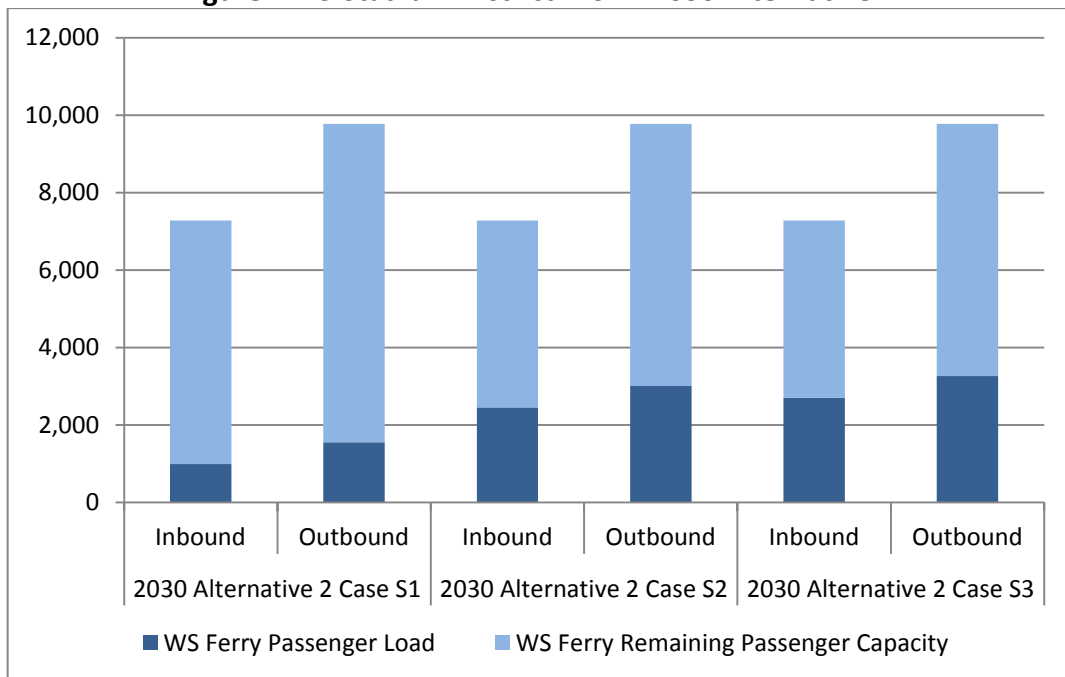
Figure 2–28 Stadium District Streetcar – 2030 Alternative 2



Washington State Ferry Service

It was estimated that approximately 26 percent of event attendees on transit would use ferry service to the Proposed Arena; this would add approximately 720 ferry passengers traveling to and from the Stadium District for Alternative 2 Case S2 and S3. As illustrated on Figure 2–29, these scenarios, including the 2030 Alternative 2 Case S1, could be accommodated with assumed WSF service levels.

Figure 2–29 Stadium District WSF – 2030 Alternative 2



2.2.4.3 Impacts of One-Hour Post-Event Departure

This section describes the impacts on outbound passenger load and capacity that would occur within a one-hour post-event time-frame, instead of the two-hour post-event timeframe described in the analysis presented above. This evaluation provides an understanding of the sensitivity of the length of the post event timeframe. The two-hour transit capacity assumption is reasonable considering that some event patrons leave an event early and others remain in the area for post-game socializing or entertainment. Using a one-hour post event time period provides a conservative assumption for the transit capacity analysis.

The methodology described in Section 2.2.1 was followed for this analysis except outbound passenger capacity is calculated for a post-event departure between 9:30 and 10:30 PM (one-hour period) instead of 9 to 11 PM (two-hour period) for bus, light rail, streetcar, and ferry. The evaluation continues to assume that inbound trips (pre-event) would occur over a two-hour timeframe since event arrivals typically occur over a longer period as compared to departures.

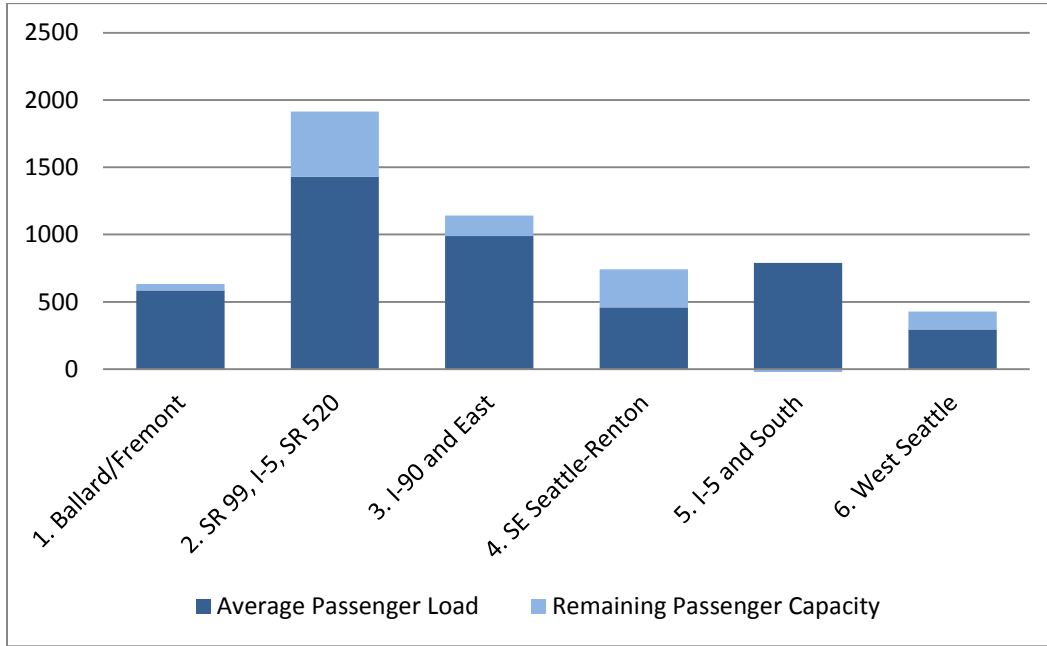
The shorter one-hour post event timeframe has less transit capacity available to serve the same number of people exiting an event compared to the two-hour post event timeframe previously analyzed. Remaining passenger capacity decreases in the majority of cases, resulting in over capacity conditions for some modes. The analysis of the two-hour period demonstrates passenger loads could be accommodated for the modes that are over capacity in the one-hour period (i.e., some passengers would need to travel before 9:30 PM or after 10:30 PM).

The following sections describe in more detail the results of the one-hour post event analysis for No Action and Alternative 2 Case S1, S2, and S3 for 2018 and 2030 conditions.

Year 2018 No Action Alternative Impacts

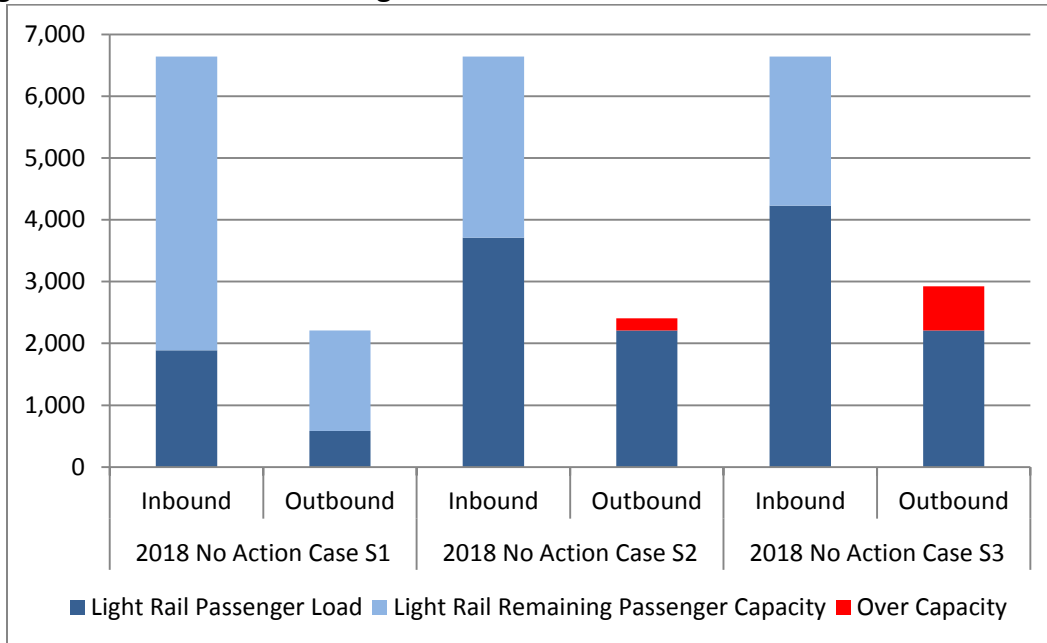
Bus Transit. As shown on Figure 2-30, the total passenger load for the No Action Case S3 (i.e., Mariners and CenturyLink Event) could be accommodated with assumed bus service levels for all zones. Because this scenario has the highest assumed passenger demand, the No Action Case S1 and Case S2 could also be accommodated. Similar to existing conditions, some bus routes would experience higher levels of passenger ridership and potentially overcrowding.

Figure 2–30 Stadium District Bus Transit Outbound – 2018 No Action Case S3: 9:30 to 10:30 PM



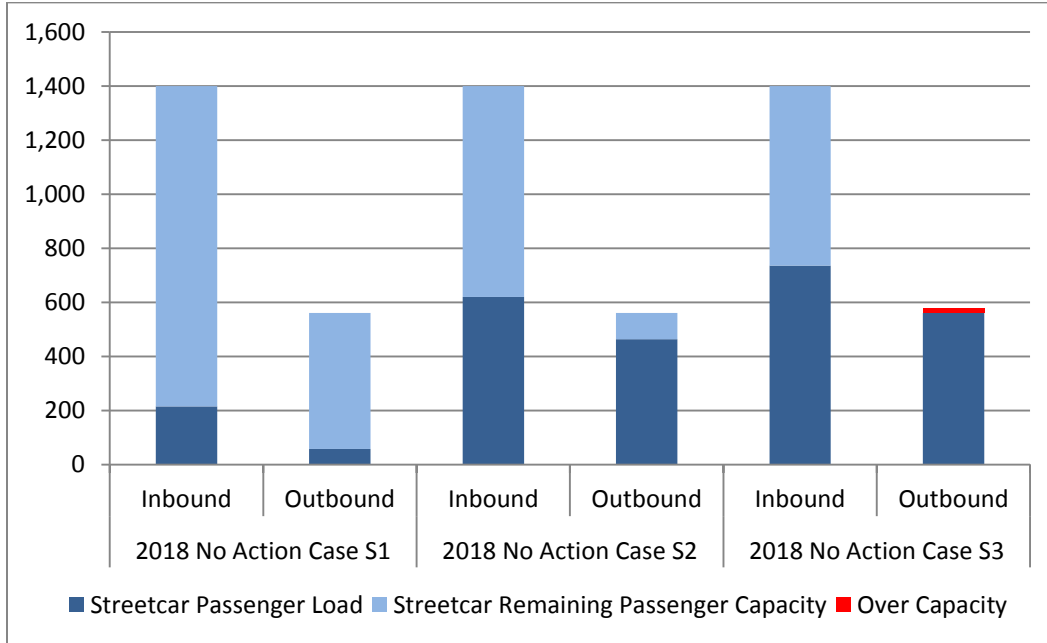
Light Rail. As illustrated on Figure 2-31, for the No Action Case S2 and Case S3 the outbound passenger demand would exceed available light rail capacity by approximately 190 and 710 passengers, respectively. These passengers would need to be served outside of the one-hour post event timeframe unless additional light rail trains were added to serve the post event demand.

Figure 2–31 Stadium District Light Rail – 2018 No Action: Outbound 9:30 to 10:30 PM



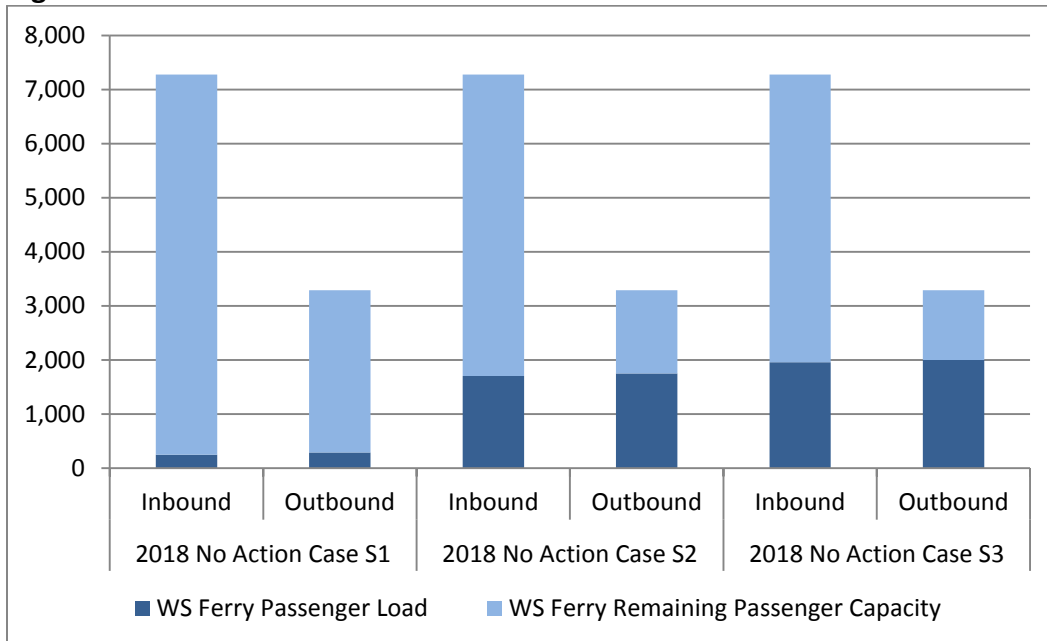
Street Car. As illustrated on Figure 2–32, the outbound passenger load would exceed streetcar capacity by 20 people for the No Action Case S3. These passengers would need to be served outside of the one-hour post event timeframe unless additional streetcar vehicles were added to serve the post event demand.

Figure 2–32 Stadium District Streetcar – 2018 No Action: Outbound 9:30 to 10:30 PM



Washington State Ferry Service. As illustrated on Figure 2–33, the total passenger load all No Action scenarios could be accommodated with assumed WFS service levels in 2018.

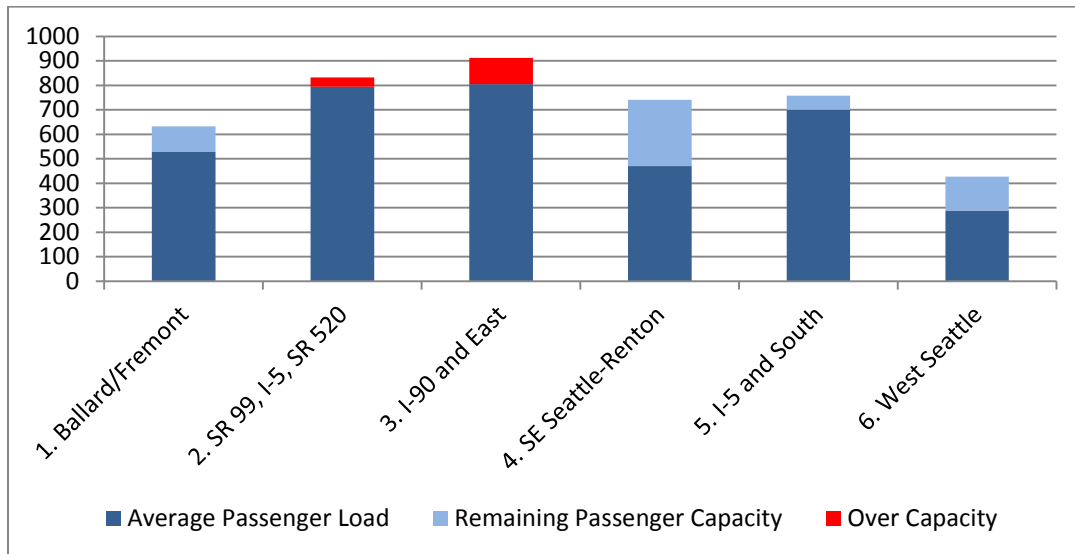
Figure 2–33 Stadium District WSF– 2018 No Action: Outbound 9:30 to 10:30 PM



Year 2030 No Action Alternative Impacts

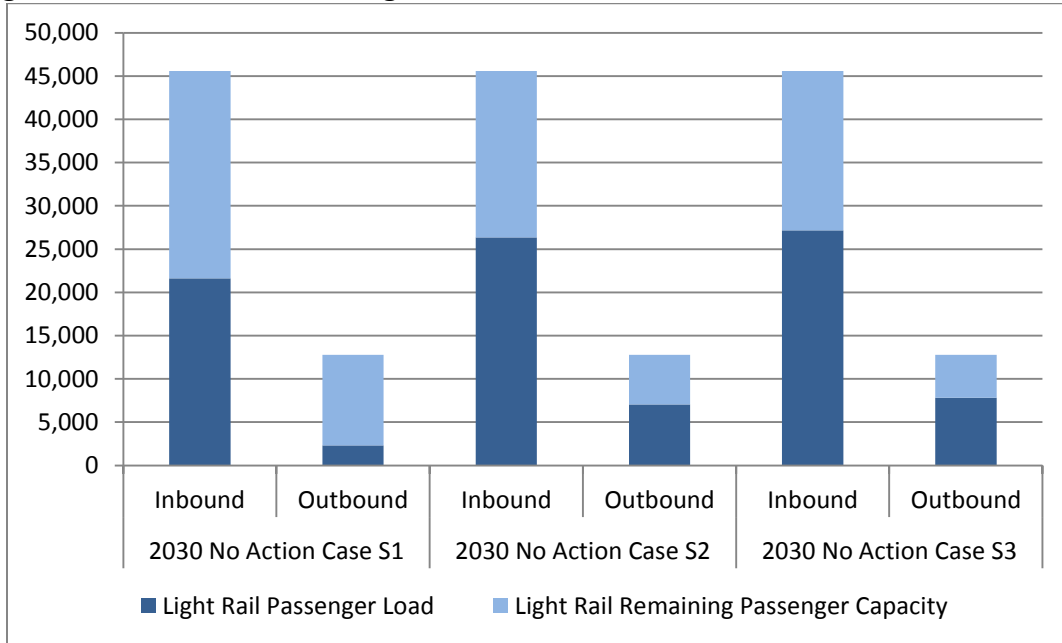
Bus Transit. As illustrated on Figure 2-34, the No Action Case S3 passenger demand could be accommodated with assumed bus service levels for all zones, except zones 2 and 3, which would be over capacity by 35 and 105 passengers, respectively. These passengers would need to be served outside of the one-hour post event timeframe unless additional buses were added to serve the post event demand.

**Figure 2–34 Stadium District Bus Transit Outbound–
2030 No Action Case S3: 9:30 to 10:30 PM**



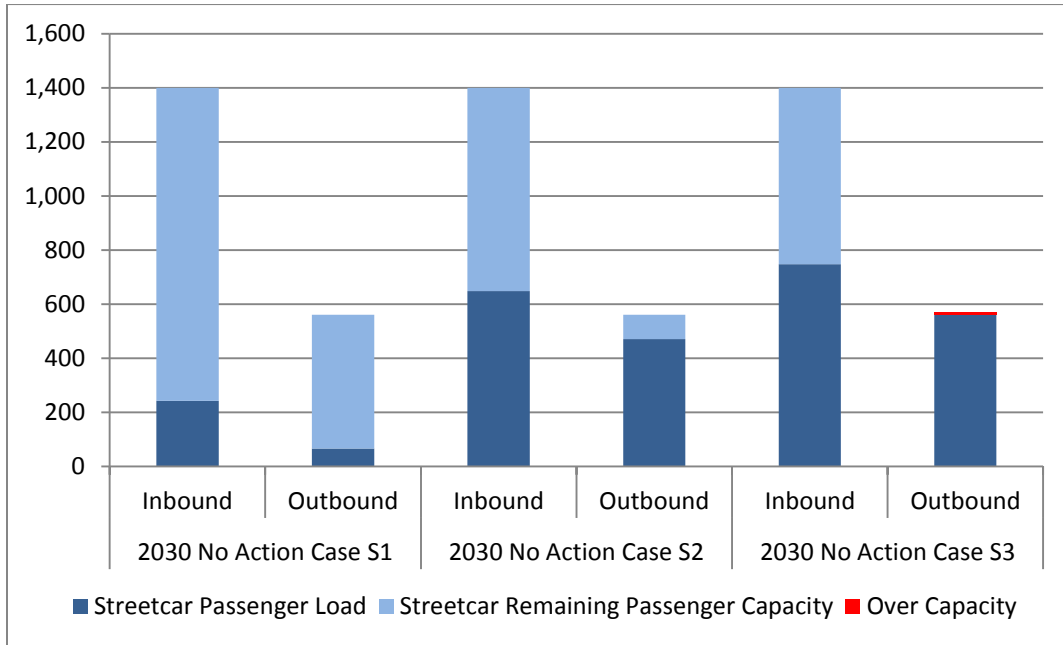
Light Rail. As illustrated on Figure 2-35, the Light Rail passenger loads for the No Action cases could be accommodated with assumed light rail service levels.

Figure 2–35 Stadium District Light Rail – 2030 No Action: Outbound 9:30 to 10:30 PM



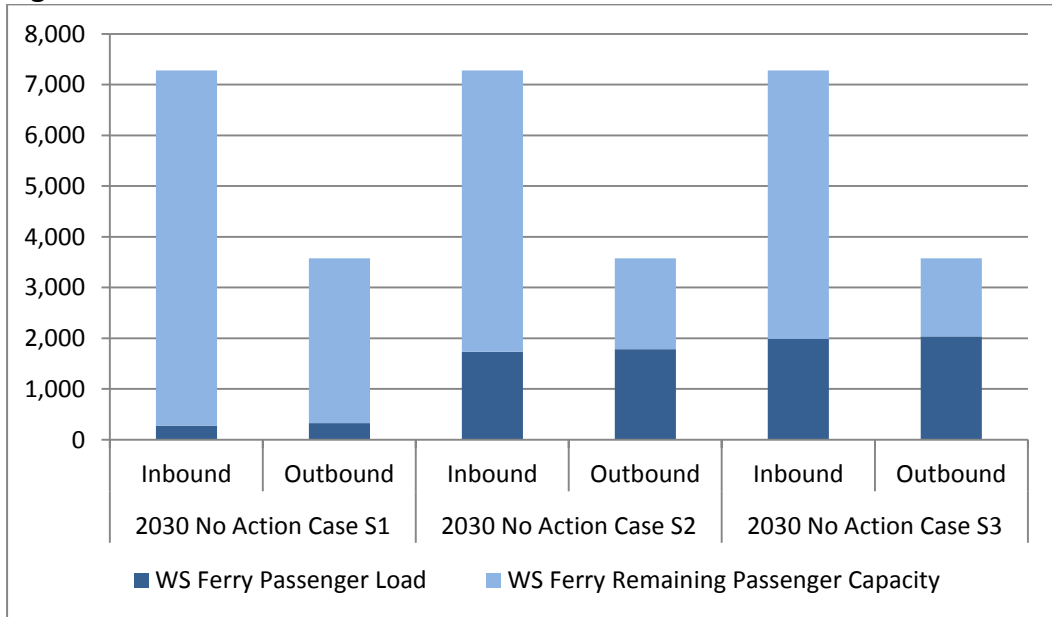
Streetcar. As illustrated on Figure 2–36, the No Action Case S3 outbound passenger loads would exceed the available capacity by approximately 10 passengers. These passengers would need to be served outside of the one-hour post event timeframe unless additional streetcar vehicles were added to serve the post event demand.

Figure 2–36 Stadium District Streetcar – 2030 No Action: Outbound 9:30 to 10:30 PM



Washington State Ferries. As illustrated on Figure 2–37, the total passenger load for all of the No Action scenarios could be accommodated with assumed WSF service levels in 2030.

Figure 2–37 Stadium District WSF – 2030 No Action: Outbound 9:30 to 10:30 PM

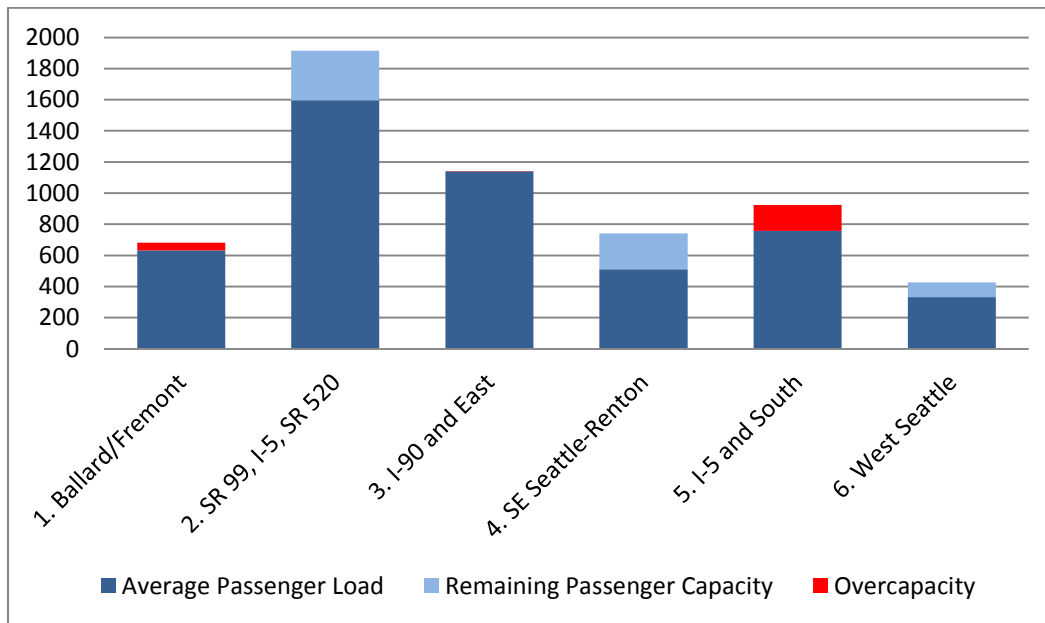


Year 2018 Alternative 2 Impacts

Bus Transit. It was estimated that approximately 28 percent of event attendees on transit would use existing bus service to the Proposed Arena. This would add approximately 640 bus passengers traveling to and from the Stadium District for Alternative 2 Cases S2 and S3.

As illustrated on Figure 2-38, Alternative 2 Case S3 outbound passengers would be accommodated with assumed bus service levels for zones 2, 4 and 6. Zones 1, 3, and 5 would be over capacity by 50, 5, and 165 passengers, respectively. These passengers would need to be served outside of the one-hour post event timeframe unless additional buses were added to serve the post event demand.

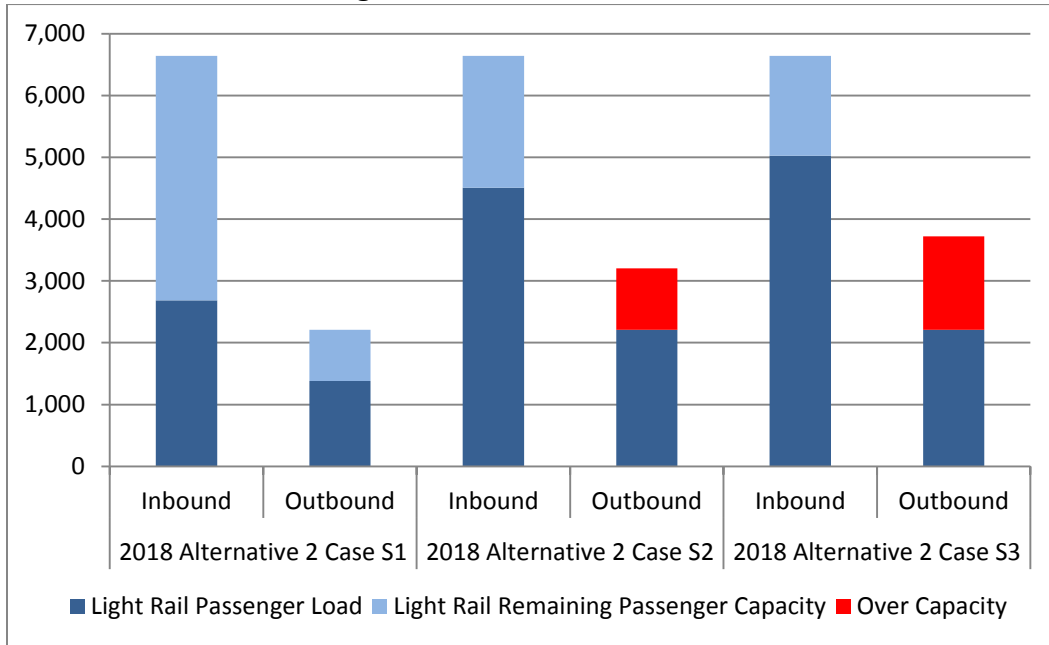
**Figure 2–38 Stadium District Bus Transit Outbound –
2018 Alternative 2 Case S3: 9:30 to 10:30 PM**



Light Rail. It was estimated that approximately 34 percent of event attendees on transit would use existing and planned light rail service to the Proposed Arena. This would add approximately 800 light rail passengers traveling to and from the Stadium District on Central and North Link for Alternative 2 Cases S2 and S3.

As illustrated in, Figure 2-39 2018 Alternative 2 Cases S2 and S3 are over capacity by 995 and 1,510 passengers, respectively. These passengers would need to be served outside of the one-hour post event time-frame unless additional light rail trains were added to serve the post event demand.

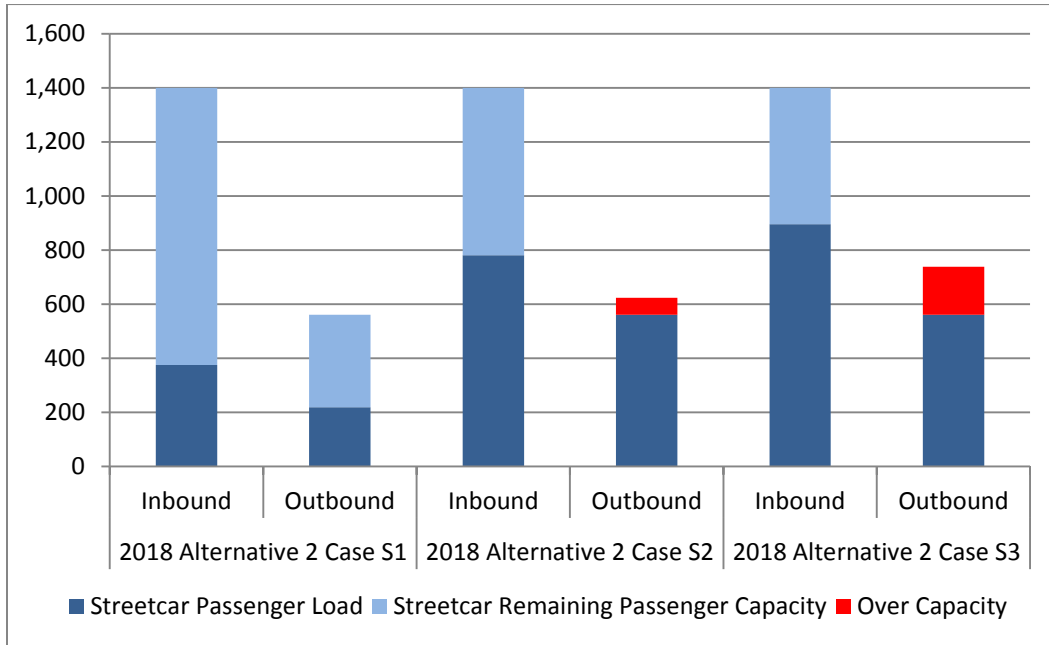
Figure 2–39 Stadium District Light Rail – 2018 Alternative 2: Outbound 9:30 to 10:30 PM



Streetcar. It was estimated that approximately 7 percent of event attendees on transit would use streetcar service to the Proposed Arena. This would add approximately 160 streetcar passengers traveling to and from the Stadium District on the First Hill streetcar for Alternative 2 Cases S2 and S3.

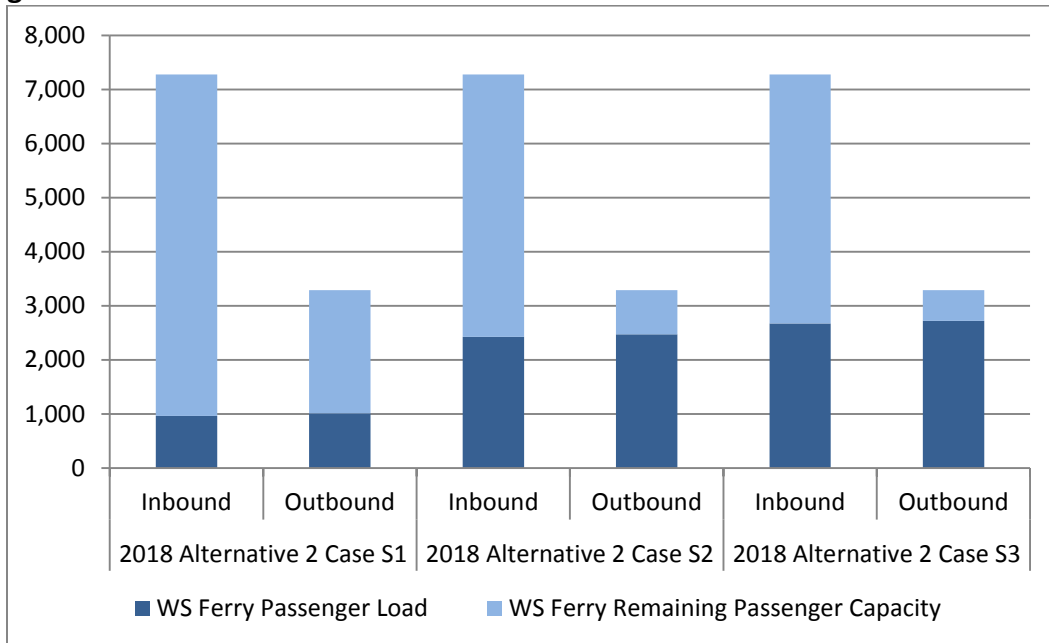
As illustrated in, Figure 2–40 outbound streetcar service for Alternative 2 Cases S2 and S3 would be over capacity by 65, and 180 passengers respectively. These passengers would need to be served outside of the one-hour post event timeframe unless additional streetcar vehicles were added to serve the post event demand

Figure 2–40 Stadium District Streetcar – 2018 Alternative 2: Outbound 9:30 to 10:30 PM



Washington State Ferries. It was estimated that approximately 31 percent of event attendees on transit would use ferry service to the Proposed Arena; this would add approximately 720 ferry passengers traveling to and from the Stadium District for Alternative 2 Case S2 and S3. As illustrated on Figure 2–41, Alternative 2 passenger loads for all cases could be accommodated with assumed WSF service levels.

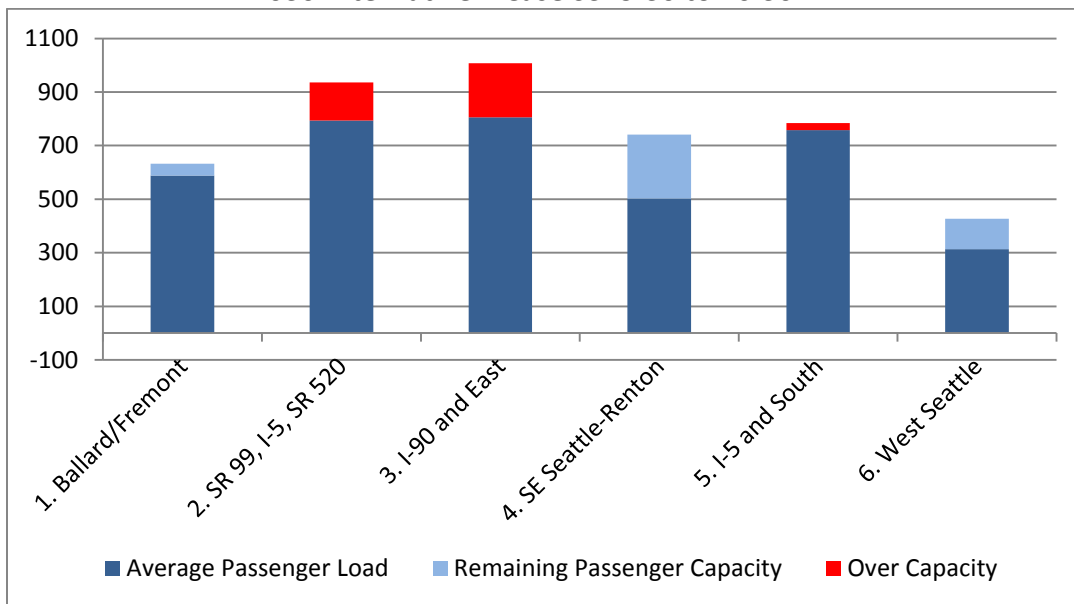
Figure 2–41 Stadium District WSF – 2018 Alternative 2: Outbound 9:30 to 10:30 PM



Year 2030 Alternative 2 Impacts

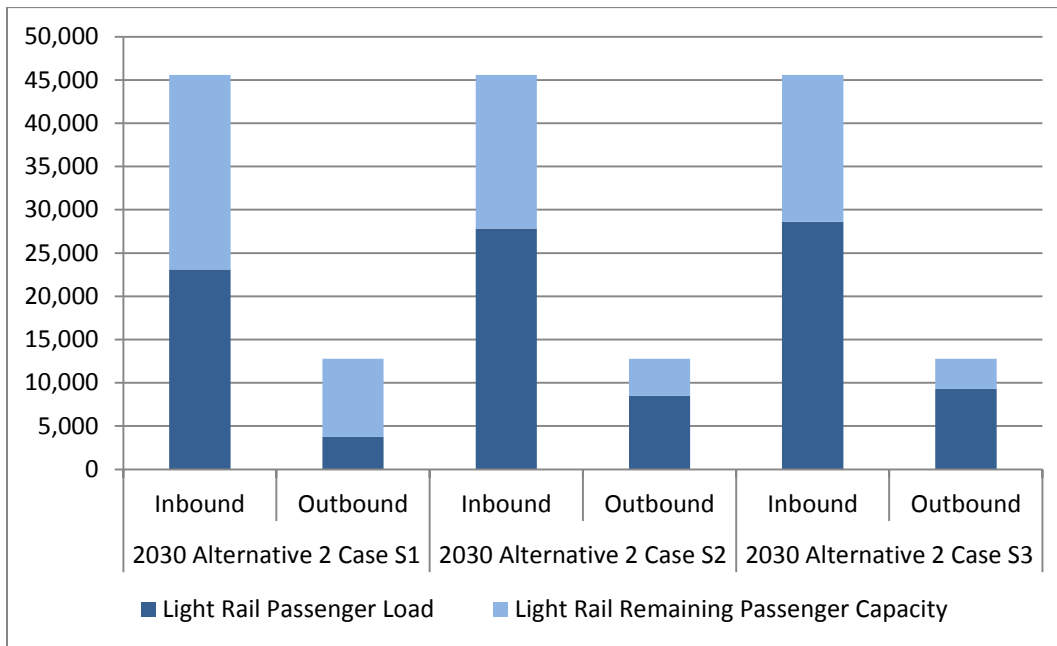
Bus Transit. It was estimated that approximately 15 percent of event attendees on transit would use bus service to the Proposed Arena. This would result in approximately 400 bus passengers traveling to and from the Stadium District for Alternative 2 Case S2 and S3. As illustrated on Figure 2–42, Alternative 2 Case S3 outbound passengers could be accommodated with assumed bus service levels for zones 1, 4 and 6. Zones 2, 3, and 5 are over capacity by 140, 200, and 25 passengers respectively. These passengers would need to be served outside of the one-hour post event time-frame unless additional buses were added to serve the post event demand.

**Figure 2–42 Stadium District Bus Transit Outbound –
2030 Alternative 2 Case S3: 9:30 to 10:30 PM**



Light Rail. With the expanded light rail system, it was estimated that approximately 54 percent of event attendees on transit would use light rail service to the Proposed Arena. This would add approximately 1,460 light rail passengers traveling to and from the Stadium District on Central, North and East Link for Alternative 2 Case S2 and S3. As illustrated on Figure 2–43, Alternative 2 light rail passenger loads for all cases could be accommodated with assumed service levels.

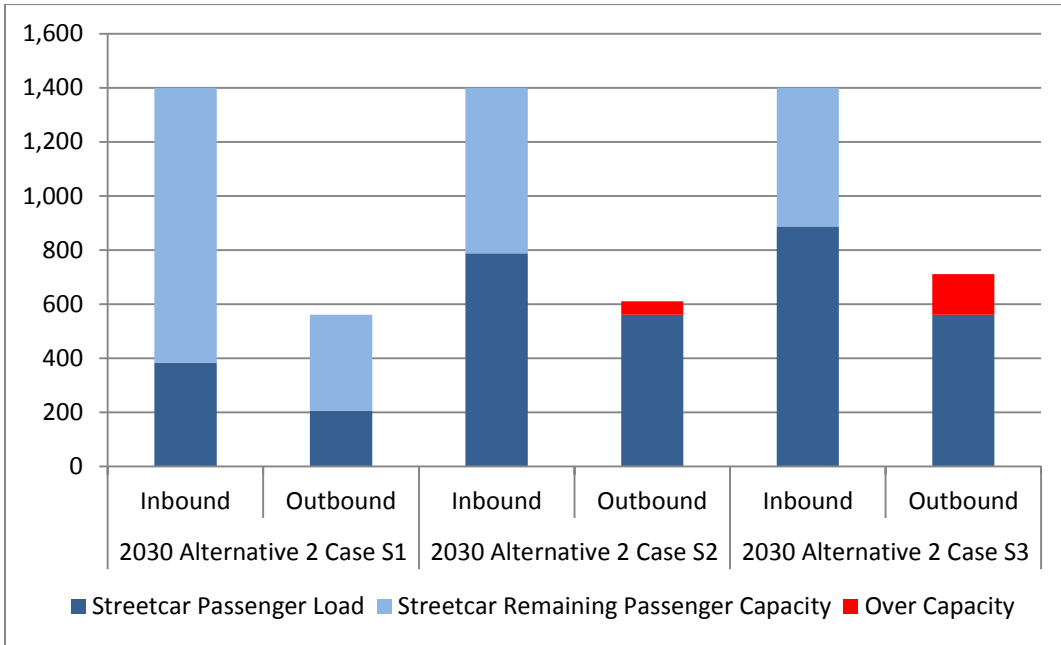
**Figure 2–43 Stadium District Light Rail –
2030 Alternative 2: Outbound 9:30 to 10:30 PM**



Streetcar. It was estimated that approximately five percent of event attendees on transit would use streetcar service to the Proposed Arena. This would add approximately 140 streetcar passengers traveling to and from the Stadium District for Alternative 2 Case S2 and S3.

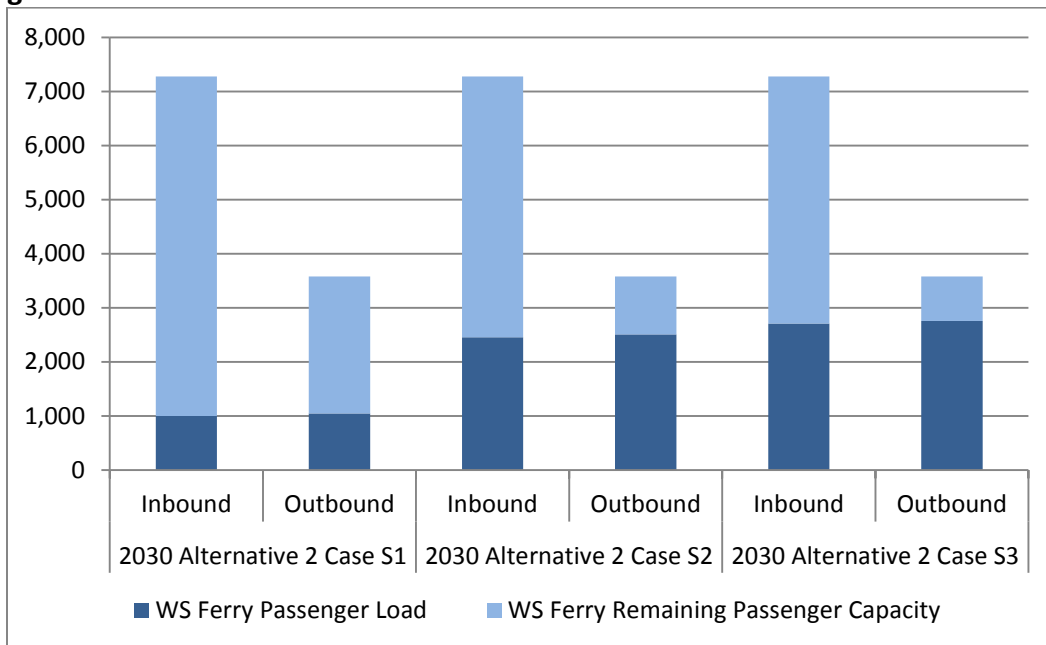
As illustrated on Figure 2–44, outbound streetcar service for Alternative 2 Cases S2 and S3 would be over capacity by 50, and 150 passengers respectively. These passengers would need to be served outside of the one-hour post event time-frame unless additional streetcar vehicles were added to serve the post event demand.

Figure 2–44 Stadium District Streetcar – 2030 Alternative 2: Outbound 9:30 to 10:30 PM



Washington State Ferries. It was estimated that approximately 26 percent of event attendees on transit would use ferry service to the Proposed Arena; this would add approximately 720 ferry passengers traveling to and from the Stadium District for Alternative 2 Case S2 and S3. As illustrated on Figure 2–45, Alternative 2 WSF passenger loads for all cases could be accommodated with assumed WSF service levels in 2030.

Figure 2–45 Stadium District WSF – 2030 Alternative 2: Outbound 9:30 to 10:30 PM



2.2.5 Impacts of Alternative 3

This alternative would result in a small reduction in the number of event attendees and slightly reduce transit ridership associated with an arena. The operational and construction impacts would be similar to Alternative 2.

2.2.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements. The following identifies those potential mitigation measures considered to have a high influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 2 and Alternative 3.

- Premium transit service
- Shuttles
- Subsidize transit fares
- Add cars to LRT trains
- Additional trains on pocket track
- Rail/lodging/ticket packages
- Facilitate Washington State ferry use
- Facilitate King County passenger ferry service
- Transportation Management Plan (TMP)
- Pedestrian access improvements

2.2.7 Secondary and Cumulative Impacts

There could be secondary and cumulative impacts to non-event transit users due to additional passengers using transit or park-and-ride lots to attend events at the Proposed Arena. Non-event transit users may find transit more crowded, fewer parking spaces at remote lots, and longer commute times during game days.

As light rail service in the region is expanded, transit service providers are anticipated to redeploy service to avoid duplication of transit service. It is unclear how transit service provided would redeploy service, but it is likely to impact event attendees traveling to stadium events.

Major capital projects, such as Waterfront Seattle and the Southend Transit Pathways study will change how transit connects through and to downtown Seattle. These projects will bring some

bus transit stop locations closer to the proposed Arena, resulting in a cumulative benefit to encourage event attendees to use transit for traveling to events.

2.2.8 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts related to bus, rail, streetcar, and ferry transit service resulting from the Proposed Arena project have been identified.

2.3 Pedestrians

2.3.1 Methodology

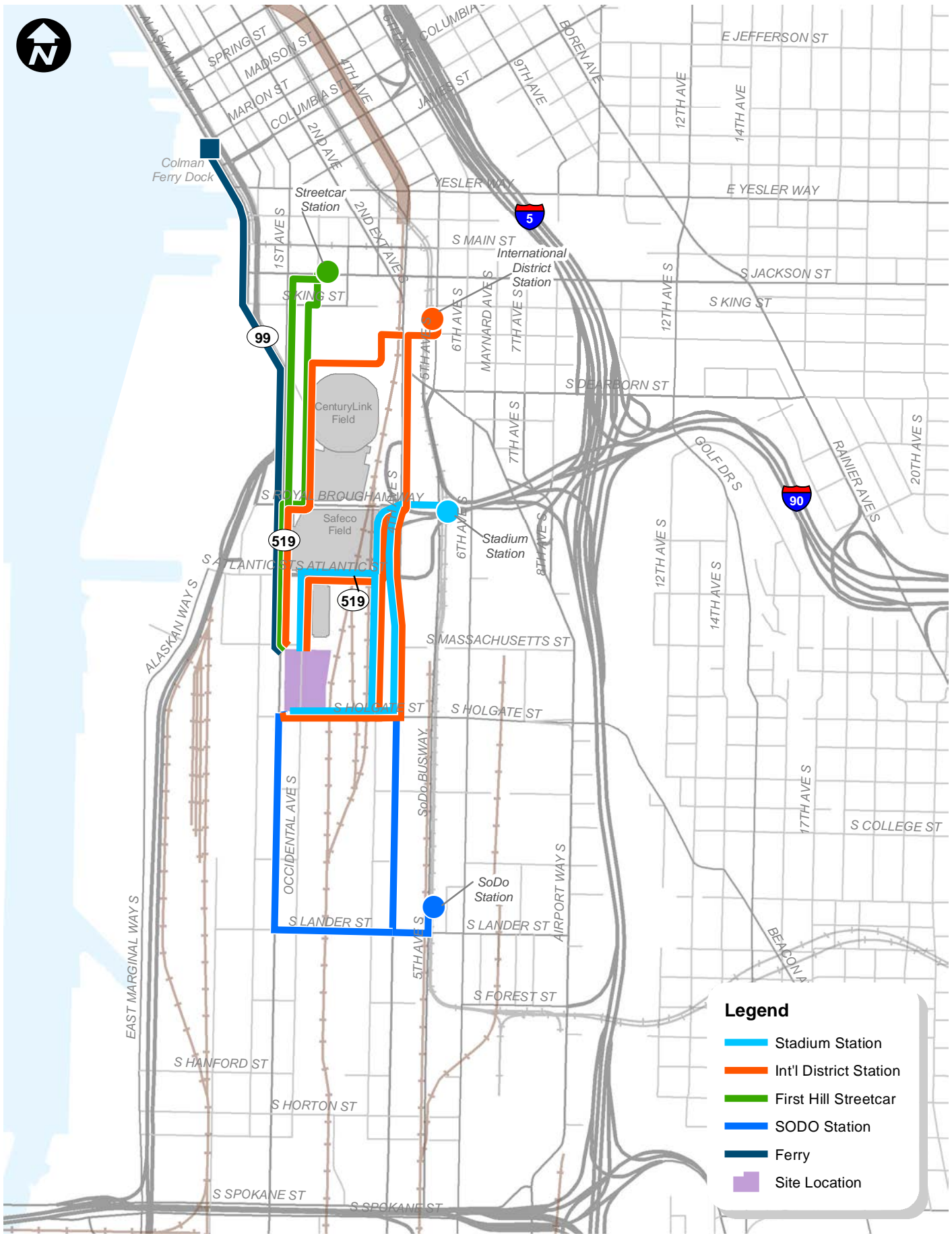
The pedestrian impact evaluation included a broad assessment of the pedestrian environment in the study area and a more specific, quantitative evaluation of important pedestrian routes during event conditions. The broad analysis provides an understanding of the study area as a whole and the pedestrian environment along specific routes to and from major transportation stations and parking within this study area. The more specific quantitative analysis focuses on the 1st Avenue S., 4th Avenue S., and S. Holgate Street pedestrian links in close proximity to the Stadium District site where concentrations of pedestrian volumes are higher. Additional context related to the broad study area and key link evaluation method is provided below.

2.3.1.1 Broad Study Area Evaluation

The broad study area is illustrated on Figure 2–1 on page 2-2 of the Street System section. This study area was identified based on the location of parking facilities and major transportation stations that would accommodate Arena demands. The key components of the study area evaluation include:

- Existing inventory of pedestrian facilities and identification of planned transportation projects that would impact the study area
- Analysis of the existing and future pedestrian event travel routes to and from major transportation stations and parking in terms of:
 - **Connectivity** or where gaps exist in the pedestrian facilities making it difficult to access the Stadium District site
 - **Quality** or the condition of the pedestrian facilities including lighting and space

Figure 2–46 illustrates the five key pedestrian routes identified for this assessment.



Stadium District Key Pedestrian Routes

Seattle Arena

FIGURE 2-46

2.3.1.2 Link Evaluation

Pedestrians are associated with the event arrival period (or pre-event) and event egress period (post-event). Pre-event pedestrian demand is typically less concentrated since arrival occurs over a longer period (i.e., attendees start arriving to the Arena two to three hours prior to the event start time). Post-event egress occurs over a shorter duration (i.e., less than one hour); therefore, the concentration of pedestrian volumes is higher. The pedestrian link analysis focuses on weekday post-event conditions when the concentration of pedestrian flows would be highest. Analysis is conducted for one future period representative of both 2018 and 2030 conditions due to the conservative assumptions built into the analysis as well as the fact that the level of pedestrian volumes associated with an event far outweighs non-event background volumes. Pedestrian volumes are a function of event attendance; therefore, based on the same attendance levels 2018 and 2030 volumes would be the same.

The pedestrian volumes for the analysis were based on:

- Existing data collected by direction along 1st Avenue S., 4th Avenue S., and S. Holgate Street for both event and non-event conditions. The collection of event data provides an understanding of pedestrian levels associated with a specific event attendance level, which in this case was a Mariners game with an attendance of approximately 13,000.
- Forecasting No Action Case S1 pedestrian volumes assuming growth consistent with the vehicular traffic forecasts.
- Proportionally increasing existing post-event pedestrian volumes to reflect attendance levels consistent with the No Action event case demands.
- Layering Arena pedestrian demands associated with travel demand / mode split estimates onto No Action Case S1, S2, and S3 to determine the Alternative 2 Case S1, S2, and S3 pedestrian volumes. The use of the layering approach relates to the specific travel patterns to and from the Stadium District site. Travel patterns were based on the location of major transportation stations and parking within the study area.

After establishing pedestrian volumes, the 1st Avenue S., 4th Avenue S., and S. Holgate Street links were evaluated to understand their ability to accommodate pedestrian demands. Two approaches were used for the link analysis, each tailored to the conditions that exist along the subject corridors:

- Along 1st and 4th Avenue S., an extension of the traditional Highway Capacity Manual (HCM) methodology was used.
- Along S. Holgate Street, the effect of potential railroad activity blocking east-west travel for pedestrians supersedes the effect of the sidewalk width on pedestrian “capacity” characterized by HCM. The two approaches are described below.

1st and 4th Avenues S.

A common measure used when analyzing different means of transportation is LOS, which for pedestrians is based on the “pedestrian’s perception of the overall segment travel experience.”¹⁴ The measurement for this is average space per pedestrians, which takes into account pedestrian “comfort and mobility.”¹⁵ However, when considering the *adequacy* of the pedestrian facilities during an event, the travel experience is less about comfort and more about mobility, as pedestrians expect sidewalks to be more crowded near event venues. As such, a measurement based on overall mobility was used to evaluate the adequacy of pedestrian facilities, rather than a measure of comfort. Using mobility as a benchmark for evaluation provides an understanding of how crowded pedestrian facilities become with increases in demand associated with the scenarios.

A pedestrian flow assessment was conducted along 1st and 4th Avenues S. between S. Atlantic and Walker Streets based on the principles outlined in Chapters 17 and 23 in the 2010 HCM. The flow rate was calculated along these segments for the evaluation scenarios (i.e., existing and future event and non-event conditions). Flow rate is quantified as the number of pedestrians per-foot per-minute (p/ft/min) along a facility, so as pedestrian demand increases facilities become more crowded and the flow rate increases. To provide an understanding of free flow as compared to crowded conditions, the HCM 2010 defines the flow rate as unrestricted (or free flow) when there is a minimum of 10 pedestrians p/ft/min, as restricted between 11 and 23 p/ft/min and as severely restricted when over 23 p/ft/min. Under each scenario, the flow rate was calculated for the segments along 1st and 4th Avenue S. and compared to the HCM standards to assess whether conditions would be considered free flow (< 10 p/ft/min), restricted (11 - 23 p/ft/min), or severely restricted (>23 p/ft/min) indicating the level of crowding along the facility. For the segments considered severely restricted consideration was given as to whether the conditions were temporary, alternative routes exist, and / or mitigation may be needed to improve conditions.

A number of conservative assumptions were built into these assessments, which also need to be considered as the analysis is reviewed including:

- The width of the facility was based on the most constrained area along the entire segment and considers impediments such as fire hydrants, power poles, signage etc.
- A minimum pedestrian demand of 20 pedestrians per hour was assumed.
- Hourly pedestrian demands were determined based on the peak 15-minute volume.

South Holgate Street

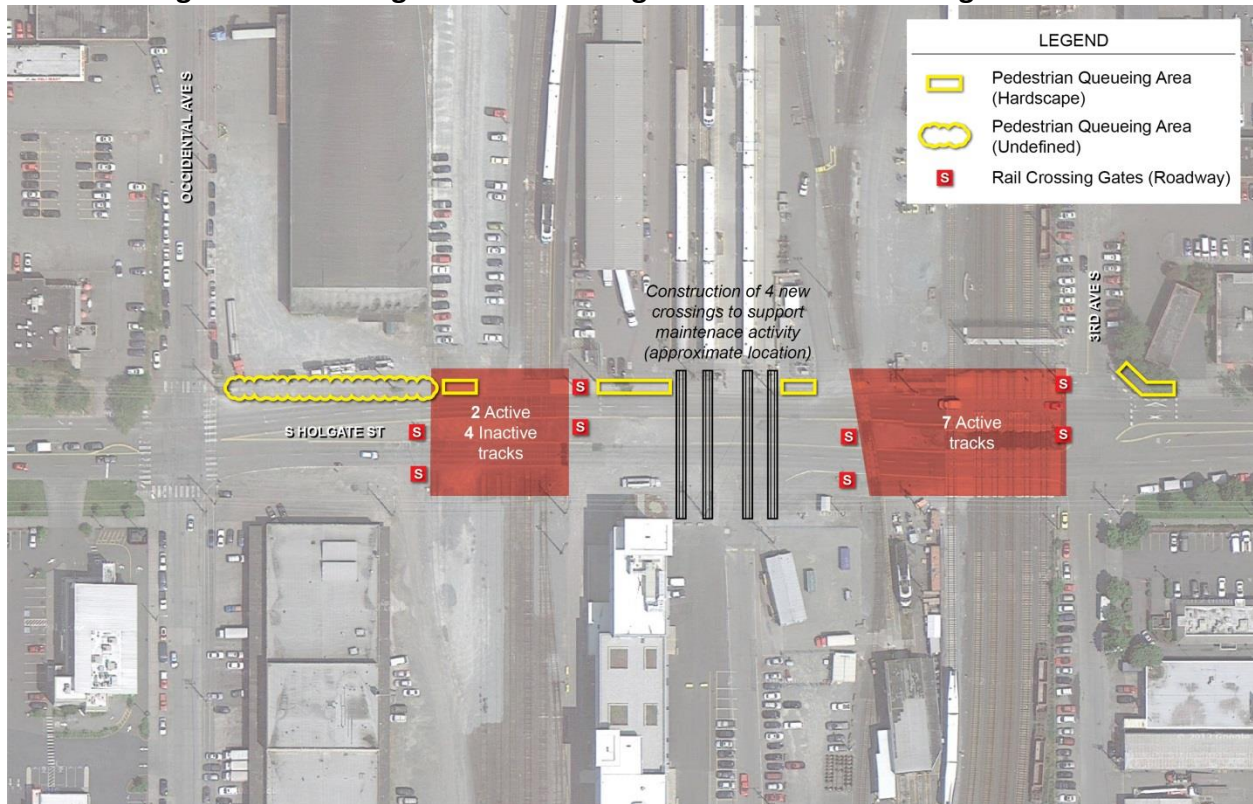
Figure 2–47 illustrates the existing and future rail crossings along S. Holgate Street. As described in the street system discussion, the total distance between the easternmost and westernmost

¹⁴ HCM, 2010 page 17-46

¹⁵ HCM, 2010 page 23-7

tracks is over 500 feet, which exceeds the length of a typical city block. There is active control for the vehicle traffic, pedestrians, and cyclists at all of the train crossing locations.

Figure 2–47 S. Holgate Street Existing and Future Rail Crossing Locations



There are significant train crossings that occur, without warning, throughout the day and evening. These include through trains, solid waste trains, and local yard switching and maintenance operations. This activity is expected to increase in the future. Existing rail activity along S. Holgate Street was monitored in December 2013 for a 7-day period with data collected from 6:00 AM to 11:00 PM when Arena related traffic may be present. The observations show that individual gate closures were an average of two- to three-minutes. The total time the train gates were closed during an one-hour period was a maximum of 20-minutes and an average of approximately 9-minutes. These observations are consistent with data presented in other studies including the 2010 City of Seattle South Holgate Street Study, which noted average train gate closure times during an one-hour period increased from 8 minutes in 2004 to 12 minutes in 2009. Observations conducted by Paramterix in support of the Coal Train Study, showed total closure time in a one-hour period of up to 8 minutes based on over 100 trains observed. The number of train crossings is expected to increase in the future, which could result in increased closure durations.

Amtrak is planning additional maintenance facilities onsite, and with that, additional crossings of Holgate with two additional tracks. This will support additional shop maintenance, and will likely result in increased frequency as well as some increase in the duration of closures.

Maintenance occurs around the clock, as day trains are maintained at night, and night train maintenance occurs during the day. Figure 2–47 illustrates the Holgate frontage, and shows the additional tracks currently planned by Amtrak. As shown, the additional tracks would be located immediately east of the existing westerly tracks, with maintenance operations both north and south of Holgate Street.

Given the number of rail crossings along this street, the flow rate method would not be an effective tool for addressing pedestrian flows along S. Holgate Street; the overriding factor affecting pedestrians is the potential of a train crossing occurring and stopping flows. In this case, pedestrians flowing during post-event would accumulate at crossing stopping points (currently ungated) resulting in the need for queuing capacity. The 95th-percentile pedestrian queue lengths along S. Holgate Street during train crossings were calculated to determine storage needs under post-event conditions. The calculations assumed:

- All pedestrians on the north side of the street since they are currently prohibited on the south side. Although pedestrians are prohibited on the south side of S. Holgate Street, data collection and field observations show there is some existing pedestrian activity along this segment.
- Hourly pedestrian demands were determined based on the peak 15-minute volume.
- Five square-feet of space per pedestrian based on research related to personal space allocations in social settings and the ability to move freely – it is possible during crowded post-event conditions pedestrians could require slightly less space¹⁶.
- The pedestrian queuing model calculates queues in linear-feet as presented in the summary tables. Pedestrians are assumed to be walking alone (or one-by-one) for non-event scenarios. For scenarios with events, it is assumed that pedestrians would walk side-by-side. The number of pedestrians walking side-by-side is calculated based on the sidewalk width.
- Total closure time over an one-hour period between 5 and 45 minutes in duration to provide a sensitivity analysis to further understand the range of queuing capacity needed to accommodate post-event pedestrians. As discussed above, existing average train gate closure time for a one-hour period is 9 minutes; however, depending on activities, future growth, and train timing closures over the hour could result in up to 45 minutes of time.

The results of the analysis provide an understanding of storage needed to accommodate pedestrians with train crossings and deficiencies that would occur as train crossing times and pedestrian demands increase.

Figure 2–47 depicts the general pedestrian storage areas along S. Holgate Street. It is difficult to quantify the existing pedestrian storage capacity along this roadway because sidewalks are

¹⁶ The five square-feet of space translates into 2.25-feet in length for the pedestrian queuing calculation.

sporadic on the north side. There are no sidewalks on the south side. In addition, there is potential for multiple train crossings at one time. As a result, the analysis focuses on comparing the alternatives to show how increases in pedestrian levels result in increases in storage needs as well as potential increases in conflicts between pedestrians and crossings.

2.3.2 Affected Environment

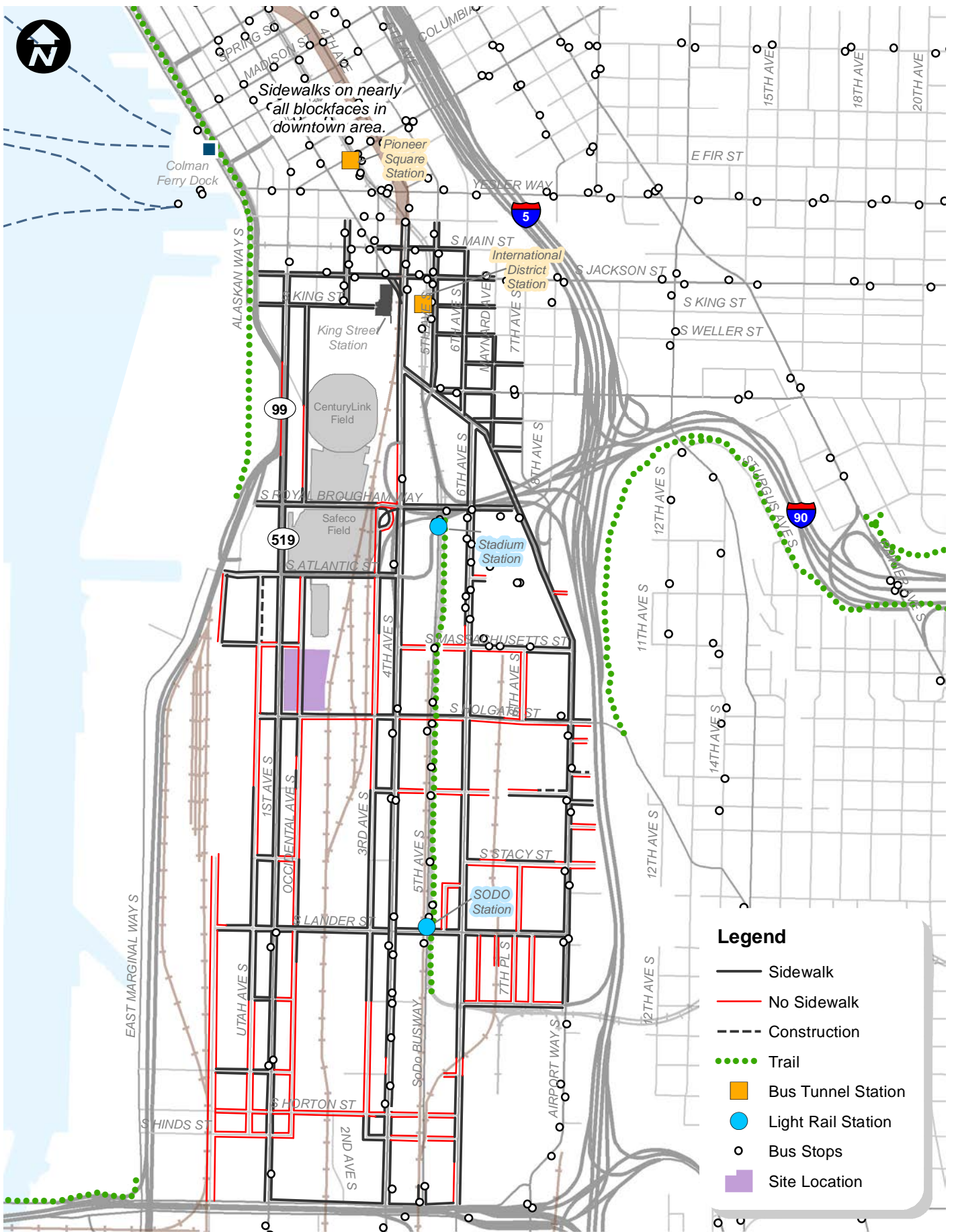
The following describes the existing pedestrian context in terms of the broad study area and proximate links.

2.3.2.1 Broad Study Area Evaluation

A comprehensive inventory of pedestrian facilities was conducted within the study area. This inventory included identification of raised sidewalks, trails, and segments that were missing any kind of facility. Figure 2–48 summarizes the study area pedestrian network and identifies the existing trails and gaps in sidewalk network. When reviewing the inventory, there is generally a difference in the density of the sidewalk connections north of S. Holgate Street as compared to the area south of S. Holgate Street. This is likely due to the level and nature of the development that has occurred north of S. Holgate Street and its proximity to the CBD.

Most of the major north-south and east-west arterials have sidewalks on one or both sides of the streets. Impediments were identified throughout the area that included fire hydrants, signage, or power poles. These impediments reduce the useable width of the sidewalk for short distances. Sidewalks are more intermittent along minor streets such as Occidental Avenue S., Utah Avenue S., and 3rd Avenue S., south of S. Royal Brougham Way.

Weekday pedestrian flows in the study area without an event are generally to and from transit and employment centers or business employees walking to food establishments or parking. Employment centers in the study area include the King County offices located at 201 S. Jackson Street immediately north of CenturyLink Field and offices in the area of Union Station between 4th Avenue S. and 5th Avenue S. Transit facilities in the northern area that have a large pedestrian draw include King Street Station and the International District / Chinatown Station. Pedestrian activity near the Seattle Arena site and in the southern portion of the study area is generally low given the primarily industrial land uses. This low pedestrian activity also occurs along Occidental Avenue S. between S. Massachusetts and S. Holgate Streets where there are no sidewalks and the uses are industrial. Higher pedestrian activity in the southern portion of the study area occurs along corridors accessing transit (e.g., near the SoDo Busway and Link Light Rail stations) and larger employers (e.g., near the Starbucks Headquarters at 1st Avenue S. and S. Lander Street).



Stadium District Pedestrian Facilities

Seattle Arena

FIGURE 2-48

The pedestrian travel patterns in the study area change with an event conditions as the main draw becomes either CenturyLink Field or Safeco Field, with flows generally coming to and from event parking areas and transit facilities. Pedestrian volumes in the immediate vicinity of the event venues increase, particularly along 1st Avenue S., S. Jackson Street, S. Royal Brougham Way, and at the signalized pedestrian crossing of 4th Avenue S. between the Union Station Parking Garage and CenturyLink Field. 1st Avenue S. serves as a main north-south pedestrian corridor with several large parking garages in the north and parking lots and on-street parking to the south of CenturyLink Field. The pedestrian volumes along S. Jackson Street, S. Royal Brougham Way and at the 4th Avenue S. signalized crossing are generally related to transit or parking in the International District.

Based on the pedestrian travel patterns described above and the major transportation and parking, four specific routes were identified for further review:

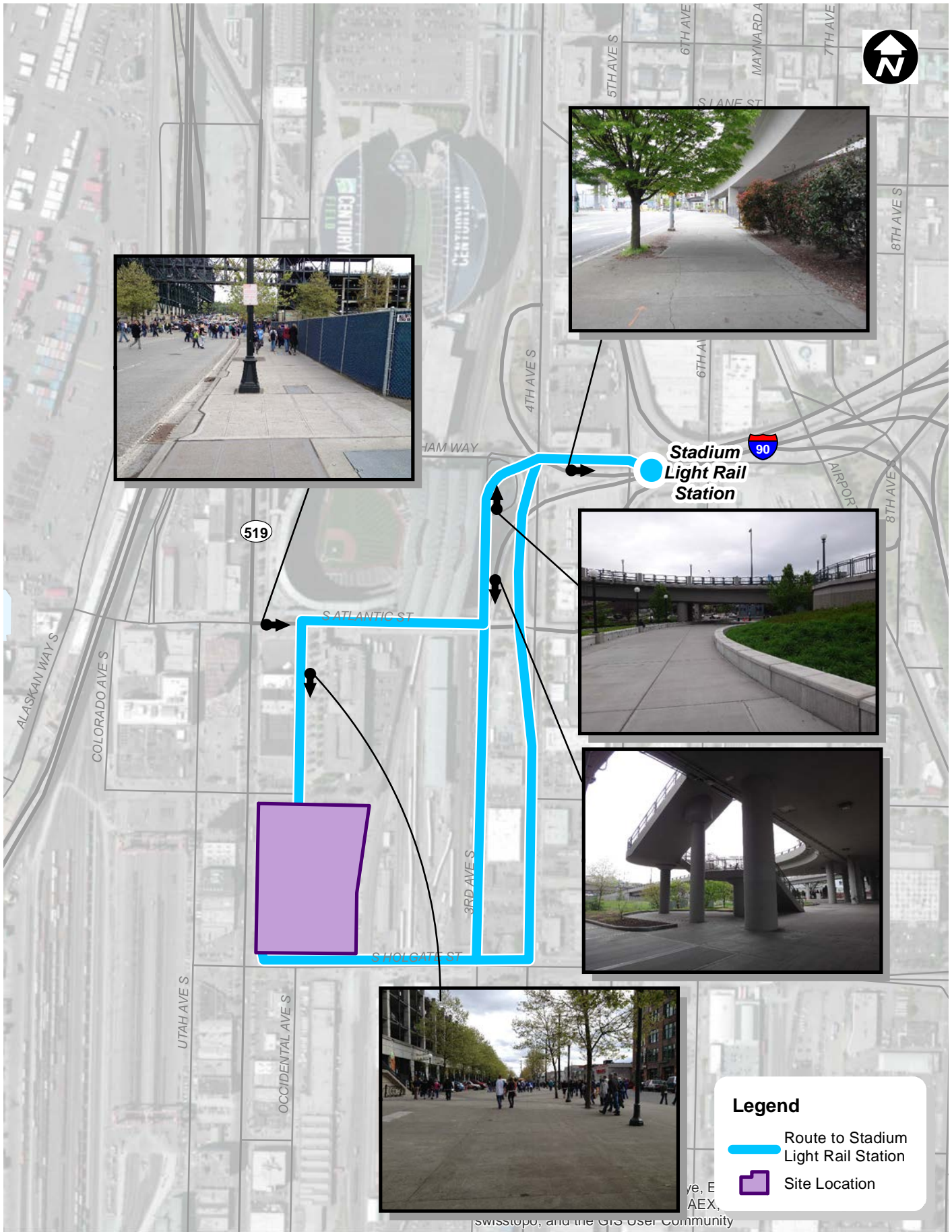
- Stadium Station
- SoDo (Lander) Station
- International District Station
- Ferry (Colman Deck)

The review included an overall assessment of facilities, connectivity, and quality of the pedestrian environment. Figure 2–49 through Figure 2–52 shows the four pedestrian routes and pictures are provided at key locations to provide an understanding of the pedestrian experience. As part of the assessment of quality, a review of pedestrian lighting was conducted and is summarized on Figure 2–53. Key characteristics of these routes are described below.

Stadium Station Route

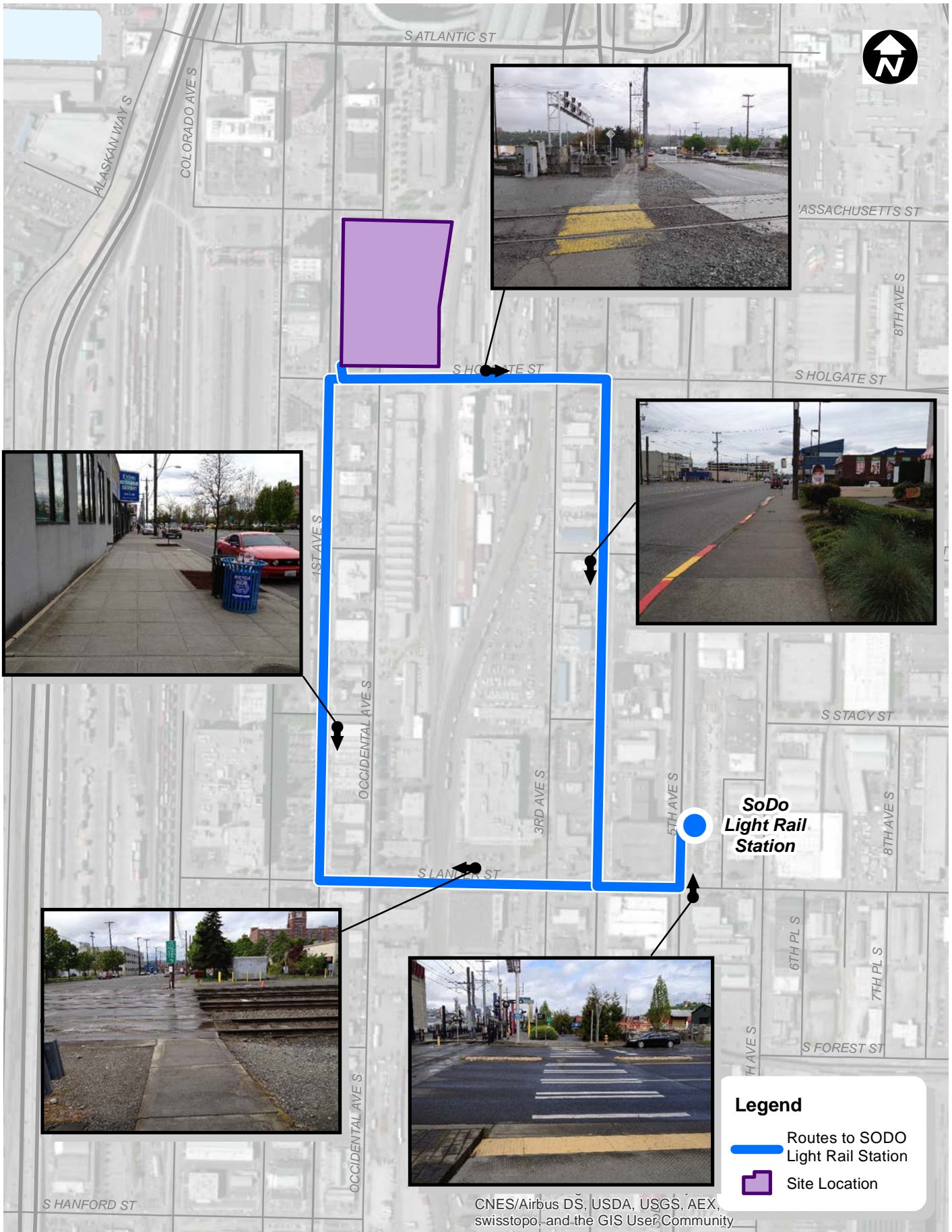
These routes are approximately 1/2-mile long and provide access to the closest transit facility (Stadium Station) to the site. The route from the Stadium Station along S. Atlantic Street and Occidental Avenue S. has newer facilities, wider sidewalks, and is well lit, while the routes along 3rd and 4th Avenues S. are less pedestrian-friendly with minimal to poor lighting and missing or narrow sidewalks. Key issues along this route related to the Stadium District site include:

- Some darker areas where pedestrians walk under large roadway structures as well as minimal lighting along 3rd Avenue S. and poor lighting along 4th Avenue S.
- Missing sidewalks along 3rd Avenue S. on the west side between S. Atlantic Street and S. Holgate Street and on the east side between S. Massachusetts Street and S. Holgate Street.
- Narrow or constrained sidewalk sections along 4th Avenue S., south of S. Atlantic Street.
- Pedestrian access issues along S. Holgate Street between 4th Avenue S. and the Stadium District site related to the multiple at-grade crossings that pedestrians need to traverse.



Stadium District Pedestrian Route: Stadium Station

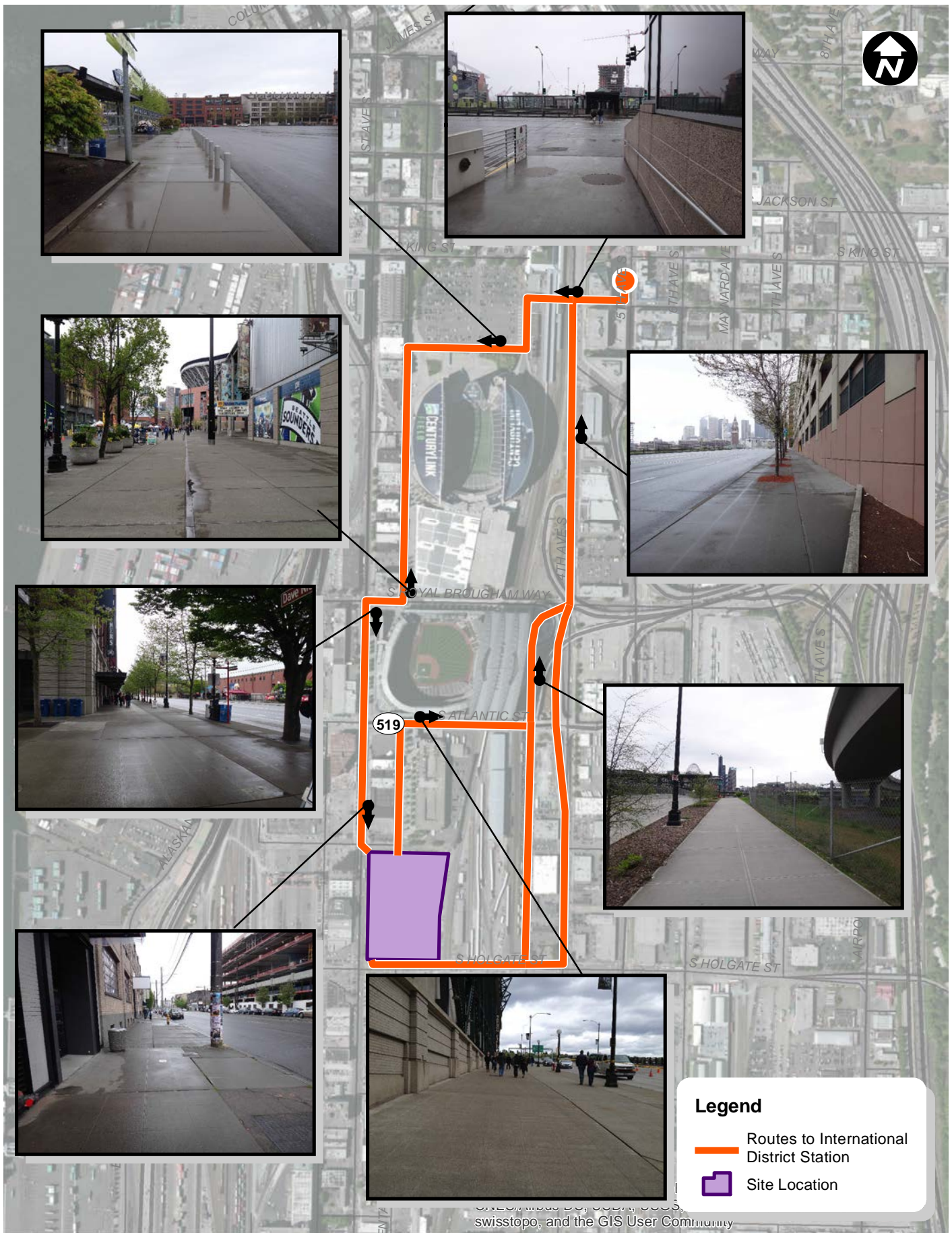
FIGURE 2-49



Stadium District Pedestrian Route: SoDo Station

Seattle Arena

FIGURE 2-50



Stadium District Pedestrian Route: International District

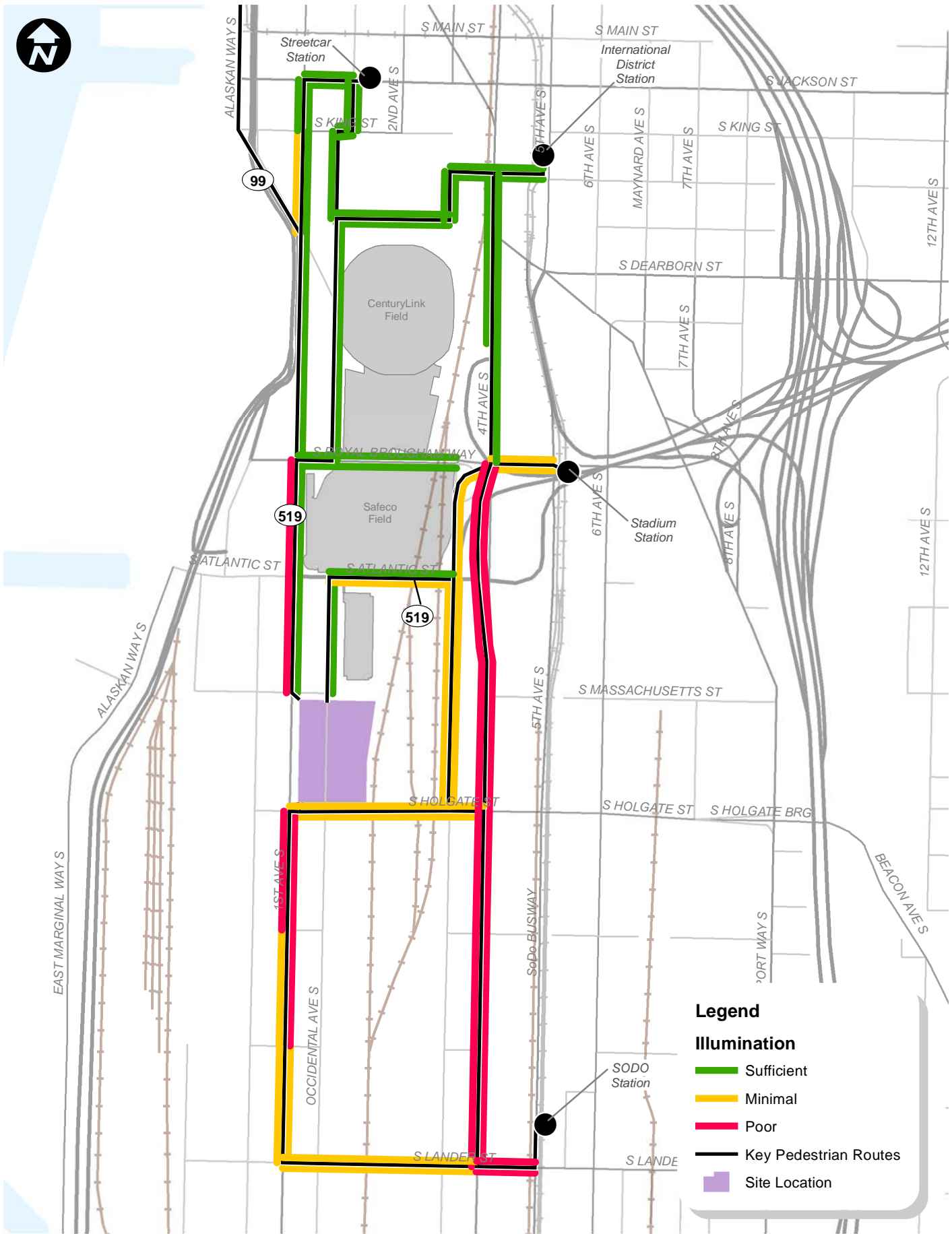
FIGURE 2-51



Stadium District Pedestrian Route: Ferry

Seattle Arena

FIGURE 2-52



Stadium District Pedestrian Lighting Review

Seattle Arena

FIGURE 2-53

SoDo (Lander) Station Route

The two routes providing access between the site and the SoDo station are both less than one mile long with facilities varying between sidewalks and little to no shoulder. Key issues along these routes related to the Stadium District site include:

- No sidewalks along S. Holgate Street on the south side.
- Some narrow portions of sidewalk particularly west side of 4th Avenue S. and S. Lander Street.
- At-grade train crossings could be an access issue as the level of pedestrians increase.
- Lighting is poor along portions of 1st Avenue S. and all of 4th Avenue S. between S. Holgate Street and S. Lander Street (see Figure 2–53).

International District Station Routes

The routes providing access between the site and the International District are almost one mile. The routes generally provide a pedestrian-friendly environment with sidewalks and enhancements specifically for pedestrians such as the pedestrian bridge between CenturyLink Field and King Street Station, signalized crossing along 4th Avenue S., and the pedestrian ramp at S. Royal Brougham Way and 4th Avenue S. providing access to 3rd Avenue S. There are some deficiencies south of S. Atlantic Street along 3rd and 4th Avenues S. with missing and narrow sidewalk sections and minimal to poor lighting. Key issues along these routes related to the Stadium District site include:

- Some areas are darker where pedestrians walk under large roadway structures when using 4th Avenue S. towards the site as well as minimal lighting along 3rd Avenue S. and poor lighting along 4th Avenue S., south of S. Atlantic Street.
- Missing sidewalks along 3rd Avenue S. on the west side between S. Atlantic Street and S. Holgate Street and on the east side between S. Massachusetts Street and S. Holgate Street.
- Narrow or constrained sidewalk sections along 4th Avenue S., south of S. Atlantic Street.
- Pedestrian access issues along S. Holgate Street between 4th Avenue S. and the Stadium District site related to the multiple at-grade crossings that pedestrians need to traverse.

Ferry (Colman Dock) Route

This route is over one mile long. Much of the route is under construction with development and transportation projects in the vicinity. Along this route lighting is poor on the west side of 1st Avenue S.

Overall, the pedestrian network is well connected along these key routes with only a few missing links. The environment is pedestrian-friendly and lighting is adequate. Issues that may

rise to a level of concern along key links in close proximity to the site include the poor connection across S. Atlantic Street when coming to and from the northeast, missing and narrow sidewalks along 1st, 3rd and 4th Avenues S., south of S. Atlantic Street and the extensive at-grade train crossings along S. Holgate Street and lack of pedestrian-oriented crossing control.

2.3.2.2 Link Evaluation

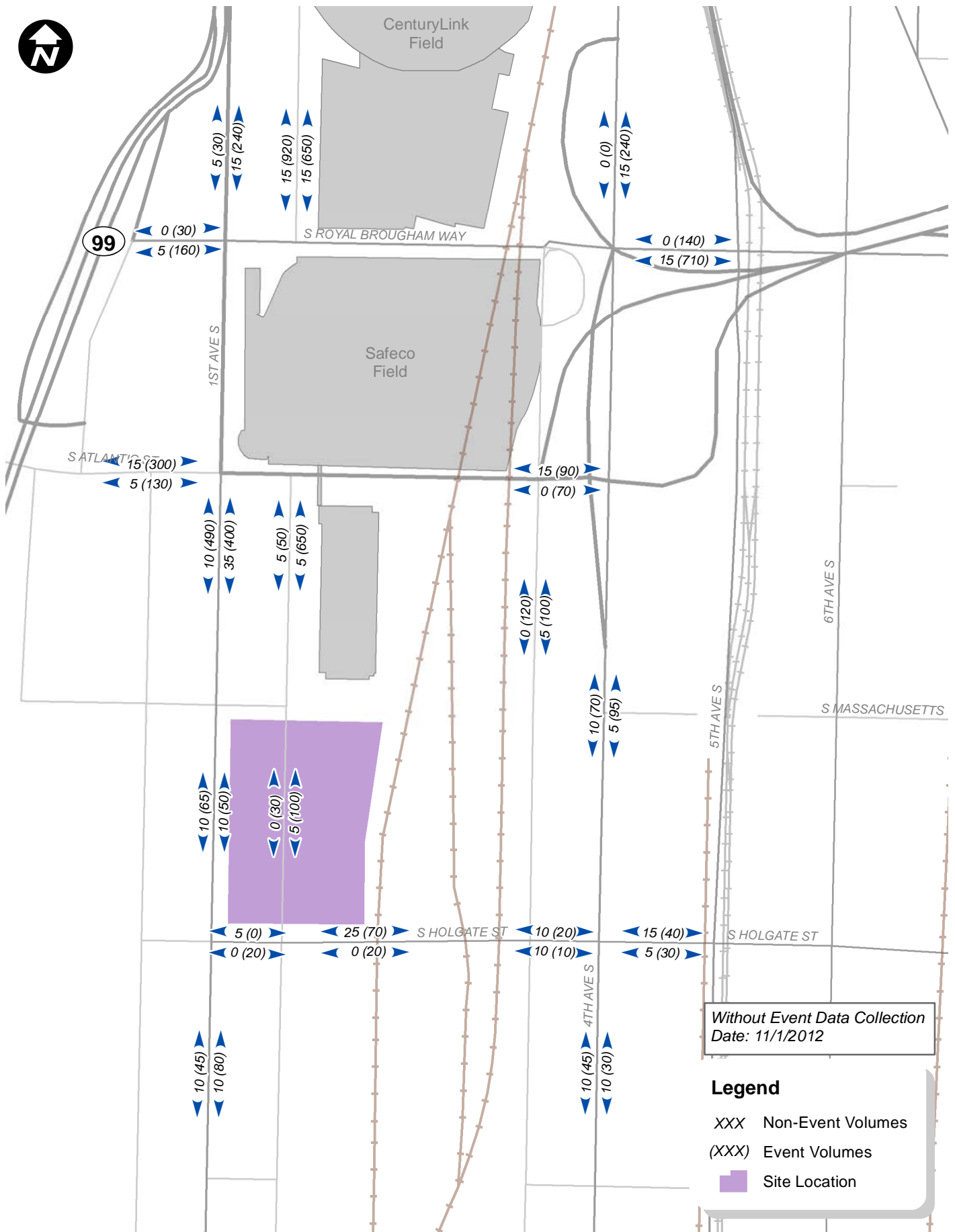
Post-event pedestrian counts were conducted along the key segments in the vicinity of the site. These counts were conducted in May 2013 and the post-event conditions represent pedestrian volumes for an attendance level of approximately 13,000.

Figure 2-54 shows the total post-event hour pedestrian volumes along the segments for non-event and post-event conditions. The pedestrian counts shown in the figure were used as a basis of the 1st and 4th Avenues S. and S. Holgate Street link evaluations summarized below.

1st and 4th Avenues S.

Table 2-3 below shows the 1st and 4th Avenues S. existing pedestrian flow analysis under non-event and post-event conditions. Based on the pedestrian flow rate, it was determined whether sidewalk conditions would be free flow (>10 p/ft/min), restricted (11-23 p/ft/min), or severely restricted (>23 p/ft/min).

Event conditions represent a Mariners game with 13,000 attendees. As shown in the table, based on the existing post-event pedestrian volumes along the 1st and 4th Avenues S. all sidewalk sections studied have acceptable pedestrian flow rates with and without the Mariners game. This analysis indicates that the sidewalks on the east and west sides of both 1st and 4th Avenues S. are adequate to accommodate the existing pedestrian demand.



Stadium District Existing Post-Event Pedestrian Volumes

FIGURE 2-54

**Table 2-3
Pedestrian Flow Assessment – Existing Post-event (9:00 p.m.)**

Sidewalk Section		Non-Event ¹		With Event ¹	
		Pedestrian Flow Rate (p/ft/min) ²	Level of Crowding ³	Pedestrian Flow Rate (p/ft/min) ²	Level of Crowding ³
1st Avenue S.	S. Atlantic St to S. Massachusetts St				
	West Side (width ⁴ = 8.5-feet)	<1	Free Flow	2	Free Flow
	East Side (width ⁴ = 5.5-feet)	<1	Free Flow	2	Free Flow
	S. Massachusetts St. to S. Holgate St				
	West Side (width ⁴ = 7-feet)	<1	Free Flow	<1	Free Flow
	East Side (width ⁴ = 7-feet)	<1	Free Flow	<1	Free Flow
4th Avenue S.	S. Holgate St to S. Walker St				
	West Side (width ⁴ = 9-feet)	<1	Free Flow	<1	Free Flow
	East Side (width ⁴ = 6-feet)	<1	Free Flow	<1	Free Flow
	S. Atlantic St to S. Holgate St				
	West Side (width ⁴ = 3.5-feet)	<1	Free Flow	1	Free Flow
	East Side (width ⁴ = 3.5-feet)	<1	Free Flow	<1	Free Flow
	S. Holgate St to S. Walker St				
	West Side (width ⁴ = 1-feet)	<1	Free Flow	<1	Free Flow
	East Side (width ⁴ = 3.5-feet)	<1	Free Flow	<1	Free Flow

1. Pedestrian counts for non-event conditions conducted on May 2, 2013 and for event conditions on May 1, 2013 with a Mariners game attendance of 12,936.
2. Pedestrian flow calculation based on the 2010 *Highway Capacity Manual* (HCM) method using the peak 15-minute pedestrian demand rounded to the nearest 20 pedestrians to determine peak hourly flows. The calculated flow reflects the most constrained portion of the evaluated sidewalk section and is expressed in pedestrian per feet per minute (p/ft/min)
3. Based on HCM, free flow is >10 p/ft/min, restricted is 11-23 p/ft/min, and severely restricted is >23 p/ft/min.
4. The analysis assumes the smallest effective walkway width measured along the segment; therefore, widths may be greater in some areas.

S. Holgate Street

Pedestrians routinely get stopped during the traverse of the span of tracks along S. Holgate Street when a train ahead causes a gate drop and in some cases, a train behind. Event pedestrian demands are particularly prone to this as the groups of pedestrians occurring after an event have limited refuge⁴ when they are stopped by a closing crossing gate. This dynamic results in a potential for conflict between pedestrians and train crossings.

Table 2-4 illustrates the existing (95th-percentile) pedestrian accumulations and associated queuing requirements expressed in linear feet¹⁷ for train crossing interruptions between 5 and 45 minutes. As noted in the methodology, current train blockage over the hour are an average of 9 minutes. The scenarios shown in the table are simply illustrations and do not reflect actual

¹⁷ As described in the methodology, although pedestrian space is 5 square-feet, the pedestrian queuing model is in linear feet. During event conditions, the modelling assumes multiple pedestrians walking together as noted.

queue observations in the field. If a higher attendance game occurred, pedestrian flows and related queues and storage needs would be greater.

**Table 2-4
Existing Eastbound Pedestrian Accumulation
at Holgate Train Crossing (Post-Event or 9:00 p.m.)**

Train Crossing (minutes) ¹	Existing Non-Event Pedestrian Demand = 20 pedestrians / hour ²		Existing Post-event Pedestrian Demand = 140 pedestrians / hour ²	
	95th% Peak Pedestrian Accumulation ³	Approx. Storage Needed (feet) ⁴	95th% Peak Pedestrian Accumulation ³	Approx. Storage Needed (feet) ⁴
5	5	10	19	25
10	8	20	33	40
15	10	25	46	55
20	12	25	59	70
25	14	30	72	80
30	16	35	85	95
35	19	45	98	110
40	21	45	110	125
45	23	50	123	140

- December 2013 observations showed an average of 9-minutes of gate closures over an one-hour period.
- Pedestrian counts for non-event conditions conducted on May 2, 2013 and for event conditions on May 1, 2013 with a Mariners game attendance of 12,936. Volumes reflect a peak 15-minute rate multiplied by four, and are rounded to the nearest 10.
- 95th percentile volumes indicate either that volume or less would occur 95 percent of the time.
- Assumed 2.25 feet per pedestrian for the linear queuing model. With an event, it is assumed on average people are walking or standing two-by-two.
- Directional pedestrian volumes not available for non-event conditions; crosswalk counts on a non-event day indicate little to no pedestrians use the roadway without an event during the hour evaluated.

As illustrated by the sensitivity analysis for existing non-event and post-event pedestrian demands:

- Pedestrian queues range from approximately 10 to 125 pedestrians, depending on the duration of the blockage.
- Length of sidewalk storage to accommodate queues based on current blockage levels of around 10 minutes range from 20 feet without an event to 40 feet with a Mariners game of approximately 13,000 attendees.
- Blockages up to 45-minutes (representing increased activity) would result in the need for approximately 140 feet of storage to accommodate existing pedestrian demands, which can be accommodate within the existing sidewalk area along S. Holgate Street on the north side.

2.3.3 Impacts of No Action Alternative

The following describes the No Action pedestrian context in terms of the broad study area and proximate links.

2.3.3.1 Broad Study Area Evaluation

The study area was reviewed to determine if any funded planned projects would contribute to the non-motorized infrastructure connectivity or capacity and / or if additional major transportation or parking destinations would be added to the study area. The following summarizes those that were associated with larger projects, or that were determined to be substantial in scope or significance:

- **Multiuse Paths** - Two multi-use paths are being constructed as part of the Alaskan Way Viaduct Replacement Project to be completed by 2018.
- **First Hill Streetcar** - This project is slated for completion by 2015. This project constructs a modern, low-floor streetcar system connecting First Hill employment centers to the regional Link Light Rail system, including but not limited to the International District / Chinatown Station, and Capitol Hill Station at Broadway and John Street.
- **Holgate Rail Crossing Improvements:** Amtrak is improving the existing rail crossing control to provide additional warning to motorist, pedestrians, and bicyclists. The improvements along S. Holgate Street include adding wayside horns, wigwag signals, and gates at the active tracks just west of 3rd Avenue S.

For the No Action condition, five specific pedestrian travel routes were identified to major transportation including Stadium Station, SoDo Station, International District, the Ferry at Colman Dock, and the First Hill Streetcar.

The Stadium Station, SoDo Station and International District routes are anticipated to be consistent with the description provided in the Affected Environment because there are no future infrastructure projects impacting these routes. Improvements are anticipated along the Ferry route as a result of the Alaskan Way Viaduct Replacement Project. Figure 2–55 shows the First Hill Streetcar pedestrian travel route and Figure 2–52 illustrates the Ferry route. Key characteristics of these two routes are described below.

Ferry (Colman Dock) Route

As part of the Alaskan Way Viaduct project, Railroad Way S. is being planned as an improved direct pedestrian connection between the Waterfront and Stadium District. The City is leading the design of this element of the Alaskan Way Viaduct Replacement project. It will include a variety of treatments and lighting features to invite pedestrians along an enhanced connection. There could still be some lighting deficiencies along this route on the west side of 1st Avenue S. between S. Atlantic and S. Holgate Streets as noted under existing conditions; however,

redevelopment is occurring in this area and it likely that at least portions of this will be improved as part of development frontage improvements.

First Hill Streetcar

The nearest streetcar stop to and from the Stadium District site would be the Occidental Mall stop along S. Jackson Street east of 1st Avenue S. The two routes providing access between the site and the streetcar stop are both less than one mile long with facilities. In general, adequate pedestrian facilities exist to / from the north along Occidental Avenue S. transitioning to 1st Avenue S., south of S. Royal Brougham Way and the two routes are well connected. This route also has poor lighting as discussed above along 1st Avenue S.

Overall, with improvements along 1st Avenue S., Railroad Way S., and Alaskan Way a more pedestrian-friendly environment would be created and the routes would remain well connected. With No Action, there would continue to be a poor connection across S. Atlantic Street when coming to and from the northeast, missing and narrow sidewalks along 3rd and 4th Avenues S., south of S. Atlantic Street, and planned projects would result in additional at-grade train crossings on S. Holgate Street with no improvements to pedestrian facilities or provision of pedestrian crossing controls.

2.3.3.2 Link Evaluation

Figure 2–56 shows the forecasted No Action total post-event hour pedestrian volumes along the segments for the event cases. The pedestrian demand shown in the figure was used as a basis of the 1st and 4th Avenues S. and S. Holgate Street link evaluations.

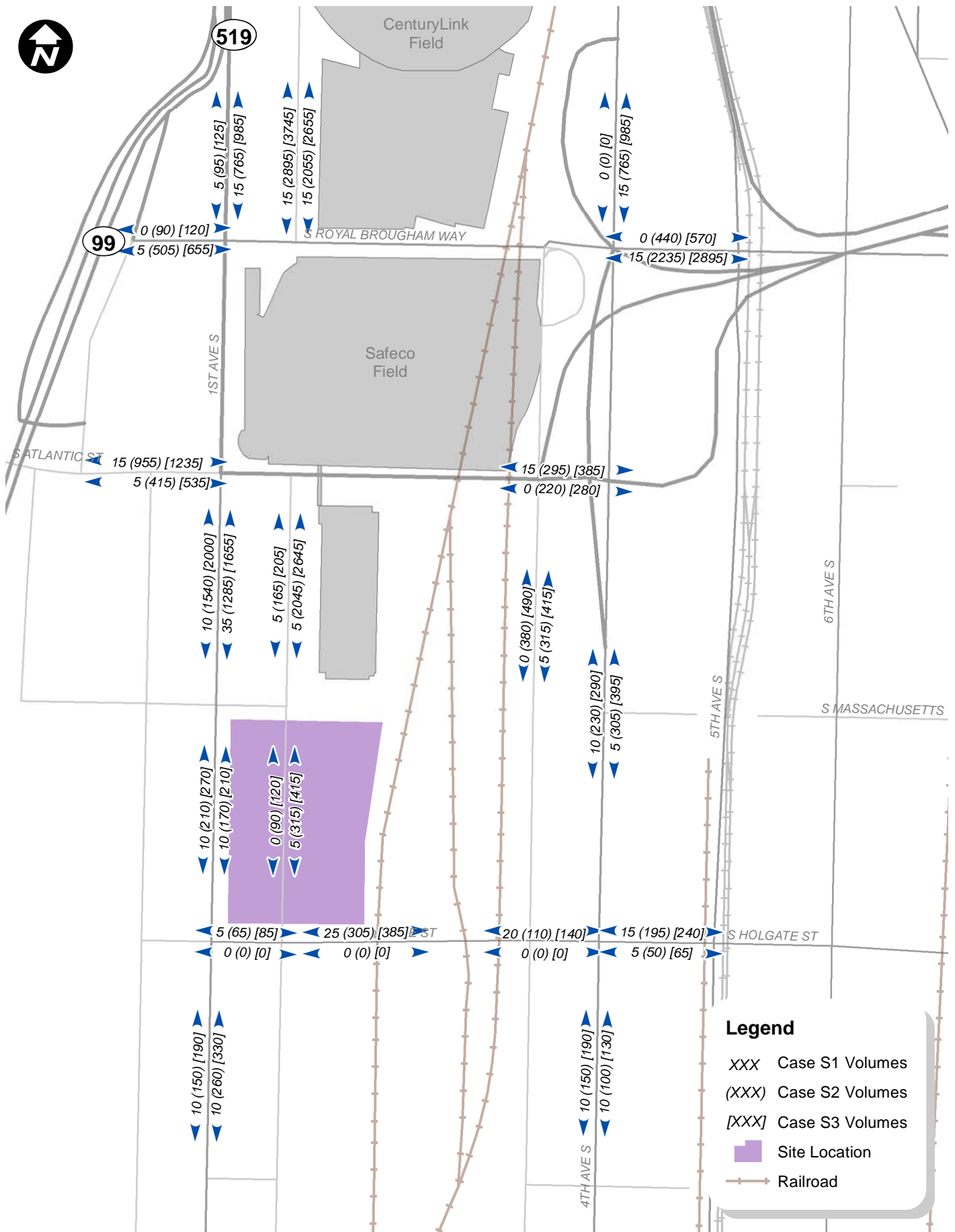
1st and 4th Avenues S.

Table 2-5 below summarizes the 1st and 4th Avenues S. No Action pedestrian flow analysis for Case S1, S2, and S3. Based on the pedestrian flow rate, it was determined whether sidewalk conditions would be free flow (>10 p/ft/min), restricted (11-23 p/ft/min), or severely restricted (>23 p/ft/min). As shown in the table, based on the No Action post-event pedestrian volumes along the 1st and 4th Avenues S. pedestrian flow rates are anticipated to be acceptable with rates less than 10 p/ft/min. This analysis indicates that the sidewalks on the east and west sides of 1st and 4th Avenues S. are adequate to accommodate the No Action pedestrian demand under all event cases.



Stadium District Pedestrian Route: First Hill Streetcar

FIGURE 2-55



Stadium District No Action Post-Event Pedestrian Volumes **FIGURE 2-56**

**Table 2-5
Pedestrian Flow Assessment – No Action (Post-Event or 9:00 p.m.)**

Sidewalk Section		Case S1 ¹		Case S2		Case S3	
		Pedestrian Flow Rate (p/ft/min) ²	Level of Crowding ³	Pedestrian Flow Rate (p/ft/min) ²	Level of Crowding ³	Pedestrian Flow Rate (p/ft/min) ²	Level of Crowding ³
1st Avenue S.	S. Atlantic St to S. Massachusetts St						
	West Side (width ⁴ = 8.5-feet)	<1	Free Flow	6	Free Flow	8	Free Flow
	East Side (width ⁴ = 5.5-feet)	<1	Free Flow	7	Free Flow	9	Free Flow
	S. Massachusetts St. to S. Holgate St						
	West Side (width ⁴ = 7-feet)	<1	Free Flow	<1	Free Flow	1	Free Flow
	East Side (width ⁴ = 7-feet)	<1	Free Flow	<1	Free Flow	<1	Free Flow
4th Avenue S.	S. Holgate St to S. Walker St						
	West Side (width ⁴ = 9-feet)	<1	Free Flow	<1	Free Flow	<1	Free Flow
	East Side (width ⁴ = 6-feet)	<1	Free Flow	1	Free Flow	1	Free Flow
	S. Atlantic St to S. Holgate St						
West Side (width ⁴ = 3.5-feet)	<1	Free Flow	4	Free Flow	5	Free Flow	
East Side (width ⁴ = 3.5-feet)	<1	Free Flow	2	Free Flow	2	Free Flow	
4th Avenue S.	S. Holgate St to S. Walker St						
	West Side (width ⁴ = 1-foot)	<1	Free Flow	3	Free Flow	4	Free Flow
	East Side (width ⁴ = 3.5-feet)	<1	Free Flow	1	Free Flow	1	Free Flow

1. No Action Case S1 pedestrian flow is consistent with existing non-event conditions since the pedestrian demand in the study area is low during the post-event time period when there is no event at the existing venues.
2. Pedestrian flow calculation based on the 2010 *Highway Capacity Manual* (HCM) method using the peak 15-minute pedestrian demand rounded to the nearest 20 pedestrians to determine peak hourly flows. The calculated flow reflects the most constrained portion of the evaluated sidewalk section and is expressed in pedestrian per feet per minute (p/ft/min)
3. Based on HCM, free flow is >10 p/ft/min, restricted is 11-23 p/ft/min, and severely restricted is >23 p/ft/min.
4. The analysis assumes the smallest effective walkway width measured along the segment; therefore, widths may be greater in some areas.

S. Holgate Street

As noted in the Affected Environment, pedestrians routinely get stopped during the traverse of tracks along S. Holgate Street and event pedestrian demands are particularly prone to this as the groups of pedestrians occurring after an event have limited refuge in the event they are stopped by a closing crossing gate. This dynamic results in an potential for conflict between pedestrians and train crossing, and would increase in the future under No Action due to increased pedestrian levels as well as increased train activity.

Table 2-6 illustrates the existing (95th-percentile) pedestrian accumulations and associated queuing requirements expressed in linear feet for train crossing interruptions between 5 and 45 minutes. The scenarios in the table are provided as an illustrative sensitivity analysis. The analysis is conservative in that they reflect all pedestrians associated with post-event egress on a single side of the street.

**Table 2-6
No Action Eastbound Pedestrian Accumulation
at Holgate Train Crossing (Post-Event or 9:00 p.m.)**

Train Crossing (minutes) ¹	No Action Case S1 Pedestrian Demand = 20 pedestrians / hour ²		No Action Case S2 Pedestrian Demand = 420 pedestrians / hour ²		No Action Case S3 Pedestrian Demand = 550 pedestrians / hour ²	
	95th% Peak Pedestrian Accumulation ³	Approx. Storage Needed (ft) ⁴	95th% Peak Pedestrian Accumulation ³	Approx. Storage Needed (ft) ⁴	95th% Peak Pedestrian Accumulation ³	Approx. Storage Needed (feet) ⁴
5	5	10	46	55	58	65
10	8	20	85	95	109	125
15	10	25	123	140	158	180
20	12	25	161	180	207	235
25	14	30	198	225	255	290
30	16	35	235	265	304	345
35	19	45	272	305	352	395
40	21	45	309	350	390	450
45	23	50	345	390	447	505

1. December 2013 observations showed an average of 9-minutes of gate closures over an one-hour period.
2. Volumes reflect a peak 15-minute rate multiplied by four, and are rounded to the nearest 10.
3. 95th percentile volumes indicate either that volume or less would occur 95 percent of the time.
4. Assumed 2.25 feet per pedestrian for the linear queuing model. With an event, it is assumed on average people are walking or standing two-by-two.

As illustrated by the sensitivity analysis for No Action pedestrian demands:

- No Action Case S1 conditions are consistent with existing non-event conditions since demands late in the evening in the study area are generally driven by event travel.

- The higher level of event attendance assumed for the No Action Case S2 and S3 conditions results in higher pedestrian demands and more storage needed as compared to the existing event conditions.
- Pedestrian queues range from approximately 5 to 450 pedestrians, depending on the duration of the blockage.
- Sidewalk storage to accommodate queues based on current blockage levels of around 10 minutes range from 20 feet without an event to 125 feet.
- Blockages up to 45-minutes (representing increased activity) would result in the need for approximately 505 feet of storage to accommodate the Case S3 representing 52,500 attendees. This pedestrian queue would be greater than could be accommodated between the railroad tracks and 1st Avenue S along S. Holgate Street; therefore, pedestrians would likely stand closer together and/or extend back along the sidewalk along 1st Avenue S.

As noted in the Affected Environment, the pedestrian environment along S. Holgate Street, with related lack of storage and proliferation of rail crossings, creates an environment with opportunity for conflicts between pedestrians and rail activity. With increases in pedestrians associated with the No Action and planned increases in train activity, these issues would likely increase in the future along S. Holgate Street.

2.3.4 Impacts of Alternative 2

Alternative 2 construction would result in intermittent sidewalk closures along the frontage of the site (i.e., 1st Avenue S. and S. Massachusetts and Holgate Streets). A construction management plan would be developed and alternate pedestrian circulation would be provided adjacent to the construction site through the use of temporary walkways, detours and signs.

The following describes the Alternative 2 pedestrian context in terms of the broad study area and proximate links.

2.3.4.1 Broad Study Area Evaluation

Alternative 2 is not anticipated to change the wider study area or the pedestrian environment along the key travel routes to and from the Stadium District site described in the Affected Environment and No Action.

This alternative would result in the vacation of Occidental Avenue S. between S. Massachusetts Street and S. Holgate Street; therefore, travel patterns for pedestrians using this connection would change. Pedestrian activity occurring along this portion of Occidental Avenue S. (see existing pedestrian volumes on Figure 2-56 on page 2-81) is generally minimal during non-event conditions. As event attendance increases, use by pedestrians walking to and from parking located to the south increases. There are no sidewalk facilities along this segment of Occidental Avenue S., and the environment is poor given the undefined pedestrian area and the level of business activity occurring. Pedestrians currently using Occidental Avenue S. would

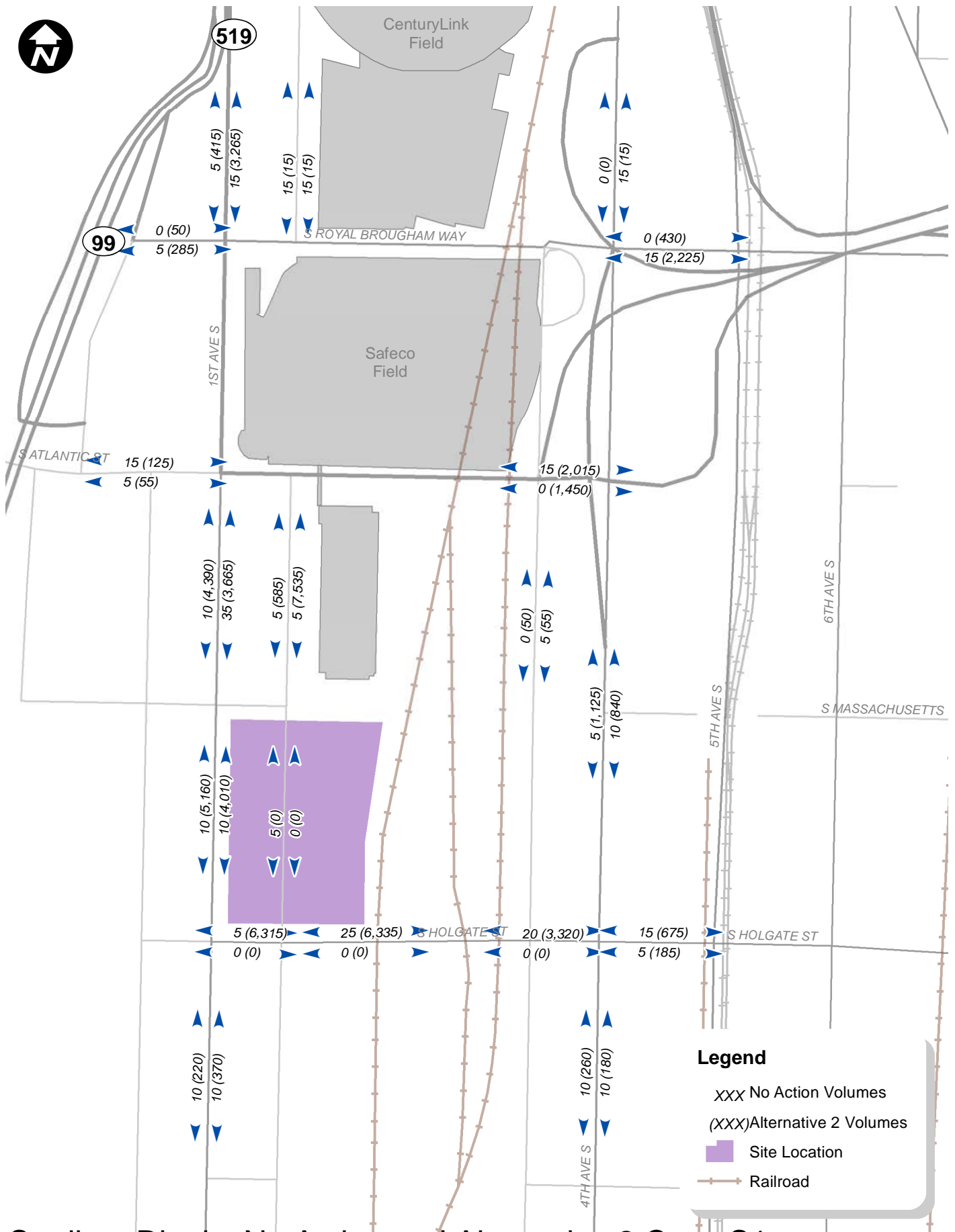
likely shift to 1st Avenue S., which has an improved pedestrian environment with a connected sidewalk system. The 1st Avenue S. sidewalk frontage between S. Massachusetts and S. Holgate Streets is proposed at 15 feet, which is adequate to accommodate expected levels of pedestrians for Alternative 2.

2.3.4.2 Link Evaluation

Figure 2–57 through Figure 2–59 show a comparison of No Action and Alternative 2 total post-event hour pedestrian volumes along the segments for the event cases. The pedestrian demand shown in the figure was used as a basis of the 1st and 4th Avenues S. and S. Holgate Street link evaluations summarized below.

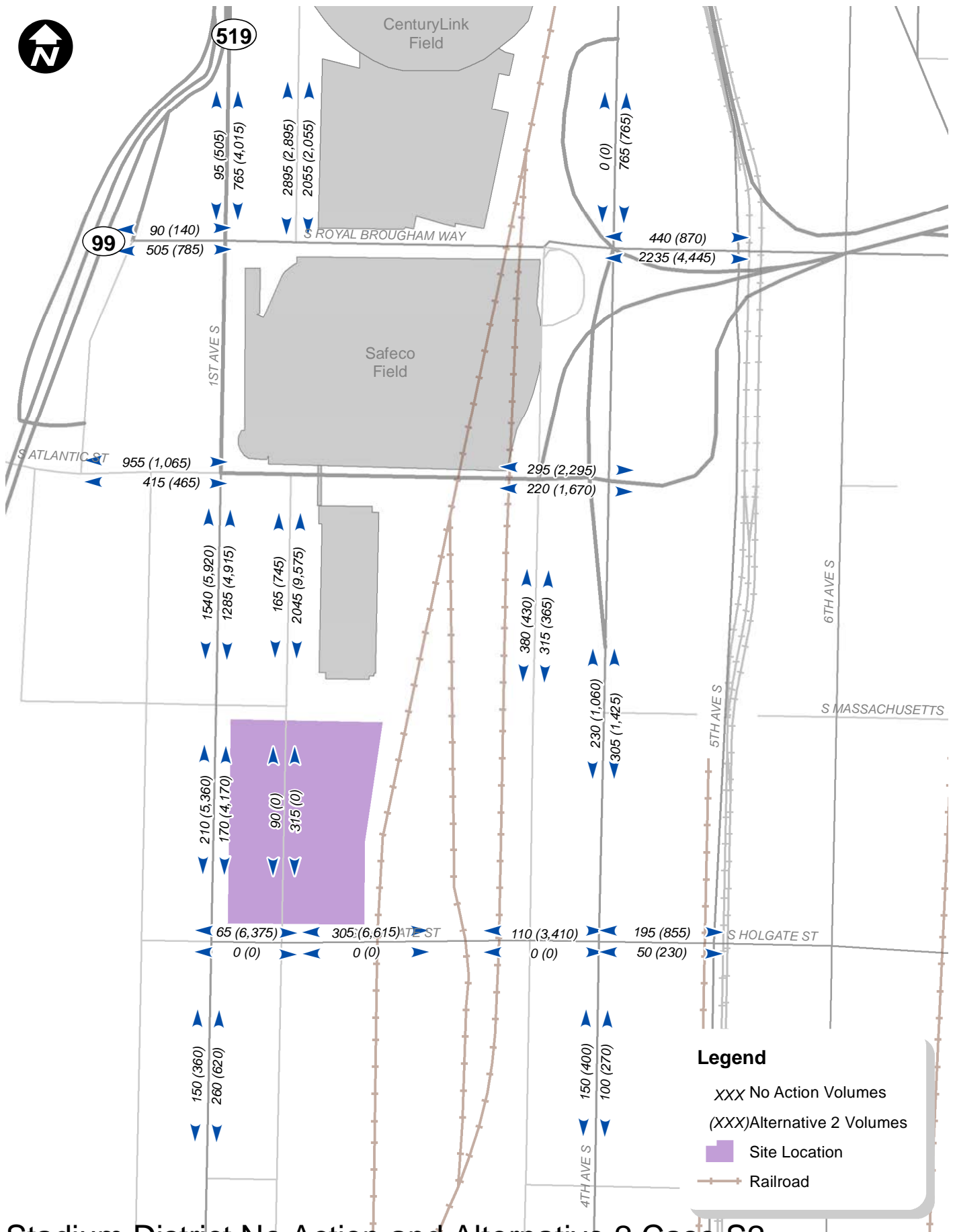
1st and 4th Avenues S.

Table 2-7 below shows the 1st and 4th Avenues S. Alternative 2 pedestrian flow analysis as compared to the No Action conditions for each event case. Based on the pedestrian flow rate, it was determined whether sidewalk conditions would be free flow (>10 p/ft/min), restricted (11-23 p/ft/min), or severely restricted (>23 p/ft/min). For the segments considered severely restricted consideration was given as to whether the conditions were temporary, alternative routes exist, and / or mitigation may be needed to improve conditions. Consideration is given to sidewalk improvements with the Arena along the 1st Avenue S. frontage.



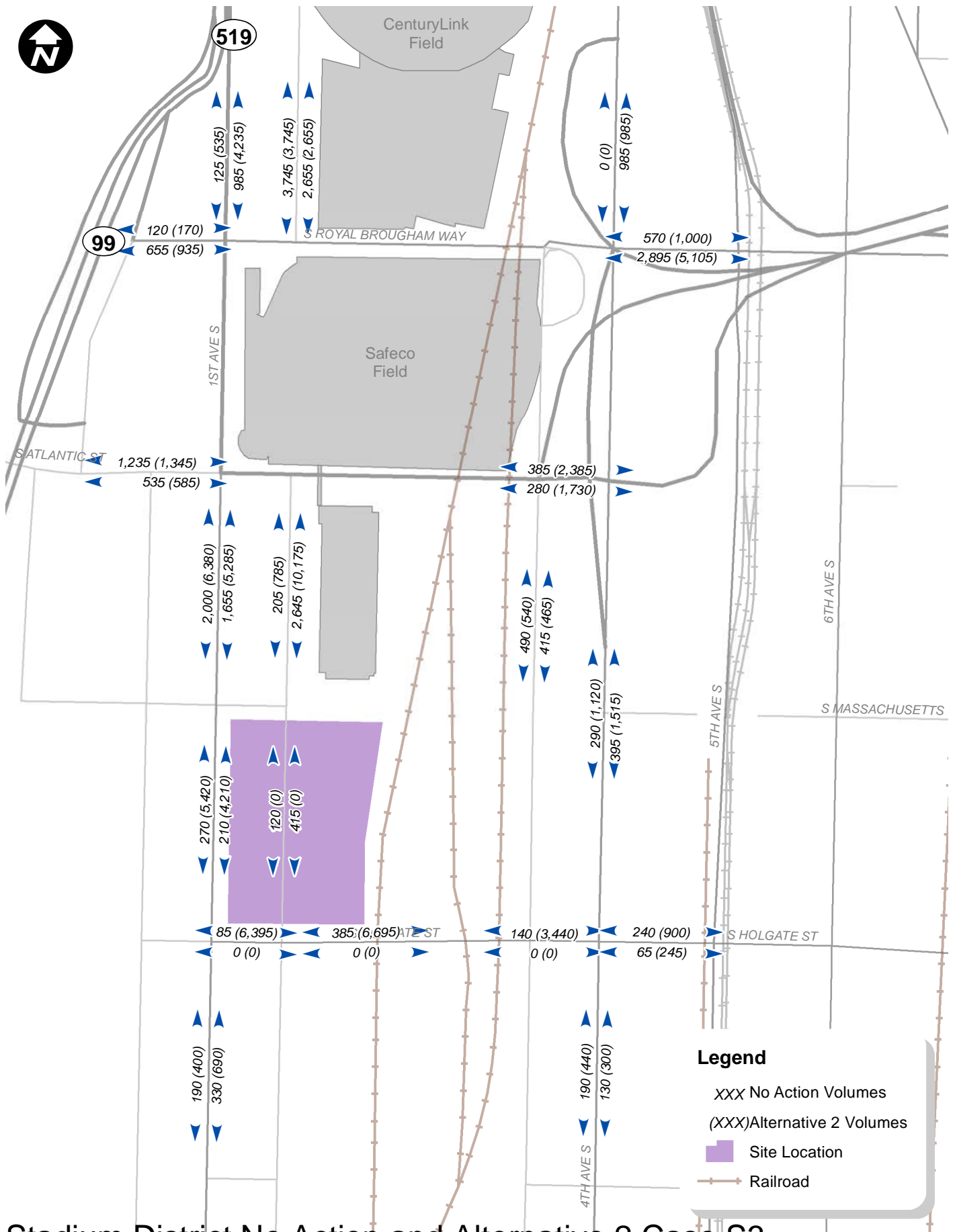
Stadium District No Action and Alternative 2 Case S1
Post-Event Pedestrian Volumes

FIGURE
2-57



Stadium District No Action and Alternative 2 Case S2
Post-Event Pedestrian Volumes

FIGURE
2-58



Stadium District No Action and Alternative 2 Case S3
Post-Event Pedestrian Volumes

FIGURE
2-59

**Table 2-7
Pedestrian Flow Assessment – Comparison of No Action and Alternative 2
(Post-Event or 9:00 p.m.)**

	Sidewalk Section	Case S1		Case S2		Case S3	
		Pedestrian Flow Rate ¹ (p/ft/min) / Level of Crowding ²		Pedestrian Flow Rate ¹ (p/ft/min) / Level of Crowding ²		Pedestrian Flow Rate ¹ (p/ft/min) / Level of Crowding ²	
		No Action ³	Alt 2 ⁴	No Action	Alt 2 ⁴	No Action	Alt 2 ⁴
1st Avenue S.	S. Atlantic St to S. Massachusetts St West Side (width ⁵ = 8.5-feet)	<1 / Free Flow	8 / Free Flow	6 / Free Flow	13 / Restricted	8 / Restricted	15 / Restricted
	East Side (width ⁵ = 5.5-feet)	<1 / Free Flow	35 / Severely Restricted	7 / Free Flow	41 / Severely Restricted	9 / Free Flow	44 / Severely Restricted
	S. Massachusetts St. to S. Holgate St West Side (width ⁵ = 7-feet)	<1 / Free Flow	2 / Free Flow	<1 / Free Flow	2 / Free Flow	1 / Free Flow	3 / Free Flow
	East Side (width ⁵ = 7-feet [No Action] width ⁵ = 16-feet [Alt 2])	<1 / Free Flow	13 / Restricted	<1 / Free Flow	13 / Restricted	<1 / Free Flow	13 / Restricted
	S. Holgate St to S. Walker St West Side (width ⁵ = 9-feet)	<1 / Free Flow	<1 / Free Flow	<1 / Free Flow	1 / Free Flow	<1 / Free Flow	1 / Free Flow
	East Side (width ⁵ = 6-feet)	<1 / Free Flow	1 / Free Flow	1 / Free Flow	2 / Free Flow	1 / Free Flow	3 / Free Flow
4th Avenue S.	S. Atlantic St to S. Holgate St West Side (width ⁵ = 3.5-feet)	<1 / Free Flow	11 / Restricted	4 / Free Flow	15 / Restricted	5 / Free Flow	16 / Restricted
	East Side (width ⁵ = 3.5-feet)	<1 / Free Flow	5 / Free Flow	2 / Free Flow	7 / Free Flow	2 / Free Flow	7 / Free Flow
	S. Holgate St to S. Walker St West Side (width ⁵ = 1-feet)	<1 / Free Flow	4 / Free Flow	3 / Free Flow	6 / Free Flow	4 / Free Flow	7 / Free Flow
	East Side (width ⁵ = 3.5-feet)	<1 / Free Flow	2 / Free Flow	1 / Free Flow	3 / Free Flow	1 / Free Flow	3 / Free Flow

Notes: Shading indicates locations with severely restricted flow rates.

1. Pedestrian flow calculation based on the 2010 *Highway Capacity Manual* (HCM) method using the peak 15-minute pedestrian demand rounded to the nearest 20 pedestrians to determine peak hourly flows. The calculated flow reflects the most constrained portion of the evaluated sidewalk section and is expressed in pedestrian per feet per minute (p/ft/min)
2. Based on HCM, free flow is >10 p/ft/min, restricted is 11-23 p/ft/min, and severely restricted is >23 p/ft/min.
3. No Action Case S1 pedestrian flow is consistent with existing non-event conditions since the pedestrian demand in the study area is low during the post-event time period when there is no event at the existing venues.
4. Assessment assumes pedestrian improvements along site frontage including 1st Avenue S. between S. Massachusetts Street and S. Holgate Street where a 15-foot pedestrian zone is assumed on the east side of the street. This results in an improved pedestrian flow rate relative to No Action.
5. The analysis assumes the smallest effective walkway width measured along the segment; therefore, widths may be greater in some areas. An effective walkway width of 16-feet is assumed along the 1st Avenue S. Arena frontage.

Table 2-7 shows:

- Alternative 2 Case S1 pedestrian flows on the east side of 1st Avenue S. between S. Atlantic and S. Massachusetts Streets would be severely restricted and pedestrians would experience crowded conditions, assuming the identified peaking characteristics.
- The multi-event cases (Case S2 and S3) would cause further restricted flows on the east side as well as degrade conditions on the west side of 1st Avenue S. between S. Atlantic and S. Massachusetts Streets.
- Given the location of the doors to the Arena along 1st Avenue S. at the northwest (at 1st Avenue S./S. Massachusetts Street) and southwest (1st Avenue S./S. Holgate Street) corners of the building and the approximately 24-foot wide¹⁸ sidewalk with a 16-foot pedestrian zone proposed along the frontage, flows along 1st Avenue S. between S. Massachusetts and S. Holgate Streets would be slightly restricted.
- Pedestrian flows along 4th Avenue S. between S. Atlantic and S. Walker Streets would generally experience free flow except on the west side of 4th Avenue S. between S. Atlantic and S. Holgate Streets where the addition of the Arena would result in some crowding due to a constrained sidewalk section. There is capacity on the east side, so pedestrians wanting to avoid crowds could use these facilities. It is noted that along 4th Avenue S. the sidewalk conditions (including width and lack of maintenance) and poor lighting make this route less accessible for pedestrians.

The calculation of pedestrian flow rates suggests that during the peak 15 minutes associated with a capacity event egress sidewalk on the east side of 1st Avenue S., north of Massachusetts Street would be crowded as a result of the Arena. This could be mitigated by rerouting more pedestrians to Occidental Avenue S. immediately north of the site and / or providing more onsite attractions and amenities to reduce peaking characteristics of post-event egress.

S. Holgate Street

Alternative 2 would result in substantially more pedestrians along S. Holgate Street than characterized for the No Action conditions during both event ingress and egress. It is likely that conflicts between pedestrians and trains would increase with Alternative 2, exacerbating an issue that exists under current event and non-event conditions. The introduction of an Arena at this location would substantially increase and concentrate demands over currently observed levels.

Table 2-8 illustrates the existing (95th-percentile) pedestrian accumulations and associated queuing requirements expressed in linear feet for train crossing interruptions between 5 and 45 minutes. The scenarios in the table are provided as an illustrative sensitivity analysis. The analysis is conservative in that they reflect all pedestrians associated with post-event egress on a single side of the street. The evaluation considers sidewalk widening and improvements that

¹⁸ Sidewalks would be widened to 24-feet and the evaluation assumes an effective walkway width of 16-feet.

would be made along S. Holgate Street with the Arena. It is assumed that the sidewalk along the S. Holgate Street Arena frontage would be widened to 24-foot and that given the crowding during post event conditions up to 8 pedestrians would walk side-by-side. By comparison, the No Action assumes up to 2 pedestrians would walk side-by-side.

**Table 2-8
Action Eastbound Pedestrian Accumulation
at Holgate Train Crossing (Post-Event or 9:00 p.m.)**

Train Crossing (minutes) ¹	Alt 2 Case S1 Pedestrian Demand = 9,860 pedestrians / hour ²		Alt 2 Case S2 Pedestrian Demand = 10,280 pedestrians / hour ²		Alt 2 Case S3 Pedestrian Demand = 10,410 pedestrians / hour ²	
	95th% Peak Pedestrian Accumulation ³	Approx. Storage Needed (ft) ⁴	95th% Peak Pedestrian Accumulation ³	Approx. Storage Needed (ft) ⁴	95th% Peak Pedestrian Accumulation ³	Approx. Storage Needed (ft) ⁴
5	870	245	906	255	917	260
10	1,711	485	1,783	505	1,805	510
15	2,548	720	2,655	750	2,688	760
20	3,382	955	3,524	995	3,568	1,005
25	4,215	1,190	4,392	1,235	4,447	1,255
30	5,047	1,420	5,259	1,480	5,325	1,500
35	5,878	1,655	6,125	1,725	6,202	1,745
40	6,708	1,890	6,991	1,970	7,078	1,995
45	7,538	2,120	7,856	2,210	7,954	2,240

1. December 2013 observations showed an average of 9-minutes of gate closures over an one-hour period.
2. Volumes reflect a peak 15-minute rate multiplied by four, and are rounded to the nearest 10.
3. 95th percentile volumes indicate either that volume or less would occur 95 percent of the time.
4. Assumed 2.25 feet per pedestrian for the linear queuing model. Sidewalk along S. Holgate Street would be widened to 24-feet and due to crowding assumed with post event conditions it is assumed that on average there would be 8 people across.
5. Directional pedestrian volumes not available for non-event conditions; crosswalk counts on a non-event day indicate little to no pedestrians use the roadway without an event during the hour evaluated.

As illustrated by the sensitivity analysis for Alternative 2 pedestrian demands:

- Pedestrian queues and storage needs would range from approximately 15 to 330 times greater than characterized for the No Action conditions.
- Pedestrian queues attributable to waiting for passing trains would range from approximately 900 to 8,000 pedestrians, depending on the duration of the blockage.
- Sidewalk storage to accommodate queues based on current blockage levels of around 10 minutes would be over 500 feet.

- Blockages up to 45 minutes (representing increased activity) would result in the need for approximately 2,120 square-feet of storage to accommodate just an Arena event. This would mean that pedestrian queues would extend to 1st Avenue S.

As noted in the Affected Environment, there is an existing pedestrian access issue along S. Holgate Street related to the lack of storage. With significant increases in event-related pedestrian volumes associated with Alternative 2 and planned increases in train activity, pedestrian access issues would increase in the future along S. Holgate Street. Accommodating the large storage needs for pedestrians, particularly during post-event egress, would be difficult even with enhanced at-grade crossings and pedestrian treatments.

2.3.5 Impacts of Alternative 3

Alternative 3 construction would result in intermittent sidewalk closures along the frontage of the site (i.e., 1st Avenue S. and S. Massachusetts and Holgate Streets). A construction management plan would be developed and alternate pedestrian circulation would be provided adjacent to the construction site through the use of temporary walkways, detours and signs.

With 10 percent less seats, this would result in a 10 percent reduction in the overall pedestrian demand as compared to the Alternative 2. Overall transportation impacts for Alternative 3 would be slightly less than those described for Alternative 2 and the analysis of Alternative 2 fully encompasses any transportation impacts that would occur as a result of developing Alternative 3.

2.3.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements. The following identifies those potential mitigation measures considered to have a high influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 2 and Alternative 3.

- Pedestrian Improvements (i.e. pedestrian scale lighting, S. Atlantic / 3rd Avenue south side stairs)
- Way-finding system
- Pedestrian scale lighting improvements
- Realignment of S. Massachusetts Street between 1st Avenue S. and Occidental Avenue
- Closure of S. Holgate Street to pedestrians coupled with either a pedestrian bridge from the Arena to approximately 3rd Avenue S. or shuttles running to and from King Street Station and pedestrian improvements south along 1st Avenue S. and east along S. Lander Street from 1st to 4th Avenue S.

2.3.6.1 Holgate Street Mitigation Evaluation

S. Holgate Street is an important east-west connecting street in the SODO neighborhood, and is used for local transportation of freight traffic as well as general traffic. However, it also crosses a significant number of rail lines with through trains as well as local switching operations, which cause substantial blockages for vehicles and pedestrians. With forecast increases in rail traffic, the vehicular blockages, as well as potential for conflicts with vehicles and pedestrians will increase, with or without the proposed Arena. However, the significant pedestrian volumes that would exist prior to, and especially after a large Arena event would increase the potential for conflicts. In addition, these conflicts, in the event of a train blockage, would have an impact on pedestrian connectivity to parking along the 4th Avenue S. corridor, as well as connections to bus service on 4th Avenue S.

After evaluating options to maintain at-grade pedestrian access across Holgate pre- and post-event, it was determined that prohibiting at-grade pedestrian crossing of the tracks along S. Holgate Street would provide the highest level of safety for pedestrians in light of the expected increases in rail traffic. This would be managed through the implementation of manual traffic control and barricades to enforce the closure, during appropriate pre-, during- and post- event periods. Specific timing of such restrictions will be determined through working with the City on the final traffic control plans and protocols depending on the size of events. Although this would mitigate the impacts of the conflicts, it would create a barrier between the Arena site and the transit service on 4th Avenue as well as the potential parking areas east of the site. As such the following two potential mitigation packages were identified.

Option 1 – Closure of Holgate Street to pedestrians under arena event conditions with construction of a pedestrian bridge across the tracks

Option 1 includes the closure of Holgate Street to pedestrians under event conditions as well as the completion of a pedestrian bridge that extends from the Arena site, spans all train tracks, and touches down between 3rd Avenue and 4th Avenue. The bridge would also have a direct connection to the Arena to promote the use of the facility by patrons of the arena. Initial analyses provided by the applicant indicates that such an improvement could be feasible, but further coordination with BNSF and AMTRAK is required as design details such as track clearances and location of support columns need to be identified such that it does not impact rail operations. Holgate Street would remain open to automobile traffic under pre- and post-event conditions through the use of traffic control personnel.

The Holgate Street pedestrian bridge width would be determined in the design phase. Using the link evaluation method described previously, an analysis was conducted to understand the potential pedestrian bridge width relative to pedestrian flow rates. The results show the following widths:

- Free Flow (< 10 p/ft/min): > 18-feet
- Restricted Flow (11 to 23 p/ft/min): 9 to 18-feet

- Severely Restricted Flow (>23 p/ft/min): 8-feet or less

By comparison, the West Thomas Street Pedestrian/Bicyclist Overpass is 12-feet wide and the Weller Street Pedestrian Bridge is 18 feet wide.

Option 2 - Closure of Holgate Street to pedestrians under event conditions, with shuttles between the Arena and King Street Station under pre and post event conditions, and improve the pedestrian pathway from the Arena, south on 1st Avenue to Lander and east to 4th Avenue.

Option 2 also includes closure of Holgate Street to pedestrians under event conditions; however, instead of a pedestrian bridge, shuttles would be provided from King Street Station and improvements would be made along pedestrian routes. These improvements are anticipated to include wayfinding, improved lighting to meet City standards, and/or wider sidewalks approaching the Lander rail crossing to provide additional capacity for pedestrians. In addition, the pedestrian connection via 1st Avenue S. and S. Lander Street would require pedestrian safety enhancements at the Lander rail crossing.

With the closure of Holgate Street to pedestrians and no construction of the pedestrian bridge, the direct connections to the primary transit corridors east of the arena site as well as the parking fields would be lost. To mitigate the impacts of this, two additional elements are included in this option. First, to provide accessibility to transit, shuttles would operate between the arena and King Street Station. The shuttles would likely utilize Occidental and 1st Avenue to circulate between the two sites. To maintain access to the parking areas east of 4th Avenue, improvements to the pedestrian network south on 1st Avenue and then across Lander Street would be implemented. These improvements could include installation of pedestrian scale lighting, spot improvements to address deficient areas of sidewalk, and increased sidewalk width to accommodate the queuing of pedestrians during train crossing events. Operational details of this operation would be identified in the Transportation Management Plan to be developed.

2.3.7 Secondary and Cumulative Impacts

No secondary or cumulative impacts to pedestrian facilities have been identified.

2.3.8 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts are expected.

2.4 Bicycle

2.4.1 Methodology

The general approach to the evaluation of bicycle impacts included:

- Inventory of existing bicycle facilities

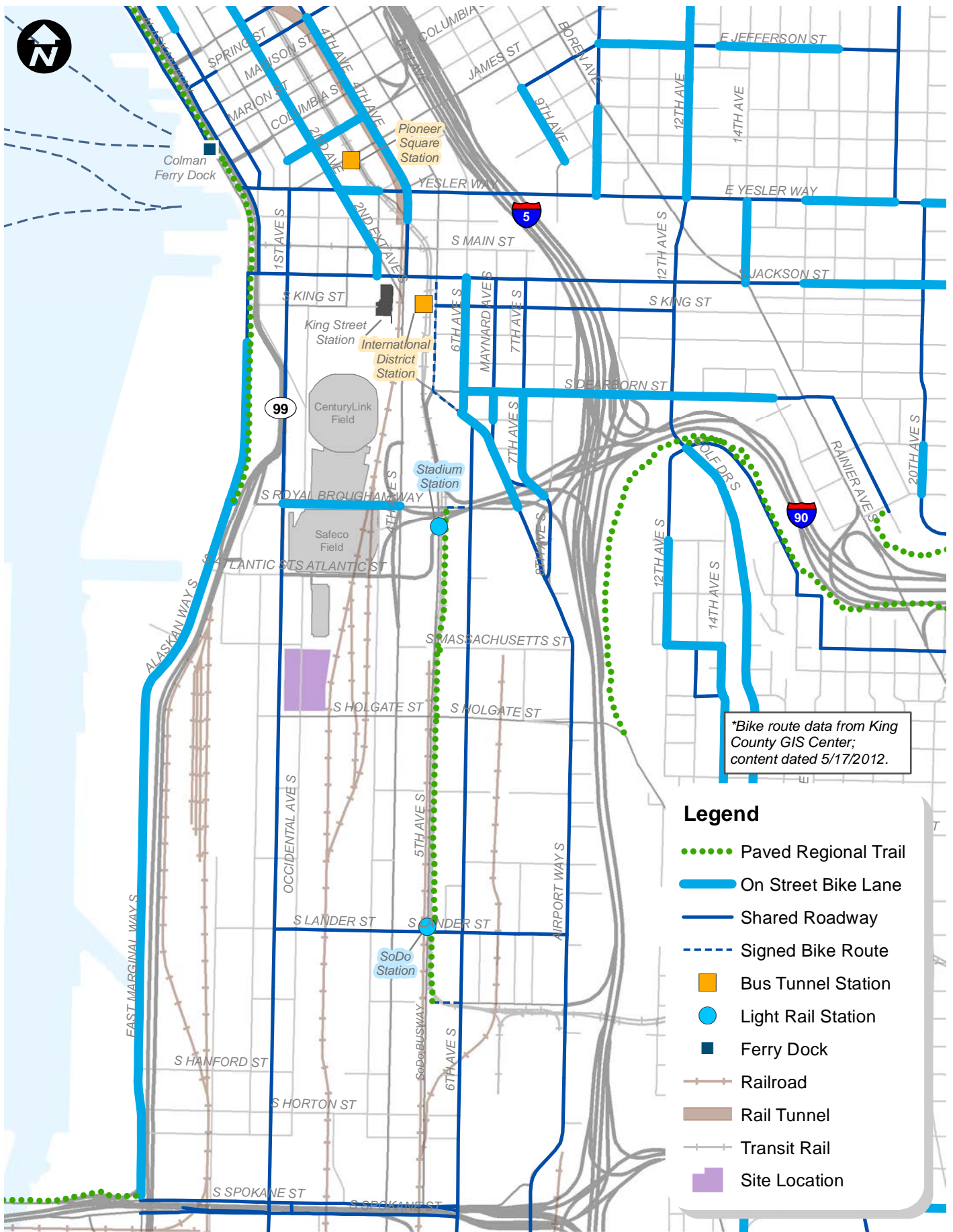
- Identification of future plans related to bicycle facilities
- Collection of non-event and event bicycle data in the study area
- Evaluation of bicycle impacts considering change in volumes

2.4.2 Affected Environment

Figure 2–60 illustrates the bicycle network within the study area. The primary north-south bike corridors include 1st Avenue S. and 6th Avenue S. that include sharrows and shared lanes as well as the bike lane that is provided along E. Marginal Way. The E. Marginal Way bike lane connects to the trail from West Seattle, providing a direct bike connection to downtown.

East-west bicycle connections in the study area are provided by bicycle lanes along S. Royal Brougham Way and shared lane facilities along E. Yesler Way, S. Jackson Street, S. Lander Street and S. Spokane Street.

The Elliott Bay Trail and the SoDo Trail are off-street multi-use trails in the study area. The Elliott Bay Trail runs along Alaskan Way S. in the northwestern part of the study area. It starts at S. Royal Brougham Way and travels north toward the Queen Anne neighborhood. The SoDo Trail is a shorter trail located east of the site between 4th Avenue S. and 6th Avenue S. adjacent to the SoDo Busway. It begins at S. Royal Brougham Way and ends approximately one block south of S. Lander Street. The SoDo Trail can be accessed at S. Royal Brougham Way, S. Holgate Street and S. Lander Street.



Stadium District Bicycle Facilities

Seattle Arena

FIGURE 2-60

Weekday event and non-event bicycle volumes were collected in May 2013 along key roadways in the vicinity of the Stadium District site including 1st Avenue S., Occidental Avenue S., 3rd Avenue S., 4th Avenue S., S. Holgate Street, and S. Royal Brougham Way. The volumes were reviewed during pre-event (6:00 to 7:00 PM) and post-event conditions. Event conditions represent a Mariners game with approximately 13,000 attendees. A review of the bicycle volumes shows:

- There is little to no post-event bicycle traffic in the vicinity of the site under both non-event and event conditions. The locations with more than a few bicyclists were closer to Safeco Field. 1st and Occidental Avenues S., north of S. Royal Brougham Way had approximately 20 to 35 bicyclists post-game, and 1st Avenue S., south of S. Holgate Street had approximately 15 bicyclists. Given the travel patterns, there is a potential that some of this bicycle traffic was related to the Mariners game.
- Pre-event bicycle volumes were generally higher than post-event for both non-event and event conditions.
- A majority of the bicycle traffic was concentrated along 1st Avenue S. where there are sharrows or shared lanes.
- In general, event bicycle volumes were slightly higher than non-event demands along the north-south corridors (i.e., 1st Avenue S. and 4th Avenue S.). For the east-west corridors (S. Royal Brougham Way, S. Atlantic Street and S. Holgate Street) the comparison of bicycle volumes was inconsistent; however, in general, the volumes were lower with the event as compared to non-event.

It is difficult to know with certainty if increased bicycle volumes with events are a result of the event attendees, bicyclists displaced from other routes, or non-event bicyclists who have chosen to ride specifically on days when events are to occur. Overall, the observed proportional change in bicycle traffic is minimal and the actual change in the number of bicycles on the road is unlikely to create a noticeable impact between event and non-event conditions.

2.4.3 Impacts of No Action Alternative

Bicycle conditions for 2018 and 2030 No Action cases are described below.

2.4.3.1 2018 Conditions

Bicycle improvements planned and funded in the SoDo study area were reviewed. The most significant projects within the study area are the two multi-use paths being constructed as part of the Alaskan Way Viaduct Replacement Project to be completed by 2018.

Bicycle use is anticipated to continue to grow in Seattle as transportation congestion and cost of parking increases. Bicycle traffic levels were identified in Affected Environment and were not identified as a significant portion of the traffic stream during pre- and post-event in the Stadium District study area. No significant change in bicycle traffic is forecasted; however, there is a likelihood that the new multiuse paths will see significant use, especially during summer

months. It is possible that these facilities could attract riders from other, less comfortable street routes, thus decreasing relative bicycle volumes on other street grid routes.

2.4.3.2 2030 Conditions

There are no additional funded improvements for 2030 at this time; however, the City has adopted the Bicycle Master Plan and developed an Implementation Plan.

Bicycle transportation demands in 2030 are expected to be similar to those described for the 2018 condition, which were similar to existing conditions. No new adverse impacts to bicycle travel would occur, with the exception of increased rail crossing activity (frequency and duration) at S. Holgate Street. This would continue to result in the increased potential for conflicts between bicyclists and train crossings.

In general, as traffic volumes increase in the study area due to future 2018 and 2030 growth, there is a potential for increased conflict between vehicles and bicyclists.

2.4.4 Impacts of Alternative 2

Construction of Alternative 2 may result in intermittent bicycle facility closures and re-routing along 1st Avenue S. A construction management plan could be developed to mitigate impacts. Protocol could be included in the plan related to alternate bicycle circulation adjacent to the construction site through the use of temporary facilities, detours, and signs.

Alternative 2 is not anticipated to impact bicycle facilities within the study area. As described in the Affected Environment, bicycle volumes within the study area are generally low in the vicinity of the Stadium District site, and minimal increase is anticipated with the development. Development of the Seattle Arena would result in increased vehicular demands on event days within the study area, which would increase the potential conflicts between bicyclists and vehicles. Bicycle impacts in 2018 and 2030 are anticipated to be similar.

2.4.5 Impacts of Alternative 3

Construction of Alternative 3 may result in intermittent bicycle facility closures and re-routing along 1st Avenue S. A construction management plan could be developed to mitigate impacts. Protocol could be included in the plan related to alternate bicycle circulation would be provided adjacent to the construction site through the use of temporary facilities, detours, and signs.

With 10 percent less seats, this would result in a 10 percent reduction in the overall vehicular demand as compared to Alternative 2. Given the lesser demand, bicycle impacts with development of Alternative 3 may be slightly less than with Alternative 2.

2.4.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements. The following identifies those potential mitigation measures considered to have a high

influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 2 and Alternative 3.

- Bicycle racks
- Bicycle route improvements

2.4.7 Secondary and Cumulative Impacts

No secondary or cumulative impacts to bicyclists or bicycle facilities have been identified.

2.4.8 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts are expected.

2.5 Traffic Volumes

This section provides a summary of the existing and forecast traffic volumes at the study area intersections and presents the methodology used in developing traffic forecasts for the No Action, Alternative 2, and Alternative 3 analyses.

2.5.1 Methodology

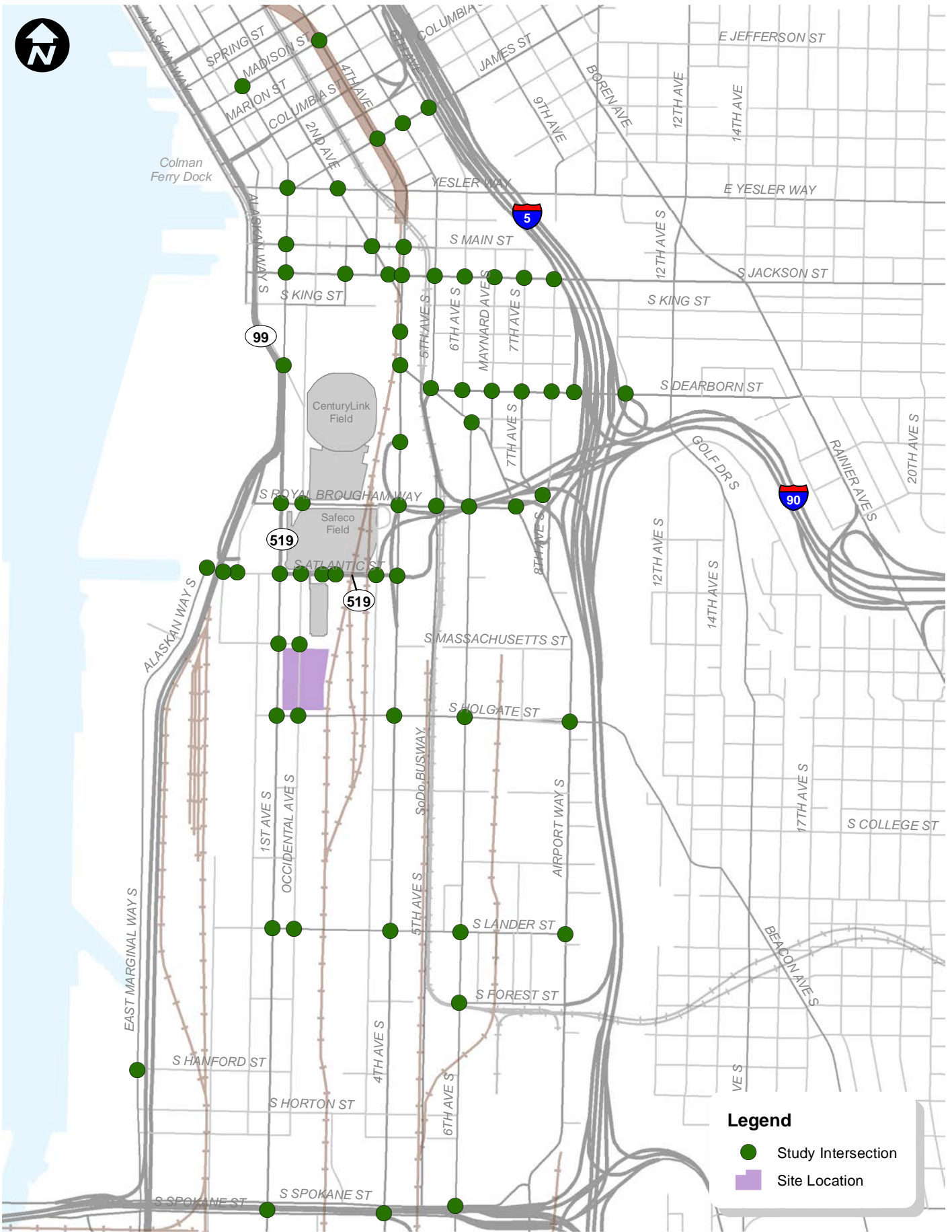
2.5.1.1 Study Area

A total of 64 intersections were included in the Stadium District alternatives study area. The study area intersections are shown on Figure 2–61. Study area intersections were defined considering existing conditions, impacts of future road improvements, and potential impacts of the Proposed Arena project.

2.5.1.2 Analysis Time Periods

To determine the appropriate analysis period (weekday versus weekend), 24-hour count data from the City of Seattle was obtained and reviewed for several key locations in the vicinity of the site. Weekly data used in this comparison included counts completed in 2009, 2010, and 2011. Although newer turning movement counts have been conducted for a variety of event conditions, the use of this historical daily data provides a valid comparison of the weekly volume profile and is appropriate for determination of the “peak” day. Table 2-9 summarizes the peak hour count information for the key locations within the study area. The data presented in the table represents the peak of the daily volumes and may not necessarily correspond to the same hour at each location.

As shown in Table 2-9, traffic volumes observed during the Saturday and Sunday peak hours range from 38 percent to 76 percent of the weekday PM peak hour. Based on this information, the analysis of event traffic occurring during the weekday period represents the most appropriate basis for detailed traffic analysis through the SoDo area.



Stadium District Study Intersections

Seattle Arena

FIGURE 2-61

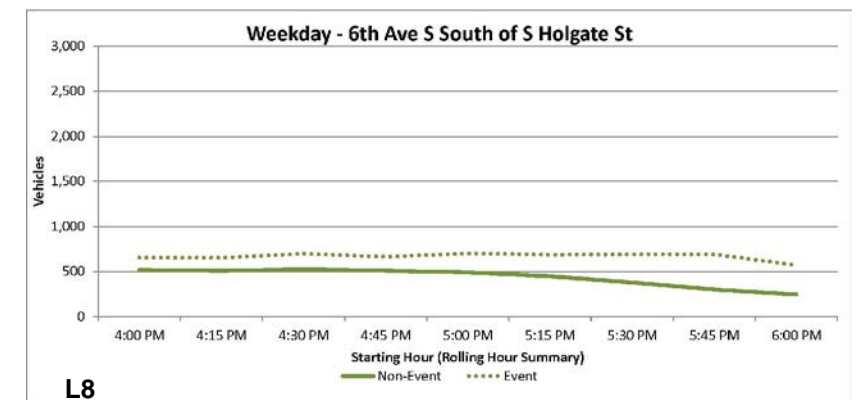
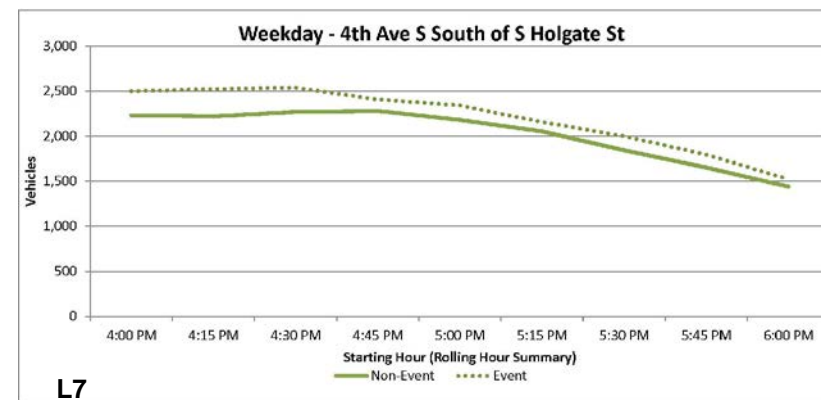
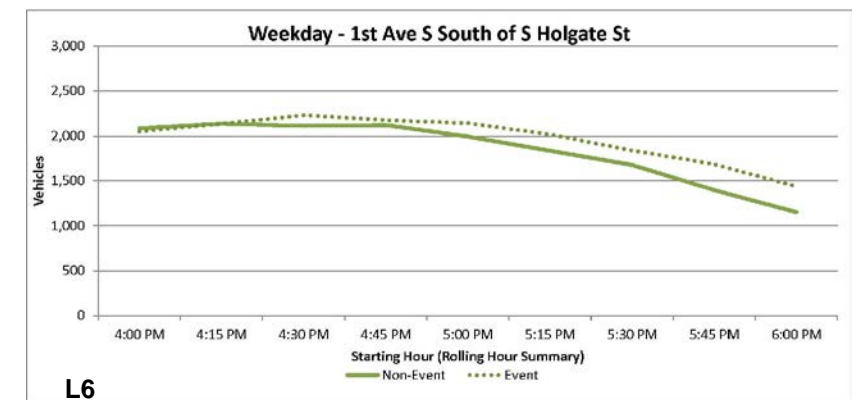
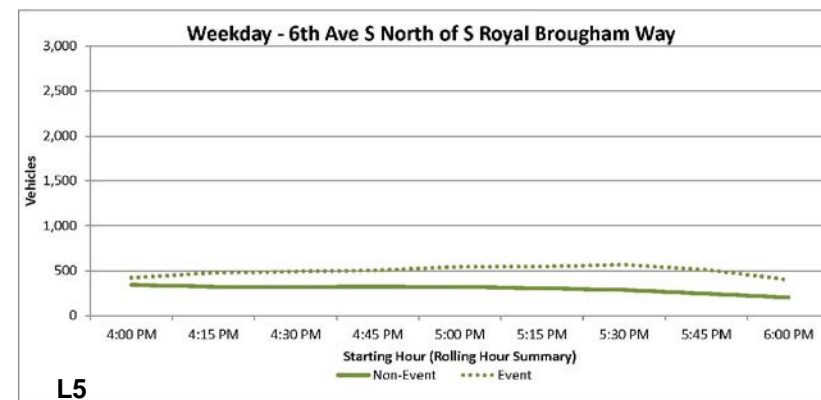
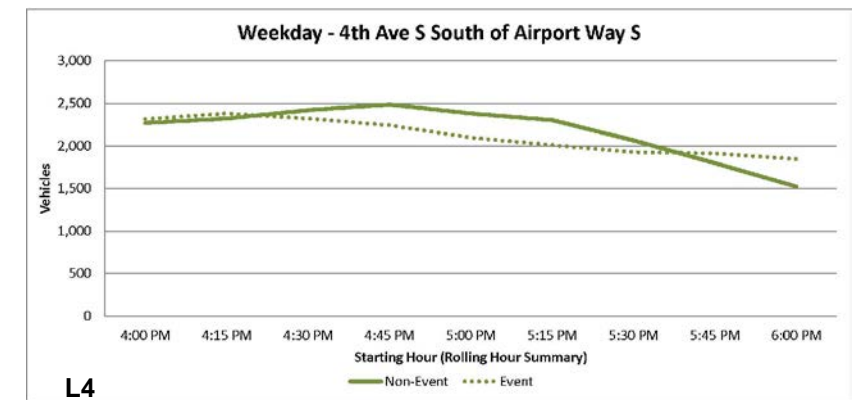
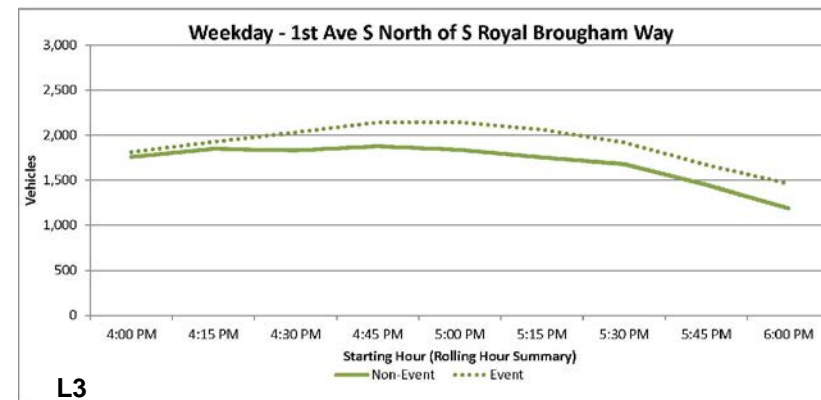
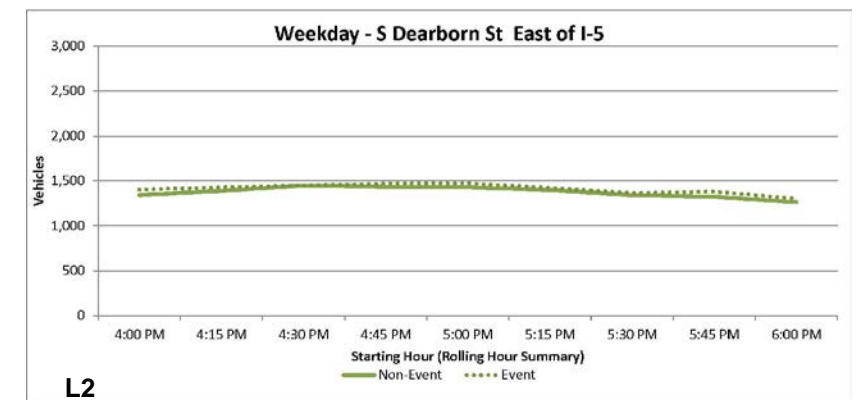
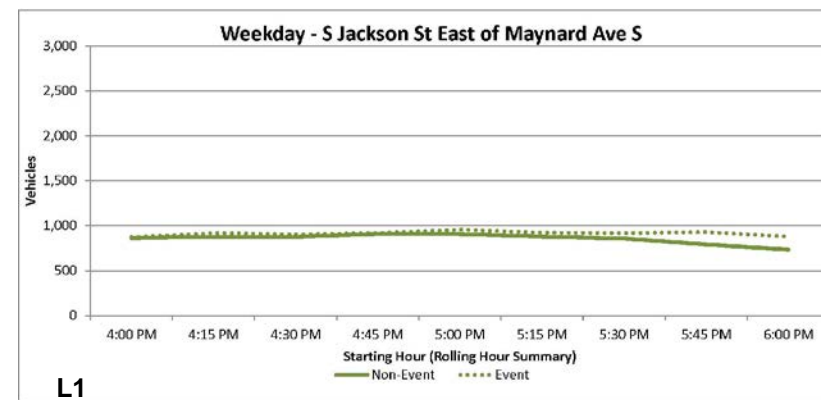
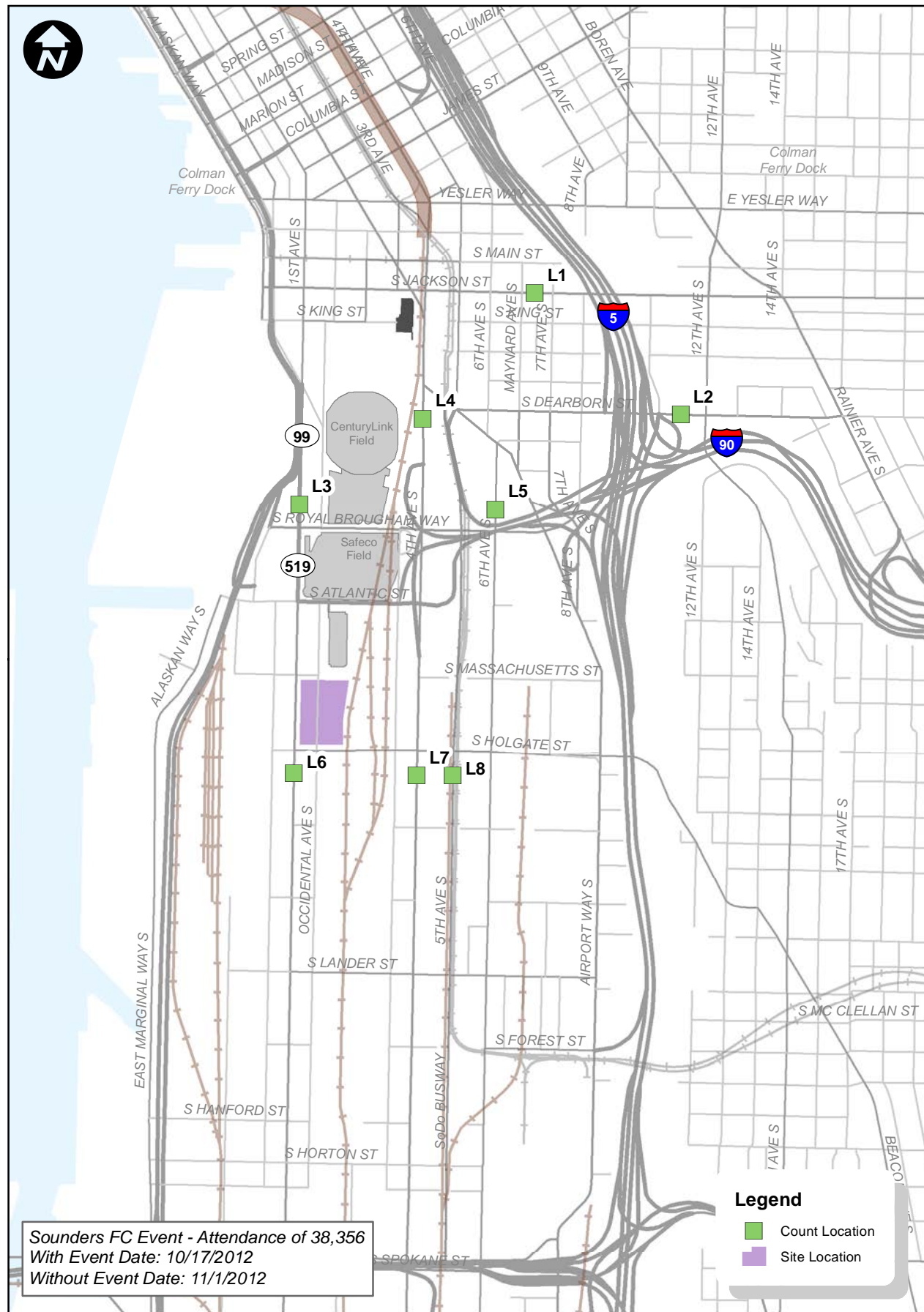
Within the weekday period, additional consideration was given to the appropriate hour for which to conduct the traffic analysis. Weekday PM peak period traffic volumes (4:00 to 7:00 PM) under event and non-event conditions were compared along key corridors in the study area and are presented on Figure 2–62.¹⁹ The analysis shows that for the three-hour count period the system wide peak for the weekday PM peak hour under non-event and event generally occurs at the same time (i.e., 4:30 to 5:30 PM). As such, the traffic analysis results presented in this document focus on the weekday PM peak hour (4:30 to 5:30 PM) representing the highest overall traffic volumes for the system. While the event related traffic may represent a lower percentage of the overall traffic, the combined volumes represent the highest volumes within the 4:00 to 7:00 PM time period.

**Table 2-9
24-Hour Count Comparison (Weekday vs. Weekend)**

Location	Peak Hour Volume of the Roadway					
	Weekday (Tues-Thurs) ¹		Saturday (Percent of Weekday)		Sunday (Percent of Weekday)	
	Volume	Peak Hour	Volume	Peak Hour	Volume	Peak Hour
S. Holgate Street, west of 4th Avenue S. ²	850	5:00 - 6:00 PM	600 (71%)	2:00– 3:00 PM	450 (53%)	2:00– 3:00 PM
1st Avenue S., south of S. Holgate Street ³	1,630	5:00 - 6:00 PM	1,240 (76%)	2:00– 3:00 PM	880 (54%)	2:00– 3:00 PM
S. Royal Brougham Way, east of 4th Avenue S. ⁴	680	5:00 - 6:00 PM	435 (64%)	12:00 – 1:00 PM	270 (40%)	2:00– 3:00 PM
4th Avenue S., south of S. Holgate Street ⁵	1,940	5:00 - 6:00 PM	1,130 (58%)	2:00– 3:00 PM	1,110 (57%)	4:00– 5:00 PM

1. Peak hour between 4:00 PM -7:00 PM
2. October 2009, SDOT traffic count data
3. March 2010, SDOT count data
4. February 2011. SDOT count data
5. March 2010 traffic data.

¹⁹ Weekday PM Peak hour with event traffic volumes were collected on Wednesday, October 17, 2012 during a Sounders FC game with a scheduled start of 7:00 PM



Stadium District With Non-Event and Event Weekday Traffic Volume Comparison

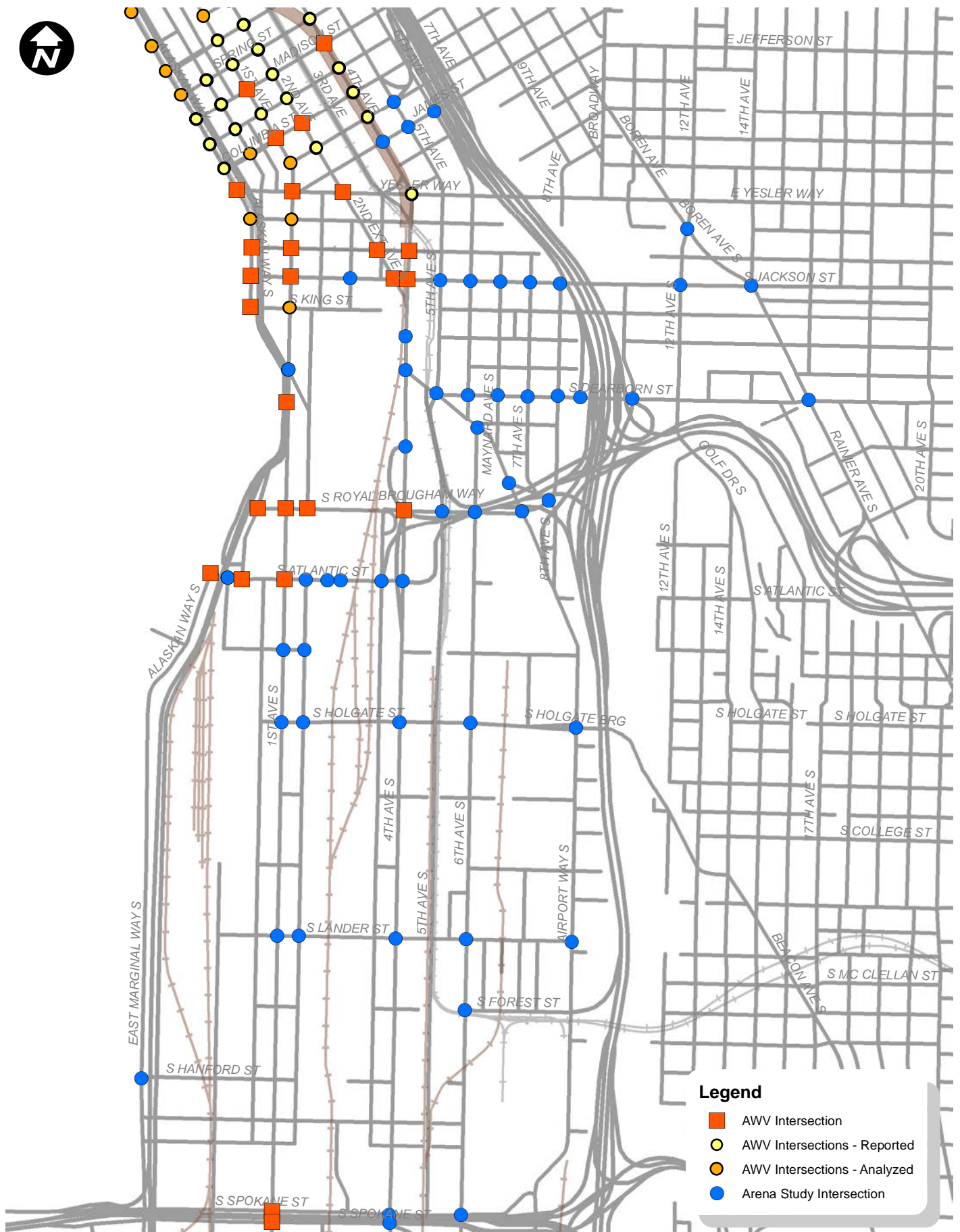
2.5.1.3 Traffic Forecast Methodology – No Action Non-Event Analyses

Future weekday PM peak hour vehicular traffic volumes were developed based on the following general approach:

- Traffic volume forecasts from the Final EIS's for the Alaskan Way Viaduct Replacement Project (July 2011) were summarized for the overlapping study area intersections.
- Traffic forecasts at intersections not included in the Final EIS's for the Alaskan Way Viaduct Replacement Project were estimated based on existing travel patterns and approach volumes for intersections previously reported in the EIS.
- Port of Seattle truck activity for the 2018 and 2030 horizon years was based on data provided by the Port of Seattle, consistent with achieving 3.5 M TEU by 2030.
- Traffic forecasts for the No Action event cases were developed considering a no background event scenario (Case S1) and by adding traffic from either a Mariners game (Case S2) or both a Mariners game and an event at the CenturyLink Field Event Center (Case S3) to the No Action background forecasts.
- Diversion of traffic from S. Holgate Street and S. Lander Street rail crossings to S. Atlantic Street to reflect increased rail crossing closures from increased mainline and non-revenue train activity. Traffic volumes were proportionally diverted consistent with proportional increases to rail crossing closure times.

Weekday PM peak hour without event traffic volumes for the 2018 and 2030 horizon years were estimated based on 2015 and 2030 traffic volume forecasts from the Final EIS for the Alaskan Way Viaduct Replacement Project (July 2011). Traffic volumes developed for the non-tolled bored tunnel alternative were used and account for anticipated changes in traffic volumes and travel patterns.

Forecast traffic volumes from the Alaskan Way Viaduct analysis were not available at all study intersections identified for this EIS. Figure 2–63 identifies the current study area intersections for the Stadium District, included in the Alaskan Way Viaduct replacement Project analysis and those that were not. Forecast traffic volumes at study intersections not included in the Alaskan Way Viaduct analysis were estimated based on traffic forecasts and entering / exiting volumes at adjacent intersections that were included in the Alaskan Way Viaduct analysis, as well as anticipated changes in general travel patterns.



Stadium District Alaskan Way Viaduct/Seattle Arena EIS Study Area Comparison

FIGURE 2-63

The Alaskan Way Viaduct Replacement Project analysis for 2030 accounted for increased Port of Seattle truck activity during the weekday PM peak commute period based on the Port of Seattle's previously forecast increased operations to process 4.5 million 20-foot equivalent units (TEUs) per year. Additionally, most of this increase was previously assumed to occur by 2015. Because of economic conditions over the past several years, the Port of Seattle has indicated that only 3.5 million TEUs are likely to be processed each year by 2030. Forecast truck trips assigned to the roadway in the network included in the previous Alaskan Way Viaduct Replacement Project analysis were scaled to reflect the Port of Seattle's current estimate for 2018 and 2030 horizon years.

Traffic volumes developed for 2018 conditions were estimated by interpolating between 2015 and 2030 traffic volumes from the Alaskan Way Viaduct Replacement Project analysis after adjustments were made to account for the revised Port of Seattle cargo estimates. Port of Seattle truck volumes were also scaled to 2018 conditions by interpolating between the 1.87 million TEUs processed by the Port of Seattle in 2012 and the 3.5 million TEUs anticipated by 2030.

2.5.1.4 Traffic Forecast Methodology – No Action With Event Analyses

Traffic forecasts for the three No Action event cases were developed for the 2018 and 2030 horizon years. These cases included Case S1 which has no background event, Case S2 which includes a Mariners game with 40,500 people in attendance, and Case S3 that includes a Mariners game with 47,500 people in attendance and 5,000 person event at the CenturyLink Field Event Center. Traffic associated with these event cases are outlined in the Event Transportation Demand section of this report. Based on this methodology, under 2018 conditions the Case S2 Mariners game (40,500 attendees) is estimated to generate approximately 3,300 vehicular trips during the weekday PM peak hour, the Case S3 Mariners game (47,500 attendees) would generate 4,000 trips, and the event at the CenturyLink Field Event Center would generate approximately 425 trips. As traffic congestion throughout the Puget Sound region increases, attendees of events in the Stadium District would be increasingly likely to use transportation modes other than passenger cars. For the 2030 conditions, the transit mode split was increased. This increase in transit usage results in a forecast of approximately 3,100 vehicular trips associated with the Case S2 Mariners event in 2030, 3,700 trips for a Case S3 Mariners event, and 425 trips forecast for an event at the CenturyLink Field Event Center.

Traffic from these events was distributed to the study area roadways following the distribution shown on Figure 2–64. This distribution is based on a historical travel survey for the Washington State Public Facilities District and review of trip distributions for other Stadium District studies. These trips were then assigned throughout the study area, based on the No Action parking supply. As shown, 41 percent of vehicular trips to a Mariners game or event at CenturyLink Field Event Center were assumed to travel to the study from the north, 27 percent from the east, 27 percent from the south, and 5 percent from the west.

2.5.1.5 Traffic Forecast Methodology – Arena Event Traffic

This section presents the traffic forecasts for the 2018 and 2030 horizon years for Alternative 2. Future weekday PM peak hour vehicular traffic volumes for the Alternative were developed by adding traffic from the Seattle Arena to the No Action event cases. Similar to the No Action discussion, traffic forecasts for multiple event cases are presented in this section. As described in the Event Transportation Demand section, traffic associated with the Arena attendees was forecast based on a 20,000 person attendance level, mode splits, average vehicle occupancies, and arrival patterns.

Based on the methodology previously described, under 2018 conditions an NBA event at the Arena is estimated to generate approximately 2,190 vehicular trips during the weekday PM peak period. In 2030 as transit ridership is forecast to increase, approximately 2,100 weekday PM peak period vehicle trips would be generated by the forecast NBA event in 2030.

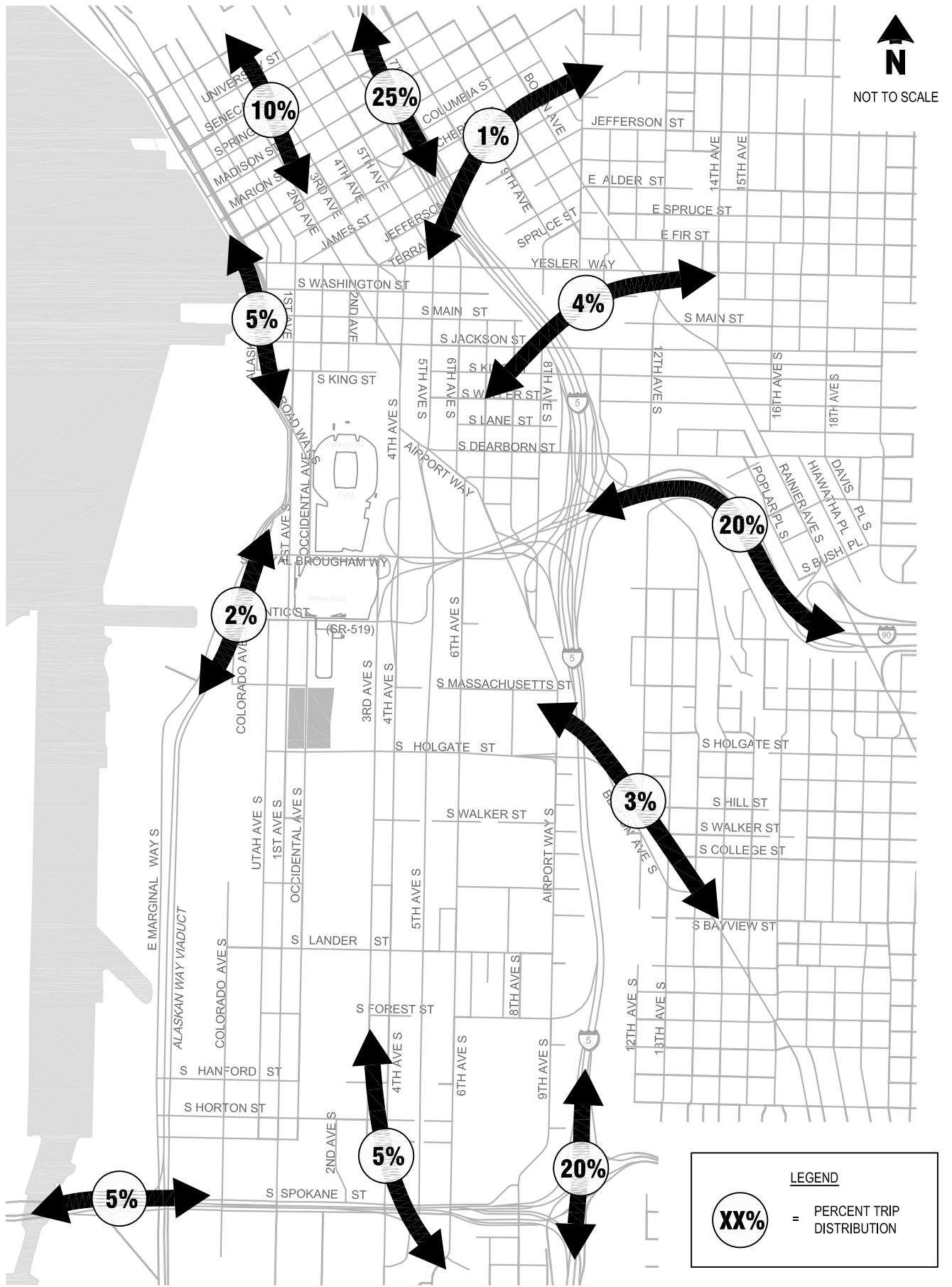
Traffic associated with an event in the Proposed Arena was distributed to the study area roadways following the distribution shown on Figure 2–64. This trip distribution pattern is based on historical travel survey data provided for the Washington State Public Facilities District and review of trip distributions for other Stadium District studies. These trips external to the study area were then distributed throughout the study and are consistent with the No Action parking supply. Since the vacation of Occidental Avenue S. is an element of the Alternative 2 and Alternative 3 development plans, No Action traffic volumes on Occidental Avenue S. between S. Massachusetts and S. Holgate Streets were redirected to 1st Avenue S. In addition, with increased rail crossing closure times and anticipated increasing vehicle diversion to avoid anticipated congestion, no event traffic was assigned across the S. Holgate Street rail crossing; some event traffic was assumed to travel on S. Holgate Street from 1st Avenue S. to Occidental Avenue S. to the south.

2.5.2 Affected Environment

Existing traffic volumes at the study area intersections were collected during without and with event conditions. The following provides an overview of the traffic volumes for both conditions.

2.5.2.1 Existing Weekday PM Peak Hour Non-Event

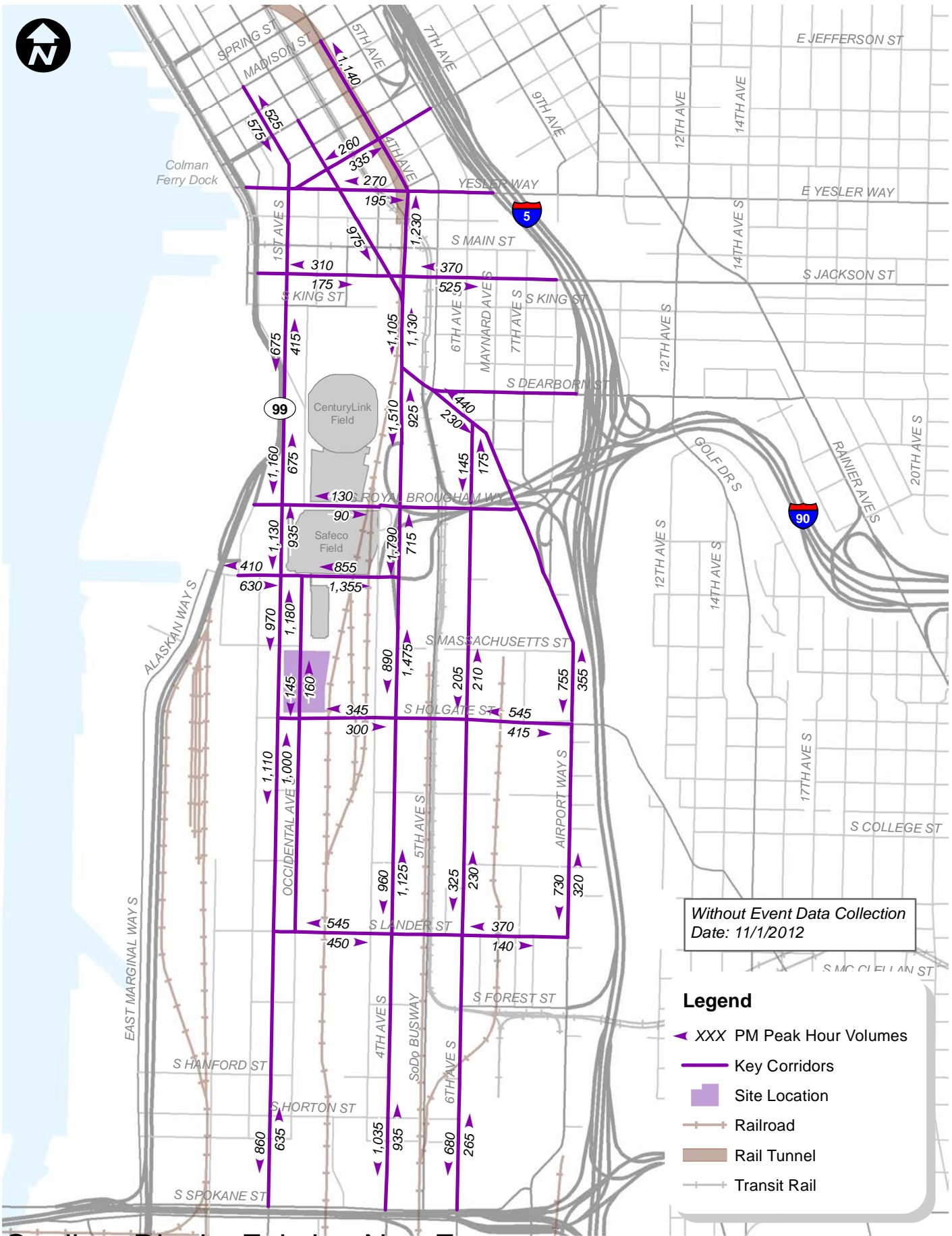
Weekday without event traffic counts were collected in early November 2012 from 4:00 to 7:00 PM. The system-wide peak (i.e., one-hour period with the highest volume) occurred between 4:30 and 5:30 PM. Weekday PM peak hour without event traffic volumes along key corridors within the study area are summarized on Figure 2–65 and detailed intersection turning movement volumes are provided in Attachment E-1, which is available from the Seattle Department of Planning and Development (DPD) upon request.



Stadium District Event Trip Distribution Map

Seattle Arena

FIGURE 2-64



Stadium District Existing Non-Event
Weekday PM Peak Hour Traffic Volumes

Seattle Arena

FIGURE
2-65

Weekday PM peak hour without event travel is primarily commuter-based with some freight transport and transit activity. Data summarized for the Port of Seattle shows that gate activity begins to decrease during the afternoon period with little-to-no activity typically occurring after 5:00 PM. However peak hour truck traffic is dependent on the arrival and departure patterns of the shipping vessels and fluctuates throughout the year, and can extend into the weekday PM peak hour period. This condition occurs on a more infrequent basis and is dependent on ship activities. A more detailed discussion of freight activity in the Stadium District area is included in the Freight and Goods Movement section of this document.

In the vicinity of the Seattle Arena site, weekday PM peak hour non-event traffic volumes are highest along the principal arterials of 1st Avenue S., 4th Avenue S., and Edgar Martinez Drive S. Along 1st Avenue S., adjacent to the site, weekday PM peak hour volumes of approximately 2,100 vehicles per hour (vph) were observed. Traffic volumes along 4th Avenue S., parallel to 1st Avenue S. were approximately 10 percent higher at 2,350 vph. Peak hour volumes of approximately 250 vph were observed along Occidental Avenue S. Along the east / west corridors including Edgar Martinez Drive S. and S. Holgate Street, weekday PM peak hour traffic volumes observed were approximately 2,200 vph and 650 vph, respectively.

Traffic volumes along Occidental Avenue S. were reviewed to identify approximate numbers of vehicles that use Occidental Avenue S. as an alternative travel route to 1st Avenue S. Weekday peak hour turning movement volumes collected in December 2013 demonstrate that this diversion is greatest during the weekday AM peak hour when approximately 200 westbound vehicles on S. Atlantic Street divert southbound onto Occidental Avenue S. to primarily turn right onto S. Holgate Street (150 vehicles). Hourly traffic volumes collected along 1st Avenue S. over a seven-day period in December 2013 demonstrated that additional capacity appears available on 1st Avenue S., suggesting that the observed diversion may not be due to congestion on 1st Avenue S. Field observations indicated that westbound traffic on S. Atlantic Street can include substantial truck traffic destined for Terminal 46 at the Port of Seattle. When this happens, queuing on S. Atlantic Street occurs, which appears to induce some traffic destined for 1st Avenue S. to turn left onto Occidental Avenue S., then right onto S. Holgate Street, before turning south onto 1st Avenue S.

Traffic volumes observed crossing S. Holgate Street during the weekday PM peak hour were approximately 130 vehicles per hour during the weekday AM peak and 60 vehicles per hour during the weekday PM peak. These volumes are substantially less than the traffic turning to/from the west onto S. Holgate Street from Occidental Avenue S. with a majority likely using this as an alternate route avoiding the 1st Avenue S./S. Atlantic Street intersection.

Figure 2–66 summarizes the traffic volumes within the immediate vicinity of the Proposed Site location, including the total number of vehicles, proportion of all heavy vehicles (panel vans to semi tractor-trailers), and the number of buses. Truck volumes on the four primary streets that border the site, including 1st Avenue S., 4th Avenue S., S. Holgate Street, and Edgar Martinez Drive S. are generally less than five percent during the weekday PM peak hour. Within the immediate study area, bus traffic is primarily limited to 4th Avenue. King County Metro Transit operates three different bus bases in the area and utilizes 4th Avenue S. as a major transit

corridor. Bus volumes during the weekday PM peak hour between Edgar Martinez Drive S. and S. Holgate Street total 20 buses based on scheduling information and data provided by King County Metro Transit. This represents about two percent of the total traffic volumes.

2.5.2.2 Existing Weekday PM Peak Hour With Event

Weekday PM Peak hour with event traffic volumes were collected on Wednesday, October 17, 2012 during a Sounders FC soccer game with a scheduled start of 7:00 PM. Traffic volumes were collected between 4:00 and 8:00 PM to capture the traffic flows of both commuters and event attendees. The peak one-hour period of combined commute and event traffic occurred between 4:30 and 5:30 PM as summarized on Figure 2–62. Event-related traffic volumes on key arterial segments are shown on Figure 2–67. When comparing the non-event and event traffic volumes, the largest percentage increase is shown along 6th Avenue S. and Edgar Martinez Drive S. This is due primarily to the location of the venue and overall lower background volumes along 6th Avenue S. as compared to 1st Avenue S. and 4th Avenue S. Increases along Edgar Martinez Drive S. are due primarily to connections to the interstate system and access to the Safeco Field parking garage. With an event, traffic volumes along Occidental Avenue S. were observed to decrease slightly. This difference is likely due to a shift in the background traffic volumes and diversion due to congestion around the Safeco Field parking garage. Existing with-event intersection turning movement volumes are provided in Attachment E-1, which is available upon request from DPD.

Similar to the discussion of the non-event conditions, further analysis of the existing volumes within the core area around the Arena site was conducted and is summarized on Figure 2–68. The traffic counts conducted under event conditions showed varying truck percentages along 1st Avenue S., 4th Avenue S., Edgar Martinez Drive S., and S. Holgate Street as compared to without-event conditions. The largest difference noted is the increase in truck volumes along S. Holgate Street and 4th Avenue S. and decrease in truck volumes along Edgar Martinez Drive S. and 1st Avenue. Shifts in the observed truck volumes could be attributed to a variety of factors including general fluctuations in truck activity on a daily basis or a change in travel patterns due to the Sounders game.



Stadium District Existing Non-Event Site Vicinity
Weekday PM Peak Hour Traffic Volumes

FIGURE
2-66

2.5.3 Impacts of No Action Alternative

Forecast traffic volumes for the No Action event cases were developed for the 2018 and 2030 horizon years. These event cases were defined as follows:

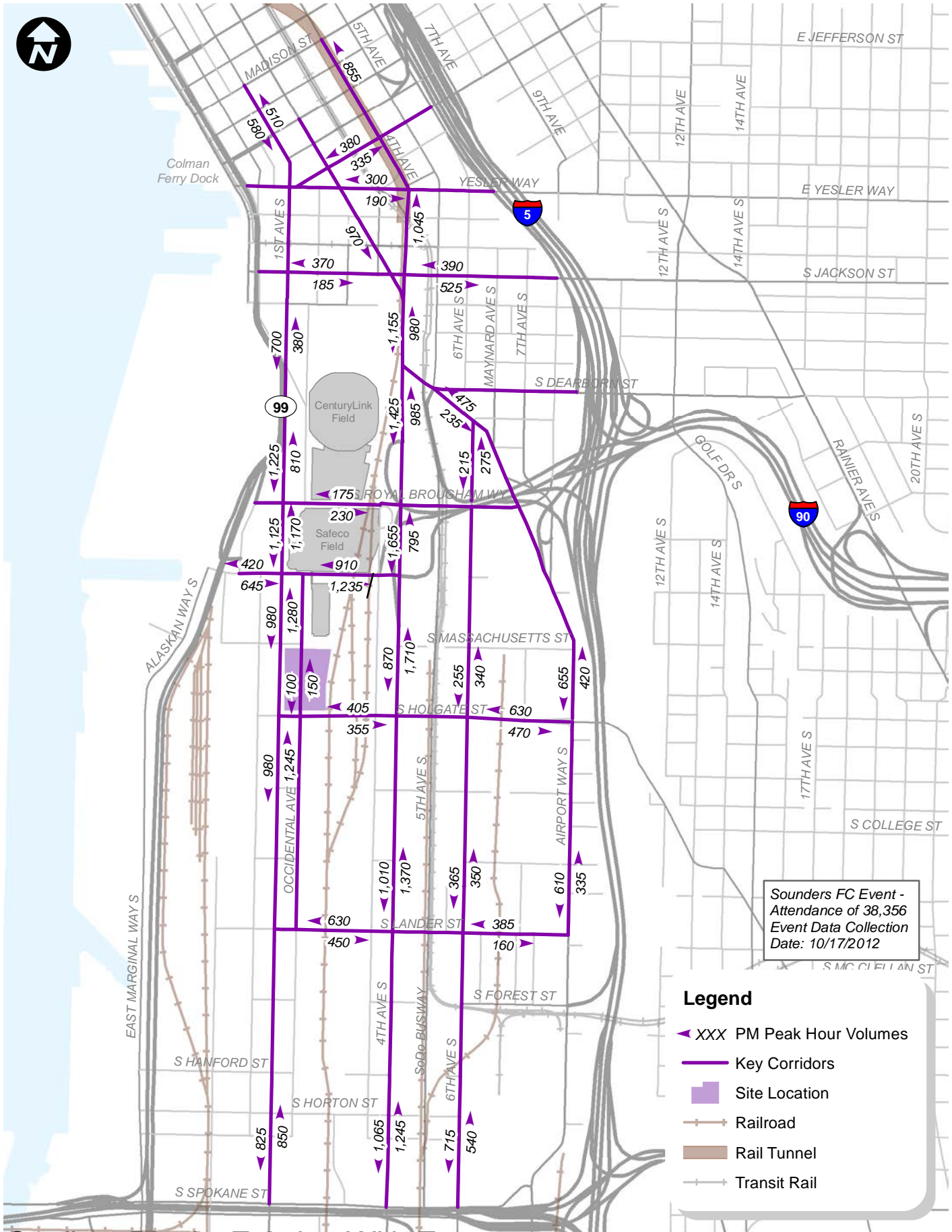
- Case S1 - No events
- Case S2 - An event with 40,500 attendance at Safeco Field
- Case S3 - An event with 47,500 attendance at Safeco Field plus 5,000 attendance at CenturyLink Field Event Center

2.5.3.1 2018 Traffic Volumes

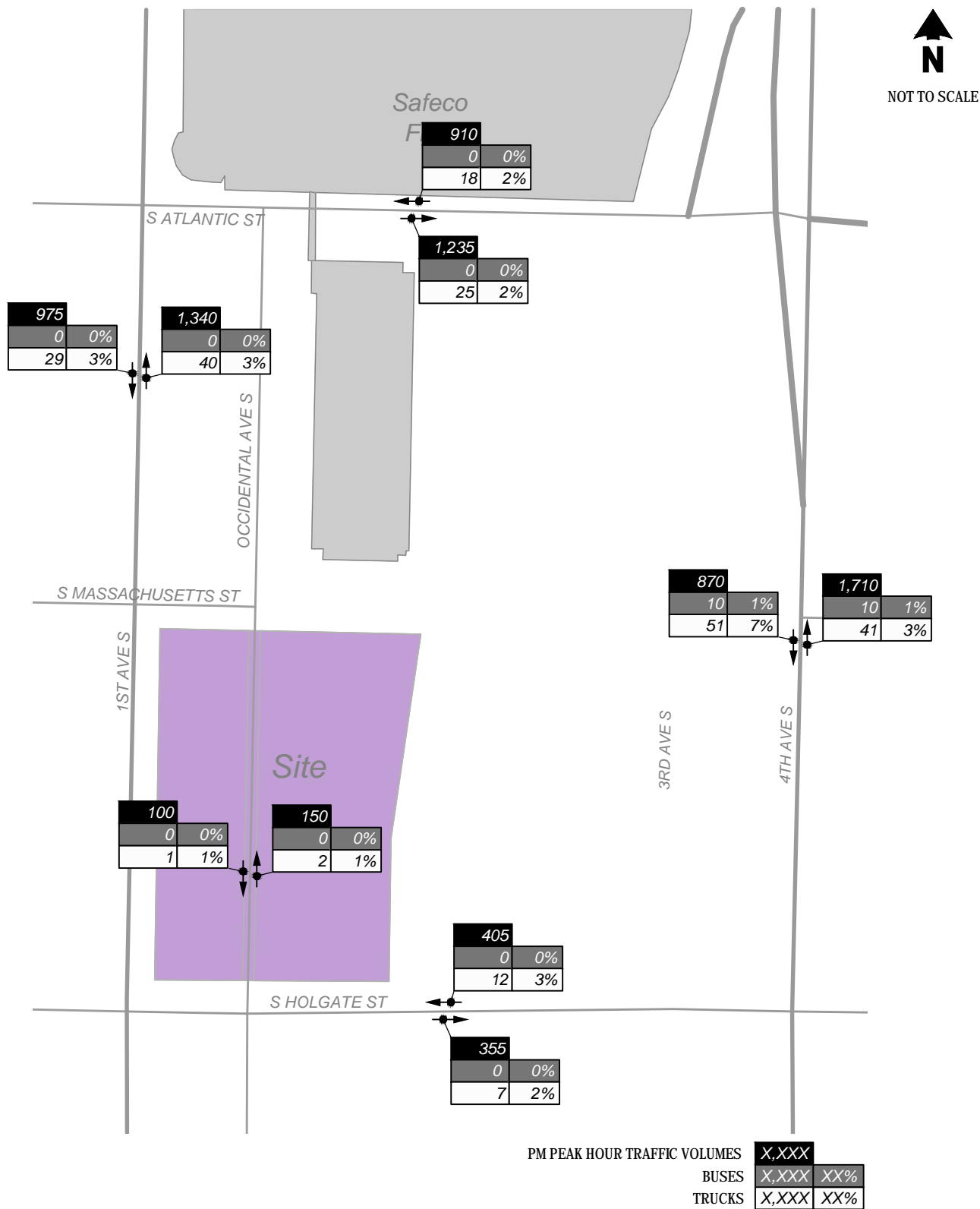
Traffic volumes along key corridors for all three event cases under 2018 conditions are summarized on Figure 2–69 through Figure 2–71. Detailed turning movement volumes for each scenario and at each study intersection are provided in Attachment E-1, which is available from DPD upon request. Note that southbound left-turns from 4th Avenue S. onto eastbound S. Spokane Street were previously prohibited but are now allowed.

Case S1: No Action weekday PM peak hour traffic volumes for Case S1 are shown on Figure 2–69. By 2018, with the completion of the SR 99 bored tunnel project and completion of the Waterfront project, traffic volumes on the surface arterials are expected to increase significantly within the study area relative to existing conditions. Given historical growth (approximately one to two percent annually) in background traffic, the primary contributing factor to the increase in traffic is the shifts due to the configuration of the bored tunnel and the lack of access to the CBD within the tunnel. The regional connections to the Stadium District area along 1st Avenue S., 4th Avenue S., and Edgar Martinez Drive S. show:

- An increase of approximately 100 percent on 1st Avenue S., north of Railroad Way S.
- Volumes on 4th Avenue S., north of the S. King Street pedestrian crossing are anticipated to increase on the order of 50 percent
- South of the site, along both 1st Avenue S. and 4th Avenue S., traffic volumes are anticipated to increase on the order of 35 percent and 30 percent, respectively

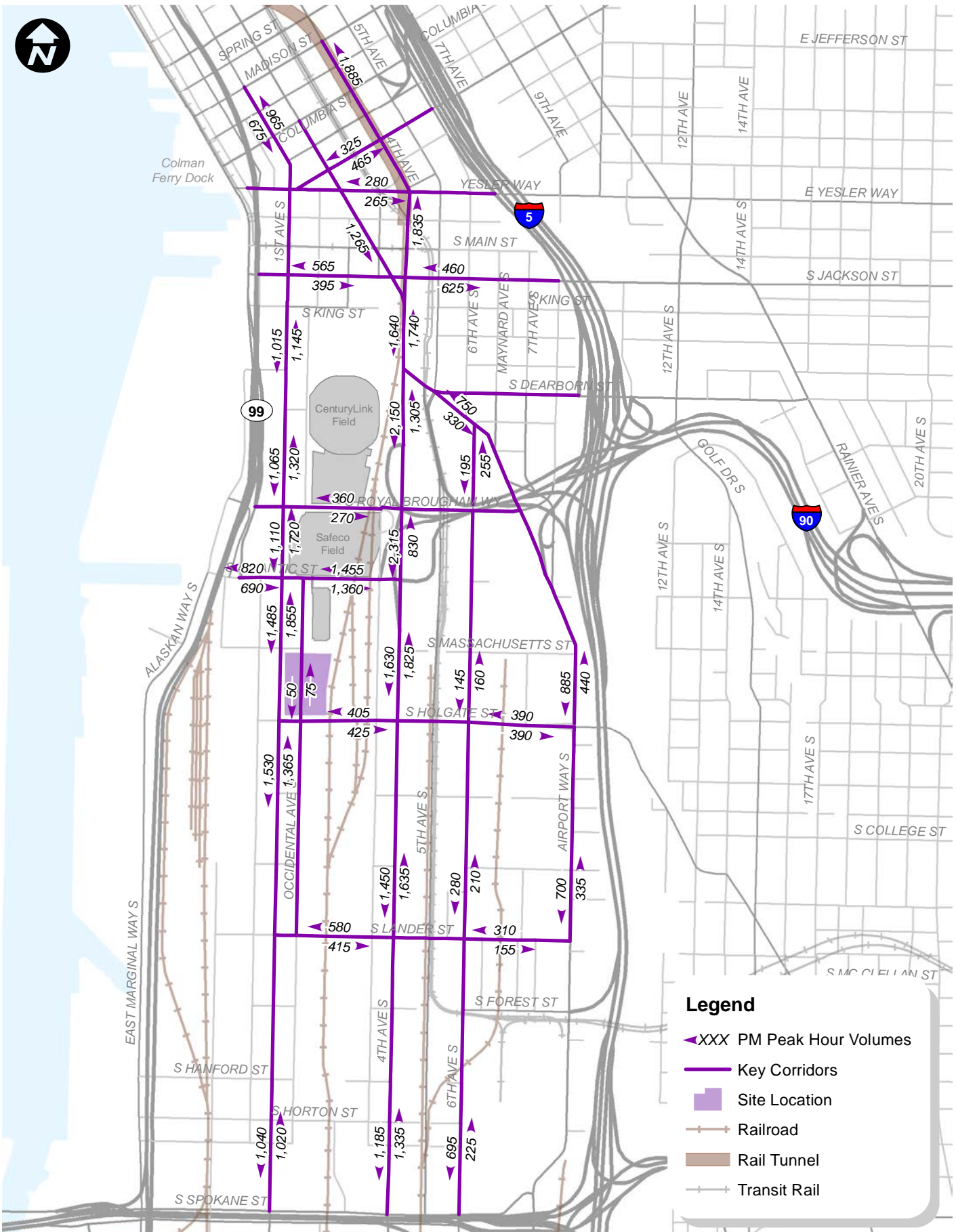


Stadium District Existing With Event
Weekday PM Peak Hour Traffic Volumes

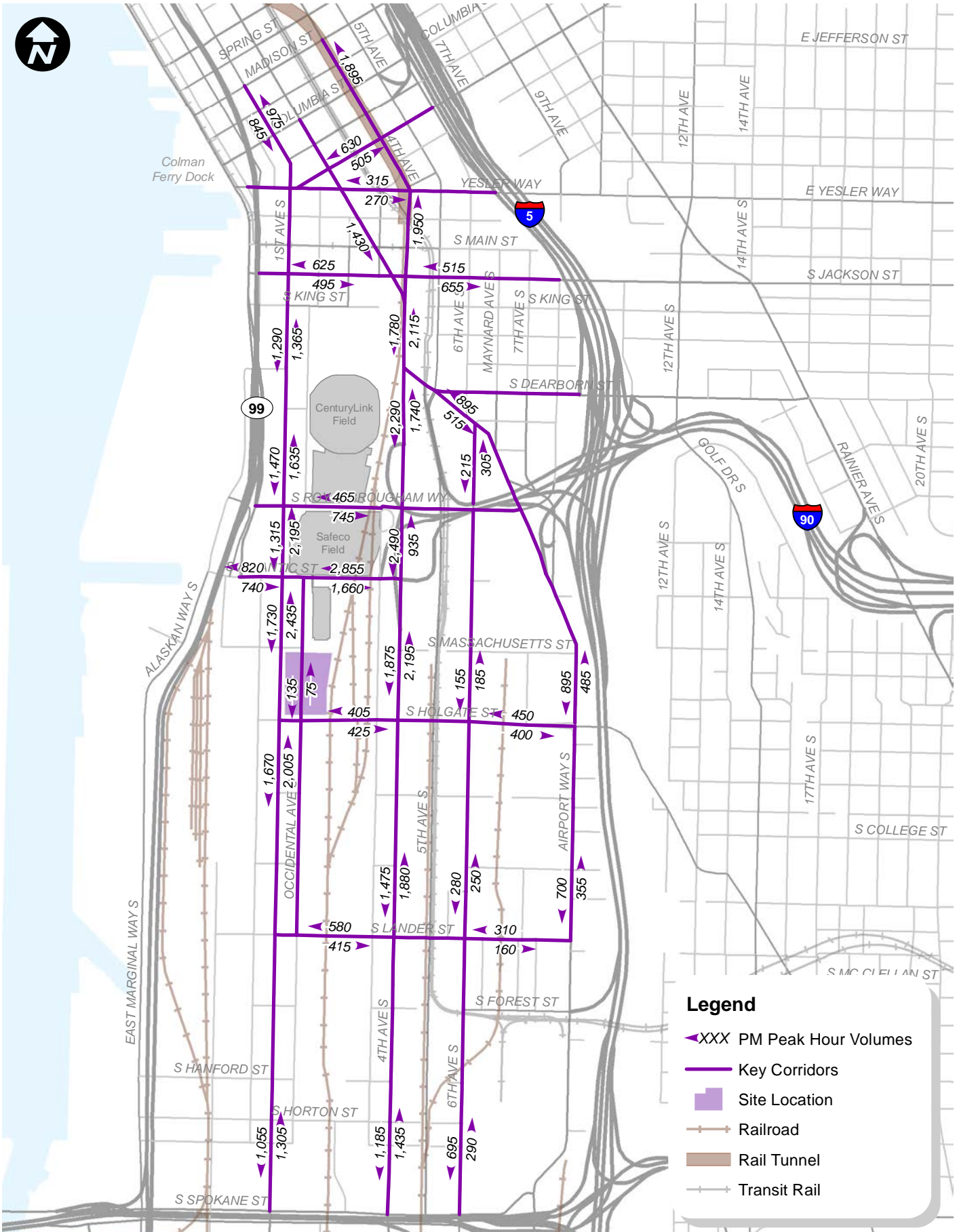


Stadium District Existing With Event Weekday
 PM Peak Hour Site Vicinity Traffic Volumes

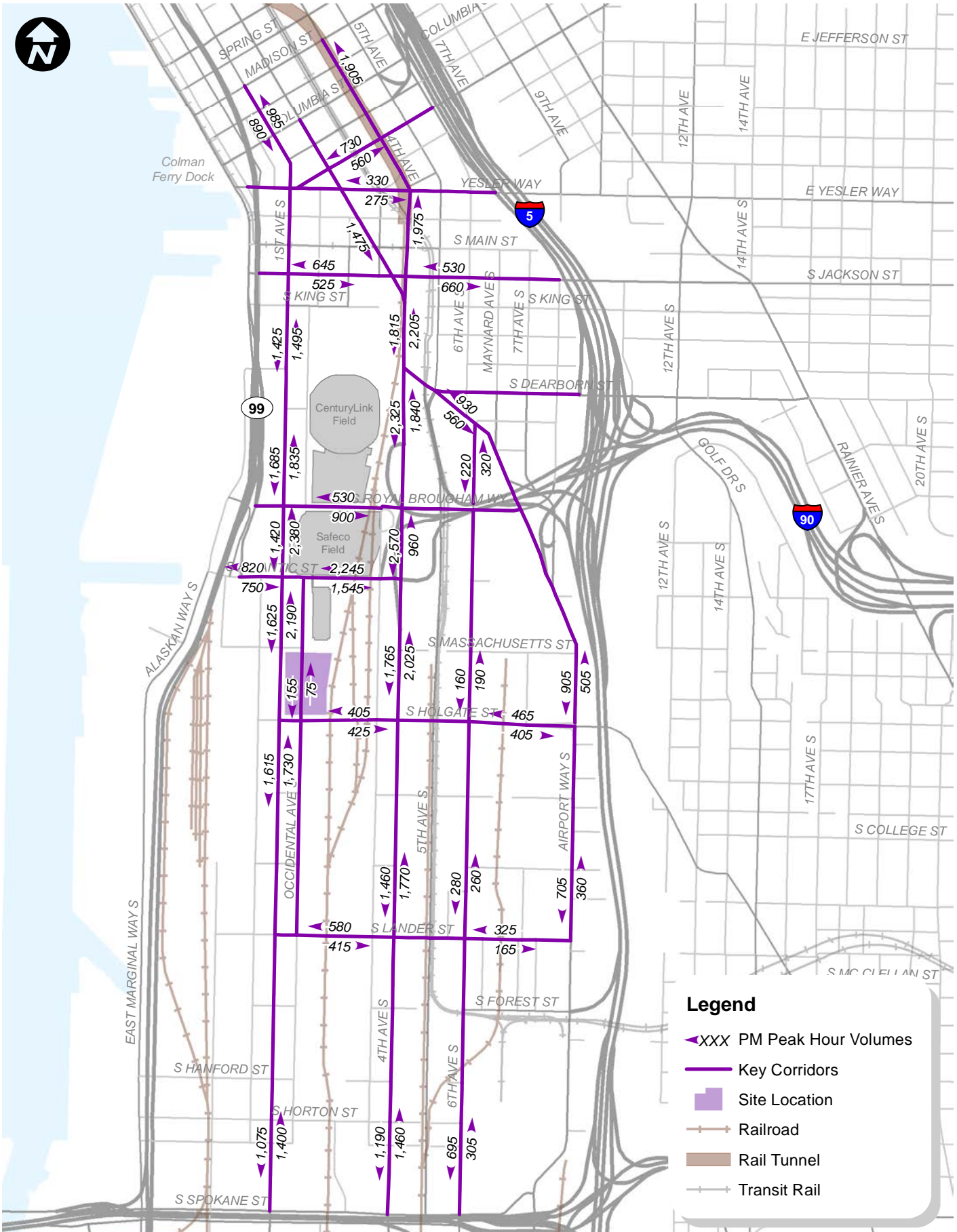
FIGURE
 2-68



Stadium District 2018 No Action Case S1
 Weekday PM Peak Hour Traffic Volumes



Stadium District 2018 No Action Case S2
 Weekday PM Peak Hour Traffic Volumes



Stadium District 2018 No Action Case S3
Weekday PM Peak Hour Traffic Volumes

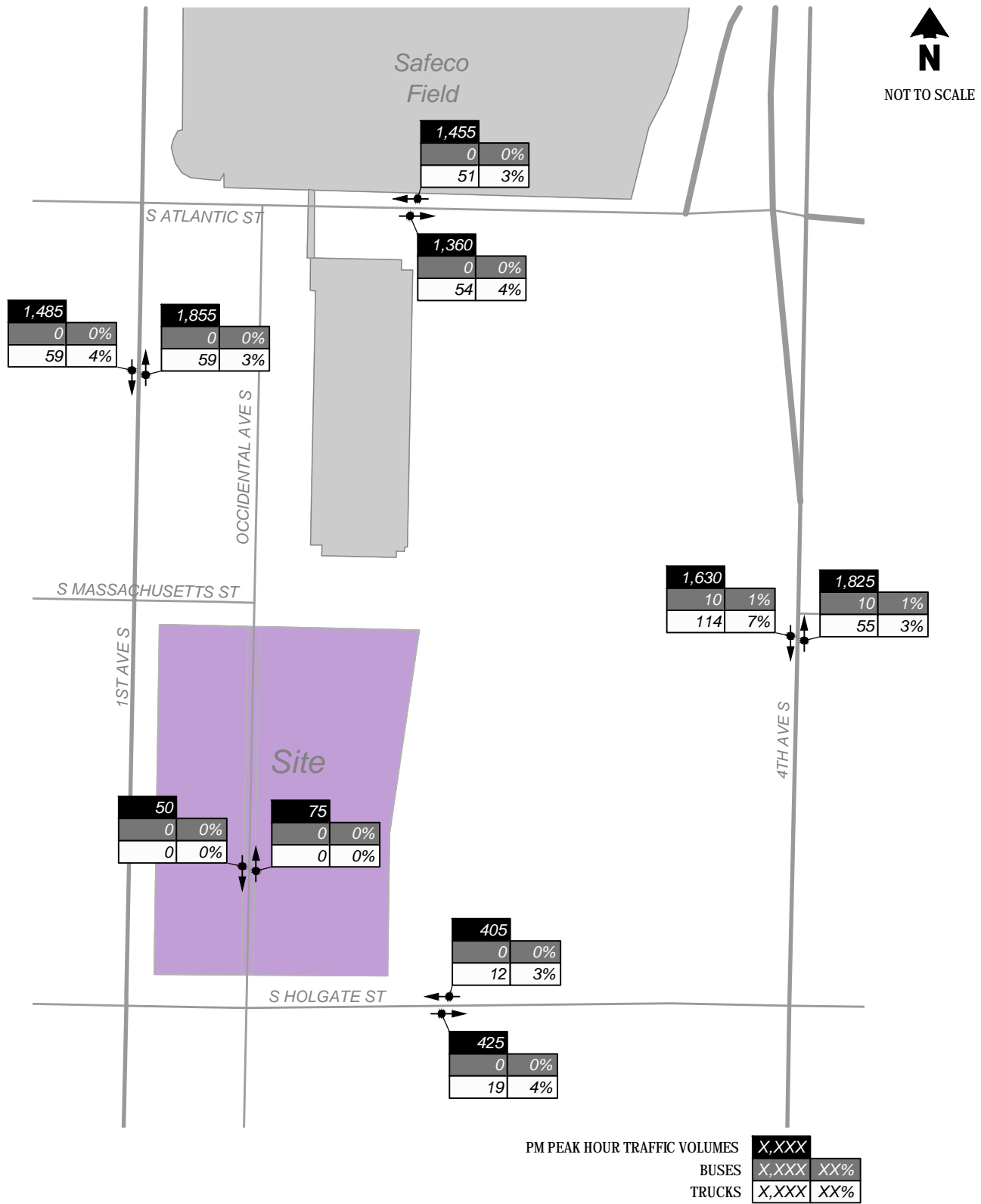
Future truck volumes assumed in the analysis and projected for the roadways are based on the highest truck percentages observed for the existing non-event and event conditions. This provides a conservative estimate of future truck volumes and related impacts on the level of service (LOS) analysis calculations are not underestimated. In addition to the truck percentages and volumes noted in the existing conditions, additional adjustments were applied to account for the growth in Port²⁰ traffic as well as other trucks as noted in the *Seattle Industrial Areas Freight Access Project*. The information utilized for Port of Seattle adjustments were provided by Heffron Transportation Inc.

Figure 2–72 focuses on the traffic volumes within the vicinity of the Proposed Arena site including total volumes as well as general heavy vehicles, Port of Seattle trucks, and transit buses. Truck traffic in the core area is generally anticipated to increase in number and percentage of overall traffic. The largest increases are noted along the east / west arterials of Edgar Martinez Drive S. and S. Holgate Street access. For Port-related traffic, these roads are used to access the regional facilities or access customers in the Stadium District area, east of the railroad tracks. Figure 2–72 shows that along the primary freight routes such as 1st Avenue S., 4th Avenue S., S. Holgate Street, and Edgar Martinez Drive S., truck volumes are expected to range between one and seven percent.

Case S2: Traffic volumes under 2018 conditions are forecast to increase approximately 14 percent over without-event conditions throughout the study area with a 40,500 attendee Mariners game. Truck volumes or percent heavy vehicles defined in the No Action without event case were held constant and no increase in trucks was assumed as a result of the Case S2 event. The following bullets provide an overview of the increased volumes approaching the Stadium District during the weekday PM peak hour based on the assumptions previously outlined for Mariners event arrivals:

- 1st Avenue S., between S. Royal Brougham Way and S. King Street – 30 percent increase
- 1st Avenue S., south leg of 1st Avenue S. / S. Atlantic Street intersection – 10 percent increase
- 4th Avenue S., north of Airport Way S. intersection – 15 percent increase
- 4th Avenue S., south of S. Atlantic Street ramps – 8 percent increase
- Edgar Martinez Drive S. between Occidental Avenue S. and the Westbound I-90 Off-Ramp – 19 percent increase

²⁰ Pro-rated growth in TEU's from existing levels to 3.5 million by 2030



Stadium District 2018 No Action S1 Site Vicinity
Weekday PM Peak Hour Traffic Volumes

FIGURE
2-72

Case S3: Increases in traffic volumes under this multiple event scenario are 16 percent greater than existing conditions, or only 2 percent greater than the Case S2. Truck volumes defined in the No Action without-event cases were also held constant with this analysis. The following bullets provide an overview of the increase in volumes approaching the Stadium District during the weekday PM peak hour between non-event (Case S1) and the multi-event (Case S3) traffic volumes:

- 1st Avenue S., between S. Royal Brougham Way and S. King Street – 48 percent increase
- 1st Avenue S., south leg of 1st Avenue S. / S. Atlantic Street intersection – 14 percent increase
- 4th Avenue S., north of Airport Way S. intersection – 18 percent increase
- 4th Avenue S., south of S. Atlantic Street ramps – 10 percent increase
- Edgar Martinez Drive S. between Occidental Avenue S. and the Westbound I-90 Off-Ramp – 27 percent increase

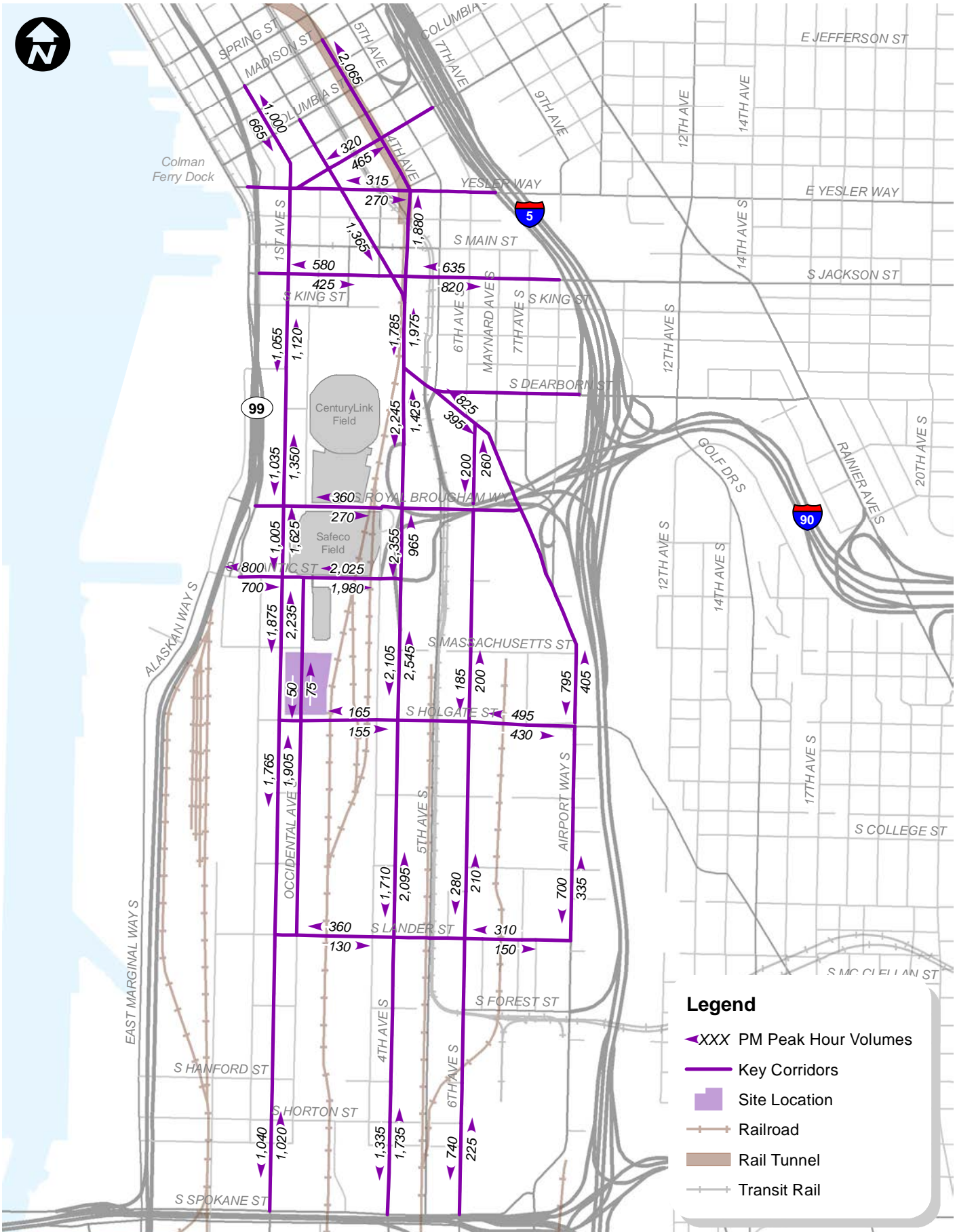
Traffic volumes can fluctuate by 5 to 10 percent day-to-day. Increases in traffic in the study area would generally remain below a 10 percent increase with the 12,000 person attendance increase (the difference between Case S2 and Case S3) with the exception of 1st Avenue S. between S. Royal Brougham Way and S. King Street.

2.5.3.2 2030 Traffic Volumes

Weekday PM peak hour 2030 No Action traffic volumes are shown on Figure 2-73 through Figure 2-75. Similar to the 2018 No Action forecasts, truck volumes were based on a review of existing conditions as well as consideration of growth in Port activity.

Case S1: Forecast 2030 conditions along Stadium District regional connections, 1st Avenue S., 4th Avenue S., and Edgar Martinez Drive S., show the following when compared to 2013 conditions:

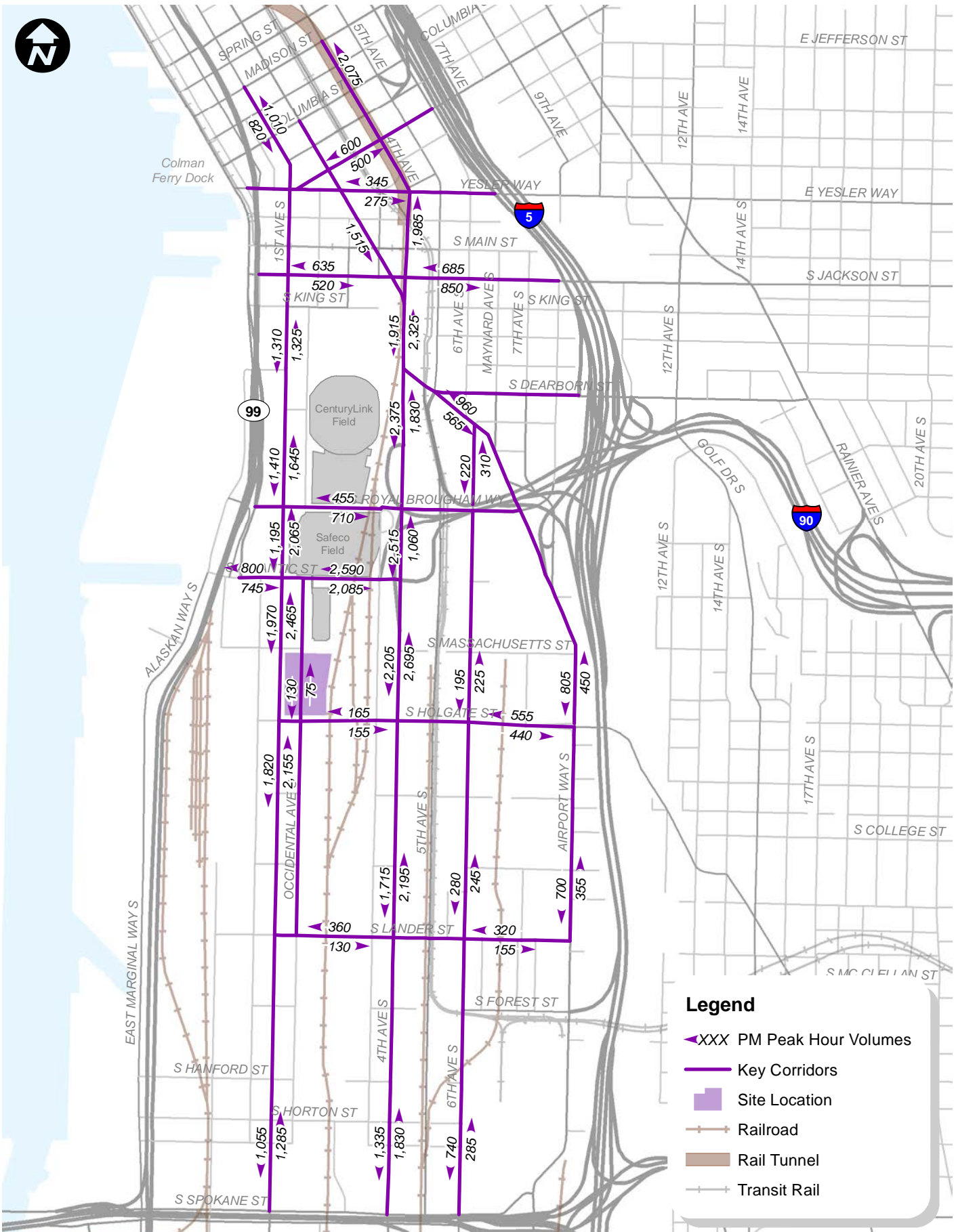
- An increase of approximately 100 percent on 1st Avenue S., north of Railroad Way S.
- Volumes on 4th Avenue S., north of the S. King Street pedestrian crossing are anticipated to increase 70 percent
- South of the site, along both 1st and 4th Avenues S., traffic volumes are anticipated to increase 75 percent and 60 percent, respectively
- Traffic volumes along 1st Avenue S., north of S. Atlantic Street are shown to decrease slightly from 2018 to 2030 based on modeling done for the Viaduct project



Stadium District 2030 No Action Case S1
Weekday PM Peak Hour Traffic Volumes

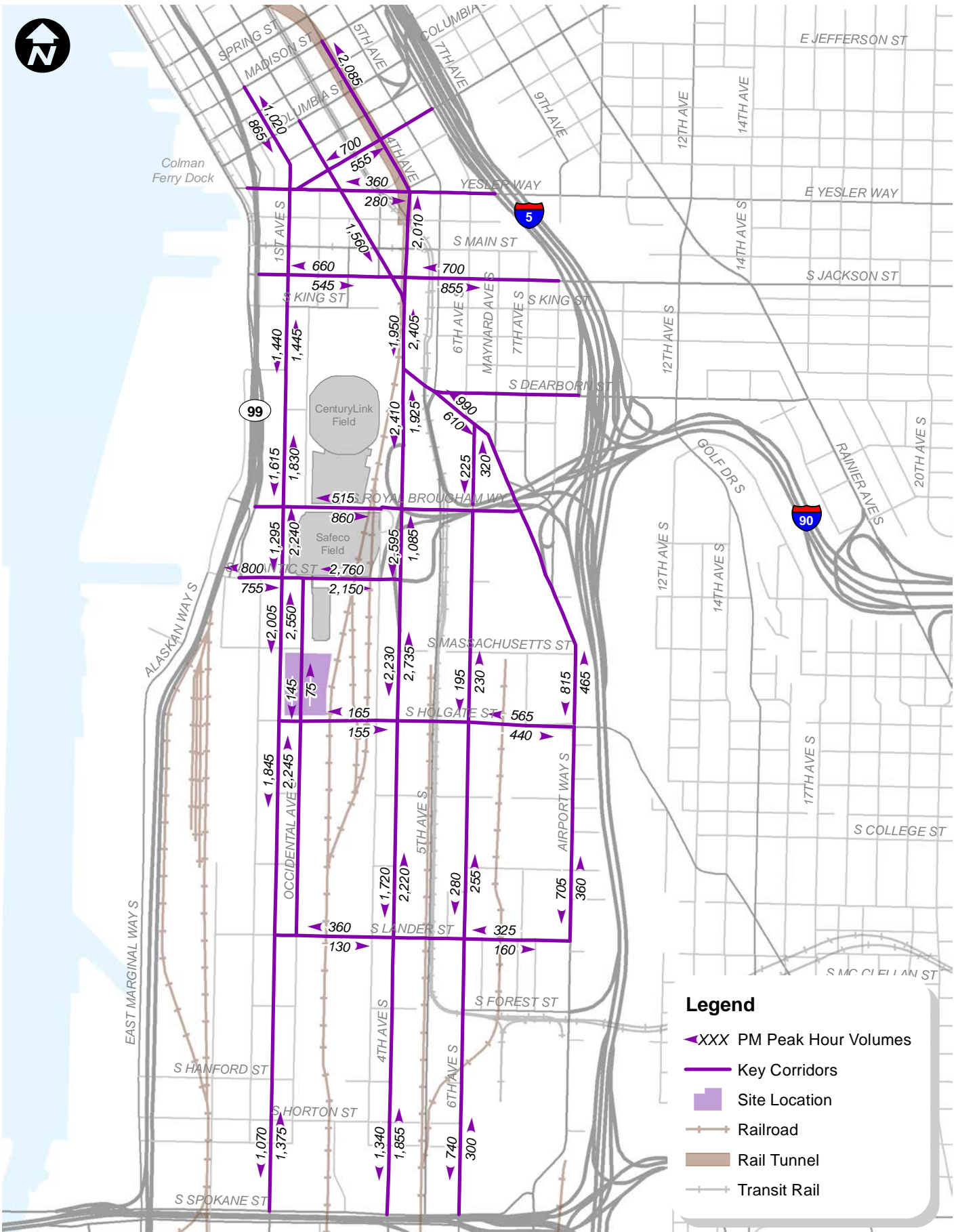
Seattle Arena

FIGURE
2-73



Stadium District 2030 No Action Case S2
Weekday PM Peak Hour Traffic Volumes

FIGURE
2-74



Stadium District 2030 No Action Case S3
Weekday PM Peak Hour Traffic Volumes

Seattle Arena

FIGURE
2-75

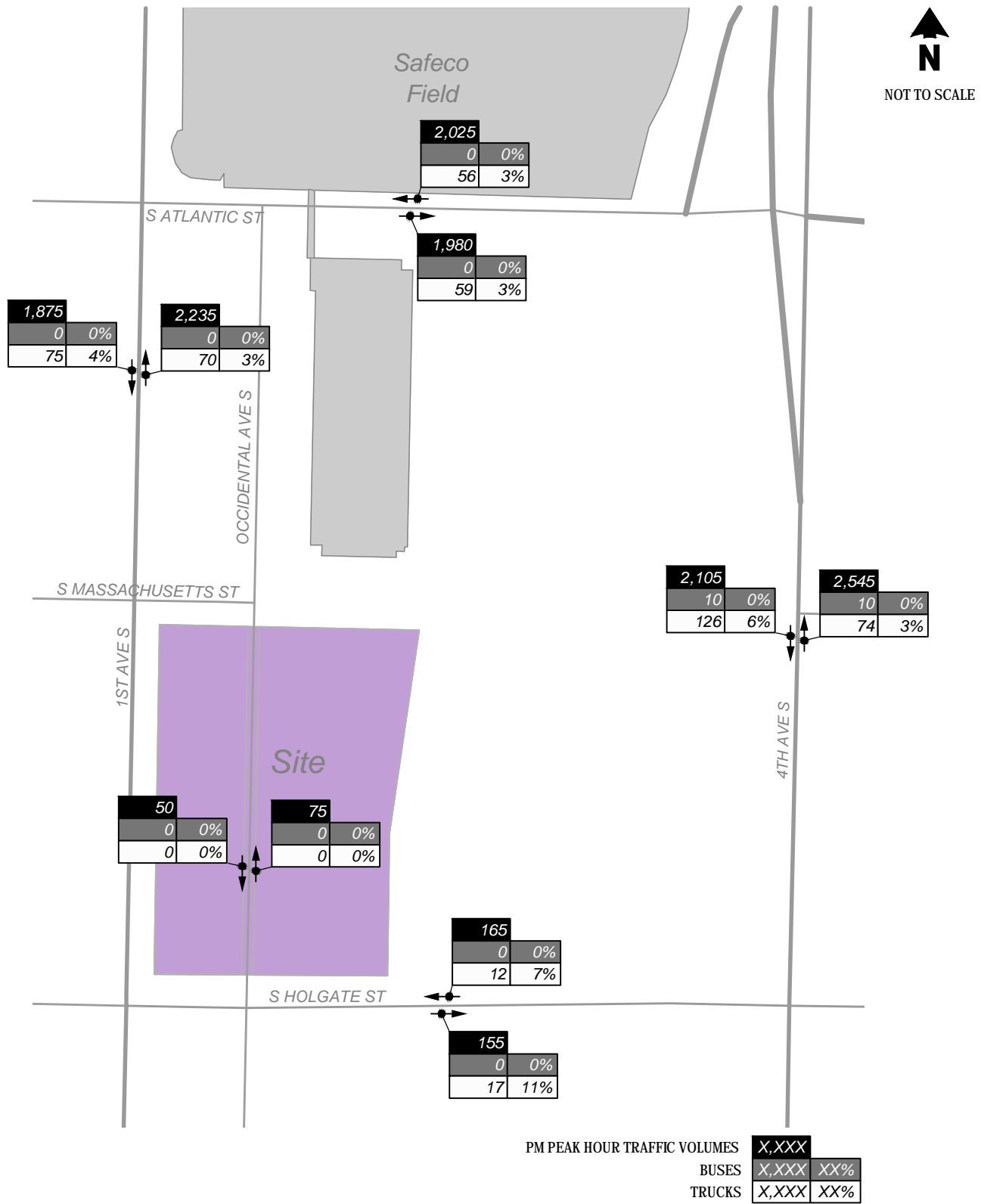
Figure 2–76 summarizes the percentage of bus and heavy vehicles relative to the total forecast volumes within the vicinity of the Proposed Arena site. This figure shows that along the primary freight routes such as 1st Avenue S., 4th Avenue S., S. Holgate Street, and Edgar Martinez Drive S., truck volumes are expected to range between one and seven percent. These heavy vehicle proportions are similar to those under 2018 conditions and with the additional increase in traffic from 2018 to 2030 conditions, provide a conservative analysis by resulting in an increase in heavy vehicle traffic similar to forecast traffic volumes.

Case S2: When compared to growth from existing conditions to 2018 conditions, growth between 2018 and 2030 would occur at a slower rate based on the forecast increases in background traffic volumes and the small decrease in the proportion of Mariners attendees choosing to travel via passenger car. The following bullets provide an overview of the increased volumes approaching the Stadium District during the weekday PM peak hour based on the assumptions previously outlined for Mariners event arrivals and CenturyLink Field Event Center arrivals:

- 1st Avenue S., between S. Royal Brougham Way and S. King Street – 28 percent increase
- 1st Avenue S., south leg of 1st Avenue S. / S. Atlantic Street intersection – 7 percent increase
- 4th Avenue S., north of Airport Way S. intersection – 12 percent increase
- 4th Avenue S., south of S. Atlantic Street ramps – 6 percent increase
- Edgar Martinez Drive S. between Occidental Avenue S. and the Westbound I-90 Off-Ramp – 13 percent increase

Case S3: As with the No Action Case S2, this lesser growth due to the combined events is due increases in background traffic and the increasing likelihood of event attendees to choose travel by modes other than passenger car. The following bullets provide an overview of the increases in volumes approaching the Stadium District during the weekday PM peak hour given the assumptions outlined above for Mariners event arrivals between non-event (Case S1) and the multi-event (Case S3) traffic volumes:

- 1st Avenue S., between S. Royal Brougham Way and S. King Street – 44 percent increase
- 1st Avenue S., south leg of 1st Avenue S. / S. Atlantic Street intersection – 10 percent increase
- 4th Avenue S., north of Airport Way S. intersection – 15 percent increase
- 4th Avenue S., south of S. Atlantic Street ramps – 7 percent increase
- Edgar Martinez Drive S. between Occidental Avenue S. and the Westbound I-90 Off-Ramp – 18 percent increase



Stadium District 2030 No Action S1 Site Vicinity
Weekday PM Peak Hour Traffic Volumes

FIGURE
2-76

2.5.4 Impacts of Alternative 2

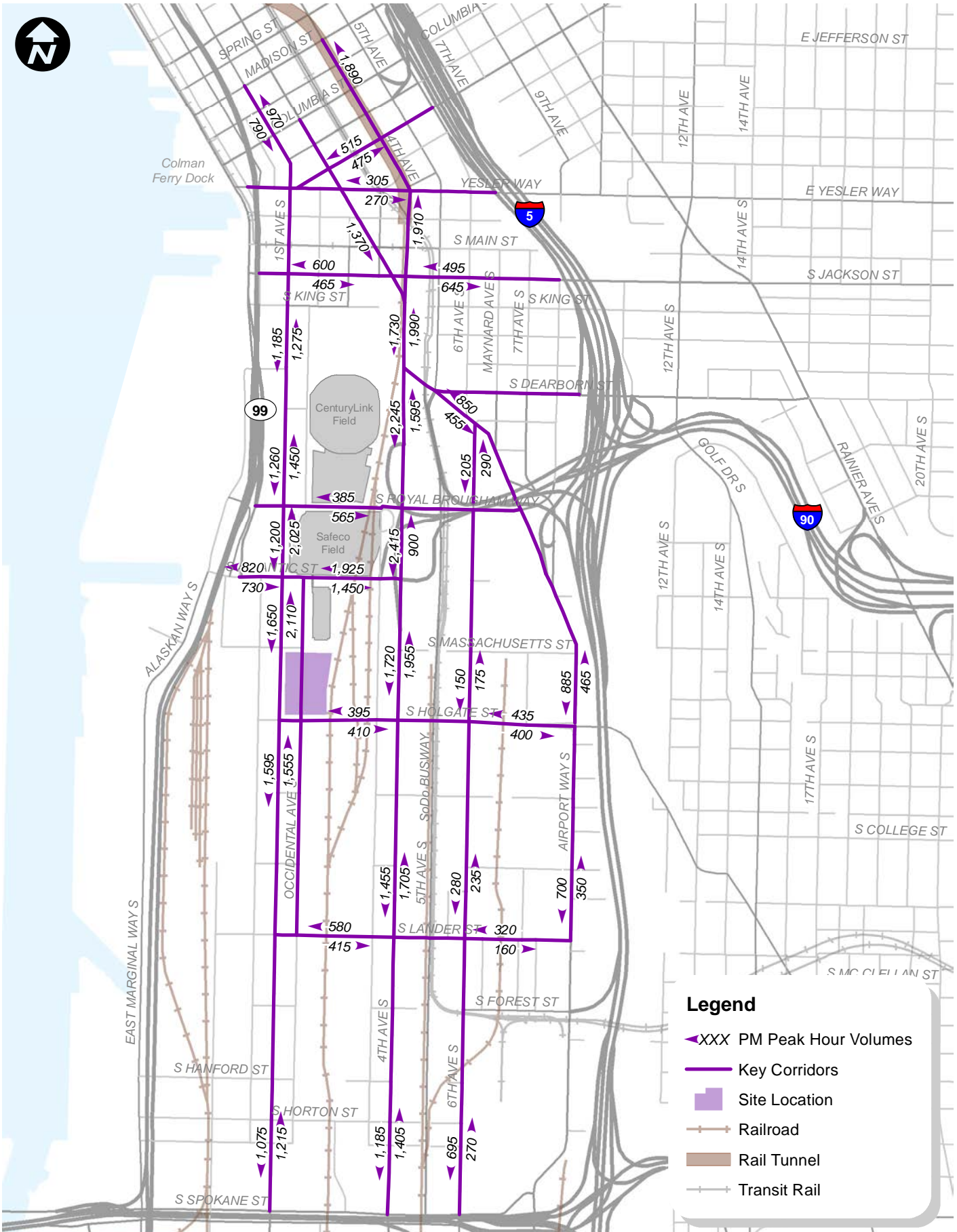
Alternative 2 would result in an increase in traffic volumes due to workers traveling to and from the site, delivery of material, and truck hauling. It is anticipated that the increase in traffic volumes would be less than generated by a 20,000-seat event at the Seattle Arena.

2.5.4.1 2018 Traffic Volumes

Traffic volumes along key corridors under 2018 conditions for the multiple event cases are summarized on Figure 2–77 through Figure 2–79. Detailed turning movement volumes for each scenario and at each study intersection are provided in Attachment E-1, which is available upon request from DPD.

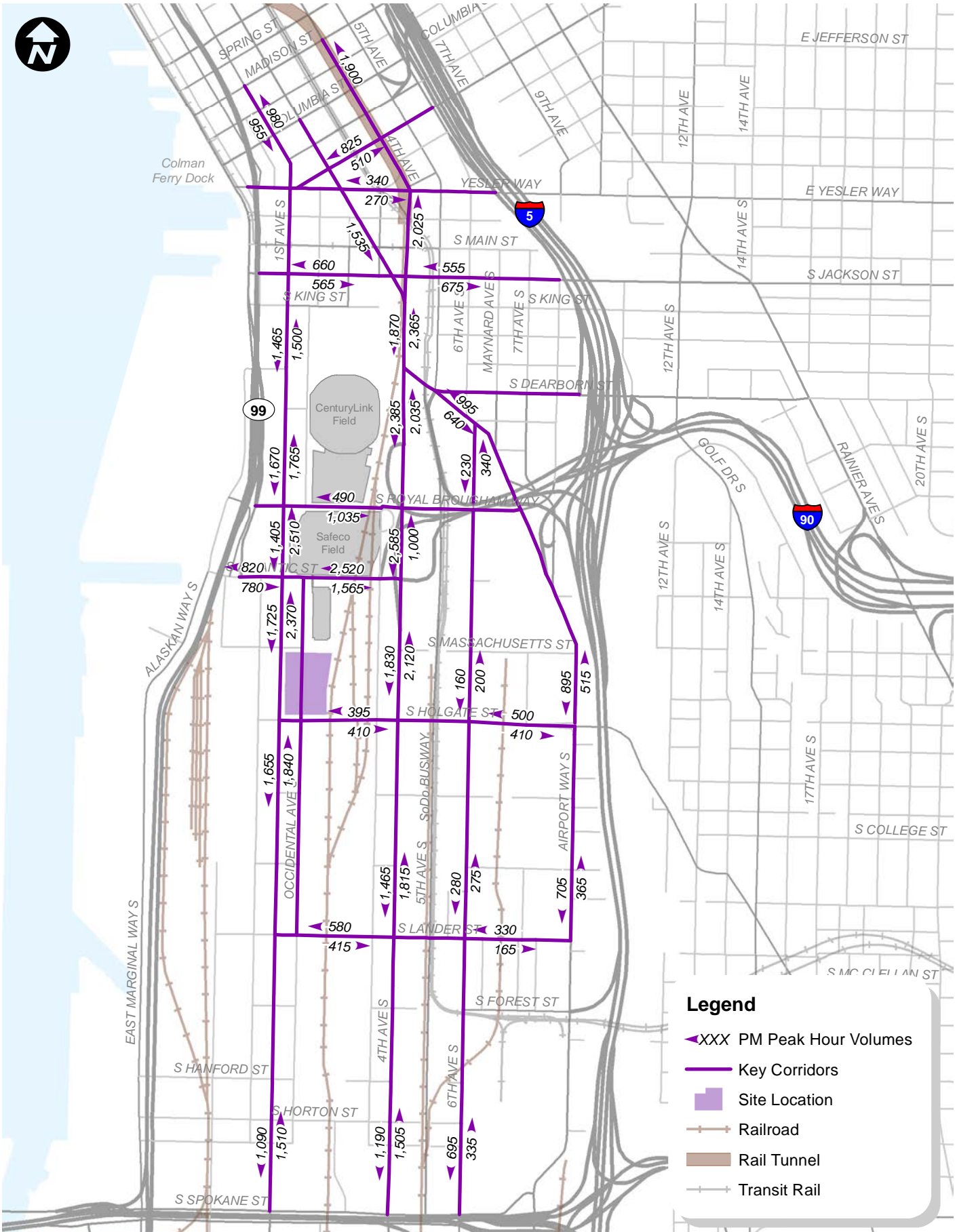
As a result of the addition of trips from an event at the Proposed Arena, 2018 traffic volumes along the regional connections to the Stadium District area increase as follows depending on whether no other Stadium District events occurs, a Mariners game also occurs, or both a Mariners game and CenturyLink Field Event Center event occur:

- An increase of between 9 and 14 percent on 1st Avenue S. between S. Royal Brougham Way and S. King Street
- Volumes on 4th Avenue S., north of the S. King Street pedestrian crossing are anticipated to increase on the order of 9 to 10 percent
- South of the site, traffic volumes are anticipated to increase between 8 and 9 percent along 1st Avenue S., and between 2 and 3 percent on 4th Avenue S.



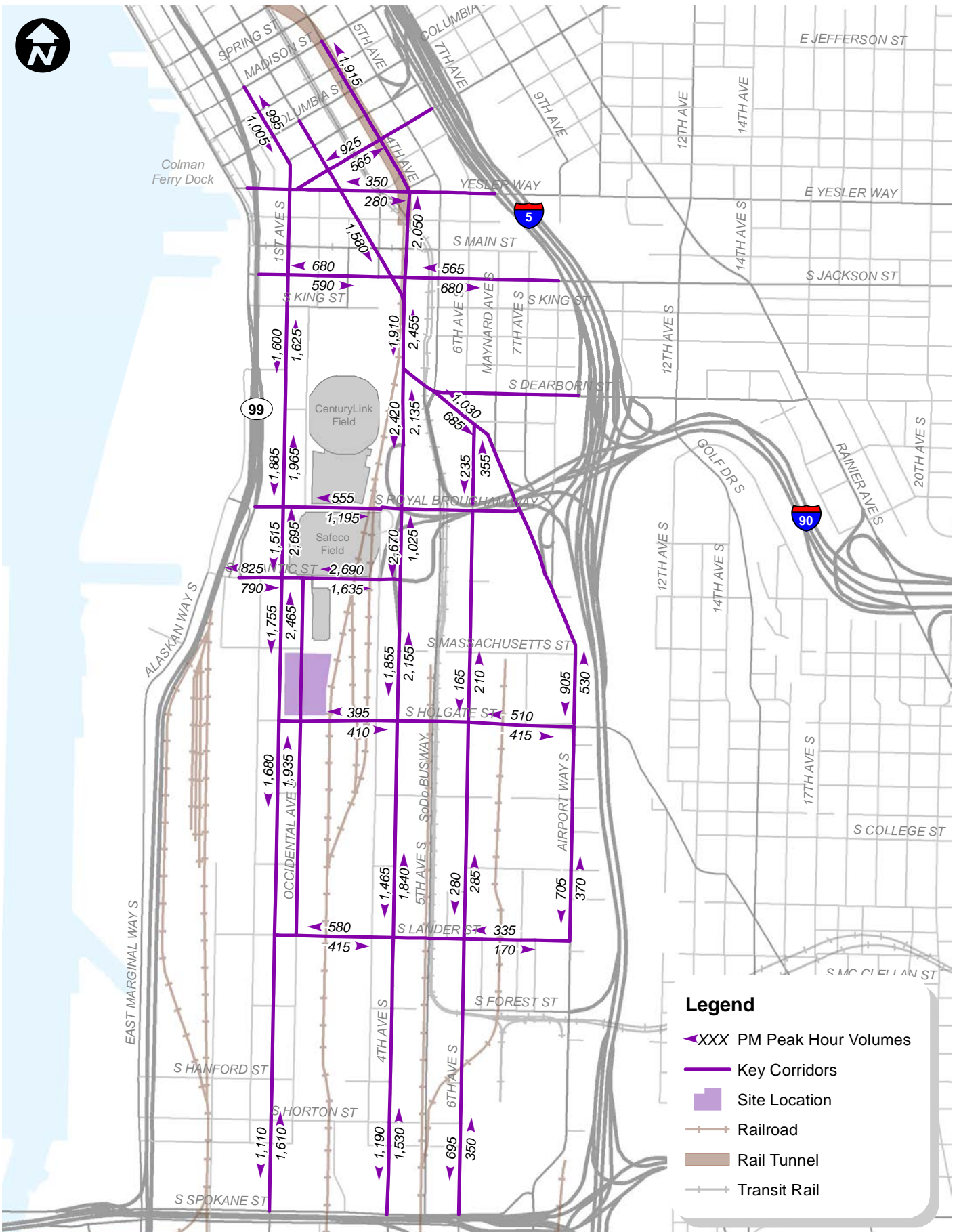
Stadium District Alternative 2 2018 Case S1
 Weekday PM Peak Hour Traffic Volumes

FIGURE
 2-77



Stadium District Alternative 2 2018 Case S2
 Weekday PM Peak Hour Traffic Volumes

FIGURE
 2-78



Stadium District Alternative 2 2018 Case S3
 Weekday PM Peak Hour Traffic Volumes

FIGURE
 2-79

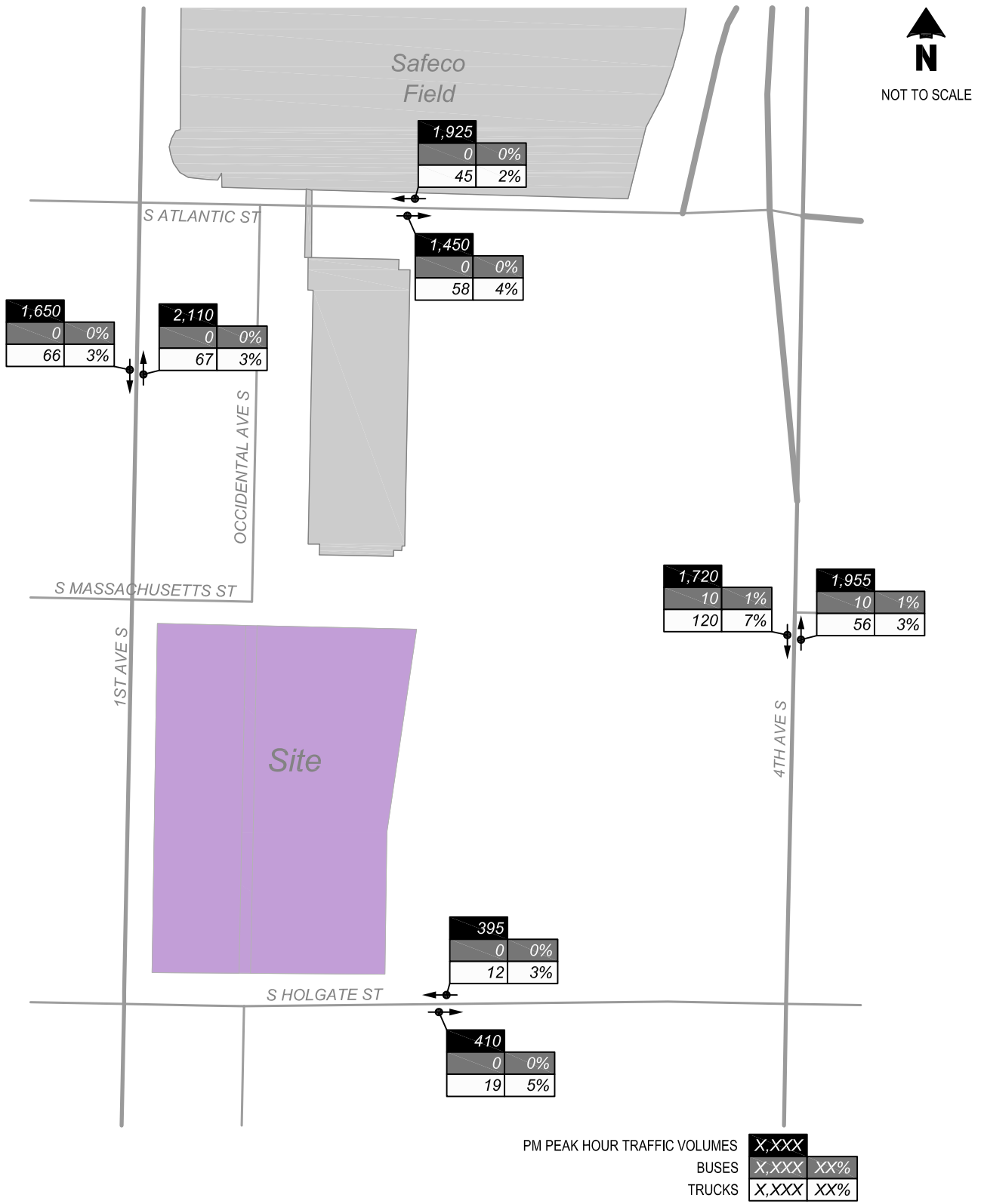
Figure 2–80 focuses on the traffic volumes within the vicinity of the Arena site including total volumes as well as general heavy vehicles and transit buses. Table 2-10 summarizes the total traffic volumes within the Arena vicinity and shows the percent increase in traffic volumes compared to No Action conditions.

**Table 2-10
2018 Alternative 2 Arena Site Vicinity Weekday PM Peak Hour Traffic Volumes**

Location	Case S1		Case S2		Case S3	
	No Action	Alt. 2	No Action	Alt. 2	No Action	Alt. 2
1st Avenue S. north of S. Massachusetts Street	3,340	3,760 (+13%) ¹	3,685	4,095 (+11%)	3,815	4,215 (+10%)
Edgar Martinez Drive S. west of Westbound I-90 Off-Ramps	2,815	3,375 (+20%)	3,545	4,080 (+15%)	3,790	4,325 (+14%)
S. Holgate Street east of Occidental Avenue S.	830	805 (-3%)	830	805 (-3%)	830	805 (-3%)
4th Avenue S. north of S. Holgate Street	3,455	3,675 (+6%)	3,735	3,945 (+6%)	3,795	4,015 (+6%)

1. Percent increase from No Action conditions.

The assignment of Arena event related traffic reflects the overall distribution of parking in the area as well as the travel patterns accessing the Stadium District area. Considering a scenario with no additional events in background traffic (Case S1), roadway volumes increase up to 20 percent within the Proposed Arena vicinity. The percent increase is influenced by the level of background traffic, as well as the level of event traffic. Percentage increases associated with the addition of Arena related traffic for subsequent event scenarios decrease although overall traffic volumes increase between 16 and 54 percent with all three events relative to No Action Case S1 condition. The largest increase due to Arena event traffic is forecast along Edgar Martinez Drive S. due primarily to the roadway’s connection to and from the regional freeway network and the nearby Safeco Field parking garage. S. Holgate Street volumes remain relatively unchanged with a minor decrease anticipated. This decrease is anticipated due to the shift in traffic associated with the vacation of Occidental Avenue S. and no assignment of event related traffic to the roadway. Event traffic was not assigned to the roadway based on the available parking in the area, capacity constraints on S. Holgate Street due to future rail activity, and anticipated event-related traffic control.



Stadium District 2018 Alternative 2 S1 Arena Site Vicinity Weekday PM Peak Hour Traffic Volumes

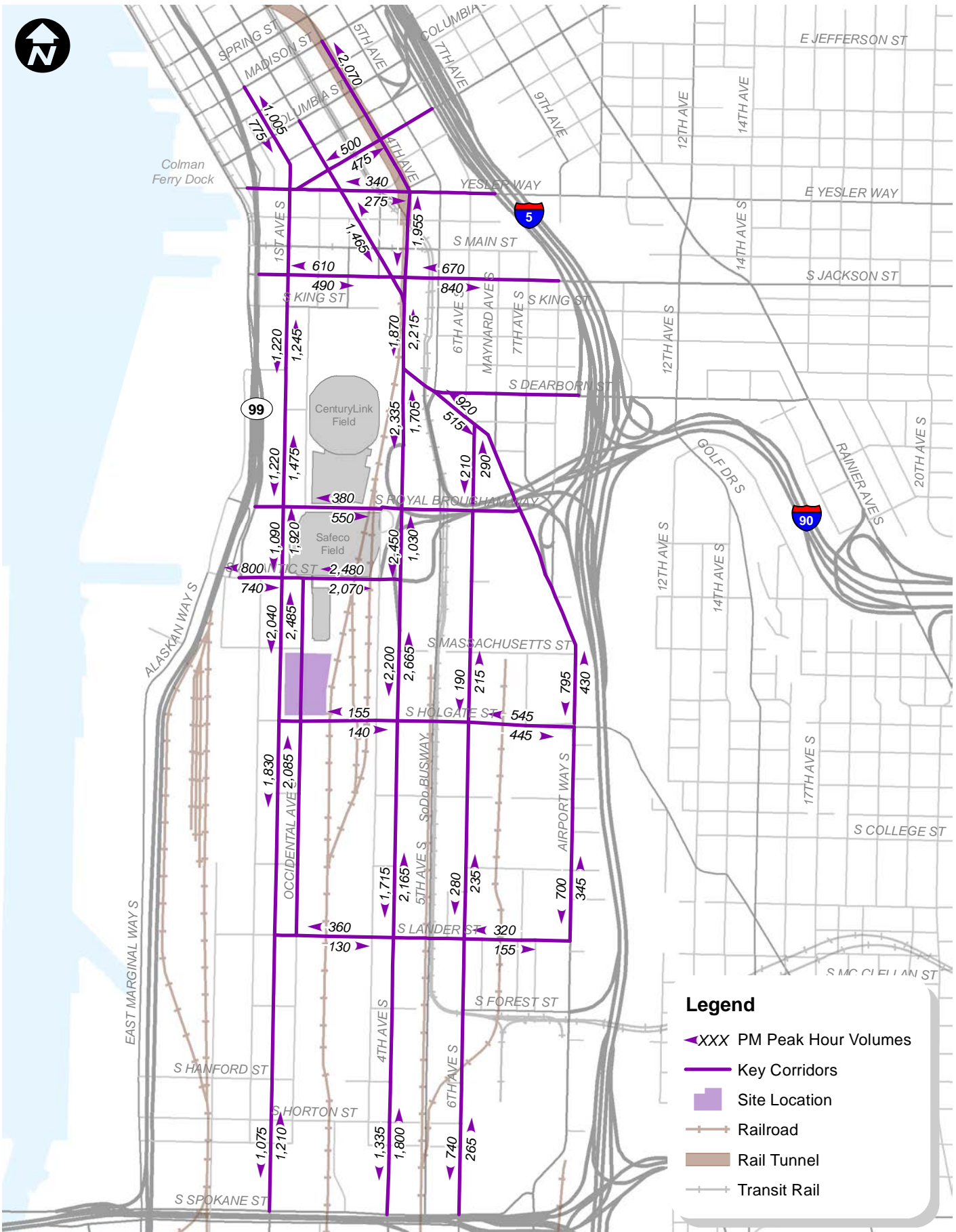
FIGURE 2-80

2.5.4.2 2030 Traffic Volumes

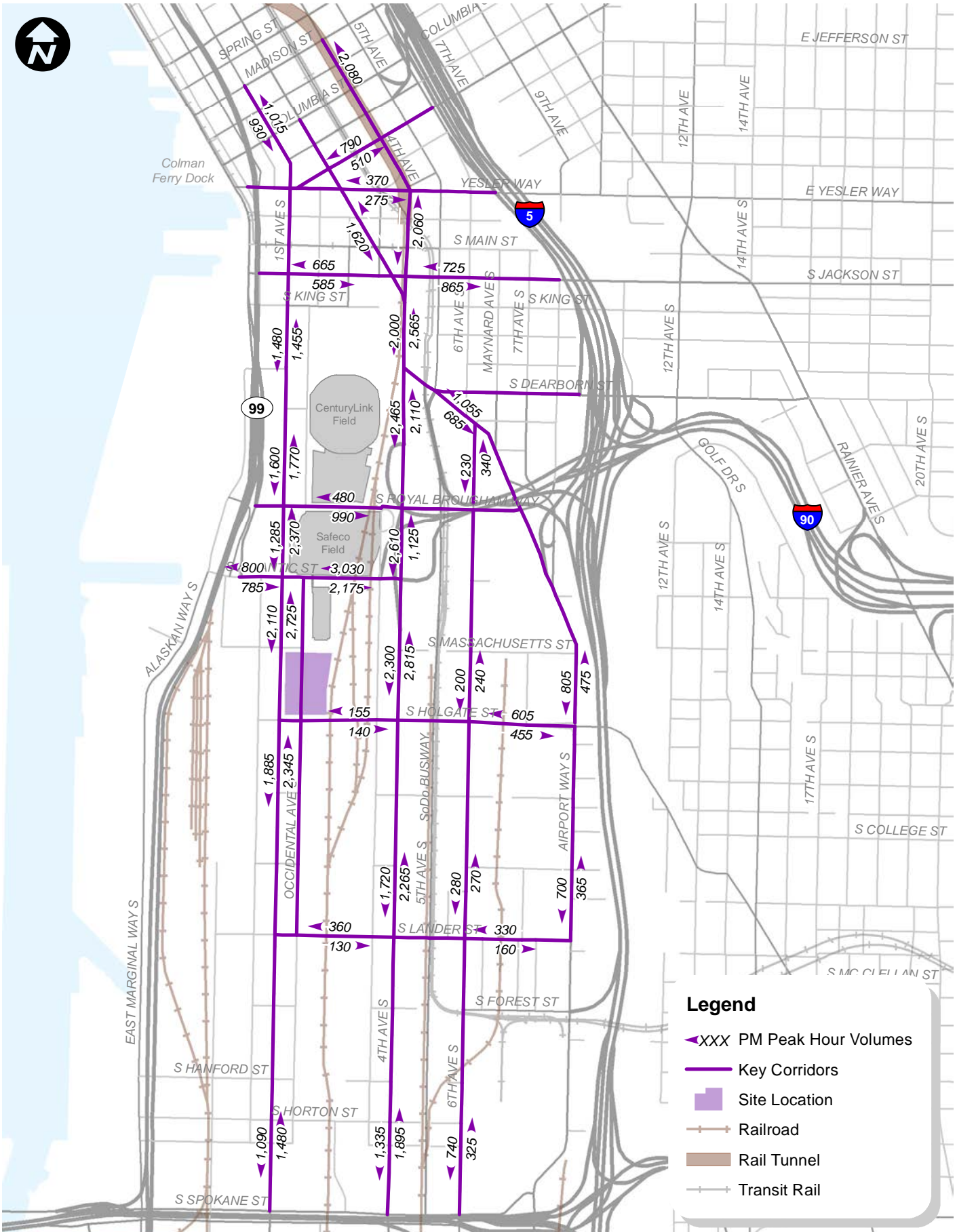
Weekday PM peak hour 2030 Proposed Action traffic volumes are shown on Figure 2–81 through Figure 2–83 for all three event cases. Detailed turning movement volumes for each scenario and at each study intersection are provided in Attachment E-1, which is available upon request.

As a result of the addition of trips from an event at the Proposed Arena under 2030 conditions, traffic volumes along the regional connections to the Stadium District area increase as follows depending on whether no other Stadium District events occurs, a Mariners game also occurs, or both a Mariners game and CenturyLink Field Event Center event occur:

- An increase of between 9 and 13 percent on 1st Avenue S. between S. Royal Brougham Way and S. King Street
- Volumes on 4th Avenue S., north of the S. King Street pedestrian crossing are anticipated to increase on the order of 8 and 9 percent
- South of the site, traffic volumes are anticipated to increase between 6 and 7 percent along 1st Avenue S., and 2 percent on 4th Avenue S. regardless of other events.

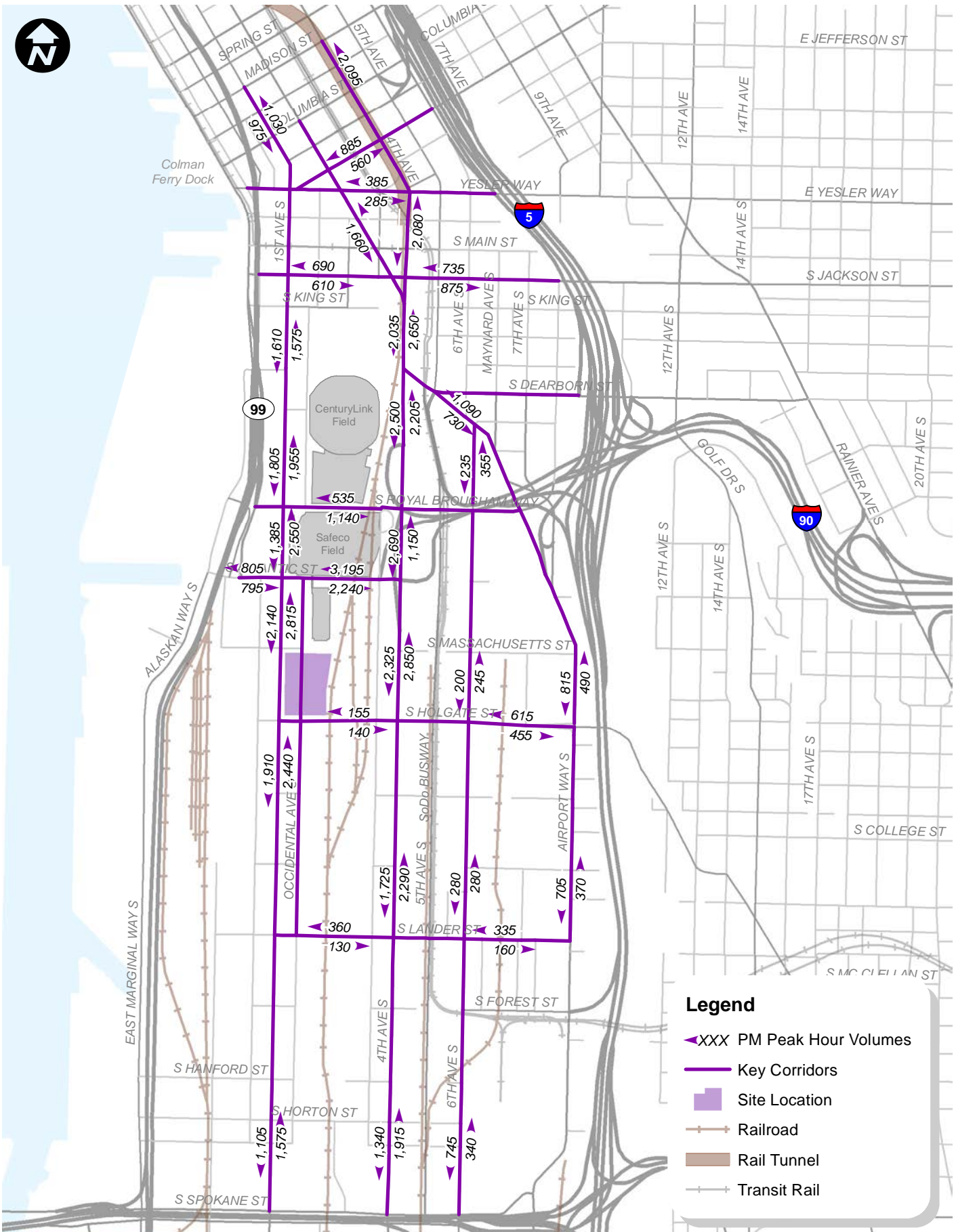


Stadium District Alternative 2 2030 Case S1
 Weekday PM Peak Hour Traffic Volumes



Stadium District Alternative 2 2030 Case S2
 Weekday PM Peak Hour Traffic Volumes

FIGURE
 2-82



Stadium District Alternative 2 2030 Case S3
 Weekday PM Peak Hour Traffic Volumes

FIGURE
 2-83

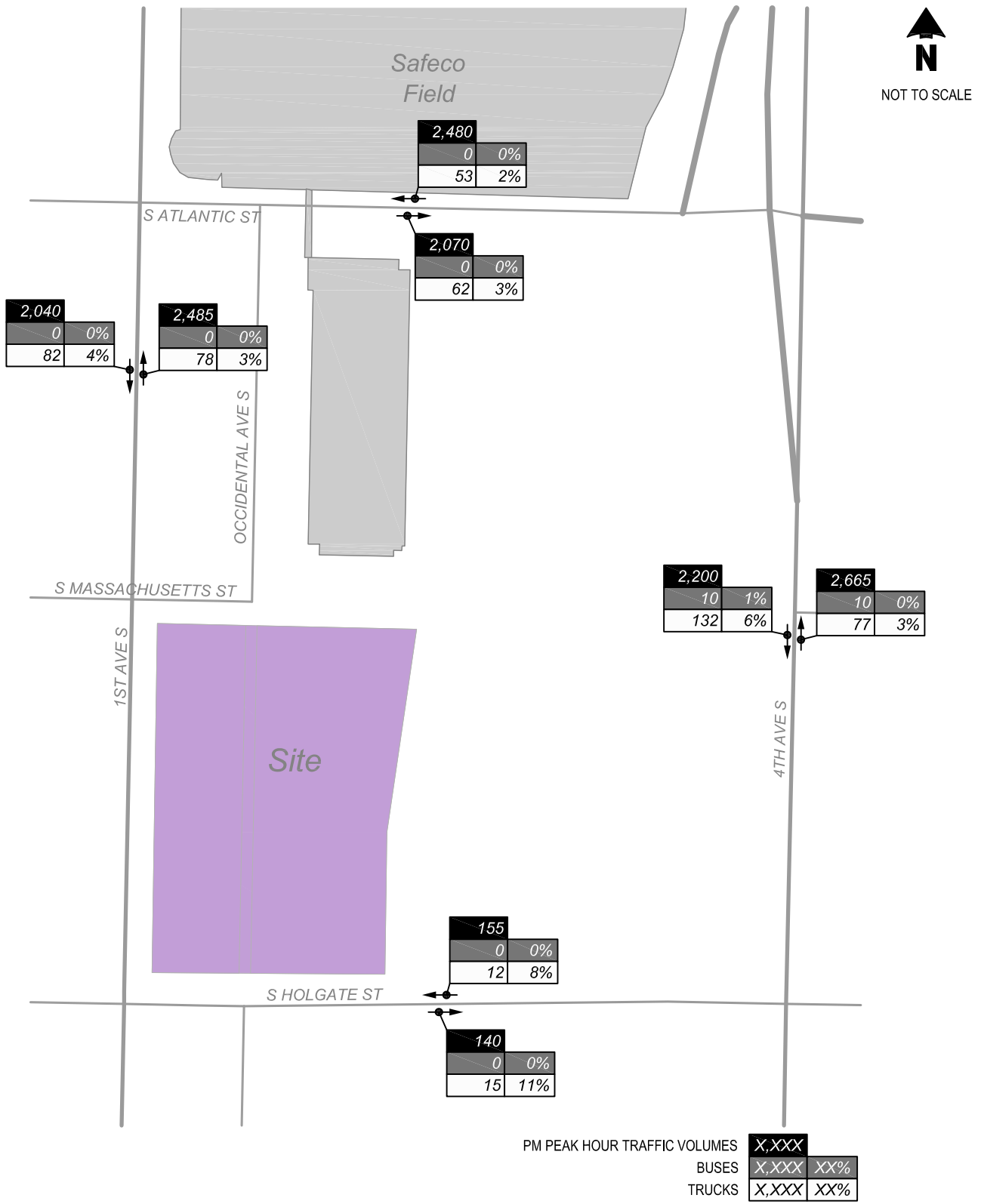
Figure 2–84 focuses on the traffic volumes within the vicinity of the Arena site and Table 2-11 summarizes the total traffic volumes within the Arena vicinity compared to 2030 No Action conditions.

**Table 2-11
2030 Alternative 2 Arena Site Vicinity Weekday PM Peak Hour Traffic Volumes**

Location	Case S1		Case S2		Case S3	
	No Action	Alt. 2	No Action	Alt. 2	No Action	Alt. 2
1st Avenue S. north of S. Massachusetts Street	4,110	4,525 (+10%) ¹	4,440	4,830 (+9%)	4,555	4,950 (+9%)
Edgar Martinez Drive S. west of Westbound I-90 Off-Ramps	4,005	4,550 (+14%)	4,680	5,205 (+11%)	4,910	5,435 (+11%)
S. Holgate Street east of Occidental Avenue S.	320	295 (-8%)	320	295 (-8%)	320	295 (-8%)
4th Avenue S. north of S. Holgate Street	4,650	4,865 (+5%)	4,910	5,115 (+4%)	4,970	5,175 (+4%)

1. Percent increase from No Action conditions.

As shown on Figure 2–84 and in Table 2-11, roadway volumes increase up to 14 percent within the Arena vicinity as a result of Arena traffic. The percent increase is influenced by the level of background traffic, as well as the level of event traffic. The percentage increase in traffic associated with the addition of Arena related traffic for subsequent event scenarios decrease, although overall traffic volumes increase up to 36 percent with all three events relative to No Action Case S1 forecasts. Consistent with the 2018 conditions, the largest increase due to Arena event traffic is forecast along Edgar Martinez Drive S. due primarily to the roadway’s connection to and from the regional freeway network and the nearby Safeco Field parking garage. Similar to 2018 conditions, S. Holgate Street volumes remain relatively unchanged with a minor decrease anticipated. This decrease is anticipated due to the shift in traffic associated with the vacation of Occidental Avenue S. and no assignment of event related traffic to the roadway. Event traffic was not assigned to the roadway based on the available parking in the area, capacity constraints on S. Holgate Street due to future rail activity, and anticipated event-related traffic control.



Stadium District 2030 Alternative 2 S1 Arena Site Vicinity
 Weekday PM Peak Hour Traffic Volumes

FIGURE
 2-84

2.5.4.3 Transportation Concurrency

The City of Seattle has implemented a Transportation Concurrency system to comply with one of the requirements of the Washington State Growth Management Act (GMA). The system, described in the DPD Director’s Rule5-2009 and the City’s Land Use and Zoning Code, is designed to provide a mechanism that determines whether adequate transportation facilities would be available “concurrent” with proposed development projects.

The screenlines closest to the project site were chosen for review. The screenlines that were analyzed are shown in Table 2-12 and include:

- The Duwamish River (Screenline 3.11),
- South of Spokane Street (Screenline 9.13), and
- South of S. Jackson Street (Screenline 10.11).

As a conservative estimate, it was assumed that all project-generated traffic traveling in the direction of the screenlines would extend across the screenlines included in this analysis.

**Table 2-12
Alternative 2 Transportation Concurrency Analysis**

SL# ¹	Location	Direction ²	Capacity	2008 PM Peak Hour Volume	Alternative 2 PM Peak Hour Traffic ³	V/C Ratio with Alt 2	LOS Standard
3.11	Duwamish River(West Seattle Freeway and Spokane Street)	EB	4,950	3,281	7	0.66	1.20
		WB	4,950	5,712	103	1.17	1.20
9.13	South of Spokane St (15 th Ave S. to Rainier Ave S.)	NB	6,340	3,464	72	0.56	1.00
		SB	6,340	3,767	5	0.59	1.00
10.11	South of S. Jackson Street (Alaskan Way S. to 4th Avenue S.)	NB	12,900	7,586	392	0.62	1.00
		SB	12,980	8,671	516	0.71	1.00

1. SL# = Screenline Number

2. Direction: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound

3. 2018 trip generation and assignment

The transportation concurrency analysis indicates that with traffic generated by the project, the screenlines would have v/c ratios that are less than the City level of service threshold and thus, the conditions would meet concurrency requirements.

2.5.5 Impacts of Alternative 3

Construction of Alternative 3 would result in an increase in traffic volumes due to workers traveling to and from the site, delivery of material, and truck hauling. It is anticipated that the increase in traffic volumes would be less than generated by an 18,000-person event at the arena.

Under this alternative, the arena would have a capacity of 18,000 attendees. Forecast trip generation and potential impacts of this alternative was based on an assumed attendance of 18,000 attendees consistent with Alternative 2. Traffic volume impacts of Alternative 3 are anticipated to be approximately 10 percent less than those identified for Alternative 2. While the 20,000-seat event is forecast to generate approximately 2,190 trips during the weekday PM peak hour of traffic under 2018 conditions, an 18,000 attendee event would generate approximately 1,970 trips. This is a difference of 220 vehicles. Under 2030 conditions these values are estimated to be 2,100 trips and 1,900 trips, respectively, for a difference of 200 trips during the weekday PM peak hour.

Table 2-13 and Table 2-14 summarize the total traffic volumes within the arena vicinity compared to the No Action alternative for 2018 and 2030 conditions, respectively.

**Table 2-13
2018 Alternative 3 Arena Site Vicinity
Weekday PM Peak Hour Traffic Volumes**

Location	Case S1			CaseS2			Case S3		
	No Act.	Alt. 2	Alt. 3	No Act.	Alt. 2	Alt. 3	No Act.	Alt. 2	Alt. 3
1st Avenue S. north of S. Massachusetts Street	3,340	3,760 (+13%) ¹	3,720 (+11%) ¹	3,685	4,095 (+11%)	4,055 (+10%)	3,815	4,215 (+10%)	4,175 (+9%)
Edgar Martinez Drive S. west of Westbound I-90 Off-Ramps	2,815	3,375 (+20%)	3,320 (+18%)	3,545	4,080 (+15%)	4,025 (+14%)	3,790	4,325 (+14%)	4,270 (+13%)
S. Holgate Street east of Occidental Avenue S.	830	805 (-3%)	805 (-3%)	830	805 (-3%)	805 (-3%)	830	805 (-3%)	805 (-3%)
4th Avenue S. north of S. Holgate Street	3,455	3,675 (+6%)	3,655 (+6%)	3,735	3,945 (+6%)	3,925 (+5%)	3,795	4,015 (+6%)	3,995 (+5%)

1. Percent increase from No Action conditions.

As shown in Table 2-13, traffic volumes in the vicinity of the arena site are anticipated to increase up to 20 percent with the addition of arena event traffic under 2018 conditions. Percentage increases in traffic volumes for Alternative 3 range from no change to two percent less than forecast under Alternative 2. As with Alternative 2, percentage increases resulting from the addition of arena related traffic for subsequent event scenarios decrease, although overall traffic volumes increase up to 18 percent with all three events relative to No Action Case S1 scenario. S. Holgate Street volumes remain relatively unchanged with a minor decrease anticipated. This decrease is anticipated due to the shift in traffic associated with the vacation

of Occidental Avenue S. and no assignment of event related traffic to the roadway. Event traffic was not assigned to the roadway based on the available parking in the area, capacity constraints on S. Holgate Street due to future rail activity, and anticipated event-related traffic control.

**Table 2-14
2030 Alternative 3 Arena Site Vicinity
Weekday PM Peak Hour Traffic Volumes**

Location	Case S1			Case S2			Case S3		
	No Act.	Alt. 2	Alt. 3	No Act.	Alt. 2	Alt. 3	No Act.	Alt. 2	Alt. 3
1st Avenue S. north of S. Massachusetts Street	4,110	4,525 (+10%) ¹	4,485 (+9%) ¹	4,440	4,830 (+9%)	4,790 (+8%)	4,555	4,950 (+9%)	4,910 (+8%)
Edgar Martinez Drive S. west of Westbound I-90 Off-Ramps	3,99	4,550 (+14%)	4,495 (+13%)	4,495	5,205 (+16%)	5,135 (+14%)	4,695	5,435 (+16%)	5,360 (+14%)
S. Holgate Street east of Occidental Avenue S.	320	295 (-8%)	295 (-8%)	320	295 (-8%)	295 (-8%)	320	295 (-8%)	295 (-8%)
4th Avenue S. north of S. Holgate Street	4,650	4,865 (+5%)	4,845 (+4%)	4,910	5,115 (+4%)	5,095 (+4%)	4,970	5,175 (+4%)	5,155 (+4%)

1. Percent increase from No Action conditions.

Similar to 2018 conditions, traffic volumes in the vicinity of the arena site are anticipated to increase up to 13 percent with the addition of an 18,000 attendee arena event as shown in Table 2-14. Traffic volumes under Alternative 3 range from between zero and two percent less than Alternative 2 volumes. Although overall traffic volumes increase up to 13 percent with all three events relative to No Action Case S1, percent increases associated with the addition of arena related traffic for subsequent event scenarios decrease, but the overall traffic volumes increase. Similar to 2018 conditions, S. Holgate Street volumes remain relatively unchanged with a minor decrease anticipated. This decrease is anticipated due to the shift in traffic associated with the vacation of Occidental Avenue S. and no assignment of event related traffic to the roadway. Event traffic was not assigned to the roadway based on the available parking in the area and the capacity constraints on S. Holgate Street due to future rail activity.

2.5.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements. The following identifies those potential mitigation measures considered to have a high influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 2 and Alternative 3.

- Event schedule protocol and management
- Port of Seattle protocols
- Public information coordinator
- Directional event signage
- Variable message and parking guidance signage
- North-South private connection located on the east side of the project site, connecting S. Holgate Street to the Safeco Field property
- Construction management plan
- Proportionate share contribution towards S. Lander Street Grade Separation
- Transportation Management Plan
- Pedestrian access improvements

2.5.7 Secondary & Cumulative Impacts

The effective implementation of transportation demand reduction strategies through a Transportation Management Program would result in increases in demands on other transportation modes and systems, including pedestrians, transit, and bicycles.

2.5.8 Significant Unavoidable Adverse Impacts

Peak hour traffic volumes would increase substantially over current levels under No Action conditions and the order of magnitude of change in traffic volumes associated with the Arena for any event case falls within the range of current event experience. There would be an increase in traffic volumes during peak conditions on event days, which would occur more frequently with the Arena. A number of measures have been identified to reduce the level of increase in traffic volumes, including demand reduction, and management of vehicles to orient them to the most appropriate route.

2.6 Traffic Operations

This section evaluates the magnitude of traffic impacts of the project for each of the defined event cases. The traffic operations analysis included a review of four primary areas: intersection levels of service; corridor performance measured through an assessment of travel times; effects of rail traffic on key corridors, and regional impacts as identified through a review of mainline I-5 and I-90 travel speeds; and ramp terminal LOS. The following section provides further detail regarding the methodology applied to each of the four analyses. In reviewing this analysis, it is important to remember that each event cases illustrated would occur with differing frequencies. Case S1 would occur most frequent while Cases S2 and S3 would be relatively rare, or never, depending on mitigation relative to event scheduling.

2.6.1 Methodology

Intersection Level of Service: The operational performance of an intersection was determined by calculating the intersection LOS based on the procedures presented in HCM 2000 rather than the most recent HCM 2010. The use of HCM 2000 is due to limitations related to the HCM 2010 methodology for some conditions, analysis software coding bugs, a desire to apply a consistent methodology throughout the study area, and long-term acceptance of the previous HCM results. Specific limitations of the HCM 2010 methodology include the inability to model five-legged intersections as well as restrictions related to signal phasing that result in the inability to model some of the study area signalized locations. As a consistent approach to measuring intersection and corridor performance, the LOS analysis was completed using the HCM 2000 methodologies as implemented in the Synchro version 8 software program.

At signalized and all-way stop-controlled intersections, LOS is measured in average delay per vehicle for all vehicles at the intersection. At two-way stop-sign-controlled intersections, LOS is reported for the worst operating approach of the intersection. Traffic operations for an intersection can be described alphabetically with a range of LOS values (LOS A through F), with LOS A indicating free-flowing traffic and LOS F indicating extreme congestion and long vehicle delays. Intersection levels of service incorporate several intersection characteristics including signal timing, signal phasing, intersection channelization, traffic volumes, and pedestrian volumes. Table 2-15 summarizes the LOS criteria for signalized and unsignalized intersections.

The City of Seattle's Comprehensive Plan does not define a LOS standard for individual intersections; however, the City generally recognizes LOS E and F as poor operations for signalized locations and LOS F for unsignalized locations. Given the event-related nature of this analysis, and variant frequencies and intensities, traditional intersection LOS standards would not be appropriate as the sole measure of impact on traffic operations.

**Table 2-15
Level of Service Criteria**

LOS ¹	Average Signalized Delay ²	Average Unsignalized Delay ²	General Description ²
A	< 10 seconds	< 10 seconds	Free Flow
B	10 - 20 seconds	10 - 15 seconds	Stable Flow (slight delays)
C	20 - 35 seconds	15 - 25 seconds	Stable flow (acceptable delays)
D	35 - 55 seconds	25 - 35 seconds	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	55 - 80 seconds	35 - 50 seconds	Unstable flow (intolerable delay)
F	> 80 seconds	> 50 seconds	Forced flow (jammed)

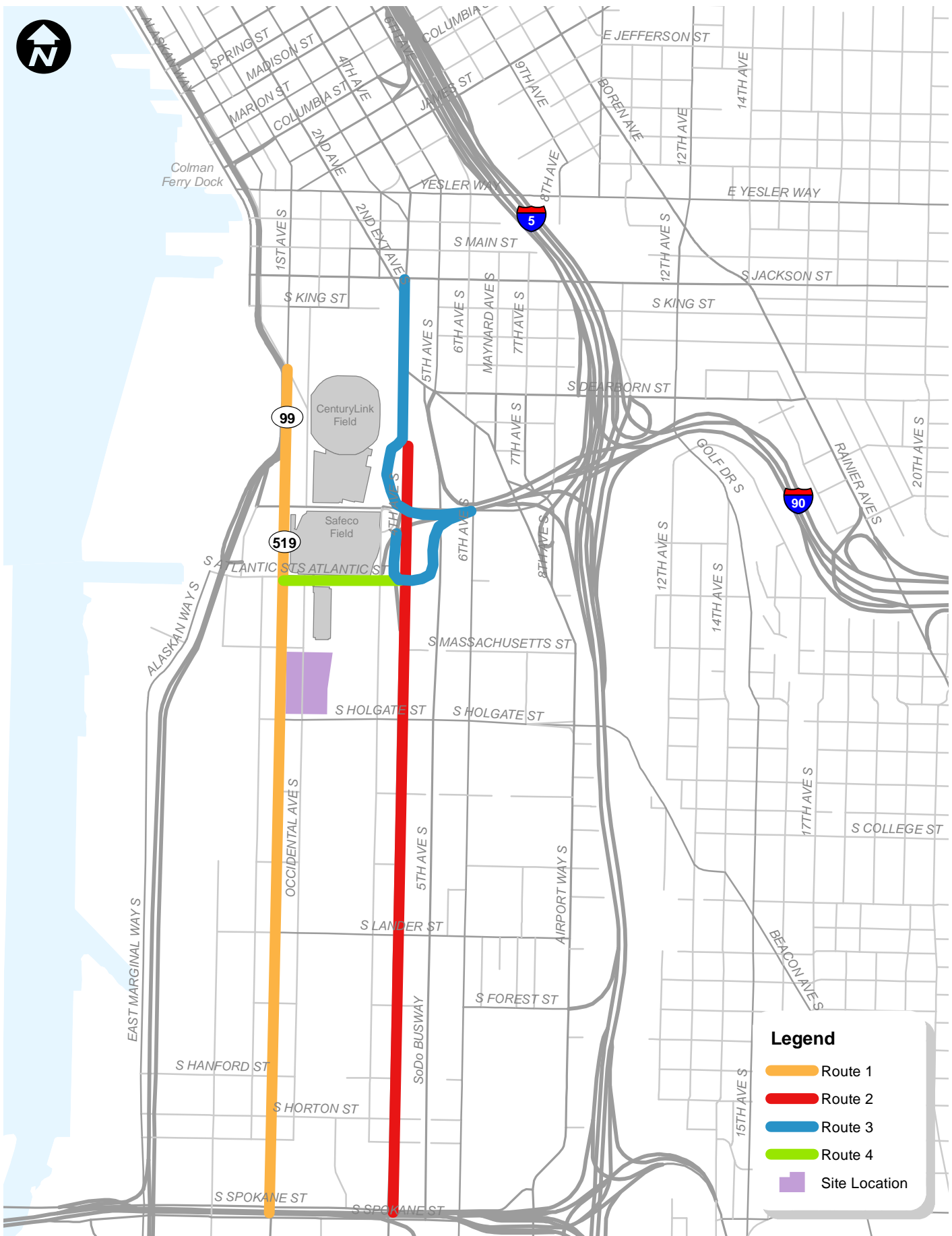
1. LOS = level of service

2. *Highway Capacity Manual*, Transportation Research Board, Special Report 209, 2000.

Corridor Performance: Route performance along key corridors was calculated within the study area to provide an additional level of analysis regarding the overall operations of the roadway system. This type of analysis adds context to the results of the intersection LOS described earlier, because it takes into account general travel times between intersections as well as additional delay anticipated at intersections for the specific movements relevant to the identified route.

Travel times were evaluated for four routes and were chosen based on a review of existing travel patterns in the area including key travel routes for commuters and the movement of freight and goods. These routes are generally representative of local circulation or regional travel. Figure 2-85 highlights the travel routes identified for this analysis. The four routes are described as follows:

- **Route 1** focuses on a north-south route along 1st Avenue S. between Railroad Way S. and S. Spokane Street.
- **Route 2** focuses on a north-south route along 4th Avenue S. between S. Spokane Street and the I-90 off-ramp.
- **Route 3** includes north-south travel between I-90 and the CBD along 4th Avenue S. This route represents travel to / from the regional freeway System and the CBD towards the Pioneer Square and International Districts.
- **Route 4** focuses on east-west travel between Port of Seattle facilities west of 1st Avenue S. and the I-5 / I-90 interchange. This route includes S. Atlantic Street from 1st Avenue S. to the freeway ramps on S. Atlantic Street in the vicinity of 4th Avenue S.



Stadium District Corridor Travel Time Routes

FIGURE 2-85

Travel times were calculated consistent with HCM methodologies defined for the analysis of arterial systems. This analysis utilized the approach delay for each study intersection along these four routes and a free-flow mid-block travel speed applied to the distance between each study intersection. The mid-block speed is estimated following the Bureau of Public Roads methodology.²¹

Effects of Rail Crossings: Key corridors impacted by rail activity within the study area were analyzed using VISSIM, a microsimulation model.²² The simulation model of the rail crossings at S. Holgate Street and S. Lander Street was utilized to conduct the assessment due to its ability to model train operations including the arrival and departure patterns associated with delays caused by the gate down times. This analysis focuses on the BNSF mainline tracks that are located immediately west of 4th Avenue S. Several other non-mainline track crossings exist along S. Holgate Street, which accommodate and facilitate the movement of trains within the rail yard, but have not been included in the model since crossing activity is infrequent during the weekday PM peak period.

Freeway / Regional Access Analysis. The analysis of regional access to the SoDo area focused on both mainline performance considering corridor travel speeds as well as the LOS at the ramp intersections with the surface arterials. The analysis included a review of southbound I-5 between NE 145th and I-90 and westbound I-90 between Rainier Avenue and I-5. Information prepared by the King County expert review panel in 2012 for the potential Arena was included in this analysis. This information highlights historical congestion patterns along the I-5 and I-90 corridors under event conditions. Ramp intersections also evaluated as part of the intersection LOS are highlighted in this section. The analysis of the ramp intersections is consistent with the LOS methodology previously described.

²¹ NCHRP Report 387

²² Traffic operations results are presented for the system peak hour. A 20-minute seeding period was used to load traffic onto the roadway network. Vehicular traffic volumes and rail operations during this seeding period replicate traffic volumes and rail operations observed during field data collection.

2.6.2 Affected Environment

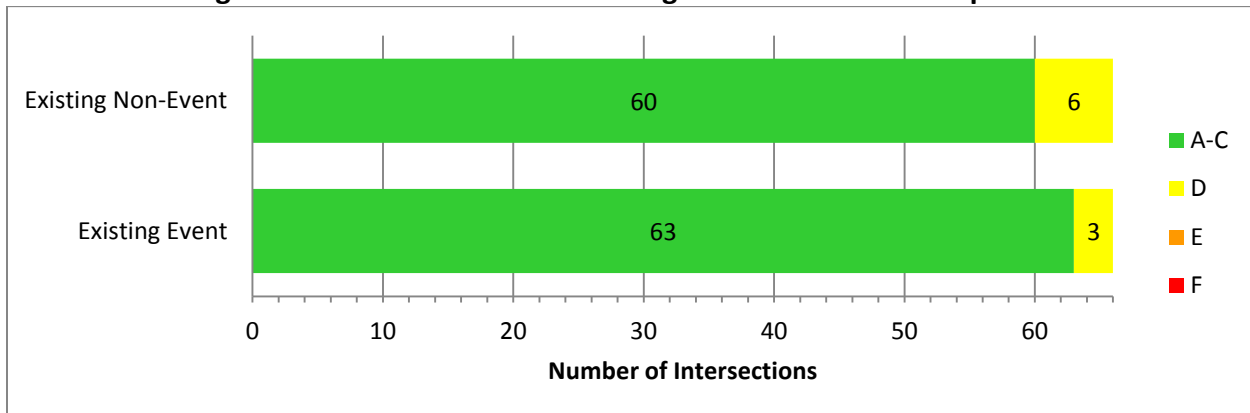
The following sections summarize existing traffic operations within the Stadium District study area.

2.6.2.1 Intersection Operations

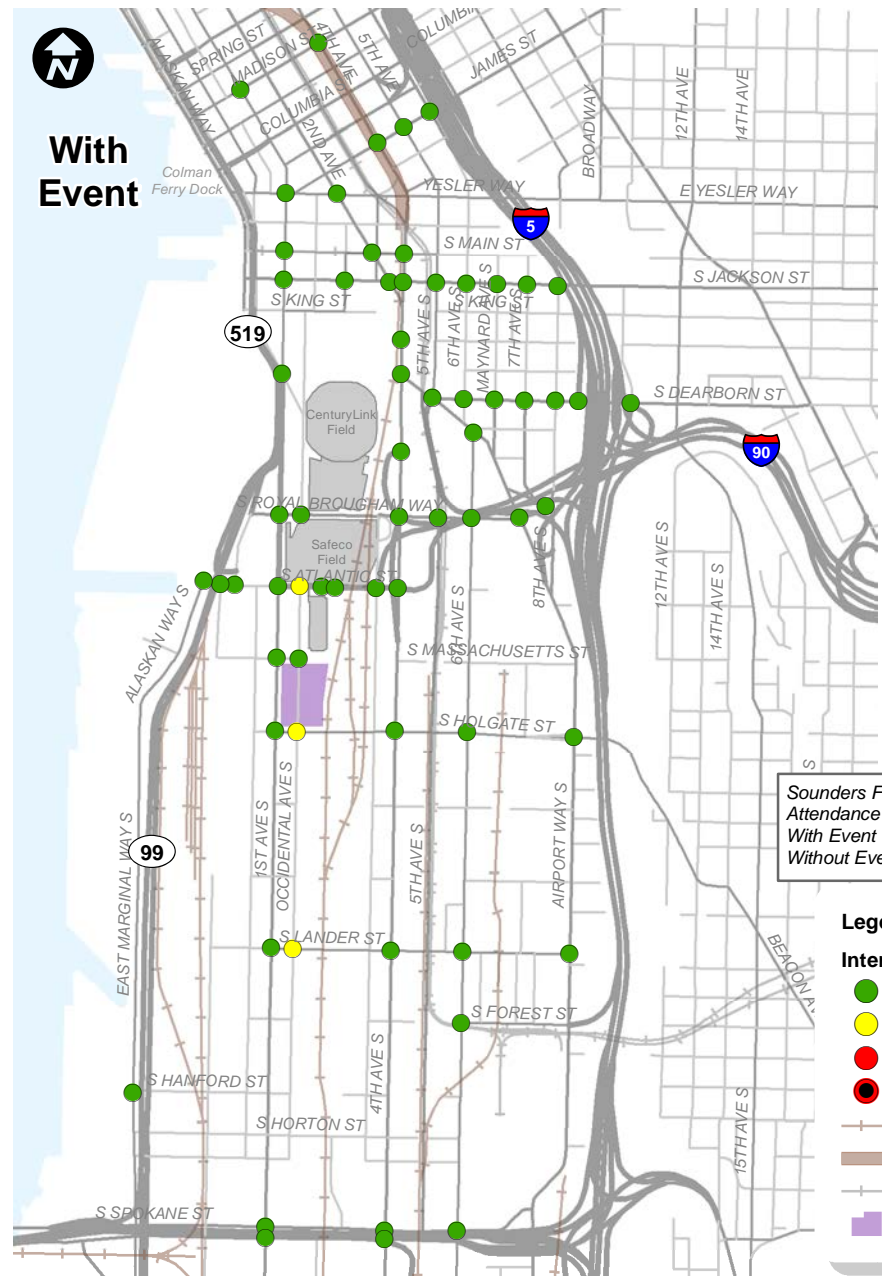
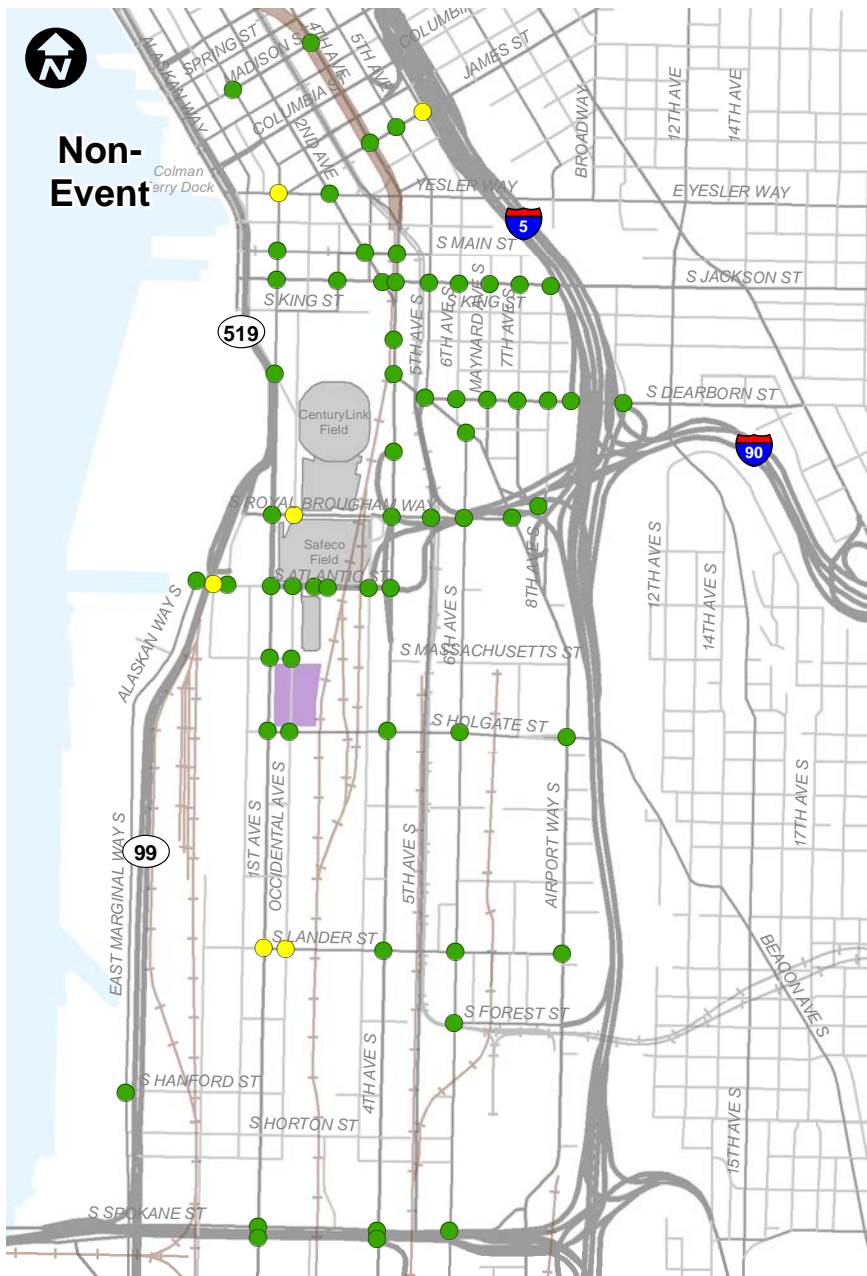
As part of the intersection operations analysis, signal timing and phasing information was obtained from either the Seattle Department of Transportation (SDOT) or collected in the field. Lane geometrics and traffic control were confirmed in the field and are summarized for each study area intersection in Attachment E-2, which is available from DPD upon request. LOS results for existing weekday PM peak hour without and with event²³ conditions are summarized on Figure 2–87. The number of intersections operating at LOS C or better, LOS D, LOS E, or LOS F is summarized on Figure 2–86. Detailed LOS summary tables and worksheets for each scenario are included in Attachment E-3, which is available from DPD upon request.

As shown on the figures, all study intersections operate at LOS D or better under with event and non-event and without event scenarios with the exception of the six intersections in the non-event and three intersections under the event scenarios.

Figure 2–86 Stadium District Existing Intersection LOS Comparison



²³ Existing with-event conditions were observed during the Thursday October 7, 2012 Sounders game. Without-event conditions were observed on Thursday November 1, 2012.



Sounders FC Event -
Attendance of 38,356
With Event Date: 10/17/2012
Without Event Date: 11/1/2012

Legend

Intersection LOS

- LOS A - C
- LOS D
- LOS E
- LOS F

- Railroad
- Rail Tunnel
- Transit Rail
- Site Location

Stadium District Existing Weekday PM Peak Hour Level of Service

It is noted that actual driver experience may suggest worse LOS than summarized herein. As the LOS reported represents an average delay for the intersection, some movements will operate at a lower level than reported for the overall average. Also, with the high concentrations of pedestrians during events, the analytical tools employed may not fully reflect the level of pedestrian impacts to intersection performance. Intersections that would be subject to these high pedestrian concentrations during observed events include:

- 1st Avenue S. / S. Royal Brougham Way
- 1st Avenue S. / S. Atlantic Street
- 4th Avenue S. / S. Royal Brougham Way

Several locations along S. Jackson Street may be operating better than historical condition due to diversion of traffic caused by existing construction activity. In addition, previous studies and field observations of the 6th Avenue / James Street intersection suggest this intersection has operated worse than currently shown under these existing conditions.

2.6.2.2 Corridor / Route Performance

Table 2-16 summarizes the estimated existing travel times on the various routes for weekday PM peak hour non-event and with-event conditions.

**Table 2-16
Existing Weekday PM Peak Hour Travel Times Non-Event & With-Event Conditions**

Route	Extents	Direction	Non-Event (m:ss ¹)	With-Event ² (m:ss)
1	1st Avenue S. from Railroad Way S. to S. Horton Street	NB	6:16	6:31
	1st Avenue S. from S. Horton Street to Railroad Way S.	SB	6:49	6:50
2	4th Avenue S. from S. King Street to S. Horton Street	NB	6:20	6:54
	4th Avenue S. from S. Horton Street to S. King Street	SB	6:54	6:57
3	4th Avenue S. from S. King Street to I-90	NB	1:43	1:33
	4th Avenue S. from I-90 to S. King Street	SB	3:01	2:53
4	S. Atlantic Street from 1st Avenue S. to I-90	EB	1:39	1:24
	S. Atlantic Street from I-90 to 1st Avenue S.	WB	1:23	1:18

1. m:ss = minutes:seconds

2. Reflects counts taken for a Sounders FC game with attendance = 38,500

As shown in Table 2-16, travel times generally increase along the four routes with the addition of traffic from an event. It is noted that the level of change in travel time may not be intuitive as it relates to any event with over 38,000 attendees. A number of factors appear to contribute to this condition:

- The observed event was a Seattle Sounders FC soccer game at CenturyLink Field. While no hard data relative to mode split or net vehicle demands is available, anecdotal

evidence suggests a higher reliance on non-auto travel than occurs in relation to other Stadium District events of similar attendance.

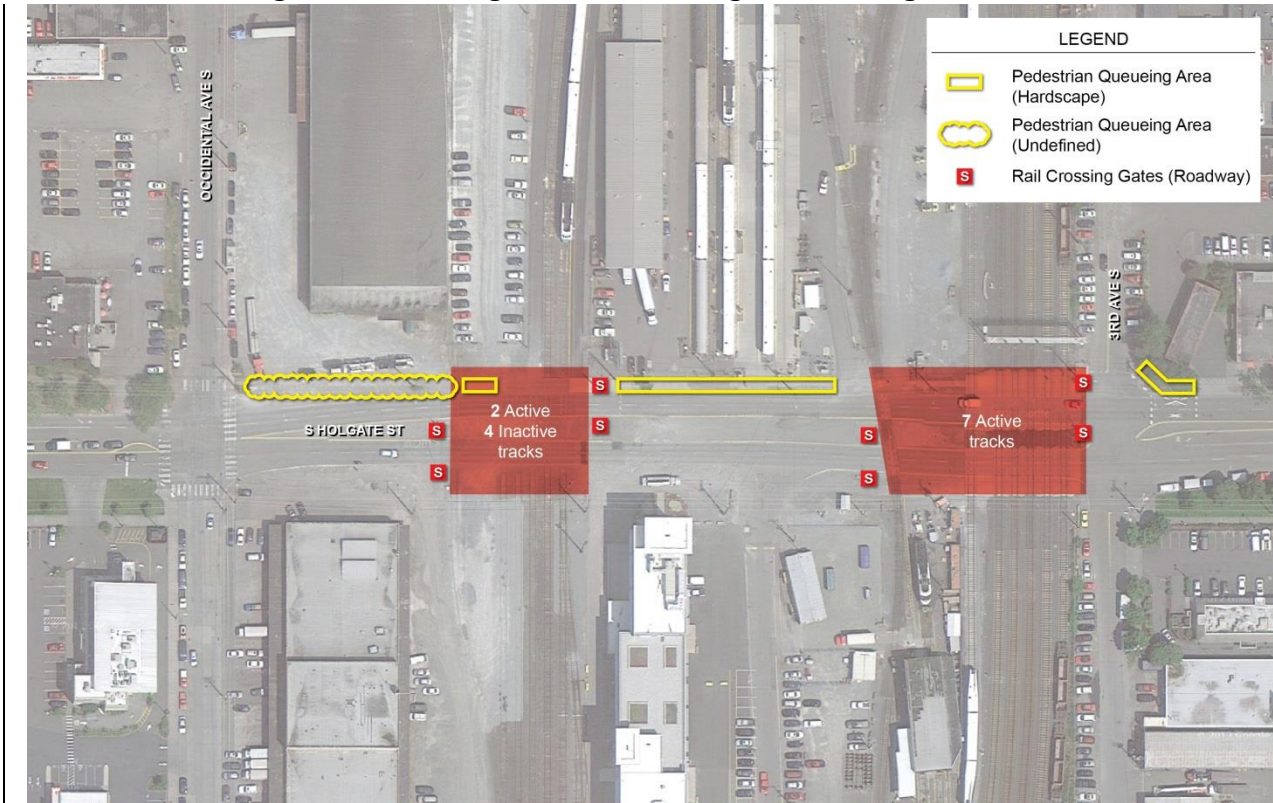
- Repeated traffic counts for other events in the area also suggest minimal local street system impacts during the weekday PM peak hour conditions.
- Local businesses and downtown motorists who are aware of a pending event adjust their travel behavior, either by time or by mode to avoid being caught in event-related congestions. Depending on the size of the event, the adjusted background traffic appears to partially, if not substantially offset the added weekday PM peak hour traffic due to an event.

The slight decreases in travel time along some of the routes for an event condition can be attributed to minor changes in signal timing based on traffic volumes. These can be interpreted to experience little overall added delay during observed event conditions. Several intersections along the travel time routes are shown to have left-turn queue lengths that exceed allowable storage, but occur along arterials that have multiple through lanes. As a result, vehicles potentially blocked by these queues are anticipated to utilize the second through lane, minimizing the impact on the overall intersection capacity.

2.6.2.3 Effects of Rail Crossings

There are at-grade rail crossings throughout SoDo and the greater Duwamish impacting arterial operations. The grade-crossings that have the highest volume of train activity are located along the BNSF Railway's mainline tracks (between 1st Avenue S. and 4th Avenue S.) and also lead and tail tracks associated with the intermodal rail yards. Crossings of the mainline are located at S. Holgate Street, S. Lander Street, S. Horton Street and surface S. Spokane Streets. These mainline tracks, and adjacent spur lines, serve regional activity, trains at the intermodal yards, Sounder commuter rail trains, interstate commerce, international transportation and Amtrak trains. Figure 2-88 shows the current rail lines and vehicle and pedestrian queuing areas at these crossings.

Figure 2–88 S. Holgate Street Existing Rail Crossing Locations



Existing Rail activity was simulated based on field observations at S. Holgate Street conducted in December 2013. Based on these observations, trains were assumed to travel at approximately 10 to 15 mph through the study area and gate down times were noted at approximately 8:45 minutes on average. Consistent with the observations, existing rail activity assumed in the model included four passenger trains with eight cars per train and one freight train of 73 cars.

Effects of the rail crossings on S. Holgate Street and S. Lander Street between 1st Avenue S. and 4th Avenues S. on the arterial operations were assessed using the VISSIM model. Rather than reporting the queue lengths on S. Holgate Street and S. Lander Street, queue lengths on adjacent arterials (1st Avenue S. and 4th Avenue S.) are considered since existing queues have been observed to extend into the adjacent arterials as documented in the *Coal Train Traffic Impact Study* (p 16, October 2012, Parametrix). Queue lengths reported for these locations reflect a combination of effects of signal operations as well as impacts of queuing from the at-grade crossings.

Queue lengths for existing simulated conditions along 1st Avenue S. and 4th Avenues S. are summarized in Table 2-17. Maximum queue lengths are reported along 1st and 4th Avenues S. because rail crossing impacts along S. Holgate and S. Lander Streets cause queues to extend into the 1st and 4th Avenues S. intersections.

Table 2-17

S. Holgate Street and S. Lander Street Rail Crossing Summary – Existing Weekday PM Peak Hour

	Scenario	Arterial Direction ¹	Maximum Arterial Queue Length ²
S. Holgate Street Crossing	Weekday PM Peak Hour Non-Event	NB ³ 1st Ave S.	420 ft
		SB 1st Ave S.	350 ft
		NB 4th Ave S.	310 ft
		SB 4th Ave S.	390 ft
	Weekday PM Peak Hour With-Event ⁴	NB 1st Ave S.	270 ft
		SB 1st Ave S.	330 ft
		NB 4th Ave S.	380 ft
		SB 4th Ave S.	890 ft
S. Lander Street Crossing	Weekday PM Peak Hour Non-Event	NB 1st Ave S.	310 ft
		SB 1st Ave S.	430 ft
		NB 4th Ave S.	300 ft
		SB 4th Ave S.	400 ft
	Weekday PM Peak Hour With-Event	NB 1st Ave S.	620 ft
		SB 1st Ave S.	510 ft
		NB 4th Ave S.	300 ft
		SB 4th Ave S.	690 ft

1. Queue lengths reported relative to 1st Avenue S. and 4th Avenue S. as S. Lander and S. Holgate storage was noted at capacity.
2. The reported maximum queue length is an average of the maximum queue lengths recorded across 10 simulation runs and represents the greater of a turning movement towards the rail crossing or the throughout movement along the corridor. Queue lengths are rounded up to the nearest 10 feet.
3. NB = northbound, SB = southbound
4. Sounders FC soccer game with attendance of 38,500

Rail crossing gates are activated a total of approximately 8.5 minutes during the weekday PM peak hour with individual closures averaging approximately 2.5 minutes each. As shown in Table 2-17:

- Maximum queues along 1st Avenue S. and 4th Avenues S. show that maximum queue lengths along the arterial typically increase with the occurrence of the Sounders game.
- The northbound 1st Avenue S. queue at S. Holgate Street is shown to decrease and occurs as a result of increased upstream northbound congestion at 1st Avenue S. / S. Lander Street.

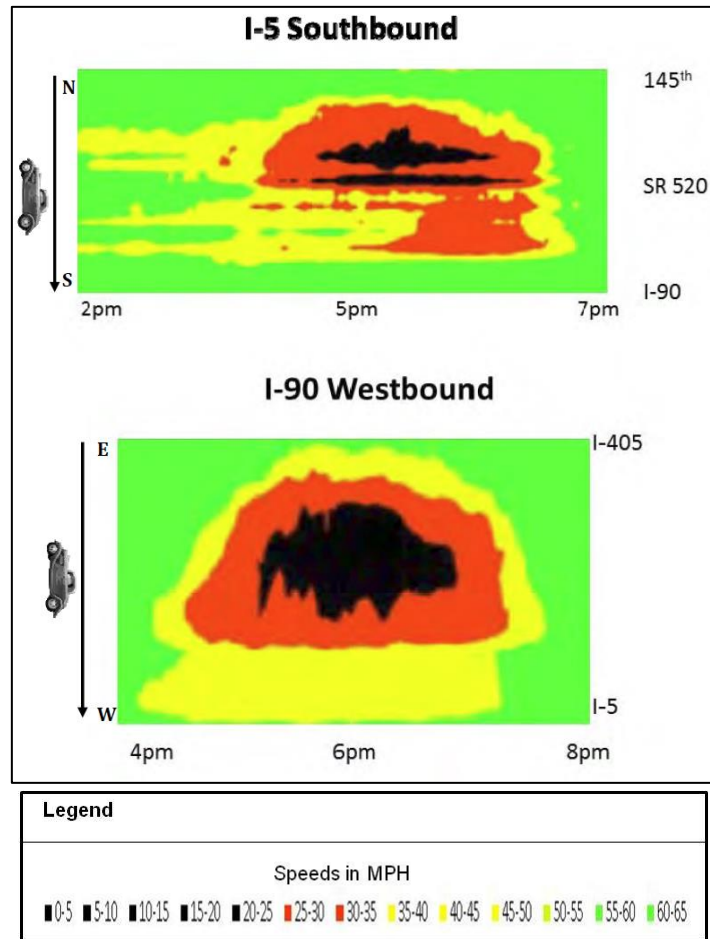
Model results were compared to the values reported in the coal train study for calibration purposes. The queue lengths summarized in the coal train study are generally consistent with previous analyses.

2.6.2.4 Regional Access Analysis

Primary freeway corridors that provide regional access to the SoDo site include I-5, I-90, SR 520, and SR 99. The weekday PM peak commute period for these corridors occurs between 3:00 and 7:00 PM.

The I-5 and I-90 corridors experience congestion presently during the PM peak commute (4:00 to 7:00 PM). I-5 southbound is congested with speeds less than 30 mph from 145th Street NE through downtown Seattle (north of I-90). These lower speeds are estimated to occur from 4:30 PM to approximately 7:00 PM. I-90 westbound operates with speeds less than 30 mph from I-405 to the approach to I-5 during the 4:00 to 7:00 PM window. Figure 2–89 depicts typical daily congestion that occurs today on I-5 southbound and I-90 westbound. Travel speeds are shown relative to the time of day (x-axis) and the relative location along the corridor (Y-axis). The color green represents free flow, while black is representative of speeds less than 25 mph.

Figure 2–89 I-5 and I-90 Existing Weekday Congestion



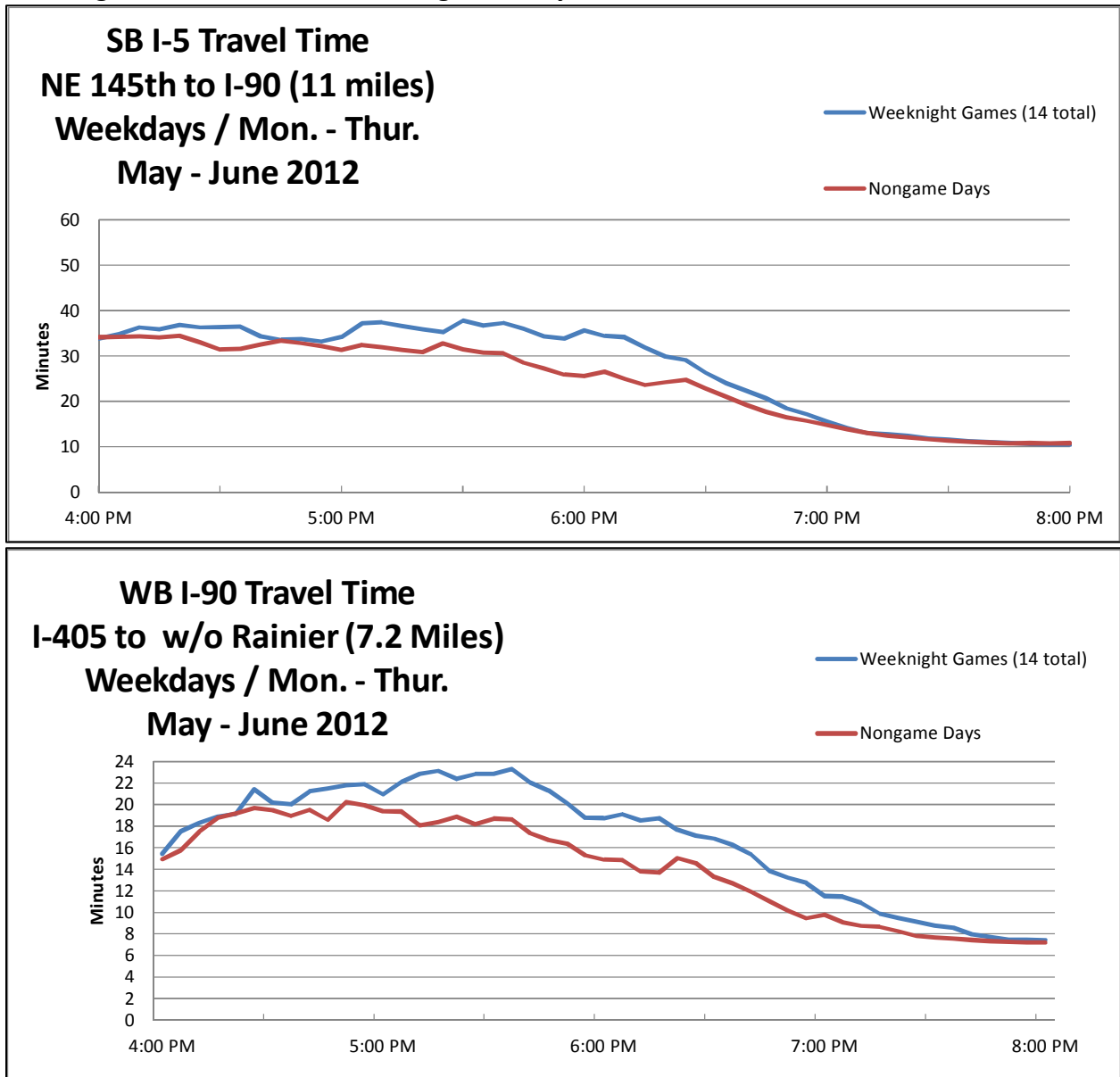
I-5 is a north-south corridor with 8 to 10 lanes of capacity through the downtown Seattle area. The corridor serves 7,000 to 7,500 vph in each direction through downtown during the evening commute. The I-5 corridor also includes a set of reversible lanes between Downtown Seattle and Northgate. This four lane facility operates in the northbound direction during the PM peak period with a volume of 4,500 vph.

I-90 is an east-west corridor connecting cities east of the Lake Washington (such as Bellevue, Issaquah, Redmond, Mercer Island) and terminates in the SoDo area of Seattle. Approaching I-5 from the east, I-90 serves up to 9,300 vph during the PM peak period, with higher eastbound volumes leaving Seattle.

When events occur at existing SoDo venues peak travel times through the city increase (see Figure 2–90). The PM peak travel times (on days with events in 2012) increased by up to eight

minutes on southbound I-5 between NE 145th and I-90 and up to four minutes on westbound I-90 between I-405 and Rainier Avenue S.

Figure 2–90 I-5 and I-90 Existing Weekday Travel Times Non-Event and With Event



SR 520 is a second east-west cross-lake corridor operating between Redmond and Seattle. SR 520 is currently a four lane tolled corridor and serves up to 4,800 vph during the PM peak period. Ultimately, the corridor will be six lanes (two general purpose lanes and an HOV lane in each direction). Portions of the project are funded and under construction.

SR 99 is a north-south corridor along the Seattle waterfront through. SR 99 is also currently under construction. Today, the corridor provides six lanes through the downtown Seattle area and will be replaced by a four-lane tunnel and expanded Alaskan Way surface street when the

project is complete. The tunnel is scheduled to open in 2017, and the new surface street will follow in 2018.

The traffic signals or intersections at the ramp termini operate as a constraint as traffic exits the freeway to access the SoDo area. The overall capacity of the intersection and off-ramp approach of nine arterial intersections at the I-5, I-90, and West Seattle Bridge ramp termini were reviewed to determine existing off ramp constraints. This analysis focuses on the off-ramps only as it is most impacted by the inbound regional flows to the Arena. On-ramp capacity is discussed in the intersection operations section. The analysis was completed for event²⁴ and non-event conditions. The study intersections include the following:

- S. Spokane Street / 1st Avenue S.
- S Spokane Street / 6th Avenue S.
- S Forest Street / 6th Avenue S.
- Edgar Martinez Drive S. / I-90 Off-Ramp
- 4th Avenue S. / I-90 Off-Ramp
- S. Dearborn Street / I-90 Off-Ramp
- S. Dearborn Street / I-5 SB Off-Ramp
- S. Dearborn Street / I-5 NB Off-Ramp
- James Street / 6th Avenue

Of the nine study intersections, all the intersections operate with an overall and off-ramp approach of LOS D or better during the normal weekday peak hour and with an event. LOS and delay per vehicle is shown in Table 2-18.

²⁴ Event was a Seattle Sounders soccer game with an attendance of 38,500.

**Table 2-18
Stadium District Existing Ramp Terminal Weekday PM Peak Hour LOS Summary**

Ramp Termini Intersection	Scenario	Overall LOS / Delay	Off-Ramp LOS / Delay
Spokane St Viaduct / 1st Ave S.	Non-Event	B / 18	D / 43
	Event ¹	C / 20	D / 42
Spokane St / 6th Ave S.	Non-Event	B / 18	B / 16
	Event	C / 31	C / 26
Forest St / 6th Ave S.	Non-Event	B / 11	B / 14
	Event	B / 11	B / 17
E. Martinez Dr S. / I-90 Off	Non-Event	A / 6	B / 18
	Event	A / 6	B / 16
4th Ave S. / I-90 Off	Non-Event	A / 8	D / 46
	Event	B / 11	D / 38
Dearborn St / I-90 Off	Non-Event	C / 32	D / 52
	Event	C / 26	D / 47
Dearborn St / I-5 SB Off	Non-Event	A / 8	D / 42
	Event	A / 7	C / 22
Dearborn St / I-5 NB Off	Non-Event	B / 19	D / 43
	Event	B / 16	B / 18
James St / 6th Ave	Non-Event	D / 37	D / 46
	Event	C / 24	C / 31

1. Sounders FC soccer game at 38,500 attendance

2.6.3 Impacts of No Action Alternative

The following sections summarize the results of the traffic operations analysis conducted for the No Action alternative. This analysis reflects the forecast traffic volumes and roadway improvements anticipated to be completed by the 2018 and 2030 horizon years. Consistent with the analysis of the Affected Environment, this section presents the results of the intersection LOS analysis, corridor performance, effects of rail crossings, and regional access to the SoDo area.

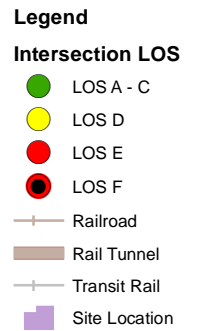
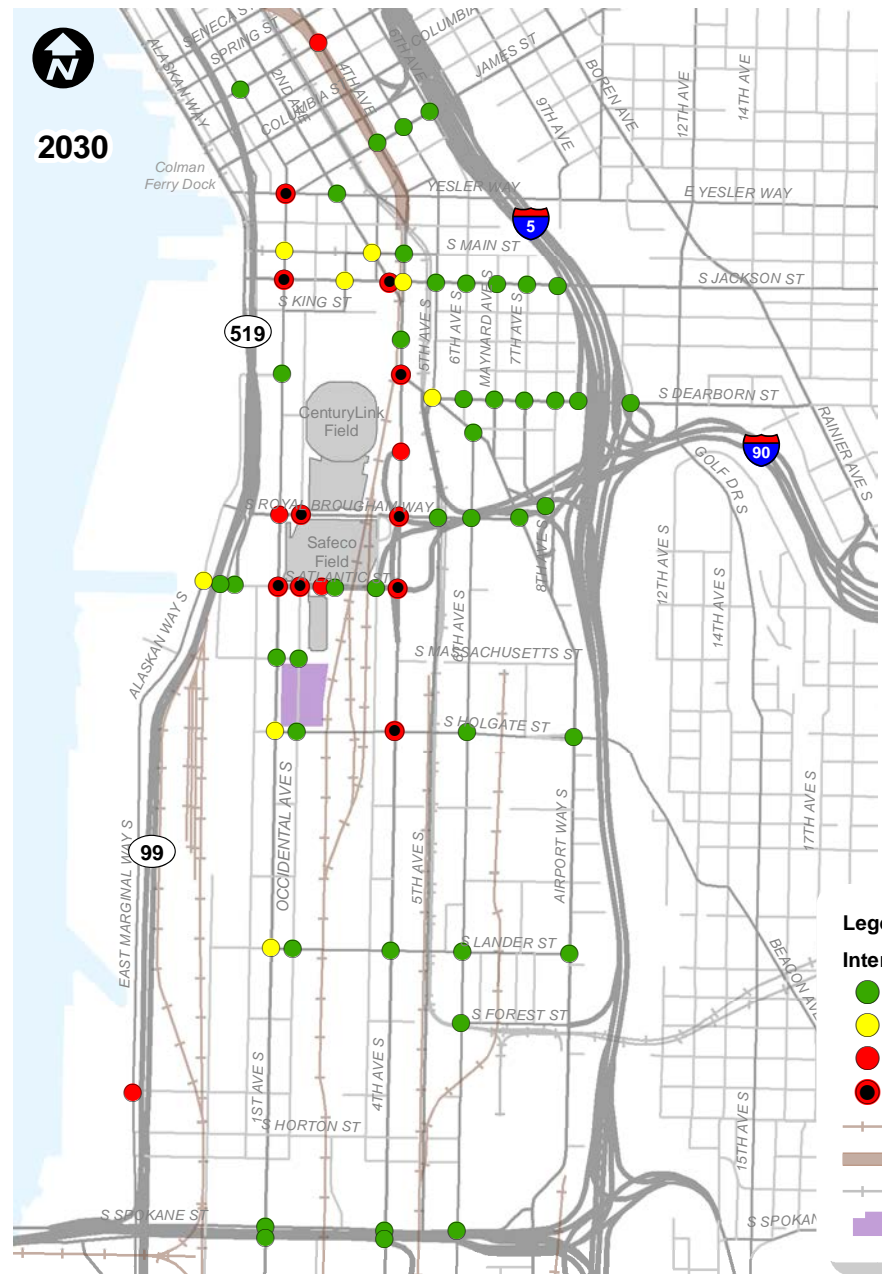
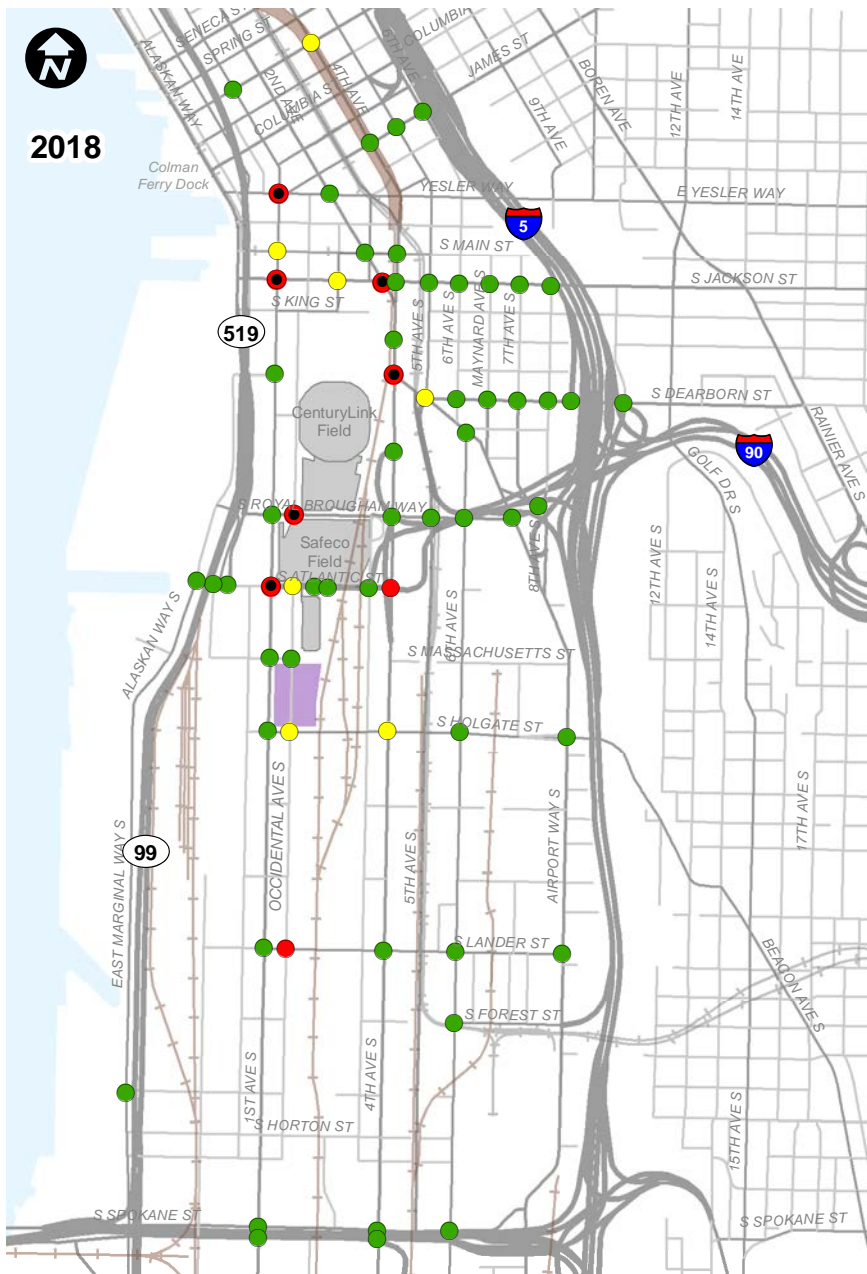
The event cases are included as part of baseline conditions for No Action as follows:

- Case S1 - No events
- Case S2 - An event with 40,500 attendance at Safeco Field
- Case S3 - An event with 47,500 attendance at Safeco Field plus 5,000 attendance at CenturyLink Field Event Center

2.6.3.1 Intersection Operations

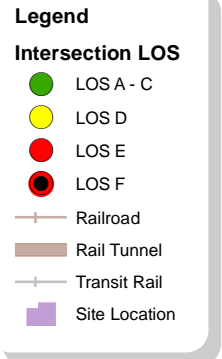
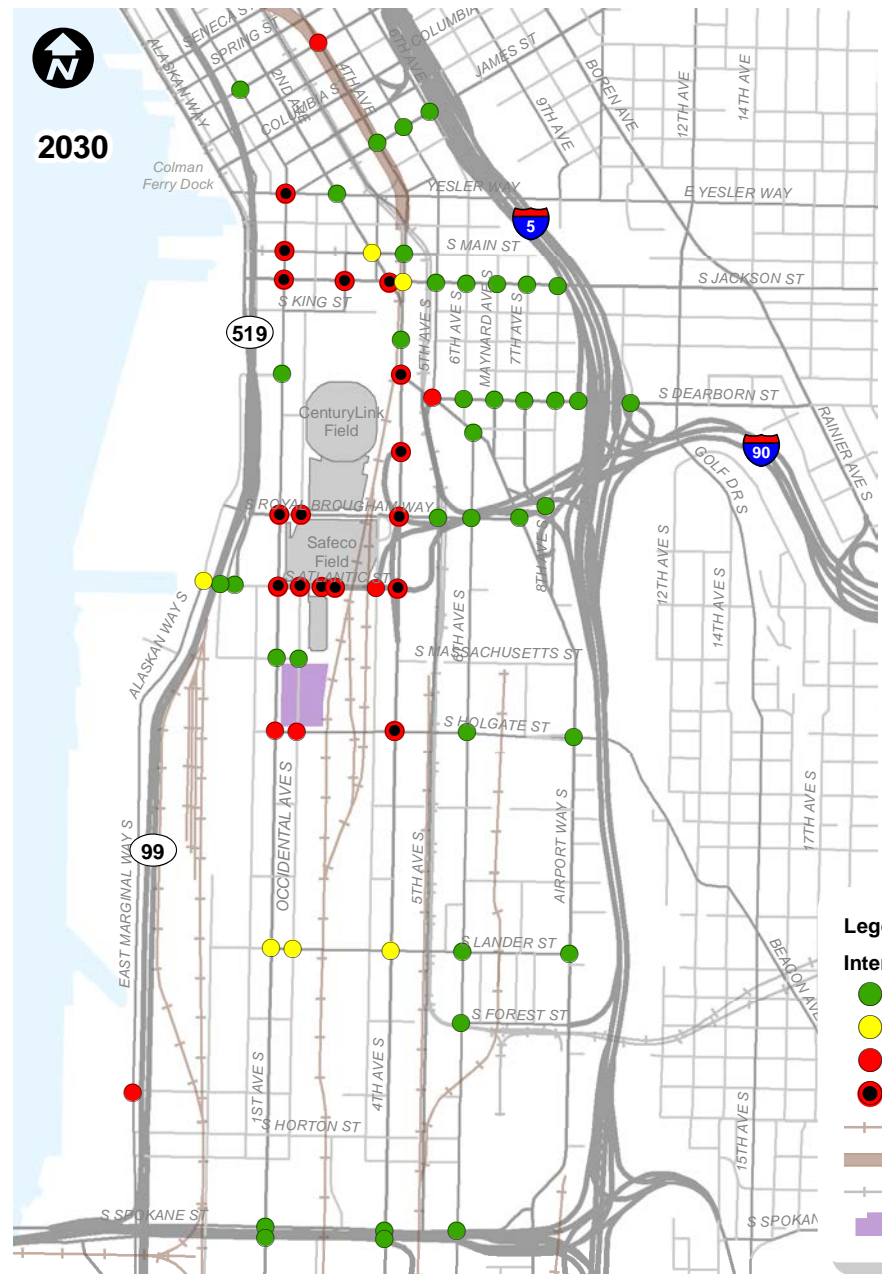
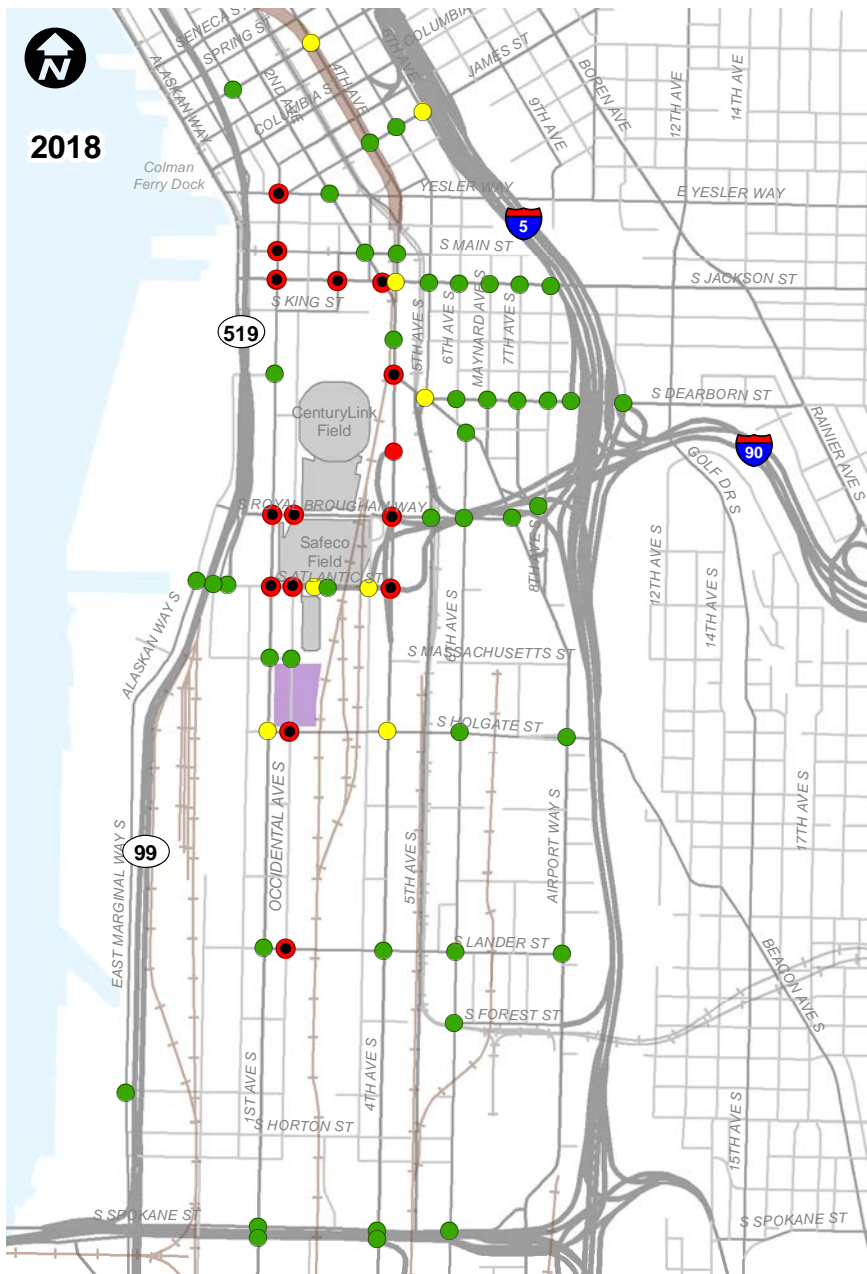
LOS results for 2018 and 2030 non-event peak hour conditions, with the addition of the assumed Mariners event, and with the Mariners event and event at the CenturyLink Field Event Center are summarized on Figure 2–91 through Figure 2–93. Detailed LOS summary tables and worksheets for each of these scenarios are included in Attachment E-3, which is available upon request.

A summary of the No Action LOS for all study area intersections was prepared and compared to existing conditions as summarized on Figure 2–94 for 2018 conditions, and Figure 2–95 for 2030 conditions.



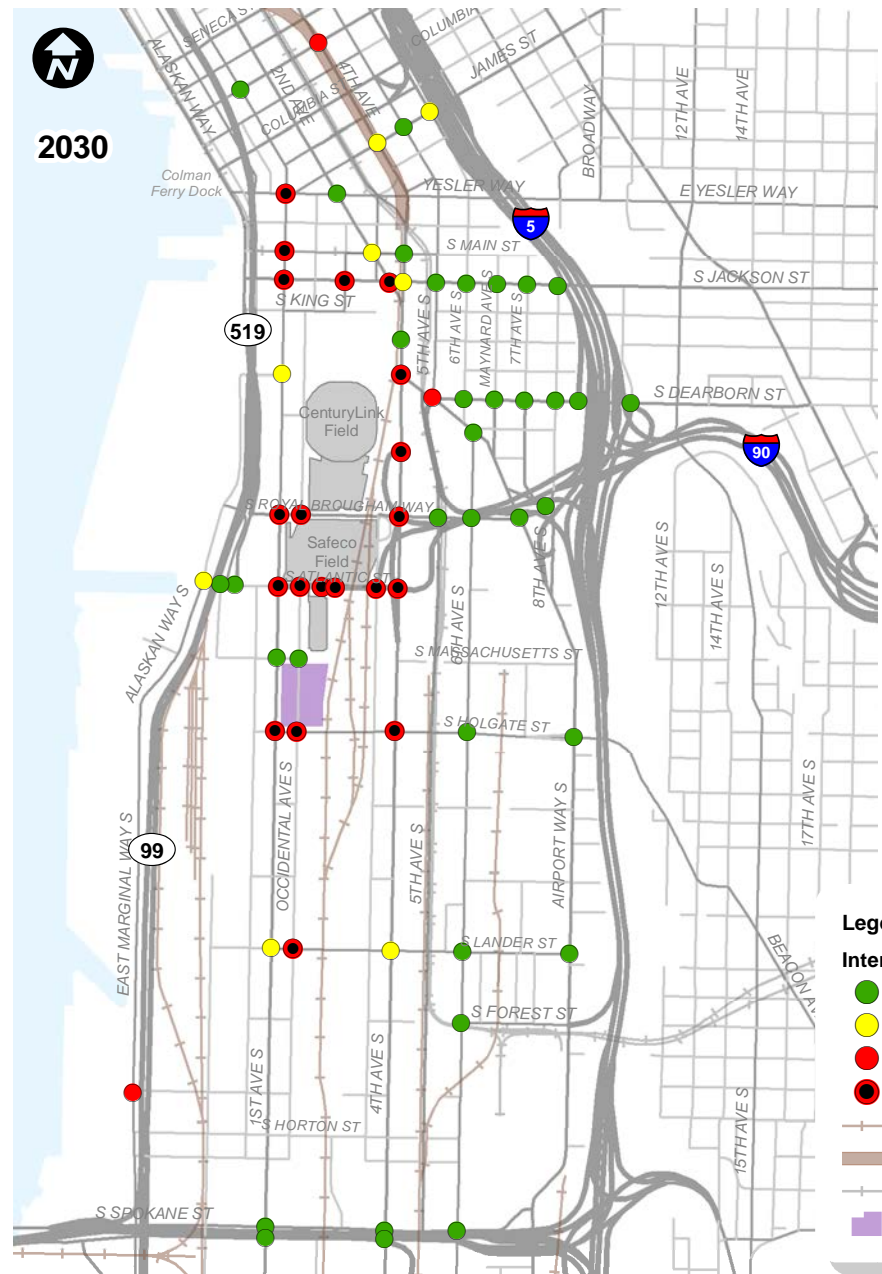
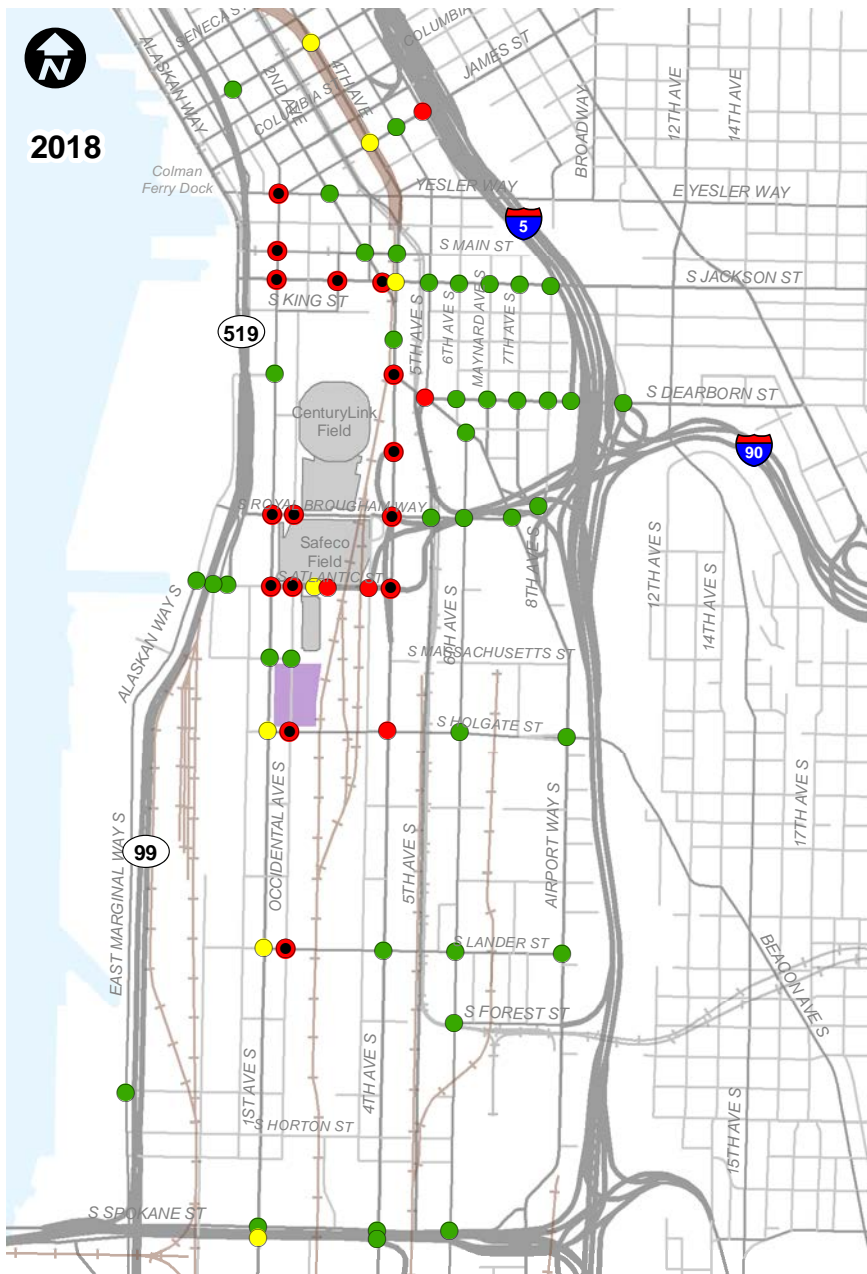
Stadium District No Action Case S1 Weekday PM Peak Hour Level of Service

FIGURE



Stadium District No Action Case S2 Weekday PM Peak Hour Level of Service

FIGURE 2-92



Legend

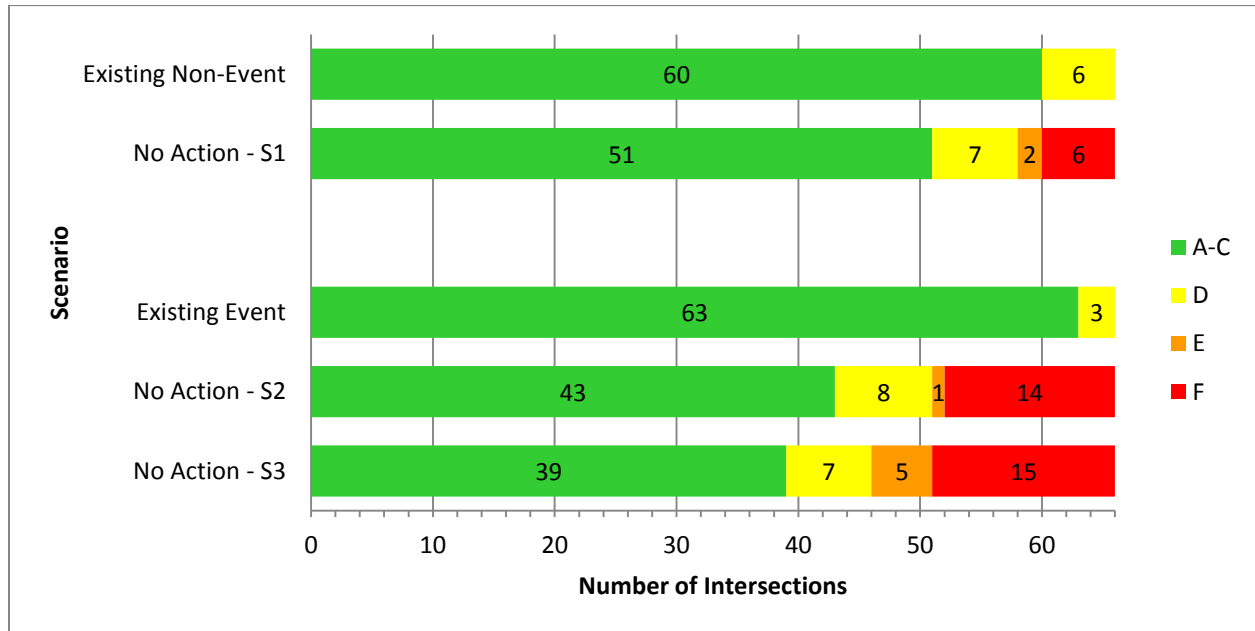
Intersection LOS

- LOS A - C
- LOS D
- LOS E
- LOS F
- Railroad
- Rail Tunnel
- Transit Rail
- Site Location

Stadium District No Action Case S3 Weekday PM Peak Hour Level of Service

FIGURE 2-93

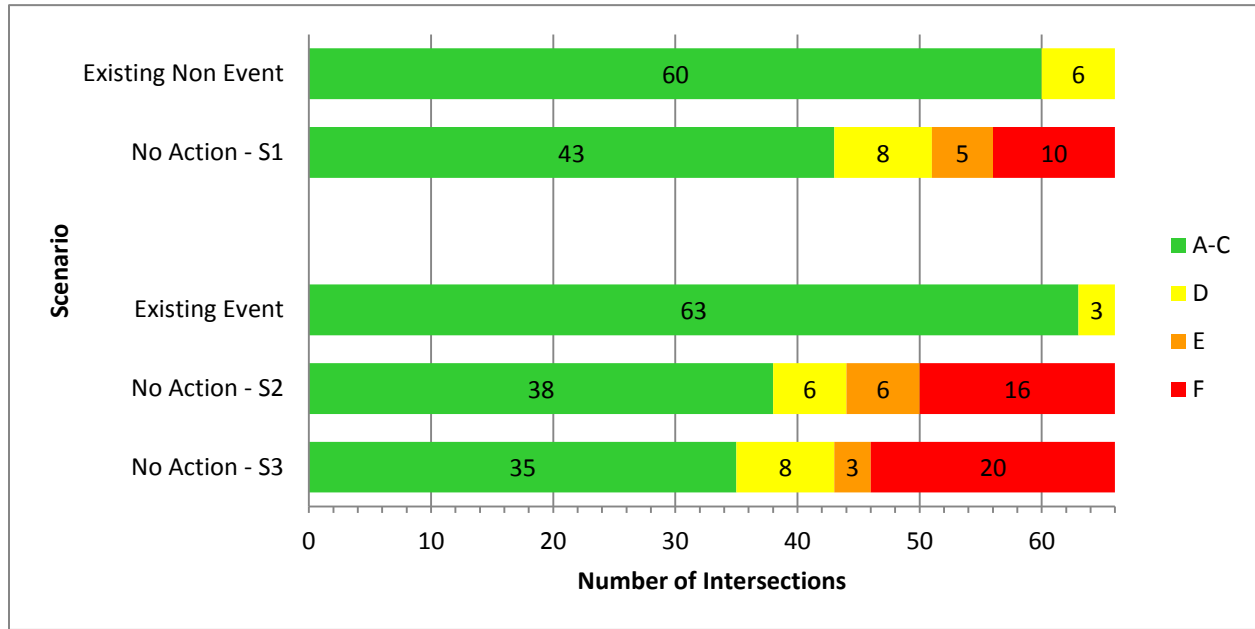
Figure 2–94 Stadium District 2018 No Action Intersection LOS Comparison



As summarized in these figures:

- Increased traffic volumes and changes in travel patterns result in a greater number of intersections operating at LOS E/F under both 2018 and 2030 No Action conditions.
- The occurrence of Mariners and CenturyLink Field Event Center events also result in worse operations than non-event conditions throughout the study area. Seven to twelve additional intersections operate at LOS E/F under 2018 conditions with one or both events (Cases S2 and S3) and seven to eight more intersections under 2030 conditions compared to No Action Case S1 conditions for 2018 and 2030 conditions.

Figure 2–95 Stadium District 2030 No Action Intersection LOS Comparison



Of the intersections shown to operate at LOS E or LOS F under 2018 No Action conditions (Cases S1, S2, and S3), seven are located within the vicinity of the Proposed Arena site:

- 1st Avenue S. / S. Atlantic Street
- The northbound Occidental Avenue S. approach to Edgar Martinez Drive S.
- Edgar Martinez Drive / East Parking Garage
- The westbound I-90 off-ramp onto Edgar Martinez Drive S.
- The eastbound I-90 on-ramp from Edgar Martinez Drive S.
- The southbound Occidental Avenue S. approach to S. Holgate Street
- 4th Avenue S. / S. Holgate Street

Under 2018 non-event conditions, 1st Avenue S. / S. Atlantic Street operates at LOS F under all event cases. The northbound and southbound Occidental Avenue S. approaches to Edgar Martinez Drive S. and S. Holgate Street operate at LOS D without an event but LOS F with either one or two events. The Edgar Martinez Drive / East Parking Garage, westbound I-90 off-ramp onto Edgar Martinez Drive S., and 4th Avenue S. / S. Holgate Street operate at LOS D for either one or no events, but LOS E under dual events. The eastbound I-90 on-ramp from Edgar Martinez Drive S. operates at LOS E with one event but worsens to LOS F with one or more events.

Under 2030 No Action conditions (non-event, single event, or dual event), all nine study intersections within the project vicinity would operate at LOS F within the vicinity of the Proposed Arena site:

- 1st Avenue S. / S. Atlantic Street
- The northbound Occidental Avenue S. approach to Edgar Martinez Drive S.
- Edgar Martinez Drive / West Parking Garage
- Edgar Martinez Drive / East Parking Garage
- The westbound I-90 off-ramp onto Edgar Martinez Drive S.
- The eastbound I-90 on-ramp from Edgar Martinez Drive S.
- 1st Avenue S. / S. Holgate Street
- The southbound Occidental Avenue S. approach to S. Holgate Street
- 4th Avenue S. / S. Holgate Street

Under 2030 conditions 1st Avenue S. / S. Atlantic Street, the northbound Occidental Avenue S. approach to Edgar Martinez Drive S., the eastbound I-90 on-ramp from Edgar Martinez Drive S., and 4th Avenue S. / S. Holgate Street would all operate at LOS F regardless of event case. The Edgar Martinez Drive / West Parking Garage intersection would operate at LOS E without an event but worsens to LOS F with one or two events. The Edgar Martinez Drive / East Parking Garage also operates at LOS F with either single or dual events but at LOS D with no event. The remaining three intersections, the westbound I-90 off-ramp onto Edgar Martinez Drive S., 1st Avenue S. / S. Holgate Street, and the southbound Occidental Avenue S. approach to S. Holgate Street, operate at LOS C or better with no event, LOS E with one event, and LOS F with two events.

2.6.3.2 Corridor Travel Times

Table 2-19 summarizes the calculated travel times under 2018 conditions on the various routes for weekday PM peak hour for all No Action cases. Table 2-20 summarizes the estimated travel times under 2030 conditions. Existing conditions are also provided for comparison purposes.

**Table 2-19
Stadium District 2018 No Action Weekday PM Peak Hour
Corridor Travel Times**

Route	Extents	Direction	Case S1 (m:ss) ¹	Case S2 (m:ss)	Case S3 (m:ss)
1	1st Avenue S from Horton Street to Railroad Way	NB	8:50 (6:16) ²	14:44	17:46
	1st Avenue S from Railroad Way to Horton Street	SB	8:04 (6:49)	8:52	9:30
2	4th Avenue S from Horton Street to King Street	NB	8:29 (6:20)	10:48	11:42
	4th Avenue S from King Street to Horton Street	SB	12:19 (6:54)	17:18	18:37
3	4th Avenue S from I-90 to King Street	NB	2:16 (1:43)	3:53	4:57
	4th Avenue S from King Street to I-90	SB	8:24 (3:01)	12:41	14:12
4	S Atlantic Street from 1st Avenue S to I-90	EB	2:02 (1:39)	2:40	3:03
	S Atlantic Street from I-90 to 1st Avenue S	WB	2:22 (1:23)	7:54	10:39

1. m:ss = minutes:seconds

2. (x) = Existing non-event travel times provided for comparison.

As shown in Table 2-19:

- Travel times under 2018 conditions noticeably increase from existing conditions and further increase with the addition of event traffic, compared to existing conditions.
- Travel times under 2018 conditions along route #2 southbound are forecast to exceed 10 minutes under Case S1. Under Cases S2 and S3, route #1 northbound, #2 northbound and #3 southbound are forecasted to exceed 10 minutes and 15 minutes for northbound route #1 Case S3 and southbound route #2 for Cases S2 and S3.
- Eastbound travel times along route #4 are expected to increase but at a lower percentage than other routes. This direction of travel is opposite the inbound event flows, minimizing the increase in travel times. Route #4 is also subject to TCPs at Occidental Avenue S. and the Safeco Field parking garage. Traffic control at the Safeco Field garage could increase route #4 travel times beyond what is reported. However, the increase is anticipated to be approximately the same under all three No Action cases.

Table 2-20
Stadium District 2030 No Action Weekday PM Peak Hour
Corridor Travel Times

Route	Extents	Direction	Case S1 (m:ss) ¹	Case S2 (m:ss)	Case S3 (m:ss)
1	1st Avenue S from Horton Street to Railroad Way	NB	9:56 (6:16) ²	17:10	20:15
	1st Avenue S from Railroad Way to Horton Street	SB	9:01 (6:49)	10:19	11:29
2	4th Avenue S from Horton Street to King Street	NB	13:13 (6:20)	18:07	19:28
	4th Avenue S from King Street to Horton Street	SB	17:59 (6:54)	23:18	24:44
3	4th Avenue S from I-90 to King Street	NB	2:27 (1:43)	5:27	6:51
	4th Avenue S from King Street to I-90	SB	15:11 (3:01)	19:28	21:12
4	S Atlantic Street from 1st Avenue S to I-90	EB	8:27 (1:39)	9:35	10:15
	S Atlantic Street from I-90 to 1st Avenue S	WB	3:15 (1:23)	11:37	14:36

1. m:ss = minutes:seconds
2. (x) = Existing non-event travel times provided for comparison.

As shown in Table 2-20:

- Under 2030 conditions travel times are generally higher in comparison to 2018 conditions. Most scenarios (especially case 3) show substantial increase in corridor travel times between 2018 and 2030 conditions.
- Route 4 eastbound in particular shows a sizeable increase in corridor travel time—nearly 4 times higher times for each individual case.
- Changes in forecast travel times result from small decreases in traffic volumes at some study intersections and additional diversion from congested freeways as forecast in the Alaskan Way Viaduct Replacement study.

Overall this suggests that the change in travel times compared to existing conditions is more directly impacted by the traffic shifts associated with the modified infrastructure than growth in general.

2.6.3.3 Effects of Rail Crossing

Rail activity assumed for future conditions was increased beyond existing conditions for both passenger and freight rail activity. For Amtrak and ST, future increases were identified based on their respective master planning documents for scheduled train crossing (revenue service):

- ST plans included six additional trains a day by 2018.²⁵ This is assumed to remain unchanged for long-range planning since no further information is available.
- Amtrak Cascades anticipates three additional daily round trips by 2014 and five further daily round trips under long-range planning.²⁶
- Freight rail activity was increased by factoring the observed freight trains activity based on Port of Seattle growth forecasts. In addition, coal train activity is anticipated to increase to nine round trips per day under long-term (2023) conditions.²⁷

Figure 2–96 S. Holgate Street Existing and Future Rail Crossing Locations

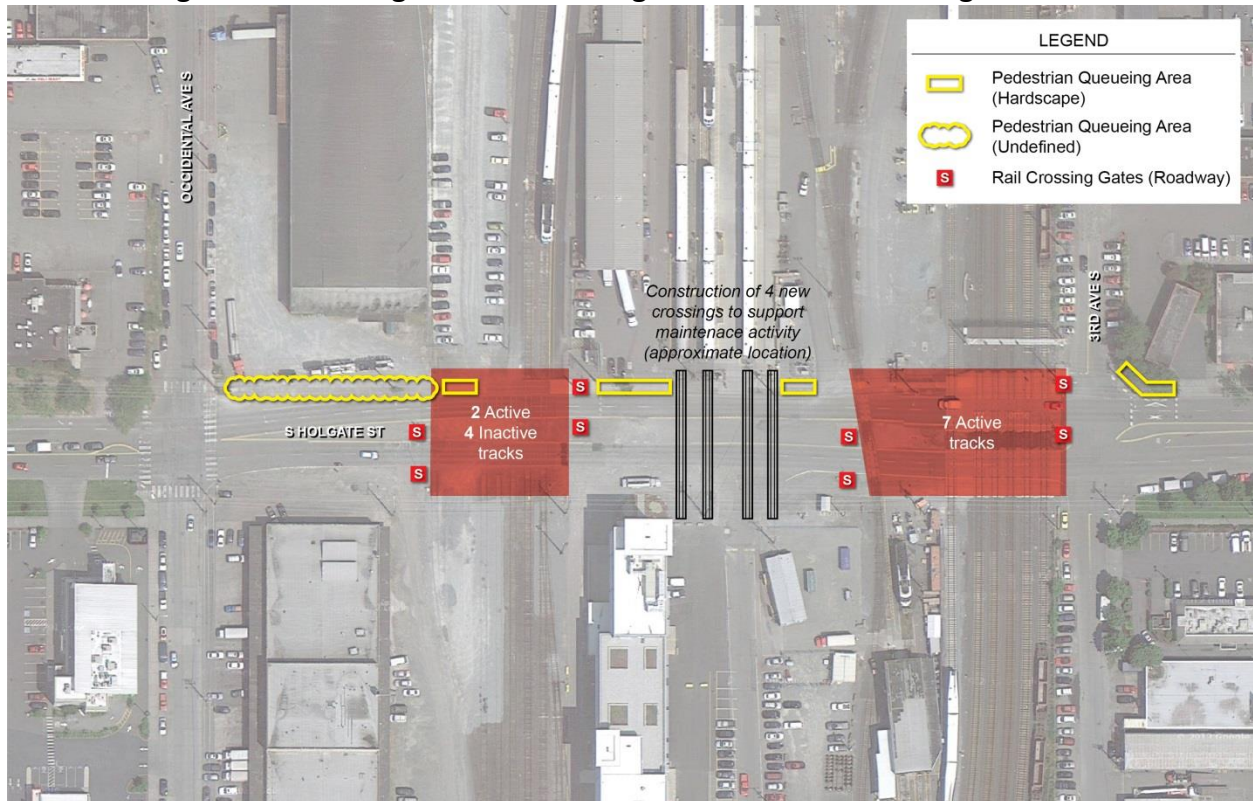


Figure 2–96 shows additional train crossings planned by Amtrak and located just south of the inspection pit tracks that currently terminate on the north side of S. Holgate Street. These tracks will provide access to a planned service building. These tracks are anticipated to service Amtrak trains during the late night hours and thus have not been assumed to add to the train crossing activity along S. Holgate Street during the evening commute peak hour.

²⁵ Sound Transit, 2013 Service Implementation Plan

²⁶ WSDOT, Amtrak Cascades Mid-Range and Long-Range Plans (2008 and 2006, respectively)

²⁷ Coal Train Traffic Impact Study, Parametrix (October 2012)

As noted in the existing conditions, based on anticipated queuing along S. Holgate Street and S. Lander Street and maximum storage being exceeded, queue lengths relative to 1st Avenue S. and 4th Avenue S. are reported. Total crossing gate arm down times and queue lengths along 1st Avenue S. and 4th Avenues S. are summarized in Table 2-21. Maximum queue lengths are reported along 1st and 4th Avenues S. because rail crossing impacts along S. Holgate and S. Lander Streets cause queues to extend into the 1st and 4th Avenues S. intersections.

**Table 2-21
Stadium District No Action S. Holgate Street and S. Lander Street Rail Crossing Impact
Summary**

	Scenario	Gate Down Time (m:ss) ¹	Arterial Direction	Maximum Arterial Queue Length ²		
				Existing	2018	2030
S. Holgate Street Crossing	Weekday PM Peak Hour Case S1	Existing = 8:30 2018 = 20:30 2030 = 41:45	NB ³ 1st Ave S.	420	640	960
			SB 1st Ave S.	350	380	1,280
			NB 4th Ave S.	310	550	370
			SB 4th Ave S.	390	1,520	3,400
	Weekday PM Peak Hour Case S2	2018 = 20:30 2030 = 41:45	NB 1st Ave S.	420	1,300	1,120
			SB 1st Ave S.	350	440	900
			NB 4th Ave S.	310	620	950
			SB 4th Ave S.	390	1,640	1,710
	Weekday PM Peak Hour Case S3	2018 = 20:30 2030 = 41:45	NB 1st Ave S.	420	1,450	1,320
			SB 1st Ave S.	350	450	1,120
			NB 4th Ave S.	310	630	1,070
			SB 4th Ave S.	390	1,620	1,100
S. Lander Street Crossing	Weekday PM Peak Hour Case S1	Existing = 8:30 2018 = 17:30 2030 = 44:00	NB 1st Ave S.	310	460	1,150
			SB 1st Ave S.	430	540	510
			NB 4th Ave S.	300	370	330
			SB 4th Ave S.	460	670	1,190
	Weekday PM Peak Hour Case S2	2018 = 17:30 2030 = 44:00	NB 1st Ave S.	310	870	550
			SB 1st Ave S.	430	580	700
			NB 4th Ave S.	300	420	470
			SB 4th Ave S.	460	740	490
	Weekday PM Peak Hour Case S3	2018 = 17:30 2030 = 44:00	NB 1st Ave S.	310	720	730
			SB 1st Ave S.	430	570	740
			NB 4th Ave S.	300	430	470
			SB 4th Ave S.	460	650	510

- Gate down times reported are approximate and may range +/- 1 minute. Variance due to multiple seeds and VISSIM modeling methodology.
- The reported maximum queue length is an average of the maximum queue lengths recorded across 10 simulation runs and represents the greater of a turning movement towards the rail crossing or the throughout movement along the corridor. Queue lengths are rounded up to the nearest 10 feet.
- NB = northbound, SB = southbound

As shown in Table 2-21:

- Rail crossing gates are activated approximately 17 to 20 minutes during the weekday PM peak hour in 2018 and 41 to 44 minutes in 2030.
- Queues generally increase with traffic growth under future conditions and/or the addition of event generated traffic. However, some are shown to decrease. Note that where this occurs is due to upstream congestion in the simulation model that is caused by increased traffic volumes or rail crossing closure time.

Note that this analysis does not reflect potential effects of the S. Lander Street Grade Separation project. This improvement would eliminate the closure of S. Lander Street when trains are present, and greatly reduce delays and queues associated with rail activity in the study area.

2.6.3.4 Regional Access Analysis

The primary corridors serving the downtown area are I-5 and I-90. Today during the late afternoon commute, these freeways are congested for approximately two to three hours. The corridors are “at capacity” during the peak period today; therefore the traffic volumes served would not significantly increase during the peak period of 4:00 to 6:00 PM for No Action 2018 and 2030 conditions. As traffic demand increases by 2018 and 2030, the hours of congestion or “peak spreading” would lengthen or transit ridership may increase.

Regional or freeway access to the Stadium District is constrained by signals at the terminal of the off ramps. Operations of nine arterial intersections at the I-5, I-90, and West Seattle Bridge ramp termini were reviewed for the No Action event cases. The analysis was conducted for the PM peak hour for 2018 and 2030. The expected operations of the study intersections are shown in Table 2-22.

**Table 2-22
Stadium District No Action Weekday PM Peak Hour
Ramp Terminal LOS Summary**

Ramp Terminal Intersection	Scenario	2018		2030	
		Overall LOS / Delay	Off-Ramp LOS / Delay	Overall LOS / Delay	Off-Ramp LOS / Delay
Spokane St / 1st Ave	Case S1	B / 15	C / 28	C / 26	C / 2
	Case S2	B / 15	C / 33	C / 28	D / 40
	Case S3	B / 16	C / 35	C / 29	D / 42
Spokane St / 6th Ave	Case S1	C / 20	C / 32	C / 25	D / 35
	Case S2	C / 21	C / 31	C / 25	D / 36
	Case S3	C / 21	C / 31	C / 26	D / 38
Forest St / 6th Ave	Case S1	B / 13	C / 22	B / 15	C / 24
	Case S2	B / 13	C / 22	B / 15	C / 24
	Case S3	B / 13	C / 22	B / 14	C / 24
Edgar Martinez Dr / I-90 Off	Case S1	B / 14	C / 33	B / 18	D / 54
	Case S2	D / 52	E / 120	F / 76	F / >180
	Case S3	E / 77	F / 174	F / 101	F / >180
4th Ave / I-90 Off	Case S1	C / 21	E / 61	E / 61	F / 84
	Case S2	E / 75	E / 79	F / 122	F / >180
	Case S3	F / 87	F / 102	F / 135	F / >180
Dearborn St / I-90 Off	Case S1	D / 46	F / 132	D / 51	F / >180
	Case S2	D / 51	F / 147	E / 72	F / >180
	Case S3	E / 55	F / 147	E / 79	F / >180
Dearborn St / I-5 SB Off	Case S1	B / 12	E / 65	A / 9	D / 44
	Case S2	B / 13	E / 64	B / 10	D / 44
	Case S3	B / 14	E / 65	B / 10	D / 45
Dearborn St / I-5 NB Off	Case S1	C / 30	E / 60	C / 23	D / 42
	Case S2	C / 34	E / 62	C / 27	D / 48
	Case S3	C / 35	E / 65	C / 28	D / 51
James St / 6th Ave	Case S1	C / 23	B / 17	C / 23	B / 18
	Case S2	D / 38	C / 32	C / 34	C / 27
	Case S3	E / 68	E / 70	D / 52	D / 55

Under 2018 conditions during the PM peak hour with an event at the existing stadiums, the 4th Avenue S. / I-90 Off-Ramp would operate with an overall LOS F with a dual-event, but operates acceptably at LOS C under Case S1 conditions. In addition, the following off-ramp approach locations would operate at LOS E/F and include two to four intersections, depending on the number of events:

Case S1

- 4th Avenue S. / I-90 Off-Ramp
- Dearborn Street / I-90 Off-Ramp
- Dearborn Street / Southbound I-5 Off-Ramp
- Dearborn Street / Northbound I-5 Off-Ramp

Case S2

- Edgar Martinez Drive S. / I-90 Off-Ramp
- 4th Avenue S. / I-90 Off-Ramp
- Dearborn Street / I-90 Off-Ramp
- Dearborn Street / I-5 SB Off
- Dearborn Street / I-5 NB Off

Case S3

- Edgar Martinez Drive S. / I-90 Off-Ramp
- 4th Avenue S. / I-90 Off-Ramp
- Dearborn Street / I-90 Off-Ramp
- Dearborn Street / I-5 SB Off
- Dearborn Street / I-5 NB Off
- James Street / 6th Avenue

Under 2030 conditions during the PM peak hour, traffic operations near the freeway access to the Stadium District are generally similar to 2018. 4th Avenue S. / I-90 Off-Ramp in particular would operate with an overall LOS E for no event and LOS F for one event and dual event conditions. In addition, the off-ramps approaches located at the following intersections would operate at LOS E/F and include two to four of the nine intersections, depending on the number of events:

Case S1

- 4th Avenue S. / I-90 Off-Ramp
- Dearborn Street / I-90 Off-Ramp

Case S2

- Edgar Martinez Drive S. / I-90 Off-Ramp
- 4th Avenue S. / I-90 Off-Ramp
- Dearborn Street / I-90 Off-Ramp

Case S3

- Edgar Martinez Drive S. / I-90 Off-Ramp
- 4th Avenue S. / I-90 Off-Ramp
- Dearborn Street / I-90 Off-Ramp

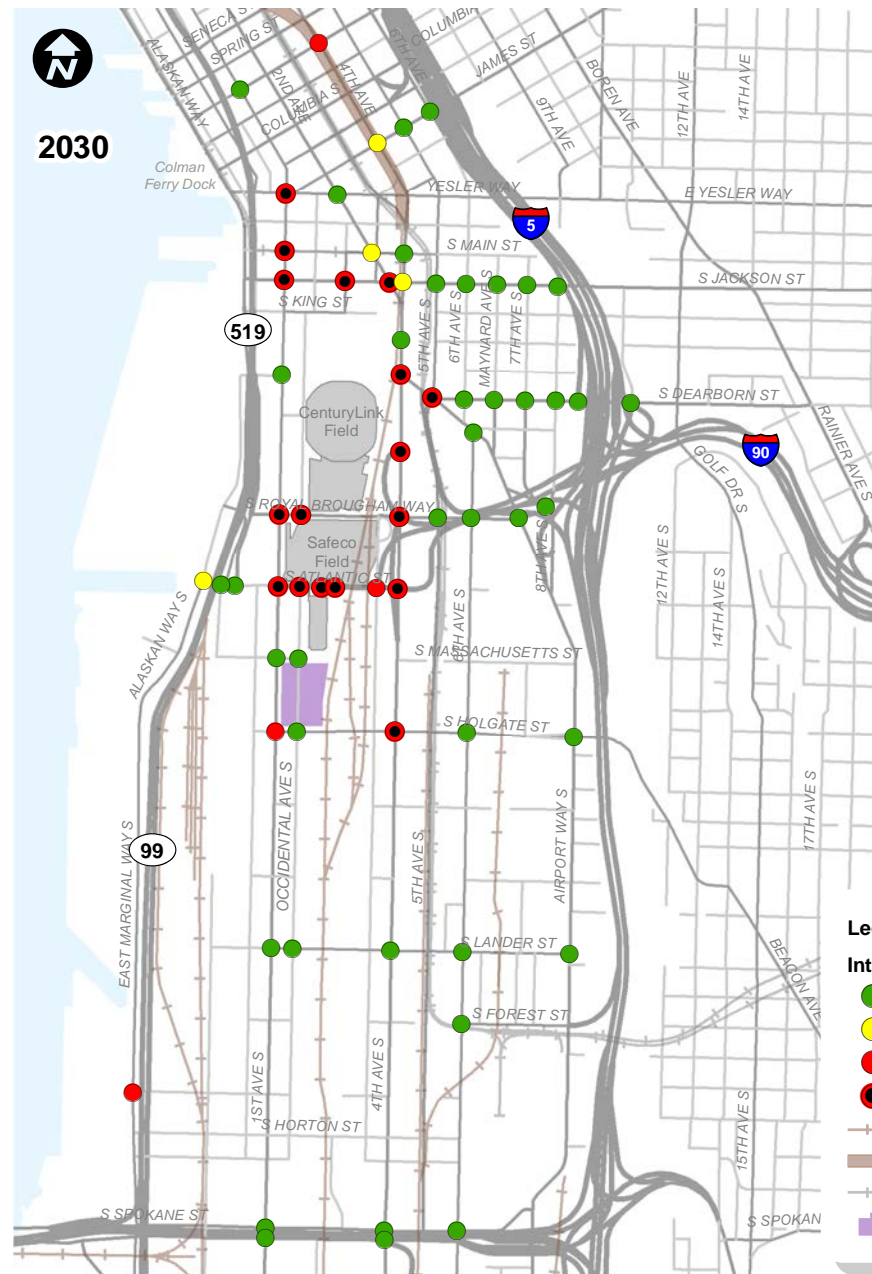
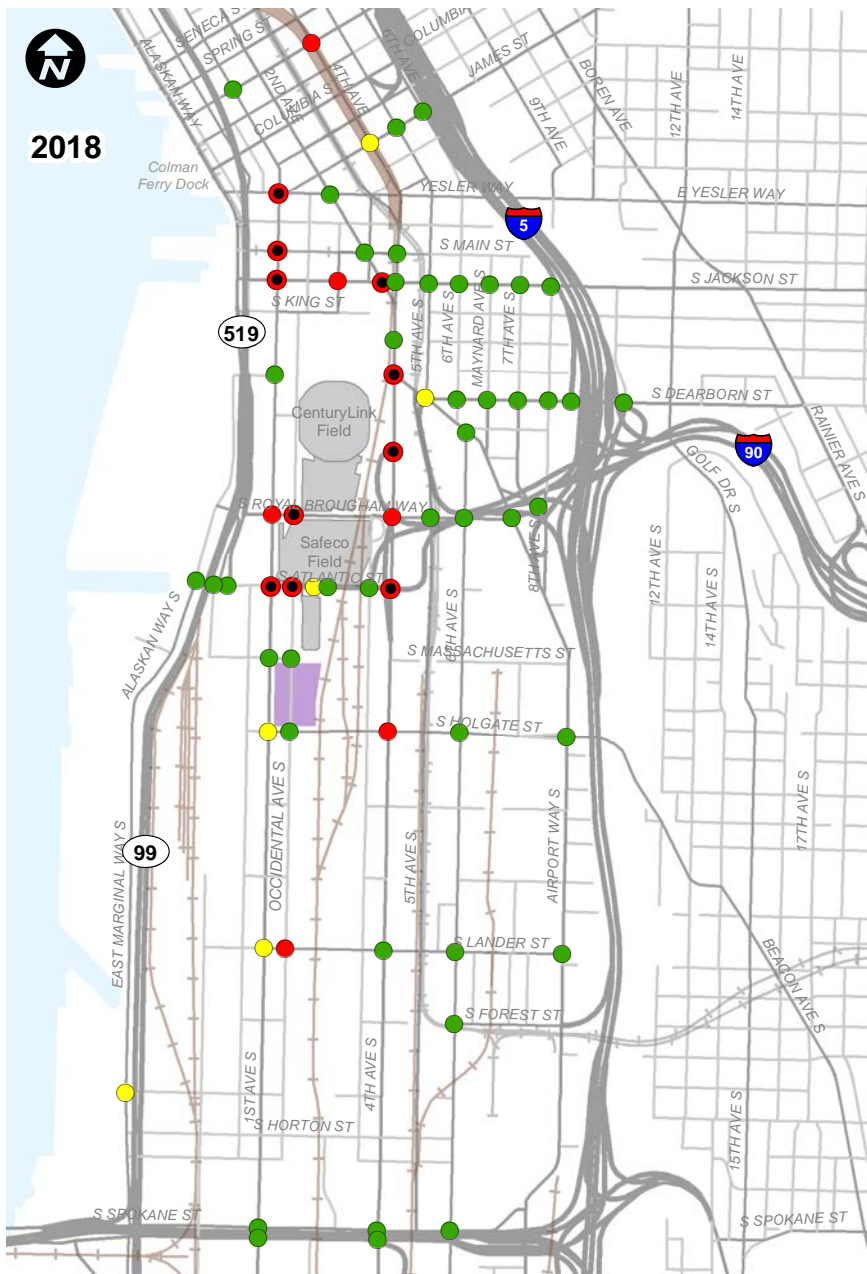
2.6.4 Impacts of Alternative 2

As described for traffic volumes, construction impacts related to traffic operations would occur as a result of increased traffic levels. To minimize impacts to operations, a construction management plan would be developed and could include scheduling the most intensive construction activities such that they are spread out over time and prohibiting material deliveries from leaving or entering the area during AM and PM peak hours when feasible.

The following sections summarize the results of the traffic operation analysis conducted for Alternative 2. This analysis reflects the addition of traffic from a 20,000 attendee event at the Proposed Arena site to study area roadways. The No Action traffic forecasts and operations analyses used in establishing the impacts of the project utilized a layering effect of event-related traffic volumes without applying any diversions in background traffic volumes. Based on a review of the non-event and event volume comparisons discussed previously in this report, this approach likely overstates the cumulative and incremental impact of the project.

2.6.4.1 Intersection Operations

LOS results for 2018 and 2030 peak hour conditions Alternative 2 Case S1, S2, and S3, are summarized on Figure 2–97 through Figure 2–99. Detailed LOS summary tables and worksheets for each of these scenarios are included in Attachment E-3, which is available from DPD upon request.



Legend

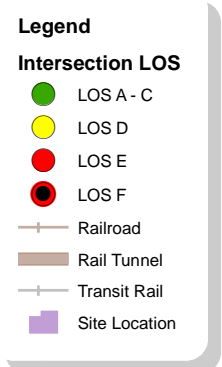
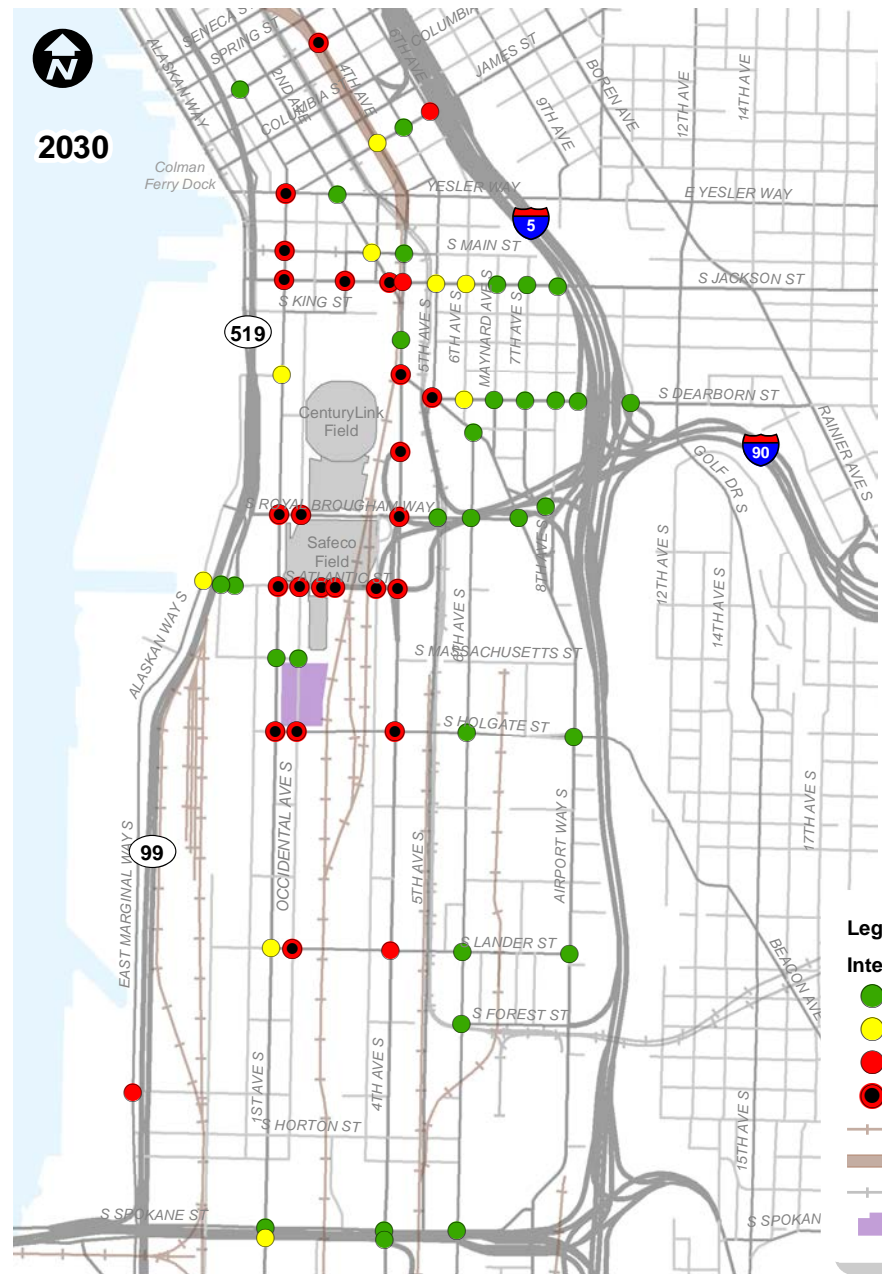
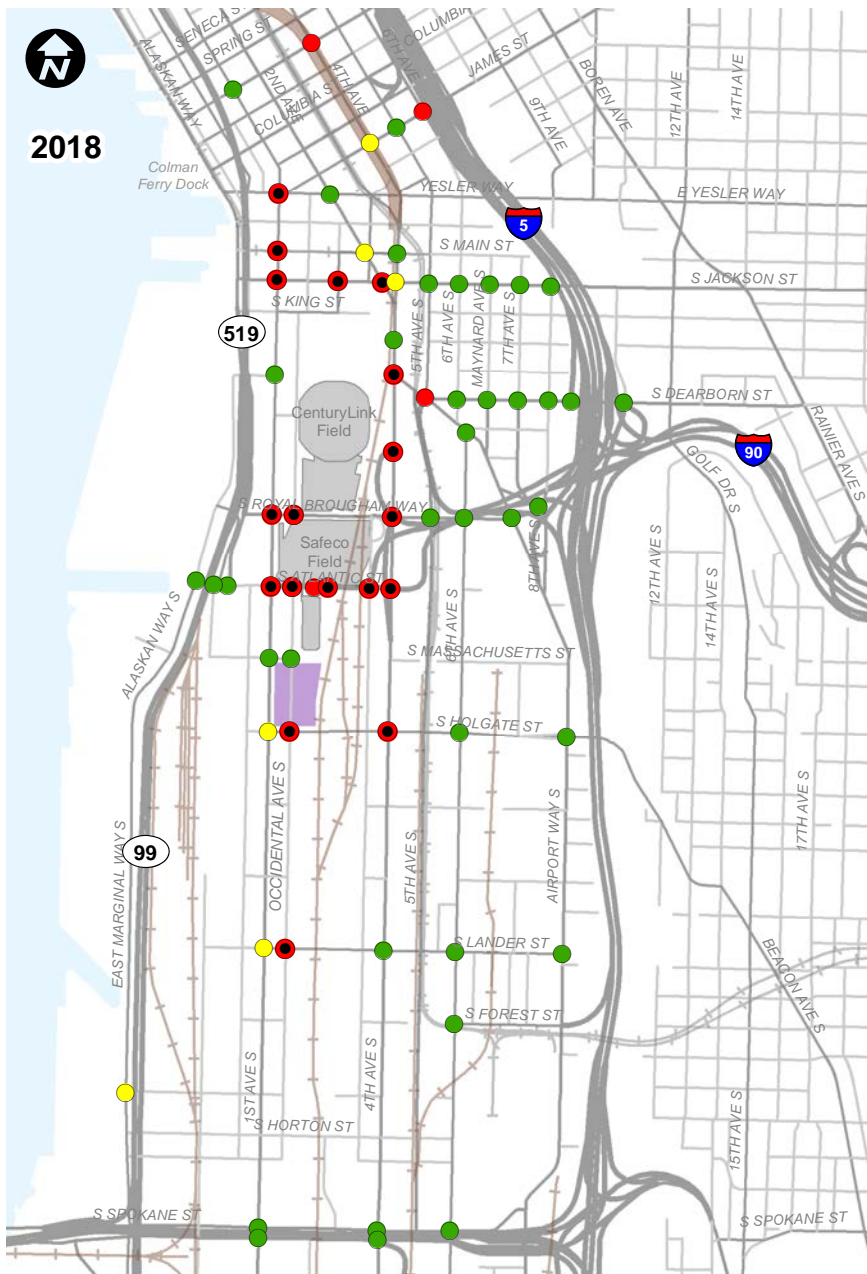
Intersection LOS

- LOS A - C
- LOS D
- LOS E
- LOS F

- Railroad
- Rail Tunnel
- Transit Rail
- Site Location

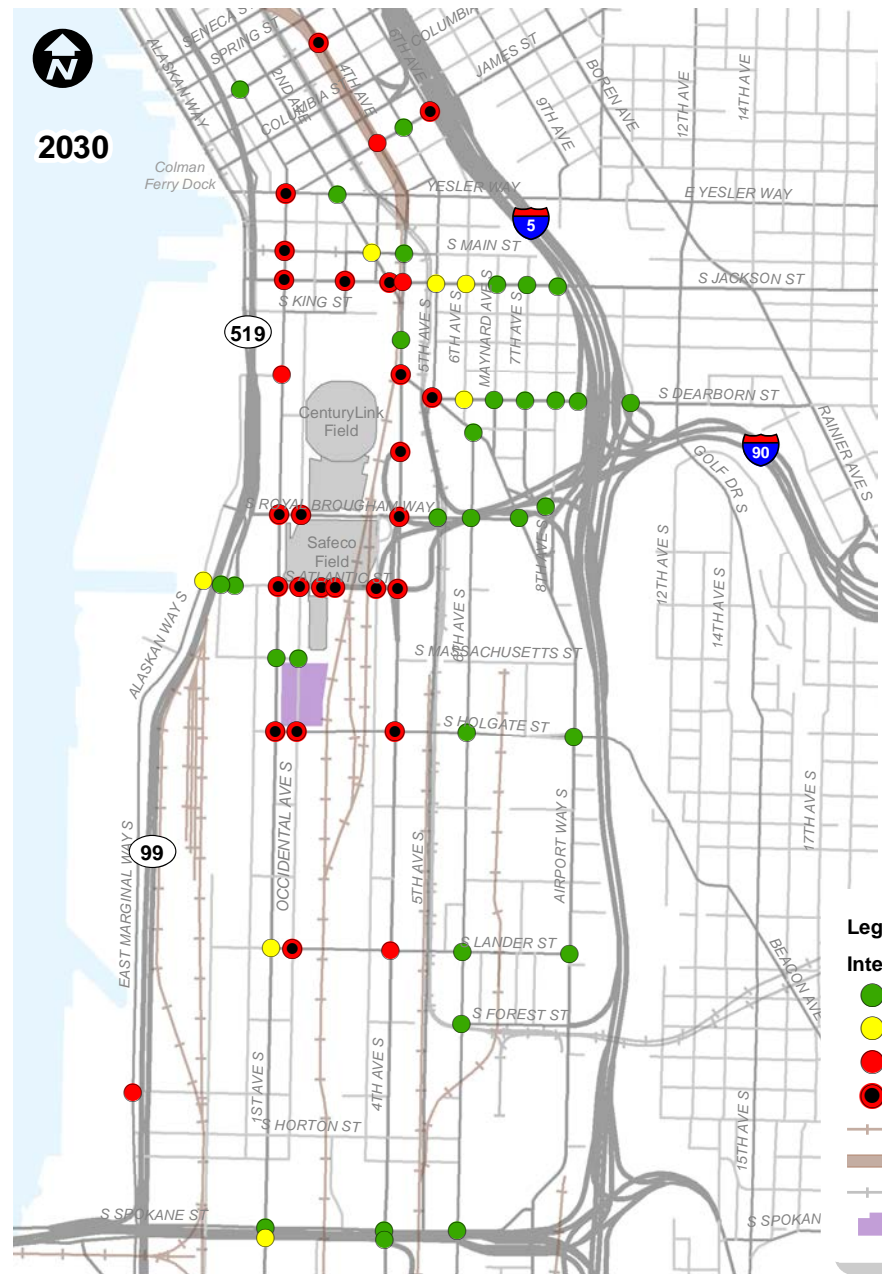
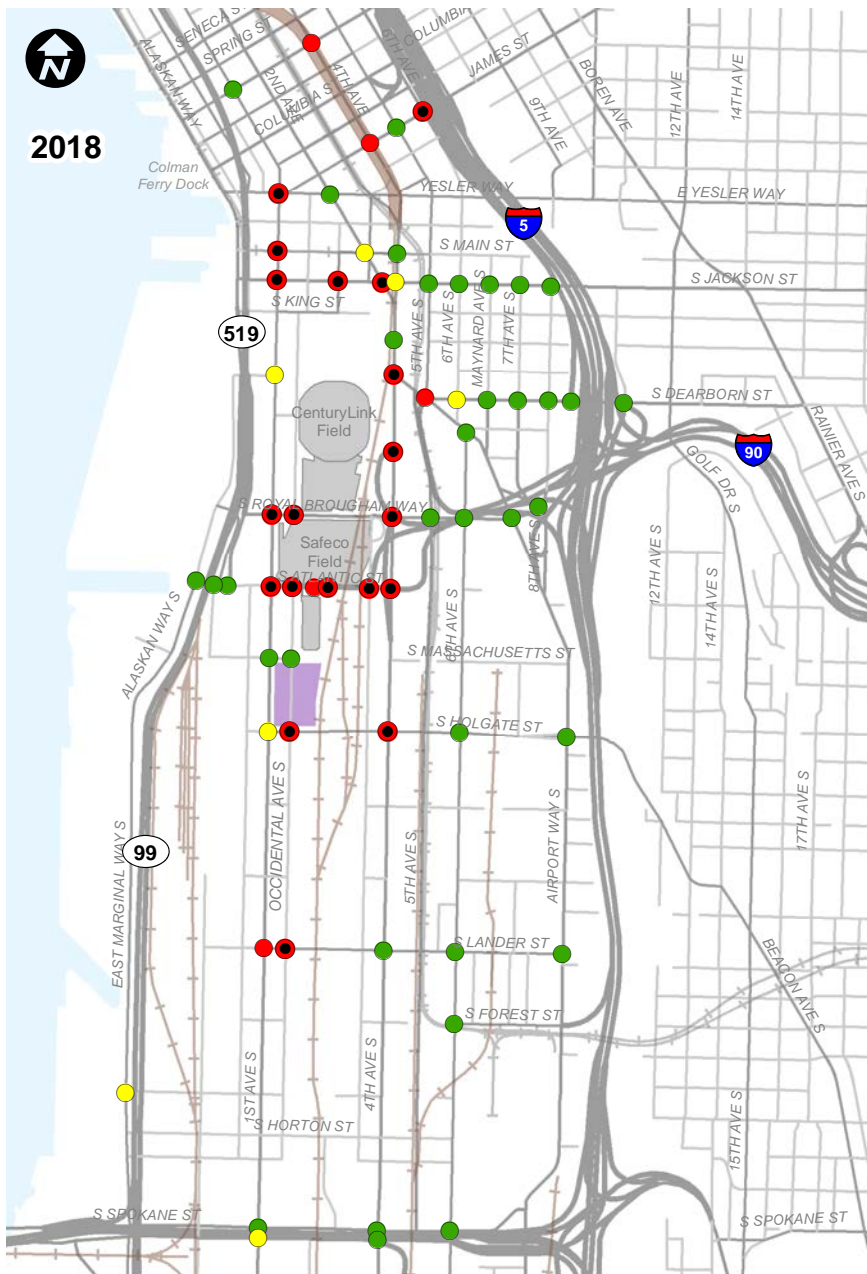
Stadium District Alternative 2 Case S1 Weekday PM Peak Hour Level of Service

FIGURE 2-97



Stadium District Alternative 2 Case S2 Weekday PM Peak Hour Level of Service

FIGURE 2-98



Legend

Intersection LOS

- LOS A - C
- LOS D
- LOS E
- LOS F

- Railroad
- Rail Tunnel
- Transit Rail
- Site Location

Stadium District Alternative 2 Case S3 Weekday PM Peak Hour Level of Service

FIGURE 2-99

A summary of the Alternative 2 LOS for all study area intersections was prepared and compared to No Action conditions as summarized on Figure 2–100 for 2018 conditions, and Figure 2–101 for 2030 conditions.

Figure 2–100 Stadium District 2018 Alternative 2 Intersection LOS Comparison

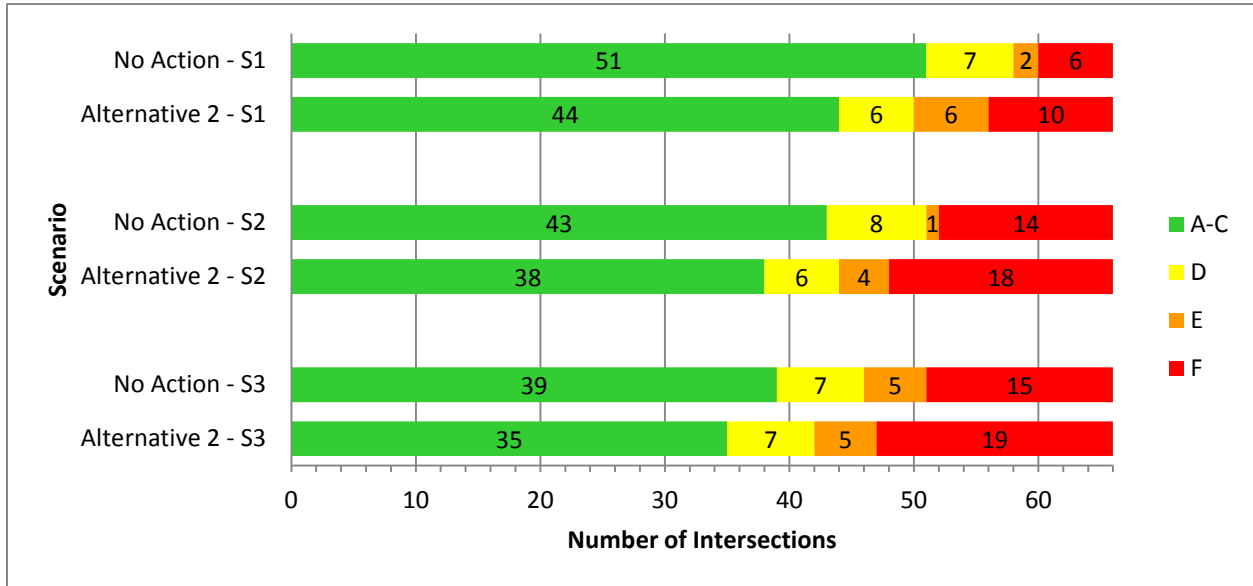
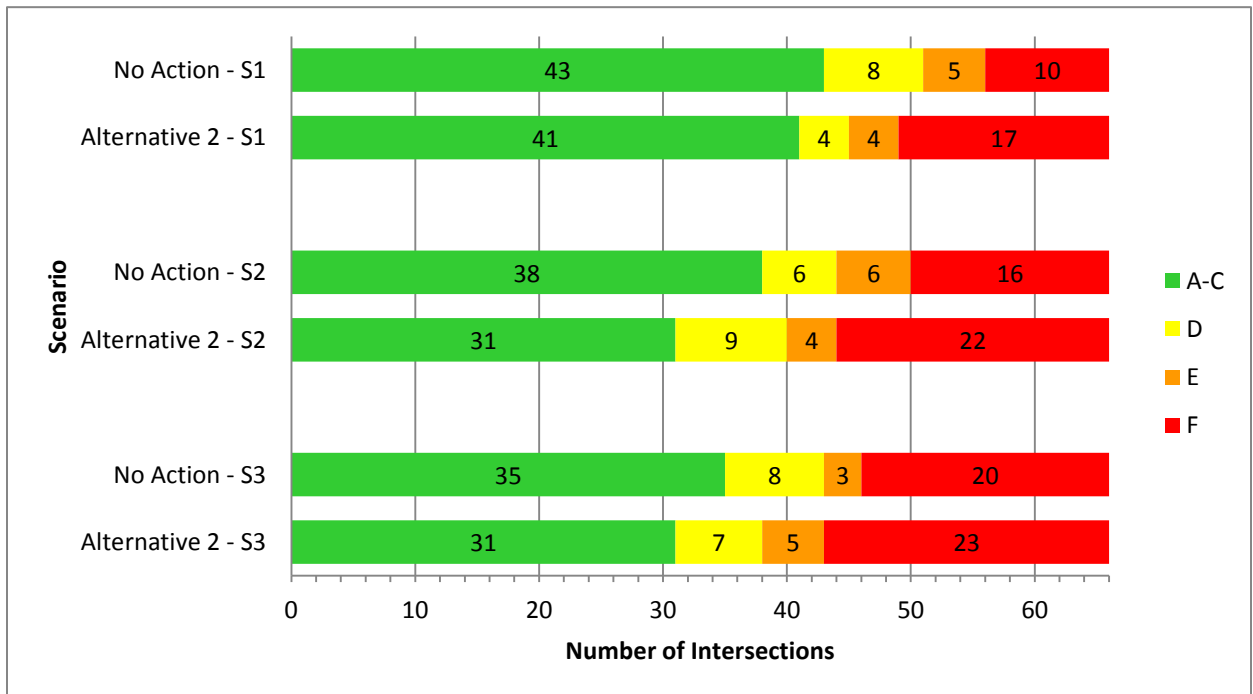


Figure 2–101 Stadium District 2030 Alternative 2 Intersection LOS Comparison



As shown:

- As illustrated by comparing, Figure Figure 2-100 and Figure 2–101, the addition of Arena event trips results in a greater number of LOS E/F values under 2018 and 2030 conditions.
- On a single event day, a total of 16 study intersections would operate at LOS E/F under 2018 conditions with an Arena event while a Mariners only event is forecast to have 15 intersections at LOS E/F. Under 2030 conditions with an Arena only event, a total of 21 intersections are forecast to operate at LOS E/F whereas with a Mariners only event, 22 intersections are forecast to operate at LOS E/F.
- With Case S2 (Arena and Mariners), in 2018, seven additional intersections would operate at LOS E/F for a total of 22 intersections with the addition of Arena traffic. By 2030, four additional intersections would operate at LOS E/F for a total of 26 intersections.
- With Case S3, in 2018, two additional intersections would operate at LOS E/F for a total of 24 intersections with Arena traffic. By 2030, two additional intersections would operate at LOS E/F for a total of 28 intersections.

Table 2-23 summarizes the intersections that operate at LOS E or LOS F under 2018 Alternative 2 conditions and forecast results for 2030 conditions are summarized in Table 2-24. Note that some intersections would only operate at LOS E or LOS F under the multiple event scenarios (Case S2 and S3).

**Table 2-23
2018 Alternative 2 Weekday PM Peak Hour Intersections at LOS E or LOS F**

Roadway	Case S1		Case S2		Case S3	
	No Action	Alt 2	No Action	Alt 2	No Action	Alt 2
4th Avenue S. / Madison Street	D	E	D	E	D	E
4th Avenue S. / James Street	C	D	C	D	D	E
6th Avenue / James St	C	C	D	E	E	F
1st Avenue S. / Yesler Way	F	F	F	F	F	F
1st Avenue S. / Main Street	D	F	F	F	F	F
1st Avenue S. / S. Jackson Street	F	F	F	F	F	F
2nd Avenue S. / S. Jackson Street	D	E	F	F	F	F
2nd Avenue S. Extension / S. Jackson Street	F	F	F	F	F	F
4th Avenue S. / Seattle Boulevard S-Airport Way S.	F	F	F	F	F	F
5th Avenue S. / Airport Way S. / S. Dearborn Street / I-90 WB Off-Ramp	D	D	D	E	E	E
4th Avenue S. / I-90 WB Off-Ramp	C	F	E	F	F	F
1st Avenue S. / S. Royal Brougham Way	C	E	F	F	F	F
Occidental Avenue S. / S. Royal Brougham Way	F	F	F	F	F	F
4th Avenue S. / S. Royal Brougham Way	C	E	E	F	F	F
1st Avenue S. / S. Atlantic Street	F	F	F	F	F	F
Occidental Avenue S. / Edgar Martinez Drive S.	D	F	F	F	F	F
West Parking Garage Access / Edgar Martinez Drive S	C	D	D	E	D	E
East Parking Garage Access / Edgar Martinez Drive S.	A	C	C	F	E	F
I-90 off-ramp / Edgar Martinez Drive S.	B	C	D	F	E	F
I-90 on-ramp / Edgar Martinez Drive S. / 4th Avenue S.	E	F	F	F	F	F
Occidental Avenue S. / S. Holgate Street	D	C ¹	F	F	F	F
4th Ave S. / S. Holgate Street	D	E	D	F	E	F
1st Ave S. / S. Lander Street	C	D	C	D	D	E
Occidental Avenue S. / S. Lander Street	E	E	F	F	F	F

1. LOS and delay improve with Alternative 2 as a result of reduced conflicts at this intersection due to the vacation of Occidental Avenue S. between S. Holgate Street and S. Massachusetts Street.

**Table 2-24
2030 Alternative 2 Weekday PM Peak Hour Intersections at LOS E or LOS F**

Roadway	Case S1		Case S2		Case S3	
	No Action	Alt 2	No Action	Alt 2	No Action	Alt 2
4th Avenue / Madison Street	E	E	E	F	E	F
4th Avenue / James St	C	D	C	D	D	E
6th Avenue / James St	C	C	C	E	D	F
1st Avenue S. / Yesler Way	F	F	F	F	F	F
1st Avenue S. / Main Street	D	F	F	F	F	F
1st Avenue S. / S. Jackson Street	F	F	F	F	F	F
2nd Avenue S. / S. Jackson Street	D	F	F	F	F	F
2nd Avenue S. Extension / S. Jackson Street	F	F	F	F	F	F
4th Ave S/S Jackson St	D	D	D	E	D	E
1st Avenue S. / Railroad N Way S	C	C	C	C	D	E
4th Avenue S. / Seattle Boulevard S-Airport Way S.	F	F	F	F	F	F
5th Avenue S. / Airport Way S. / S. Dearborn Street / I-90 WB Off-Ramp	D	F	E	F	E	F
4th Avenue S. / I-90 WB Off-Ramp	E	F	F	F	F	F
1st Avenue S. / S. Royal Brougham Way	E	F	F	F	F	F
Occidental Avenue S. / S. Royal Brougham Way	F	F	F	F	F	F
4th Avenue S. / S. Royal Brougham Way	F	F	F	F	F	F
1st Avenue S. / S. Atlantic Street	F	F	F	F	F	F
Occidental Avenue S. / Edgar Martinez Drive S.	F	F	F	F	F	F
West Parking Garage Access / Edgar Martinez Drive S.	E	F	F	F	F	F
East Parking Garage Access / Edgar Martinez Drive S.	A	F	F	F	F	F
I-90 off-ramp / Edgar Martinez Drive S.	B	E	E	F	F	F
I-90 on-ramp / Edgar Martinez Drive S. / 4th Avenue S.	F	F	F	F	F	F
1st Ave S. / S. Holgate Street	D	E	E	F	F	F
Occidental Avenue S. / S. Holgate Street	C	B	E	F	F	F
4th Ave S. / S. Holgate Street	F	F	F	F	F	F
Occidental Avenue S. / S. Lander Street	C	C	D	F	F	F
4th Ave S. / S Lander Street	C	C	D	E	D	E
E. Marginal Way / S. Hanford Street	E	E	E	E	E	E

2.6.4.2 Corridor Travel Times

Table 2-25 summarizes the calculated weekday PM peak hour travel times under 2018 conditions on the defined routes. Table 2-26 summarizes the calculated travel times under 2030 conditions. No Action results conditions are shown in parentheses and provided for comparison purposes.

**Table 2-25
2018 Alternative 2 Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case S1 (m:ss) ¹	Case S2 (m:ss)	Case S3 (m:ss)
1	1st Avenue S from Horton Street to Railroad Way	NB	11:16 (8:50) ²	20:58 (14:44)	24:53 (17:46)
	1st Avenue S from Railroad Way to Horton Street	SB	8:29 (8:04)	9:37 (8:52)	10:56 (9:30)
2	4th Avenue S from Horton Street to King Street	NB	10:06 (8:29)	13:56 (10:48)	14:59 (11:42)
	4th Avenue S from King Street to Horton Street	SB	17:22 (12:19)	22:18 (17:18)	23:53 (18:37)
3	4th Avenue S from I-90 to King Street	NB	3:02 (2:16)	7:28 (3:53)	8:52 (4:57)
	4th Avenue S from King Street to I-90	SB	13:32 (8:24)	17:42 (12:41)	19:29 (14:12)
4	S Atlantic Street from 1st Avenue S to I-90	EB	2:08 (2:02)	2:39 (2:40)	3:01 (3:03)
	S Atlantic Street from I-90 to 1st Avenue S	WB	4:36 (2:22)	12:38 (7:54)	15:48 (10:39)

1. m:ss = minutes:seconds

2. (x) = No Action travel times provided for comparison.

As shown in Table 2-25 and Table 2-26:

- Travel times increase with the addition of Arena event traffic as compared to No Action conditions. In general, the direction of travel for each route that serves vehicle arrivals for the Arena event (e.g., northbound 1st Avenue S.) experiences the greatest travel time increase while the opposing direction experiences a lesser increase (e.g., southbound 1st Avenue S.).
- Travel times for all travel routes with only an Arena event are less than a No Action Case S2 (Mariners-only event condition) with the exception of 4th Avenue S. from S. King Street to S. Horton Street and S. King Street to I-90. Travel times in specific directions are calculated to see large increases with multiple concurrent events (e.g. northbound 1st Avenue S., and westbound S. Atlantic Street).

- The patterns of travel time changes resulting from an Arena event are similar between 2018 and 2030 conditions with 2030 travel times generally greater than 2018 conditions.

Table 2-26
2030 Alternative 2 Weekday PM Peak Hour Corridor Travel Times

Route	Extents	Direction	Case S1 (m:ss) ¹	Case S2 (m:ss)	Case S3 (m:ss)
1	1st Avenue S from Horton Street to Railroad Way	NB	15:00 (9:56) ²	24:37 (17:10)	28:33 (20:15)
	1st Avenue S from Railroad Way to Horton Street	SB	9:17 (9:01)	10:42 (10:19)	12:04 (11:29)
2	4th Avenue S from Horton Street to King Street	NB	16:42 (13:13)	22:51 (18:07)	24:39 (19:28)
	4th Avenue S from King Street to Horton Street	SB	23:17 (17:59)	28:40 (23:18)	30:26 (24:44)
3	4th Avenue S from I-90 to King Street	NB	3:40 (2:27)	8:15 (5:27)	9:43 (6:51)
	4th Avenue S from King Street to I-90	SB	19:06 (15:11)	23:26 (19:28)	25:21 (21:12)
4	S Atlantic Street from 1st Avenue S to I-90	EB	9:36 (8:27)	11:18 (9:35)	12:01 (10:15)
	S Atlantic Street from I-90 to 1st Avenue S	WB	9:05 (3:15)	18:30 (11:37)	21:57 (14:36)

1. m:ss = minutes:seconds

2. (x) = No Action travel times provided for comparison.

2.6.4.3 Effects of Rail Crossing

Rail activity assumed in the modeling is consistent with the level of rail activity identified for the No Action alternative. The traffic volumes in VISSIM were updated to reflect the forecast traffic volumes for the Alternative 2 analysis cases. Total crossing gate arm down times and queue lengths along 1st Avenue S. and 4th Avenue S. are summarized in Table 2-27. Maximum queue lengths are reported along 1st and 4th Avenues S. because rail crossing impacts along S. Holgate and S. Lander Streets cause queues to extend into the 1st and 4th Avenues S. intersections.

Table 2-27
Alternative 2 S. Holgate Street and S. Lander Street Rail Crossing Impact Summary

Scenario	Alt 2 Gate Down Time ¹ (m:ss)	Arterial Direction	Maximum Arterial Queue Length ²			
			2018 No Action	2018 Alt 2	2030 No Action	2030 Alt 2
S. Holgate Street Crossing	Weekday PM Peak Hour Case S1 2018 = 20:30 2030 = 41:45	NB ³ 1st Ave S.	640	1,490	960	960
		SB 1st Ave S.	380	460	1,280	720
		NB 4th Ave S.	550	450	370	1,130
		SB 4th Ave S.	1,520	1,590	3,400	1,680
	Weekday PM Peak Hour Case S2 2018 = 20:30 2030 = 41:45	NB 1st Ave S.	1,300	1,870	1,120	1,340
		SB 1st Ave S.	440	470	900	920
		NB 4th Ave S.	620	500	950	1,760
		SB 4th Ave S.	1,640	1,570	1,710	800
	Weekday PM Peak Hour Case S3 2018 = 20:30 2030 = 41:45	NB 1st Ave S.	1,450	2,400	1,320	1,600
		SB 1st Ave S.	450	490	1,120	1,050
		NB 4th Ave S.	630	510	1,070	2,090
		SB 4th Ave S.	1,620	1,640	1,100	800
S. Lander Street Crossing	Weekday PM Peak Hour Case S1 2018 = 17:30 2030 = 44:00	NB 1st Ave S.	460	840	1,150	540
		SB 1st Ave S.	540	300	510	260
		NB 4th Ave S.	370	340	330	430
		SB 4th Ave S.	670	590	1,190	450
	Weekday PM Peak Hour Case S2 2018 = 17:30 2030 = 44:00	NB 1st Ave S.	870	1,770	550	790
		SB 1st Ave S.	580	290	700	290
		NB 4th Ave S.	420	380	470	500
		SB 4th Ave S.	740	550	490	380
	Weekday PM Peak Hour Case S3 2018 = 17:30 2030 = 44:00	NB 1st Ave S.	720	1,780	730	920
		SB 1st Ave S.	570	290	740	270
		NB 4th Ave S.	430	390	470	530
		SB 4th Ave S.	650	590	510	370

1. Gate down times reported are approximate and may range +/- 1 minute. Variance due to multiple seeds and VISSIM modeling methodology.
2. The reported maximum queue length is an average of the maximum queue lengths recorded across 10 simulation runs and represents the greater of a turning movement towards the rail crossing or the throughout movement along the corridor. Queue lengths are rounded up to the nearest 10 feet.
3. NB = northbound, SB = southbound

As shown in Table 2-27:

- Rail crossing gates are activated approximately 17 to 20 minutes during the weekday PM peak hour in 2018 and 41 to 44 minutes in 2030.

- Queues generally increase with traffic growth under future conditions and/or the addition of event generated traffic. However, some are shown to decrease. Note that where this occurs is due to upstream congestion in the simulation model that is caused by increased traffic volumes or rail crossing closure time.

2.6.4.4 Regional Access Analysis

Traffic would access the new Arena in the Stadium District via I-5, I-90, SR 99, and local arterials. It is estimated up to 25 percent of the trips that would access the Arena would come from the north via I-5, 20 percent from the east via I-90, and 20 percent via I-5 from the south. The other 35 percent of the trips would access the area via local arterials and SR 99.

The following analysis was completed for conditions with 20,000 spectators under Case S1 through Case S3.

For an event at the new Arena, up to an additional 1,300 vph would enter the city via I-5 or I-90 to reach the Stadium District. This is a 6 to 11 percent increase in trips compared to a typical evening commute on any one of those corridors. Table 2-28 shows the typical traffic volumes for a weekday and the anticipated increase in traffic with the Arena, and also with the Arena combined with other events (single and dual event scenarios).

The typical weekday traffic flow values shown in Table 2-28 are existing volumes, but represent future 2018 conditions. Traffic demand (or volume of vehicles that want to use these corridors) increase as land use changes; however, because the corridors are at or near capacity, additional traffic is not served during the peak hour of congestion. Instead “peak separating” occurs and traffic demand is served over multiple hours. Therefore, existing traffic volumes served through these areas during the peak of congestion would be similar in future years unless capacity was increased for I-5 or I-90, but the duration of congestion would increase as traffic demands increase.

Table 2-28 also focuses on the travel directions of I-5 and I-90 that would experience the greatest increase in trips from an Arena event. During the weekday PM peak hour, the majority of the trips (about 94 percent) associated with the Arena are inbound trips (or trips heading to the Arena).

**Table 2-28
2018 Alternative 2 Increase in Weekday PM Peak Hour
Traffic on Freeway Corridors**

Location	Typical Weekday PM Peak Hour Traffic (vph)	Increase in traffic with SoDo Arena (vph / % compared to typical weekday traffic)		
		Case S1	Case S2	Case S3
I-5 Southbound (through downtown CBD)	7,500 vph	550 vph / 7%	1,300 vph / 17%	1,500 vph / 18%
I-5 Northbound (north of Spokane Street)	7,200 vph	450 vph / 6%	1,000 vph / 14%	1,150 vph / 15%
I-90 Westbound (Approaching I-5)	3,800 vph	450 vph / 11%	1,000 vph 27%	1,150 vph / 29%

As previously described, the I-5 and I-90 corridors experience congestion presently during the PM peak commute, and events at the existing venues result in increased travel time approaching downtown. The PM peak travel times (on days with events in 2012) increased by up to eight minutes on southbound I-5 between NE 145th and I-90, and up to four minutes on I-90 between I-405 and Rainer Avenue S. It is anticipated with the Proposed Arena traffic, PM peak travel times would increase similar to today for a typical event day only at the new Arena (Case S1).

Traffic volumes and congestion levels on the freeway systems would increase on a game day compared to a typical commute day. About 208 annual events currently occur in the Stadium District, although not all “events” impact weekday PM peak hour commute times equally. The Proposed Arena is anticipated to host approximately 22 events per year with attendance in the 18,000 to 20,000 range. These events are assumed to typically be evening events. When considering all events currently occurring, and those additional events related to the Proposed Arena, approximately 40 additional days with events would occur (See Table 1-2).

Regional or freeway access to the Stadium District is constrained by signals at the terminal of the off ramps. Overall intersection and off-ramp approach operations of nine arterial intersections at the I-5, I-90, and West Seattle Bridge ramp termini were reviewed. The analysis was conducted for the weekday PM peak hour for 2018 and 2030 horizon years, under non-event and with event conditions and summarized in Table 2-29 and Table 2-30, respectively.

Table 2-29
2018 Alternative 2 Weekday PM Peak Hour Ramp Terminal LOS Summary

Ramp Terminal Intersection	Scenario	2018 No Action		2018 Alternative 2	
		Overall LOS / Delay	Off-Ramp LOS / Delay	Overall LOS / Delay	Off-Ramp LOS / Delay
Spokane St / 1st Ave	Case S1	C / 32	C / 28	C / 29	C / 27
	Case S2	C / 34	C / 25	C / 33	C / 21
	Case S3	D / 36	C / 23	D / 38	B / 17
Spokane St / 6th Ave	Case S1	C / 20	C / 32	C / 22	C / 35
	Case S2	C / 21	C / 31	C / 23	C / 35
	Case S3	C / 21	C / 31	C / 24	C / 35
Forest St / 6th Ave	Case S1	B / 13	B / 22	B / 15	C / 24
	Case S2	B / 13	C / 22	B / 15	C / 24
	Case S3	B / 13	C / 22	B / 15	C / 24
Edgar Martinez Dr S./ I-90 Off	Case S1	B / 14	C / 33	C / 27	E / 60
	Case S2	D / 52	F / 120	F / 99	F / >180
	Case S3	E / 77	F / 174	F / 126	F / >180
4th Ave / I-90 Off	Case S1	C / 21	E / 61	F / 98	D / 52
	Case S2	E / 75	E / 79	F / 160	F / 126
	Case S3	F / 87	F / 102	F / 173	F / 154
Dearborn St / I-90 Off	Case S1	D / 46	F / 132	D / 53	F / >180
	Case S2	D / 51	F / 147	E / 69	F / >180
	Case S3	E / 55	F / 147	E / 73	F / >180
Dearborn St / I-5 SB Off	Case S1	B / 11	E / 65	A / 9	D / 44
	Case S2	B / 13	E / 64	B / 11	D / 46
	Case S3	B / 14	E / 65	B / 11	D / 46
Dearborn St / I-5 NB Off	Case S1	C / 30	E / 60	C / 25	D / 41
	Case S2	C / 34	E / 62	C / 30	D / 48
	Case S3	C / 35	E / 64	C / 31	B / 54
James St / 6th Ave	Case S1	C / 23	B / 17	C / 34	B / 17
	Case S2	D / 38	C / 32	E / 78	F / 80
	Case S3	E / 58	E / 69	F / 106	F / 143

**Table 2-30
2030 Alternative 2 Weekday PM Peak Hour Ramp Terminal LOS Summary**

Ramp Terminal Intersection	Scenario	2030 No Action		2030 Alternative 2	
		Overall LOS / Delay	Off-Ramp LOS / Delay	Overall LOS / Delay	Off-Ramp LOS / Delay
Spokane St / 1st Ave	Case S1	C / 26	C / 25	C / 35	C / 27
	Case S2	C / 28	C / 22	C / 38	C / 21
	Case S3	C / 29	C / 21	D / 41	B / 18
Spokane St / 6th Ave	Case S1	C / 25	D / 35	C / 24	C / 31
	Case S2	C / 25	D / 36	C / 26	C / 32
	Case S3	C / 26	D / 38	C / 27	C / 34
Forest St / 6th Ave	Case S1	B / 15	C / 24	B / 14	C / 24
	Case S2	B / 15	C / 24	B / 14	C / 24
	Case S3	B / 14	C / 24	B / 14	C / 24
Edgar Martinez Dr S. / I-90 Off	Case S1	B / 18	D / 54	E / 60	F / >180
	Case S2	E / 76	F / >180	F / 141	F / >180
	Case S3	F / 101	F / >180	F / 170	F / >180
4th Ave / I-90 Off	Case S1	E / 61	E / 51	F / 139	D / 50
	Case S2	F / 122	F / 92	F / >180	F / 133
	Case S3	F / 135	F / 123	F / >180	F / >180
Dearborn St / I-90 Off	Case S1	D / 52	F / >180	F / 84	F / >180
	Case S2	E / 72	F / >180	F / 114	F / >180
	Case S3	E / 79	F / >180	F / 123	F / >180
Dearborn St / I-5 SB Off	Case S1	A / 9	D / 44	B / 10	D / 39
	Case S2	B / 10	D / 44	B / 13	D / 41
	Case S3	B / 10	D / 45	B / 13	D / 41
Dearborn St / I-5 NB Off	Case S1	C / 23	D / 42	C / 27	D / 27
	Case S2	C / 27	D / 48	C / 31	D / 48
	Case S3	C / 28	D / 51	D / 32	D / 53
James St / 6th Ave	Case S1	C / 23	B / 18	C / 31	B / 17
	Case S2	C / 34	C / 27	E / 69	E / 72
	Case S3	D / 52	D / 55	F / 94	F / 116

By 2018, during the PM peak hour, three of the freeway terminus study intersections in the Stadium District operate at LOS F (see Table 2-29), with these representing two additional locations beyond No Action conditions. These include:

- Edgar Martinez Drive S. / I-90 Off-Ramp (Cases S2 and S3)
- 4th Avenue / I-90 Off-Ramp (Cases S1, S2, and S3)
- James Street / 6th Avenue (Case S3)

In addition, the following off-ramps would operate at LOS E or LOS F:

Case S1

- Edgar Martinez Drive S. / I-90 Off-Ramp
- Dearborn Street / I-90 Off-Ramp

Case S2

- Edgar Martinez Drive S. / I-90 Off-Ramp
- 4th Avenue S. / I-90 Off-Ramp
- Dearborn Street / I-90 Off-Ramp
- James Street / 6th Avenue

Case S3

- Edgar Martinez Drive S. / I-90 Off-Ramp
- 4th Avenue S. / I-90 Off-Ramp
- Dearborn Street / I-90 Off-Ramp
- James Street / 6th Avenue

LOS F conditions means the more trips are approaching the intersection than can be served. Queues would build on some approaches through the peak commute and as traffic enters the city to the Stadium District. Advance signing such as the variable message signs on the freeway and cell phone applications with information on parking availability and congestion are types of measures that could help better direct traffic to underutilized ramps.

In 2030 during the PM peak hour, one additional freeway terminus intersection near the Stadium District would operate at LOS F (see Table 2-29) as compared to 2018 conditions. These include:

- Edgar Martinez Drive S. / I-90 Off-Ramp (Case S2 and S3)
- 4th Avenue / I-90 Off-Ramp (Cases S1, S2 and S3)
- Dearborn Street / I-90 Off-Ramp (Cases S1, S2 and S3)
- James Street / 6th Avenue (Case S3)

In addition, the following off-ramps would operate at LOS E or LOS F under 2030 conditions:

Case S1

- Edgar Martinez Drive S. / I-90 Off-Ramp
- Dearborn Street / I-90 off-ramp

Case S2

- Edgar Martinez Drive S. / I-90 Off-Ramp
- 4th Avenue S. / I-90 Off-Ramp
- Dearborn Street / I-90 Off-Ramp
- James Street / 6th Avenue

Case S3

- Edgar Martinez Drive S. / I-90 Off-Ramp
- 4th Avenue S. / I-90 Off-Ramp
- Dearborn Street / I-90 Off-Ramp
- James Street / 6th Avenue

2.6.4.5 Post-Event Traffic Operations

Post-event traffic volumes associated with the event attendees are typically more concentrated (with respect to duration) than is observed under pre-event conditions. To better understand the relationship between weekday PM peak hour commute patterns and post-event related traffic volumes, traffic counts were conducted at intersections along S. Atlantic Street and S. Holgate Street on Monday December 2, 2013 before and after a Monday Night Football game. While actual volumes varied depending on the location, all observed peak 15-minute post-event traffic volumes were less than traffic volumes observed during 15-minute PM commute peak period intervals, and at most observed locations approximately one-half of the PM commute peak period. Post-event traffic counts for a Mariners game²⁸ indicate that the peak 15 minutes near the end of an event can range between 30 to 40 percent of the total hourly flow that includes this peak with traffic volumes greatest travelling away from the venue.

The evaluation of event attendees departing the Arena site was consistent with the methodologies previously discussed (i.e. travel mode choice, increased rail crossing activity, etc.) but with additional assumptions. Non-event traffic volumes for the weekday post-event time period (approximately 9:15-10:15 p.m.) within the vicinity of the project site were forecast by growing existing (2013) non-event traffic volumes consistent with forecast weekday PM commute hour traffic volumes and adding anticipated late evening Port of Seattle truck traffic. Event traffic was then generated assuming that all but 5 percent of vehicles parked by event attendees would attempt to depart within a one hour period near the end of an event.²⁹ A Traffic Control Plan (TCP) was also assumed to be in place to divert event traffic away from the event site, consistent with the 2013 Safeco Field TCP.

²⁸ April 11, 2013

²⁹ Existing peak hour factors (PHFs) were applied in the analysis of Alternative 1 2030 conditions with Case S1 PHFs based on traffic counts in December 2013 without an event and non-event PHFs based on the December 2, 2013 Monday Night Football game.

Traffic operations were evaluated for 2030 Alternative 1 Case 1 (No Action, No Event), Alternative 2 Case S1 (with Arena event only), and Alternative 2 Case S3 (triple event). Forecast (2030) traffic volumes and resulting intersection LOS values are summarized on Figure 2–102

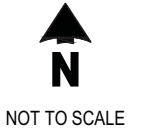
As shown on Figure 2–102, arena site vicinity intersections are forecast to operate at LOS C or better without an event under 2030 post-event period conditions. Intersections along S Atlantic Street are anticipated to operate at LOS F under post-event conditions with either one or more events. The 4th Avenue S./S. Holgate Street intersection would also operate at LOS F under post-event conditions under the triple event scenario (Alternative 2 Case S3). The remaining intersections within the arena vicinity are anticipated to operate at LOS C or better during post-event conditions; however, calculated delays at S. Holgate Street intersections are likely underestimated since LOS methodologies do not directly reflect the impacts of the S. Holgate rail crossing closure during post-event conditions and since traffic volumes were assumed to divert from S. Holgate Street to alternative travel routes due to rail crossing activity.

As a result of this surge, all Stadium District professional sporting events implement a Traffic Control Plan (TCP) to aid in the dispersion of event attendees to the transportation network. A TCP helps to manage traffic associated with outbound event attendees.

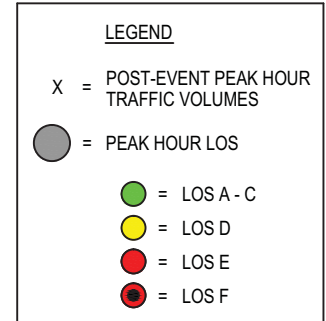
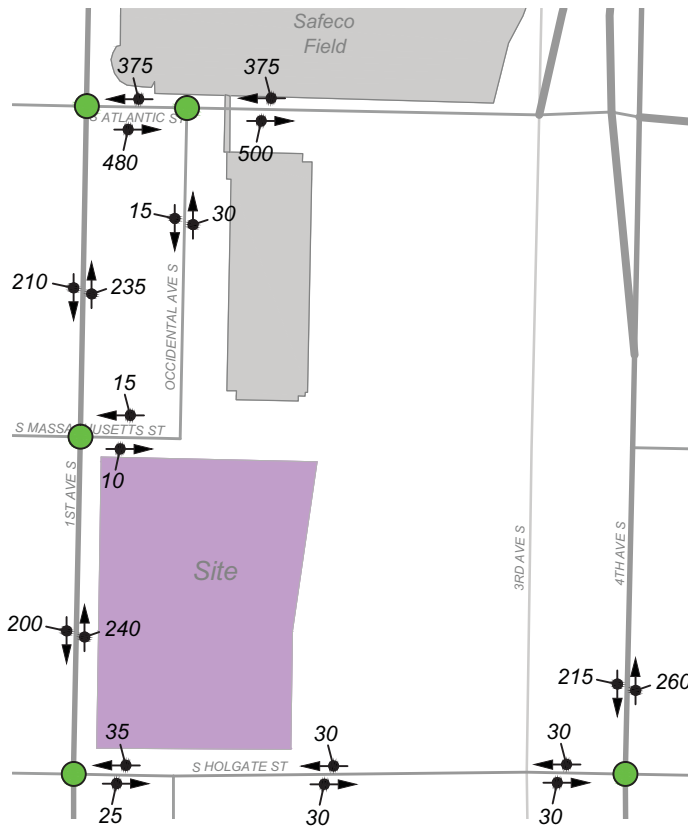
Because of forecast increases to rail crossing activity and related increased time that S. Holgate Street is blocked, a sensitivity analysis was completed assuming that S. Holgate Street was blocked for an entire one-hour period under weekday post-event conditions. Forecast traffic volumes and intersection operations are summarized on Figure 2–103. As shown, traffic volumes increase greatest along S. Atlantic Street where the nearest grade separated rail crossing is provided. It was assumed that traffic would divert from S. Holgate Street similar to current TCP strategies. As a result, delays increase at these intersections already operating at LOS F without full-closure of S. Holgate Street under post-event conditions. In contrast, operations at the 4th Avenue S./S. Holgate Street intersection improves to LOS C due to the decreased traffic volumes travelling on S. Holgate Street through this intersection.

In addition to the traffic operations impacts outlined above, the increase in the number of event days in the Stadium District and the resulting increases in event traffic volumes related to the Arena would have an impact on emergency vehicle access and circulation to the Stadium District site as well as through the area.

Alt 1 S1

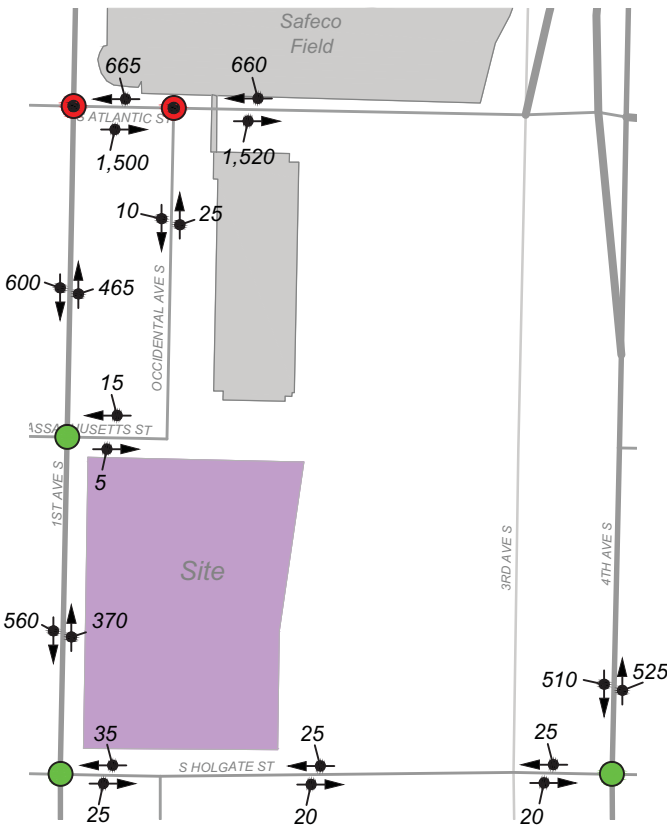


No Build

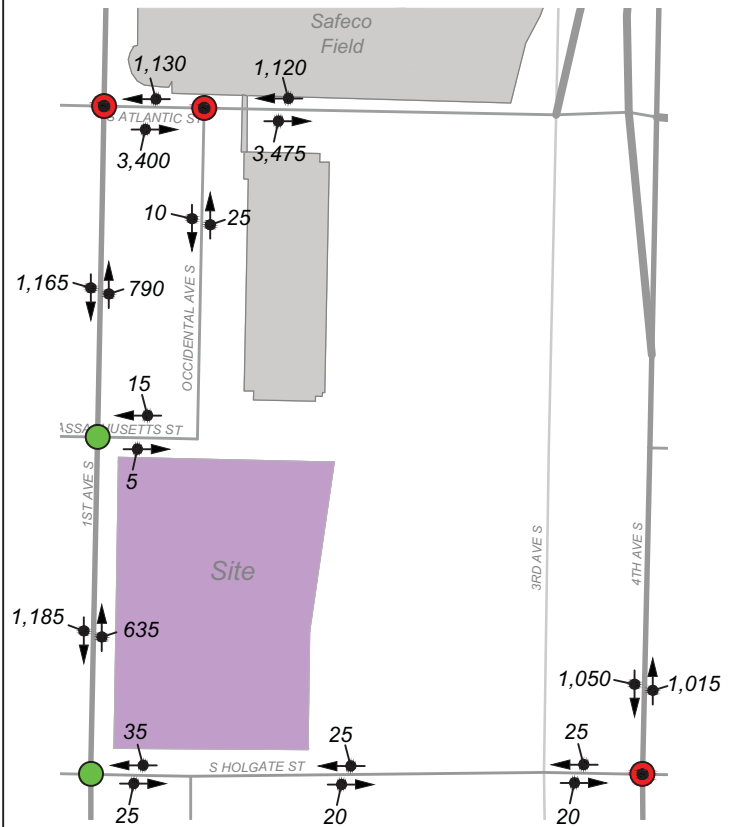


Alt 2 S1

Build



Alt 2 S3



Weekday Post Event 2030 LOS & Volumes



Holgate Closure Weekday Post-Event 2030 LOS & Volumes

Seattle Arena

2.6.5 Impacts of Alternative 3

As described for traffic volumes, construction impacts related to traffic operations would occur as a result of increased traffic levels. To minimize impacts to operations, a construction management plan would be developed and could include scheduling the most intensive construction activities such that they are spread out over time and prohibiting material deliveries from leaving or entering the area during AM and PM peak hours when feasible.

Alternative 3 includes the development of an 18,000-person capacity arena on the same site evaluated for Alternative 2. As noted in the traffic volumes section, when considering the mode splits associated with event attendees, the difference between an event with 20,000 and 18,000 attendees equates to approximately 200 vph during the weekday PM peak hour. Given the distribution of traffic to the area, this difference in overall activity would not likely be discernible by the average motorist and would be within the daily fluctuations in the background traffic. Traffic operations measures reported for Alternative 2 are expected to be slightly worse than would occur under Alternative 3, but identified impacts are anticipated to be similar.

2.6.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements.

The following identifies those potential mitigation measures considered to have a high influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 2 and Alternative 3.

- Event schedule protocol and management
- Port of Seattle protocols
- Public information coordinator
- Directional event signage
- Variable message and parking guidance signage
- SDOT traffic control center improvements
- Traffic signal control / improvements
- North-South private connection located on the east side of the project site, connecting S. Holgate Street to the Safeco Field property
- Event ingress / egress plan
- Traffic operations group

- Construction management plan
- Proportionate share contribution towards S. Lander Street Grade Separation
- Transportation Management Plan
- Pedestrian access improvements

2.6.7 Secondary and Cumulative Impacts

As described previously, there would be direct impacts to vehicular operations caused by an increase in traffic volumes and congestion for the No Action Alternative by 2018 and 2030. These impacts would be increased on game days. Secondary and cumulative impacts to traffic operations along other routes could occur if motorists choose to reroute to avoid congestion at specific intersections.

2.6.8 Significant Unavoidable Adverse Impacts

Several additional intersections are forecasted to operate at LOS E or LOS F under the No Action alternative and with additional traffic due to events at the Arena. On event days, delays would be expected to increase as a result of Arena event traffic and some of these increases may be significant.

2.7 Freight and Goods Movement

This section describes the existing, No Action, and future impacts associated with the development alternatives on the movement of freight and goods within the SoDo area.

2.7.1 Methodology

The impacts of the alternatives on freight and goods movements are evaluated based on the overall truck volumes, existing and future transportation facilities, and future increases and changes in traffic volumes. This analysis examines the impacts the additional traffic associated with the alternatives have on intersection and arterial performance. Technical data presented in this section is consistent with data presented in the traffic operations section of this report.

2.7.2 Affected Environment

2.7.2.1 Transportation Network

The transportation network includes designated truck routes, and Port of Seattle terminal facilities, and rail yards and lines.

Truck Routes

The Major Truck Route designation guides the roadway design as well as traffic management. Local and federal agencies have identified several roadway routes as Seaport Highway Connectors and Intermodal Connectors that provide access between Port facilities and the regional highway system. As shown on

Figure 2–104, several study area roadways are designated as both a Major Truck Route and a Seaport Highway Connector including E. Marginal Way S., SR 99, the West Seattle Bridge, S. Atlantic Street, and S. Royal Brougham Way. In addition, 1st Avenue S., 4th Avenue S., 6th Avenue S., Airport Way S., S. Dearborn Street, S. Holgate Street, and S. Spokane Street including the Viaduct and Swing Bridge are designated as Major Truck Routes.

Port of Seattle Terminals

The Port of Seattle operates four major container terminals (see Figure 2-103) located just south of downtown Seattle: Terminal 5 in West Seattle, Terminal 18 on Harbor Island, and Terminals 25/30 and 46 along East Marginal Way S. These terminals facilitate the transfer of import and export cargo containers between ships and land transportation modes such as railcars or trucks. Terminals 5 and 18 support drayage and intermodal transfers as well as have on-dock rail capability, where containers to a common destination can be loaded directly onto a train at the terminal.

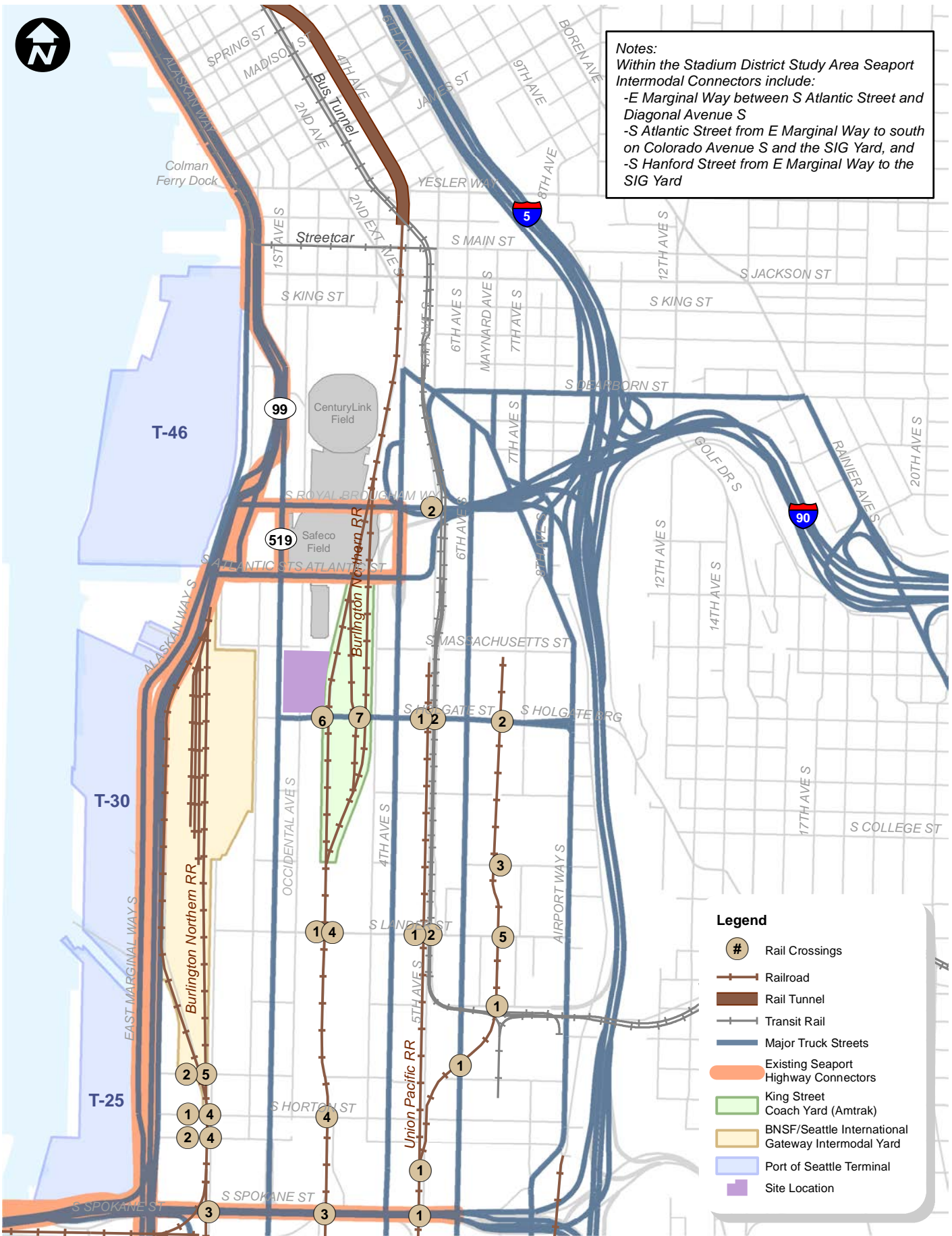
Rail Facilities

Within the study area there are three primary freight rail facilities:

- The BNSF mainline railroad tracks
- The BNSF Seattle International Gateway (SIG Yard)
- The Amtrak Pacific Northwest Headquarters and King Street Coach Yard maintenance facility

These facilities and the existing at-grade crossings are shown on Figure 2-103. In addition to these facilities, the Union Pacific's (UP) Argo Yard located south of S. Spokane Street provides intermodal service to Port of Seattle terminals, but is located outside of the immediate study area.

BNSF Tracks: The BNSF mainline runs north-south through the SoDo neighborhood providing rail service between Portland, Seattle, and Vancouver B.C. Within the study area, the mainline runs between 1st Avenue S. and 4th Avenue S. from the Great Northern Tunnel near the 4th Avenue S. / S. Washington Street intersection to south of Spokane Street. Several small spur tracks along the mainline serve adjacent businesses. UP operates a spur track that runs along the west side of 5th Avenue S. / SoDo Busway beginning near S. Massachusetts Street and extending south of the West Seattle Bridge. Smaller spur tracks extend further east across 6th Avenue S. and north along 5th Avenue S. to S. Massachusetts Street. These spur lines allow freight train access to the intermodal facilities, industrial uses in the area, and the Port of Seattle facilities.



Stadium District Rail and Freight Facilities

FIGURE 2-104

SIG Yard: The SIG Yard is divided into two facilities, the North SIG Yard, which is accessed by trucks from S. Massachusetts Street at Colorado Avenue, and Main SIG, which is accessed by trucks from S. Hanford Street east of E. Marginal Way. There is no internal truck connection between these two yards. Containers destined to or originating from locations beyond the Pacific Northwest generally make their overland trip by train. This cargo, known as “intermodal,” is either loaded on a train on T-5 or T-18 or is trucked between the marine terminal and the near-dock rail yards. All intermodal cargo on the east waterway Terminals 30 and 46, travels by truck.

The lead and tail tracks that connect to the SIG Yard extend along the east side of SR 99 from south of S. Spokane Street through the yard and north, crossing over Alaskan Way to the west side of Alaskan Way, adjacent to Terminal 46. These tracks support both arriving and departing trains as well as train building, in which segments of a train are put together (or taken apart). This activity can block street crossings of the lead or tail tracks for long periods of time. A new Atlantic Street Overcrossing was opened in January 2014 that provides a grade-separated overpass for vehicles to bypass blockages of surface Atlantic Street. Existing conditions were evaluated for 2013 conditions and do not reflect this recent improvement; it is included in the evaluation of future conditions. Train arrivals, departures, and train building activities will continue to block the at-grade crossings located south of the SIG Yard at S. Hanford, Horton, Hinds and Spokane Streets.

Amtrak Maintenance Facility: Amtrak’s King Street Coach Yard including the Pacific Northwest headquarters and maintenance facility is located adjacent to the proposed Seattle Arena site. The rail yard extends south from Edgar Martinez Drive S. to south of S. Walker Street, east to 3rd Avenue S., and across the rail spur line that serves the King Street Coach Yard. The site currently includes as many as 14 sets of active rail lines. The rail yard serves many functions including locomotive and passenger car maintenance, train washing, and staging / parking as well as significant employee and equipment movement across Holgate Street to the north and south portions of the yard. Along S. Holgate Street a total of 13 rail crossing exist with 9 being active crossings.

2.7.2.2 Traffic Volumes

Traffic counts throughout the SoDo study area generally show trucks dispersed among multiple streets during the weekday PM peak hour. Truck volumes on major arterial truck routes (i.e. S. Atlantic Street, 4th Avenue S., S. Spokane Street) tend to be greater than on local streets as many trucks access the regional freeway via their arterial connections. Roadways in the immediate vicinity of the project site that accommodate local and regional trucks include S. Atlantic Street, S. Holgate Street, 1st Avenue S., and S. Holgate Street. Truck percentages along these routes range from two to seven percent with the highest percentage of traffic along southbound 4th Avenue S. and the highest PM peak hour truck volumes along 1st Avenue S. based on existing traffic counts. As discussed later in this section, truck volumes can vary day-to-day and month-to-month based on activity at the Port of Seattle terminals.

A detailed summary of BNSF mainline rail traffic, including existing rail traffic observations, within the SoDo neighborhood was completed in October 2012 and was presented within the *Coal Traffic Impact Study* (Parametrix). Additional information was collected over a seven-day period in December 2013. Within SoDo, an average of 88 rail movements were observed per day at the BNSF mainline and train maintenance spur track at-grade rail crossings with trains travelling at average speeds of approximately six to eight mph. On average, the rail activity at the BNSF mainline rail crossings at S. Holgate Street, S. Lander Street, and S. Horton Street blocked each roadway an average of 2.5 minutes per closure. This equates to a total daily closure of 3.8 hours over a 24-hour period.

Truck and rail traffic generated by the Port varies by season and day-to-day. The peak season for import cargo usually occurs beginning in September and peaking in October. During these periods, the potential for having multiple ships in port simultaneously exists. Export cargo peaks are typically associated with agricultural exports from Eastern Washington with a peak season that lasts from mid-summer through late fall. Truck volumes fluctuate on a daily basis according to ship arrivals at the terminals and the sizes of those ships, or as a result of multiple ships in port.

Export cargo to be loaded must arrive at the terminal one to three days before the ship arrives in port. Once the ship arrives, the import cargo is unloaded as quickly as possible and intermodal containers (those destined inland via rail) are trucked to the nearby rail terminals for loading onto train cars. Export containers stored in the terminal yard are then loaded onto the ship. The unloading and loading operation is managed to minimize the amount of time the ship spends at the Port. After the ship is unloaded, trucks are dispatched by freight hauling firms to pick up import containers with local or regional destinations. Under normal operations, most of the truck trip activity occurs during the daytime operating hours between 7:30 AM and 5:00 PM. However, extended gate operations, either nighttime or early morning operations, can occur for larger ships if a ship is late in arriving due to inclement weather, or for large volumes of cargo dedicated to a few customers.

Truck traffic to and from Port of Seattle facilities within the SoDo study area is driven by the number of container units handled by the local terminals. A total of 7,230 one-way daily truck trips were generated on average per day by the Port of Seattle terminals based on available data from 2010 when 2.1 million TEUs were processed. In 2012, total tonnage was a little over 10 percent less than processed in 2010, to 1.87 million TEUs in 2012 and data provided by the Port of Seattle suggest a total of 7,300 daily truck trips were generated.

2.7.2.3 Traffic Operations

Potential traffic operations impacts to the movement of freight and goods within the SoDo study area were evaluated based on intersection and corridor operations, and potential rail crossing impacts in the vicinity of the proposed site.

Near the Proposed Arena site, operations at the four intersections shown in Table 2-31 are highly utilized by truck traffic and are shown along with their overall intersection LOS and

average delay for all vehicle types. Specific details regarding the LOS methodology are summarized in the Traffic Operations section.

Table 2-31
Stadium District Existing Weekday PM Peak Hour Intersection Operations at Key Freight Intersections

Intersection	Non-Event LOS / delay	With-Event¹ LOS / delay
1st Avenue S. / S. Atlantic Street	D / 34	C / 26
4th Avenue S. / Edgar Martinez Drive S.	C / 26	B / 18
1st Avenue S. / S. Holgate Street	B / 17	B / 15
4th Avenue S. / S. Holgate Street / S. Holgate Street	C / 26	C / 24

1. Reflects counts taken for a Sounders FC game with attendance = 38,500

As shown in Table 2-31, all intersections are calculated to operate at LOS D or better under existing non-event and with-event conditions. The LOS reported represents an average delay for the intersection; some movements will operate at a lower level than reported for the overall average. Also, with the high concentrations of pedestrians during events, the analytical tools employed may not fully reflect the level of pedestrian impacts to intersection performance and additional delay may be incurred for right-turning vehicles. Depending on the specific event and attendance, 1st Avenue S. / S. Atlantic Street and 4th Avenue S. / Edgar Martinez Drive S. would experience high levels of pedestrian demands that could contribute to delays in excess of those reported. In addition, general reductions in traffic volumes in the area associated with pre-event conditions may relate to non-event traffic avoiding travel during known event days.

Three corridors within the SoDo study area are heavily utilized by freight truck traffic: S. Atlantic Street – Edgar Martinez Drive S., 1st Avenue S., and 4th Avenue S. Existing travel times along these corridors are summarized in Table 2-32 and specific details regarding the corridor performance methodology are summarized in the Traffic Operations section 2.6.

**Table 2-32
Existing Weekday PM Peak Hour Travel Times Non-Event & With-Event Conditions on Key
Freight Corridors**

Extents	Direction	Non-Event (m:ss ¹)	With-Event ² (m:ss)
1st Avenue S. from Railroad Way S. to S. Horton Street	NB	6:16	6:31
1st Avenue S. from S. Horton Street to Railroad Way S.	SB	6:49	6:50
4th Avenue S. from S. King Street to S. Horton Street	NB	6:20	6:54
4th Avenue S. from S. Horton Street to S. King Street	SB	6:54	6:57
S. Atlantic Street from 1st Avenue S. to I-90	EB	1:39	1:24
S. Atlantic Street from I-90 to 1st Avenue S.	WB	1:23	1:18

1. m:ss = minutes:seconds

2. Reflects counts taken for a Sounders FC game with attendance = 38,500

As shown in Table 2-32, travel times generally increase along the four routes with the addition of traffic from an event. It is noted that the level of change in travel time may not be intuitive as it related to an event with an approximate attendance of 38,500 people. A number of factors appear to contribute to these conditions:

- The observed event was Sounders FC soccer game and while no specific data relative to mode split or net vehicle demands is available, anecdotal evidence suggests a higher reliance on non-auto travel than occurs in relation to other Stadium District events of similar attendance.
- Repeated traffic counts for other events in the area also suggest minimal local street system impacts during weekday PM peak hour conditions.
- Local businesses and downtown motorists who are aware of a pending event adjust their travel behavior, either by time or mode, to avoid being caught in event-related congestion. Depending on the size of event, the adjusted background traffic appears to partially, if not substantially offset the added weekday PM peak hour traffic due to the event.

There are at-grade rail crossings throughout SoDo and the Duwamish area impacting arterial operations along S. Holgate Street and S. Lander Street with related secondary impacts to the 1st Avenue S. and 4th Avenue S. corridors. Vehicular queues from rail crossings along S. Holgate and S. Lander Streets between 1st and 4th Avenues S. often extend into 1st and 4th Avenues S. This issue along 1st and 4th Avenues S. is further compounded with through traffic being obstructed (or blocked) by the rail crossing queues resulting in even longer queues and more congestion. Because of this, the effects of the rail crossings on S. Holgate Street and S. Lander Street on 1st Avenue S. and 4th Avenue S. were assessed using the VISSIM model. Existing rail crossing impacts using queue lengths on the adjacent arterials are summarized in Table 2-33 and described in further detail in the Traffic Operations section 1-28.

**Table 2-33
S. Holgate Street and S. Lander Street Rail Crossing Summary –
Existing PM Peak Hour**

	Scenario	Arterial Direction	Maximum Arterial Queue Length ¹
S. Holgate Street Crossing	Weekday PM Peak Hour Non-Event	NB ² 1st Ave S.	420 ft
		SB 1st Ave S.	350 ft
		NB 4th Ave S.	310 ft
		SB 4th Ave S.	390 ft
	Weekday PM Peak Hour With-Event ³	NB 1st Ave S.	270 ft
		SB 1st Ave S.	330 ft
		NB 4th Ave S.	380 ft
		SB 4th Ave S.	890 ft
S. Lander Street Crossing	Weekday PM Peak Hour Non-Event	NB 1st Ave S.	310 ft
		SB 1st Ave S.	430 ft
		NB 4th Ave S.	300 ft
		SB 4th Ave S.	400 ft
	Weekday PM Peak Hour With-Event	NB 1st Ave S.	620 ft
		SB 1st Ave S.	510 ft
		NB 4th Ave S.	300 ft
		SB 4th Ave S.	690 ft

1. The reported maximum queue length is an average of the maximum queue lengths recorded across 10 simulation runs and represents the greater of a turning movement towards the rail crossing or the throughout movement along the corridor. Queue lengths are rounded up to the nearest 10 feet and reflect an average gate down time of approximately 8.5 minutes.
2. NB = northbound, SB = southbound
3. Sounders FC game with attendance = 38,500

Rail crossing gates are activated approximately 8.5 minutes during the weekday PM peak hour. As shown in Table 2-33, queue lengths along 1st Avenue S. and 4th Avenue S. typically increase with the occurrence of the Sounders FC game.

The northbound 1st Avenue S. queue at S. Holgate Street is shown to decrease and occurs as a result of increased upstream northbound congestion at 1st Avenue S. / S. Lander Street. When considered in the context of modest changes in LOS and travel times due to the same event, it illustrates the significance of gate closure on traffic operations.

2.7.3 Impacts of No Action Alternative

Forecast conditions under the No Action alternative for freight and goods movement within the SoDo study are described in the following sections.

2.7.3.1 Transportation Network

Several planned projects were identified that may alter truck travel routes within the study area as summarized in the Street System section 2-1.

- Alaskan Way Viaduct Replacement
 - In addition to the circulation changes associated with the South Portal, a secondary project that includes the grade separation from E. Marginal Way and Alaskan Way S. to S. Atlantic Street when trains block S. Atlantic Street between Alaskan Way S. and Colorado Avenue S. is underway. This project is referred to as the little 'h.' This project is included in analysis of 2018 and 2030 conditions.
- S. Lander Street Grade Separation
 - This project would grade separate vehicular, pedestrian, bike, and truck traffic from rail traffic on S. Lander Street at the existing BNSF mainline rail crossing between 1st Avenue S. and 4th Avenue S. Improved delays and reliably reduced congestion from this rail crossing could result in increased truck traffic along this roadway. This project is not included in 2018 or 2030 analyses since it is currently unfunded.
- Waterfront Seattle
 - This project would create a continuous public waterfront between S. King Street and Bell Street, and may attract some increase in truck traffic. This project is included in analysis of 2018 and 2030 conditions.

2.7.3.2 Traffic Volumes

Within the SoDo study area general freight movement volumes are anticipated to increase similarly to background conditions with the exception of Port of Seattle traffic that is directly linked to the number of container units processed. In general, the proportion of truck traffic along study area roadways were assumed equal to existing conditions with adjustments made to reflect forecast increases in Port of Seattle handling and the addition of event related vehicular trips that primarily consist of passenger car travel.

Under future conditions Port of Seattle terminals within the SoDo neighborhood will operate similarly to existing conditions but with an increased amount of processed cargo. The Port of Seattle anticipates increasing the number of shipping containers it processes to 3.5 million TEUs by 2030, which exceeds recent growth trends. The Port of Seattle has indicated that this increase will result in the need to expand the Port's operating hours beyond the typical operating hours of 7:30 AM and 5:00 PM currently in place today such that approximately

20 percent of the container volume is processed between 6:00 and 11:00 PM. For analyses of 2018 conditions, 2.41 million TEUs were forecast for Port of Seattle activity by interpolating between 2012 and 2030 processing rates. Overall growth in container processing is estimated at 29 percent by 2018 and 87 percent by 2030 based on Port of Seattle estimates, when compared with 2012 levels.

As a result of this increased activity, truck trips to and from Port of Seattle facilities would also increase. As previously described, a total of 7,300 one-way daily truck trips were generated on average per day by the Port of Seattle terminals in 2012. Information provided by the Port of Seattle indicates that Port facilities could generate up to 13,700 one-way daily truck trips by 2030.

Anticipated changes to both freight and passenger rail activity within the study area are summarized in Table 2-34. Note that the changes shown for passenger rail activity do not reflect the total number of rail crossings under existing and future conditions. The forecast passenger rail crossings reflect increases in scheduled train activity for which fares are paid. The proportionate increases in scheduled activity were also applied to passenger train switching activity. Freight rail crossings are forecast to increase consistent with increases in forecast Port of Seattle activity with forecast increases in coal train activity added. Analysis of rail activity is based on observed scheduled and unscheduled activity and was proportionally increased based on forecast increase in activity.

**Table 2-34
Anticipated Future Changes to Daily Rail Activity**

Operator	2013	2018	2030
SoundTransit ¹	20 scheduled train crossings	26 scheduled train crossings (+30 percent from 2013)	26 scheduled train crossings *estimated ² (+30 percent from 2013)
Amtrak Cascades ³	10 scheduled crossings	16 scheduled train crossings (+60 percent from 2013)	26 scheduled train crossings (+160 percent from 2013)
Freight Rail ⁴	70 train crossings ⁵	100 train crossings *estimated ⁶ (+43 percent from 2013)	149 train crossings *estimated ⁶ (+113 percent from 2013)

1. Current Sound Transit schedule (April 2013) and *2013 Service Implementation Plan* (Sound Transit, December 2012).
2. 2030 Sound Transit train crossings were assumed to increase similarly from 2018 to 2030 as from 2013 to 2018, resulting in two additional crossings.
3. Current Amtrak schedule, *Amtrak Cascades Mid-Range Plan* (WSDOT, December 2008), and *Long Range Plan for Amtrak Cascades* (WSDOT, February 2006).
4. Includes coal train activity.
5. Existing freight rail includes all observed freight rail activity including existing coal train activity.
6. Future freight rail accounts for general freight rail activity increases consistent with forecast Port of Seattle container processing and forecast increases in coal train activity.

2.7.3.3 Traffic Operations

Intersection operations at the four intersections highly utilized by truck traffic near the Proposed Arena site are shown in Table 2-35 for 2018 and 2030 conditions. Results shown are consistent with the analysis presented in the Traffic Operations. Existing operations are also included for comparison.

**Table 2-35
Stadium District No Action Weekday PM Peak Hour Intersection Operations at Key Freight Intersections**

	Intersection	Case S1 LOS / delay	Case S2 LOS / delay	Case S3 LOS / delay
2018	1st Avenue S. / S. Atlantic Street	F / 89 (D / 34) ¹	F / >180	F / >180
	4th Avenue S. / Edgar Martinez Drive S.	E / 73 (C / 26)	F / 89	F / 105
	1st Avenue S. / S. Holgate Street	C / 30 (B / 17)	D / 38	D / 42
	4th Avenue S. / S. Holgate Street	D / 42 (C / 26)	D / 55	E / 59
2030	1st Avenue S. / S. Atlantic Street	F / >180	F / >180	F / >180
	4th Avenue S. / Edgar Martinez Drive S.	F / >180	F / >180	F / >180
	1st Avenue S. / S. Holgate Street	D / 52	E / 78	F / 91
	4th Avenue S. / S. Holgate Street	F / 104	F / 162	F / 170

1. (x) - Existing condition non-event operations provided for comparison.

As shown in Table 2-35, the 1st Avenue S. / S. Atlantic Street intersection is anticipated to operate at LOS F under 2018 non-event conditions. This doubling of delay is a result of general growth, the effects of shifted traffic due to the completion of the Alaskan Way Viaduct South Portal improvements and diversion of traffic from S. Holgate Street and S. Lander Street due to increased rail closure activity. Under Case S2 or S3, overall intersection operations are calculated to further worsen and remain at LOS F with the addition of event traffic. In addition, the 4th Avenue S. / Edgar Martinez Drive S. intersection is forecast to operate at LOS E under Case S1 and LOS F under both Case S2 and Case S3. The 4th Avenue S. / S. Holgate Street intersection is anticipated to worsen to LOS E under Case S3. 1st Avenue S. / S. Holgate Street is anticipated to remain at LOS D or better under all 2018 No Action conditions.

Under 2030 conditions, all four intersections would operate at LOS E or LOS F for all event scenarios with the exception of 1st Avenue S. / S. Holgate Street which would operate at LOS D under no event (Case S1) conditions.

It is noted that all future estimates of event traffic volumes are simply additive to No Action conditions. While existing counts and analysis show modest impacts to traffic volumes and operations on event days, this additive approach likely overestimates future traffic and congestion related to events. However, it does provide a consistent basis for comparing

alternatives. There is no reliable way to assess the amount of diverted non-event traffic likely to occur for any given event.

Table 2-36 summarizes the calculated weekday PM peak hour travel times along the key corridors utilized for freight and goods movement under 2018 conditions on the defined routes. Table 2-37 summarizes the calculated travel times under 2030 conditions. No Action results conditions are shown in parentheses and provided for comparison purposes.

**Table 2-36
Stadium District 2018 No Action Weekday PM Peak Hour
Freight Corridor Travel Times**

Extents	Direction	Case S1 (m:ss ¹)	Case S2 (m:ss)	Case S3 (m:ss)
1st Avenue S from Horton Street to Railroad Way	NB	8:50 (6:16) ²	14:44	17:46
1st Avenue S from Railroad Way to Horton Street	SB	8:04 (6:49)	8:52	9:30
4th Avenue S from Horton Street to King Street	NB	8:29 (6:20)	10:48	11:42
4th Avenue S from King Street to Horton Street	SB	12:19 (6:54)	17:18	18:37
S Atlantic Street from 1st Avenue S to I-90	EB	2:02 (1:39)	2:40	3:03
S Atlantic Street from I-90 to 1st Avenue S	WB	2:22 (1:23)	7:54	10:39

1. m:ss = minutes:seconds
2. (x) - Existing travel times provided for comparison.

As shown in Table 2-36:

- Travel times for freight corridors under 2018 conditions would increase by as much as approximately 11 to 12 minutes, depending on route, travel direction, and event case.
- Freight corridor travel times along 4th Avenue S. under 2018 conditions are forecasted to exceed 10 minutes with Case S1 and S2 traffic, and exceed 15 minutes for northbound 1st Avenue S. and southbound 4th Avenue S. with Case S3 traffic.
- Eastbound freight corridor travel times along S. Atlantic Street are expected to increase but less so than other routes. This direction of travel is opposite the inbound event flows, minimizing the increase in travel times. S. Atlantic Street is also subject to TCPs at Occidental Avenue S. and the Safeco Field parking garage. Event traffic control could increase S. Atlantic Street travel times beyond what is reported.

As described earlier, the actual impact due to event traffic is likely to be less than reflected herein since no assumed diversion or reduction in non-event traffic is assumed.

**Table 2-37
Stadium District 2030 No Action Weekday PM Peak Hour
Freight Corridor Travel Times**

Extents	Direction	Case S1 (m:ss ¹)	Case S2 (m:ss)	Case S3 (m:ss)
1st Avenue S from Horton Street to Railroad Way	NB	9:56 (6:16) ²	17:10	20:15
1st Avenue S from Railroad Way to Horton Street	SB	9:01 (6:49)	10:19	11:29
4th Avenue S from Horton Street to King Street	NB	13:13 (6:20)	18:07	19:28
4th Avenue S from King Street to Horton Street	SB	17:59 (6:54)	23:18	24:44
S Atlantic Street from 1st Avenue S to I-90	EB	8:27 (1:39)	9:35	10:15
S Atlantic Street from I-90 to 1st Avenue S	WB	3:15 (1:23)	11:37	14:36

1. m:ss = minutes:seconds
2. (x) - Existing non-event travel times provided for comparison.

As shown in Table 2-37:

- Under 2030 conditions freight corridor travel times are generally similar but worse than 2018 conditions. Increases range from approximately 2 minutes to 18 minutes when compared to existing conditions.
- Travel time changes result from small changes in forecast volumes at some study intersections and additional diversion from congested freeways as forecast in the Alaskan Way Viaduct Replacement study.

As described earlier, the actual impact due to event traffic is likely to be less than reflected herein since no assumed diversion or reduction in non-event traffic is assumed.

Rail activity assumed for future conditions was increased beyond existing conditions for both passenger and freight rail activity. Additional details are provided in the Traffic Operations section 2.6. Total crossing gate arm down times and queue lengths along 1st Avenue S. and 4th Avenues S. are summarized in Table 2-38. Maximum queue lengths are reported along 1st and 4th Avenues S. because rail crossing impacts along S. Holgate and S. Lander Streets cause queues to extend into the 1st and 4th Avenues S. intersections.

**Table 2-38
No Action S. Holgate Street and S. Lander Street Rail Crossing Impact Summary**

	Scenario	Gate Down Time (m:ss) ¹	Arterial Direction	Maximum Arterial Queue Length ²		
				Existing ³	2018	2030
S. Holgate Street Crossing	Weekday PM Peak Hour Case S1	Existing = 8:30 2018 = 20:30 2030 = 41:45	NB ⁴ 1st Ave S.	420	640	960
			SB 1st Ave S.	350	380	1,280
			NB 4th Ave S.	310	550	370
			SB 4th Ave S.	390	1,520	3,400
	Weekday PM Peak Hour Case S2	2018 = 20:30 2030 = 41:45	NB 1st Ave S.	420	1,300	1,120
			SB 1st Ave S.	350	440	900
			NB 4th Ave S.	310	620	950
			SB 4th Ave S.	390	1,640	1,710
	Weekday PM Peak Hour Case S3	2018 = 20:30 2030 = 41:45	NB 1st Ave S.	420	1,450	1,320
			SB 1st Ave S.	350	450	1,120
			NB 4th Ave S.	310	630	1,070
			SB 4th Ave S.	390	1,620	1,100
S. Lander Street Crossing	Weekday PM Peak Hour Case S1	Existing = 8:30 2018 = 17:30 2030 = 44:00	NB 1st Ave S.	310	460	1,150
			SB 1st Ave S.	430	540	510
			NB 4th Ave S.	300	370	330
			SB 4th Ave S.	460	670	1,190
	Weekday PM Peak Hour Case S2	2018 = 17:30 2030 = 44:00	NB 1st Ave S.	310	870	550
			SB 1st Ave S.	430	580	700
			NB 4th Ave S.	300	420	470
			SB 4th Ave S.	460	740	490
	Weekday PM Peak Hour Case S3	2018 = 17:30 2030 = 44:00	NB 1st Ave S.	310	720	730
			SB 1st Ave S.	430	570	740
			NB 4th Ave S.	300	430	470
			SB 4th Ave S.	460	650	510

1. Gate down times reported are approximate and may range +/- 1 minutes. Variance due to multiple seeds and VISSIM modeling methodology.
2. The reported maximum queue length is an average of the maximum queue lengths recorded across 10 simulation runs and represents the greater of a turning movement towards the rail crossing or the throughout movement along the corridor. Queue lengths are rounded up to the nearest 10 feet.
3. Representative of non-event case.
4. NB = northbound, SB = southbound

As shown in Table 2-38:

- Rail crossing gates are activated approximately 17 to 20 minutes during the weekday PM peak hour in 2018 and 41 to 44 minutes in 2030.
- Queues generally increase with traffic growth under future conditions and/or the addition of event generated traffic. However, some are shown to decrease. Note that where this occurs is due to upstream congestion in the simulation model that is caused by increased traffic volumes or rail crossing closure time.

2.7.4 Impacts of Alternative 2

Major truck routes surrounding the site could be intermittently impacted by construction. A construction management plan would be developed to minimize any street closures or other impacts as a result of the Seattle Arena construction. This management plan would include use of manual flaggers and signs to help vehicle circulation. In addition, key stakeholders would be notified of any major roadway closures.

Forecast conditions for freight and goods movement within the SoDo study with a 20,000 attendee event at the proposed Stadium District site are described in the following sections.

2.7.4.1 Transportation Network

With the construction of the Proposed Arena, the only change to the existing freight system assumed in the analysis is the vacation of Occidental Avenue S. between S. Massachusetts Street and S. Holgate Street. This change does not impact any of the major freight routes within the study area but would divert local truck deliveries for businesses along Occidental Avenue S., north of S. Massachusetts Street and along S. Massachusetts Street east of 1st Avenue S.

2.7.4.2 Traffic Volumes

With the addition of event traffic to SoDo study area roadways, truck and rail traffic volumes would not be directly impacted except for local truck patterns impacted by the vacation of Occidental Avenue S. Truck and rail volumes would generally remain the same as No Action conditions for purposes of assessing the alternative generated impacts. Some degree of “event traffic avoidance” may occur similar to existing conditions.

2.7.4.3 Traffic Operations

Intersection operations at the four intersections highly utilized by truck traffic near the Proposed Arena site are shown in Table 2-39 for 2018 and 2030 conditions.

**Table 2-39
Stadium District Alternative 2 Weekday PM Peak Hour Intersection Operations at Key Freight Intersections**

	Intersection	Case S1 LOS / delay	Case S2 LOS / delay	Case S3 LOS / delay
2018	1st Avenue S. / S. Atlantic Street	F / 164 (F / 89) ¹	F / >180 (F / >180)	F / >180 (F / >180)
	4th Avenue S. / Edgar Martinez Drive S.	F / 95 (E / 73)	F / 115 (F / 89)	F / 132 (F / 105)
	1st Avenue S. / S. Holgate Street	D / 35 (C / 30)	D / 46 (D / 38)	D / 55 (D / 42)
	4th Avenue S. / S. Holgate Street	E / 57 (D / 42)	F / 84 (D / 55)	F / 93 (E / 59)
2030	1st Avenue S. / S. Atlantic Street	F / >180 (F / >180)	F / >180 (F / >180)	F / >180 (F / >180)
	4th Avenue S. / Edgar Martinez Drive S.	F / >180 (F / >180)	F / >180 (F / >180)	F / >180 (F / >180)
	1st Avenue S. / S. Holgate Street	E / 68 (D / 52)	F / 101 (E / 78)	F / 112 (F / 91)
	4th Avenue S. / S. Holgate Street	F / 164 (F / 104)	F / >180 (F / 162)	F / >180 (F / 170)

1. (x) - No Action operations provided for comparison.

As shown in Table 2-39, all intersections are anticipated to operate at LOS E or LOS F with the addition of Arena traffic to 2018 conditions under any analysis case with the exception of 1st Avenue S. / S. Holgate Street.

Under 2030 conditions, all four intersections are estimated to operate at LOS E or LOS F with the addition of event traffic and are all worse than No Action conditions. With additional event traffic LOS values would remain the same as 2030 Arena-only conditions but delays would further increase when multiple events occur.

These increases in LOS / delay at key intersections under both 2018 and 2030 conditions would similarly increase delays for freight trucks travelling through these intersections. As shown, the results for both 2018 and 2030 conditions with only Arena event traffic are similar to and slightly better than No Action conditions with only a Mariners event.

As described earlier, all future event cases (Cases S1 to S3) likely overestimate actual demands and thus congestion during these periods since no reduction in non-event traffic was assumed.

Table 2-40 summarizes the calculated weekday PM peak hour travel times along the key corridors for freight movement under 2018 conditions on the defined routes. Table 2-40 summarizes the calculated travel times under 2030 conditions. No Action results conditions are shown in parentheses and provided for comparison purposes.

Table 2-40

Stadium District 2018 Alternative 2 Weekday PM Peak Hour Freight Corridor Travel Times

Extents	Direction	Case S1 (m:ss) ¹	Case S2 (m:ss)	Case S3 (m:ss)
1st Avenue S from Horton Street to Railroad Way	NB	11:16 (8:50) ²	20:58 (14:44)	24:53 (17:46)
1st Avenue S from Railroad Way to Horton Street	SB	8:29 (8:04)	9:37 (8:52)	10:56 (9:30)
4th Avenue S from Horton Street to King Street	NB	10:06 (8:29)	13:56 (10:48)	14:59 (11:42)
4th Avenue S from King Street to Horton Street	SB	17:22 (12:19)	22:18 (17:18)	23:53 (18:37)
S Atlantic Street from 1st Avenue S to I-90	EB	2:08 (2:02)	2:39 (2:40)	3:01 (3:03)
S Atlantic Street from I-90 to 1st Avenue S	WB	4:36 (2:22)	12:38 (7:54)	15:48 (10:39)

1. m:ss = minutes:seconds

2. (x) - No Action travel times provided for comparison.

As shown in Table 2-40 and Table 2-41:

- Freight corridor travel times increase with the addition of Arena event traffic with the exception of eastbound S. Atlantic Street. Changes in 2018 range from approximately 0.25 minutes to 5 minutes under Case S1, to 1.25 minutes to 7 minutes under Case S3. Under 2030 the range of increases is similar to 2018 conditions.
- In general, the direction of travel for each freight corridor travel time route that serves vehicles arriving for the Arena event (i.e. northbound 1st Avenue S.) experiences the greatest travel time increase while the opposing direction experiences a lesser increase (i.e. southbound vs. northbound 1st Avenue S.).
- Some routes show a small improvement in freight corridor travel time as a result the signal timing optimization procedures, but in general travel time routes will increase as a result of Arena traffic.
- Travel times for freight corridor routes with only an Arena event are generally less than the No Action Case S2 (Mariners only) conditions. Travel times for specific routes and directions are calculated to see large increases with multiple concurrent events (i.e. northbound 1st Avenue S., eastbound S. Atlantic Street).
- The patterns of travel time changes resulting from an Arena event are similar between 2018 and 2030 conditions with 2030 travel times generally greater than 2018 conditions.

As described earlier, all future event cases (Cases S1 to S3) likely overestimate actual demands and thus congestion during these periods since no reduction in non-event traffic was assumed.

Table 2-41

Stadium District 2030 Alternative 2 Weekday PM Peak Hour Freight Corridor Travel Times

Extents	Direction	Case S1 (m:ss)¹	Case S2 (m:ss)	Case S3 (m:ss)
1st Avenue S from Horton Street to Railroad Way	NB	15:00 (9:56) ²	24:37 (17:10)	28:33 (20:15)
1st Avenue S from Railroad Way to Horton Street	SB	9:17 (9:01)	10:42 (10:19)	12:04 (11:29)
4th Avenue S from Horton Street to King Street	NB	16:42 (13:13)	22:51 (18:07)	24:39 (19:28)
4th Avenue S from King Street to Horton Street	SB	23:17 (17:59)	28:40 (23:18)	30:26 (24:44)
S Atlantic Street from 1st Avenue S to I-90	EB	9:36 (8:27)	11:18 (9:35)	12:01 (10:15)
S Atlantic Street from I-90 to 1st Avenue S	WB	9:05 (3:15)	18:30 (11:37)	21:57 (14:36)

1. m:ss = minutes:seconds
2. (x) - No Action travel times provided for comparison.

Rail activity assumed in the modeling is consistent with the level of rail activity identified for the No Action alternative. The traffic volumes in VISSIM were updated to reflect the forecast traffic volumes for the Alternative 2 event analysis cases. Total crossing gate arm down times and queue lengths along 1st and 4th Avenues S. are summarized in Table 2-42, and are the same as assumed for the No Action conditions.

**Table 2-42
Alternative 2 S. Holgate Street and S. Lander Street Rail Crossing Impacts Summary**

	Scenario	Alt 2 Gate Down Time (m:ss)	Arterial Direction	Maximum Arterial Queue Length ¹			
				2018 No Action	2018 Alt 2	2030 No Action	2030 Alt 2
S. Holgate Street Crossing	Weekday PM Peak Hour Case S1	2018 = 20:30 2030 = 41:45	NB ² 1st Ave S.	640	1,490	960	960
			SB 1st Ave S.	380	460	1,280	720
			NB 4th Ave S.	550	450	370	1,130
			SB 4th Ave S.	1,520	1,590	3,400	1,680
	Weekday PM Peak Hour Case S2	2018 = 20:30 2030 = 41:45	NB 1st Ave S.	1,300	1,870	1,120	1,340
			SB 1st Ave S.	440	470	900	920
			NB 4th Ave S.	620	500	950	1,760
			SB 4th Ave S.	1,640	1,570	1,710	800
	Weekday PM Peak Hour Case S3	2018 = 20:30 2030 = 41:45	NB 1st Ave S.	1,450	2,400	1,320	1,600
			SB 1st Ave S.	450	490	1,120	1,050
			NB 4th Ave S.	630	510	1,070	2,090
			SB 4th Ave S.	1,620	1,640	1,100	800
S. Lander Street Crossing	Weekday PM Peak Hour Case S1	2018 = 17:30 2030 = 44:00	NB 1st Ave S.	460	840	1,150	540
			SB 1st Ave S.	540	300	510	260
			NB 4th Ave S.	370	340	330	430
			SB 4th Ave S.	670	590	1,190	450
	Weekday PM Peak Hour Case S2	2018 = 17:30 2030 = 44:00	NB 1st Ave S.	870	1,770	550	790
			SB 1st Ave S.	580	290	700	290
			NB 4th Ave S.	420	380	470	500
			SB 4th Ave S.	740	550	490	380
	Weekday PM Peak Hour Case S3	2018 = 17:30 2030 = 44:00	NB 1st Ave S.	720	1,780	730	920
			SB 1st Ave S.	570	290	740	270
			NB 4th Ave S.	430	390	470	530
			SB 4th Ave S.	650	590	510	370

1. The reported maximum queue length is an average of the maximum queue lengths recorded across 10 simulation runs and represents the greater of a turning movement towards the rail crossing or the throughout movement along the corridor. Queue lengths are rounded up to the nearest 10 feet.

2. NB = northbound, SB = southbound

As shown in Table 2-42:

- Rail crossing gates are activated approximately 17 to 20 minutes during the weekday PM peak hour in 2018 and 41 to 44 minutes in 2030.
- Queues generally increase with traffic growth under future conditions and/or the addition of event generated traffic. However, some are shown to decrease. Note that

where this occurs is due to upstream congestion in the simulation model that is caused by increase traffic volumes or rail crossing closure time.

2.7.5 Impacts of Alternative 3

Major truck routes surrounding the site could be intermittently impacted by construction. A construction management plan would be developed to minimize any street closures or other impacts as a result of the arena construction. This management plan would include the use of manual flaggers and signs to help vehicle circulation. In addition, key stakeholders would be notified of any major roadway closures.

Alternative 3 includes the development of an 18,000-person capacity arena on the same site evaluated for Alternative 2. In general, impacts to freight and goods anticipated under Alternative 3 would be slightly less than reported for Alternative 2. Overall traffic volumes for Alternative 3 are approximately one percent less during the weekday PM peak hour under both 2018 and 2030 conditions.

2.7.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements.

The following identifies those potential mitigation measures considered to have a high influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 2 and Alternative 3.

- Port of Seattle protocols
- Public information coordinator
- Construction management plan
- Proportionate share contribution towards S. Lander Street Grade Separation
- Transportation Management Plan
- Pedestrian access improvements

2.7.7 Secondary and Cumulative Impacts

As described previously, there would be direct impacts to the movement of freight and goods caused by an increase in traffic volumes and congestion for the No Action Alternative by 2018 and 2030. These impacts would be increased on game days. Secondary and cumulative impacts to other motorists could occur by truck drivers choosing to reroute to avoid congestion at specific intersections.

Changes in Port of Seattle operations could change the amount of heavy trucks on some routes through the Stadium District, especially if service hours are extended later in the day and into

the evening. This could add delay and congestion on arterial streets and intersections in the project vicinity, and add delay to some surface transit routes in SoDo.

2.7.8 Significant Unavoidable Adverse Impacts

Several additional intersections are forecast to operate at LOS E or LOS F under No Action conditions, and with additional traffic due to events at the Arena. On event days, delays would be expected to increase as a result of Arena event traffic. These conditions would impact freight activity to the extent identified in the impact analysis.

2.8 Parking

SMC parking requirements would be reviewed as part of the Master Use Permit application. The proposal includes approximately 100 parking spaces on-site for players, couches, and staff. The remainder of the parking for attendees would be provided through shared parking agreements with existing parking facilities not associated with the Arena and/or through an Arena parking garage located south of Occidental on the South Warehouse site. This initial evaluation assumes parking would be provided through shared parking agreements. An evaluation of the potential South Warehouse parking is described in Section 2.12 and in Section 2.8.4.4. The remainder of this discussion focuses on the impact of the Arena's parking demand on the existing and future parking supply in the study area.

2.8.1 Methodology

The following describes the general approach to the parking analysis:

- Establish the study area and appropriate time period for the evaluation
- Document existing parking for non-event conditions to provide an understanding of the underlying parking without an event
- Document existing parking with an event to provide an illustration of actual parking demand associated with observations during a Mariners game with over 20,000 attendees
- Examine effect of future "pipeline" development on parking supply and demand under the No Action Alternative
- Evaluate No Action conditions associated with the existing event venues (Safeco Field and the CenturyLink Field Event Center) to provide a basis for understanding the impact of the Proposed Arena on multiple event conditions
- Add parking demand for the Arena to each of the defined No Action baseline event cases as well as account for displaced parking due to the Arena and compare with Arena parking demand to the No Action condition to identify impacts of Alternatives 2 and 3

- Identify mitigation strategies, where appropriate, to reduce the effect of the identified Alternative 2 and 3 impacts

The balance of this methodology section describes the study area for the parking analysis, how the Stadium District parking patterns were used to determine the analysis time periods, and parking supply assumptions. Parking demand assumptions specific to existing and future conditions are described in the individual Affected Environment, No Action, and Alternative 2 sections.

2.8.1.1 Study Area

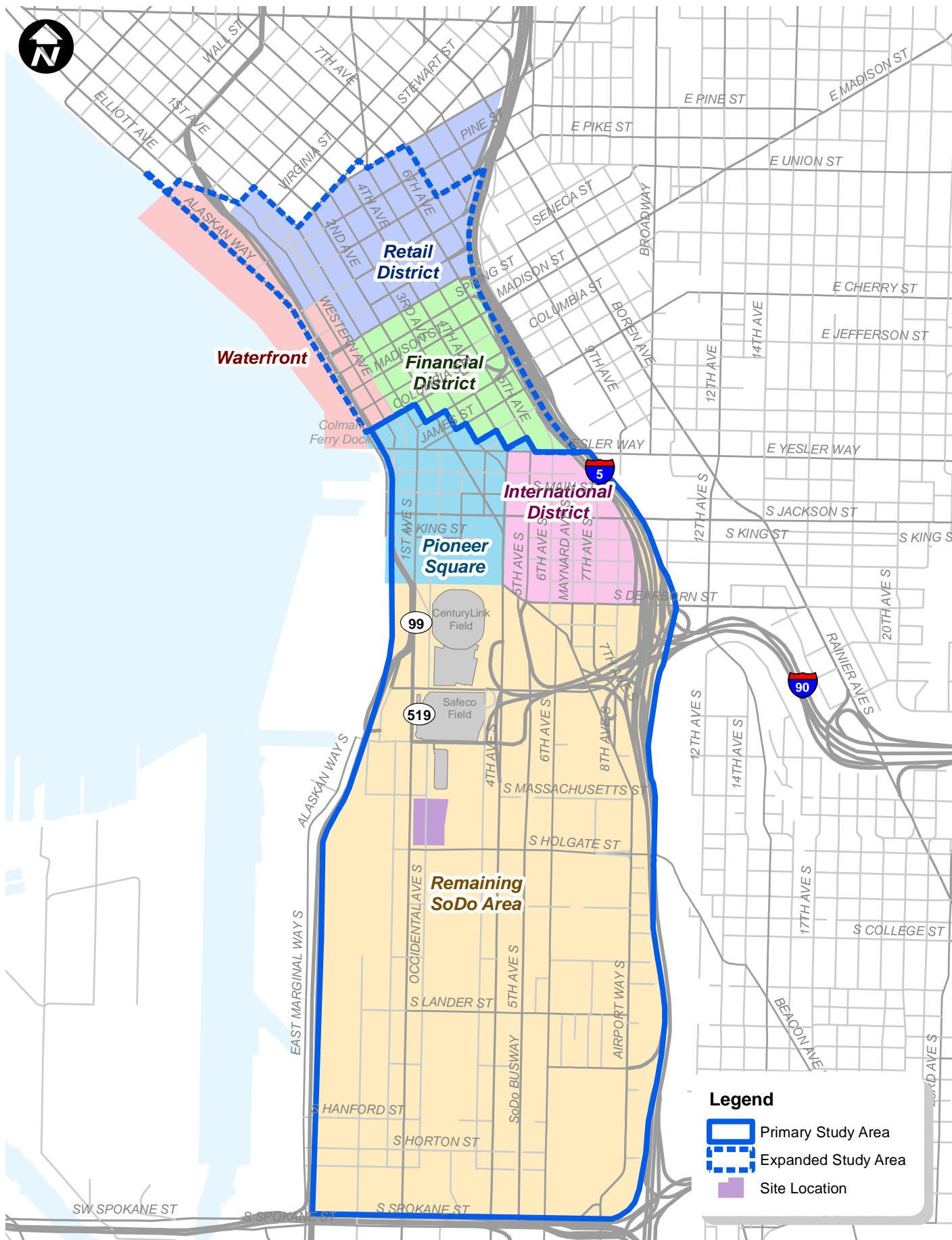
The study area evaluated for parking is shown on Figure 2–105. Because of the size of the nearby event venues, the study area for parking is larger than would otherwise be needed if the Arena were located independent of other large event sites.

I-5 creates a physical barrier in the study area with little to no pedestrian connections from parking areas between the Stadium District site and parking areas east of I-5; therefore, the study area includes only the areas west of I-5 where there are viable pedestrian connections to the Arena site. The study area was further subdivided into primary and expanded study areas. The primary study area is considered within an approximate one-mile radius of the Stadium District site. It includes the neighborhoods of Pioneer Square, International District and SoDo, and extends from just north of Yesler Street to Spokane Street on the south. This area represents an approximate 5- to 20-minute walking distance for Seattle Arena event attendees.

An expanded study area was also evaluated considering the CBD. The evaluation of the expanded study area helps accommodate parking associated with larger multi-event cases at either CenturyLink Field or Safeco Field. The CBD is divided into three subareas – waterfront, financial, and retail to provide an understanding of the Arena impacts within the larger CBD.

2.8.1.2 Analysis Time Periods

Event arrival patterns shown on Figure 1–4 (on page 1-17) suggest Arena arrivals would generally begin between two-and three-hours prior to the start. The 2012-2013 NBA, 2011-2013 NHL, and 2012 WNBA schedules indicate the typical start time for Arena sporting events is around 7:00 PM. To determine the parking analysis period, existing non-event and Arena hourly parking demands for weekday and weekend conditions between 4:00 and 8:00 PM were examined assuming a 7:00 PM game start.



Stadium District Parking Study Area

Seattle Arena

Weekday

The following figures illustrate the hourly parking demand for the existing weekday non-event, Arena only, and combine non-event and Arena conditions. Figure 2–106 illustrates the weekday hourly demand in the study area and shows that parking demand decreases sharply until about 6:00 PM. Between 6:00 and 7:00 PM a slight increase in parking was observed, coinciding with arrivals for evening activities in some neighborhoods. Figure 2–107 shows Arena-only hourly parking demand for a 7:00 PM start time. A majority of vehicles associated with the Arena would be parked by 7:00 PM with approximately five percent of the vehicles arriving after the game starts. Figure 2–108 illustrates the total (non-event plus Arena) hourly parking demand, and shows that on weekdays the peak occurs at 7:00 PM (start time).

Figure 2–106 Stadium District Hourly Parking Demand – Weekday: Non-Event

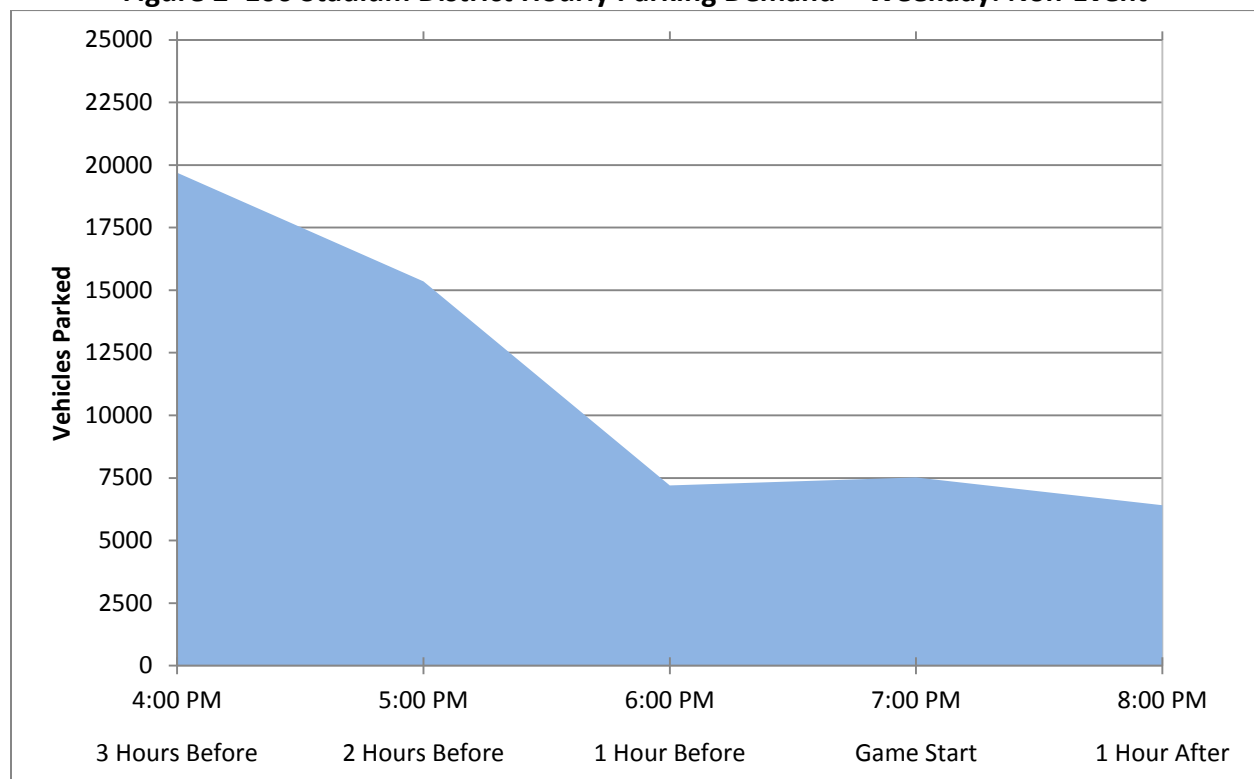


Figure 2–107 Stadium District Hourly Parking Demand – Weekday: Arena Only

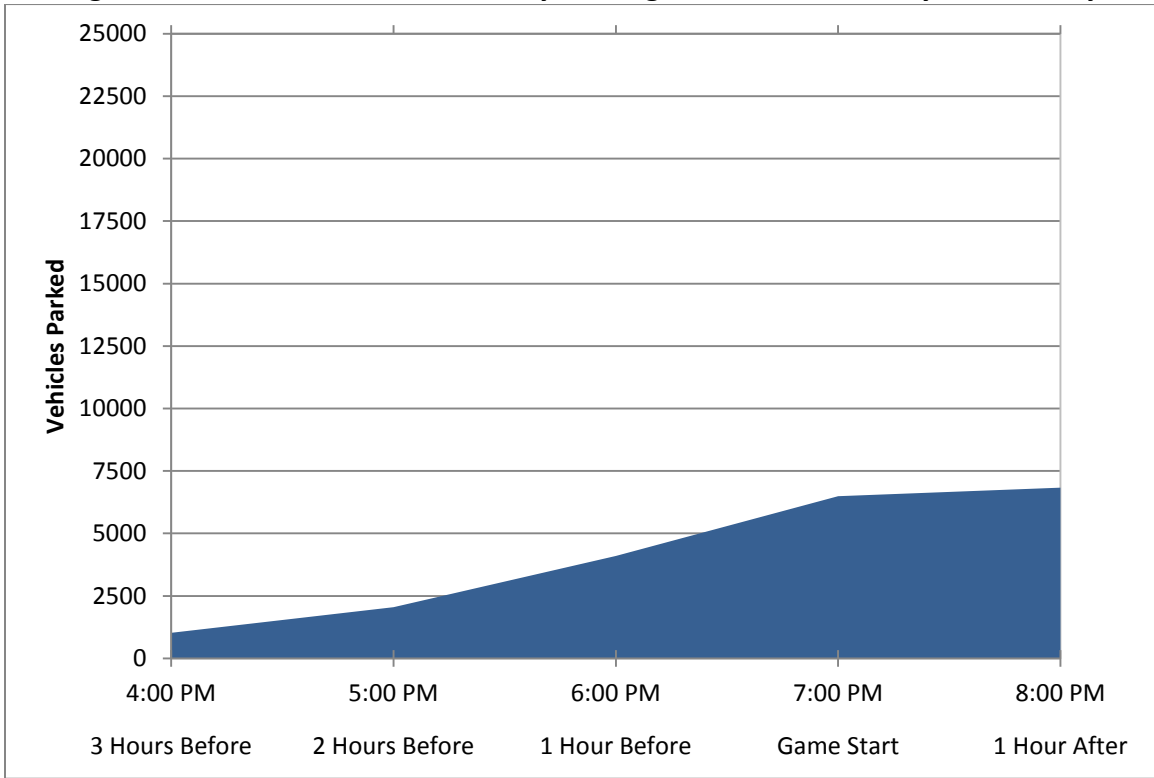
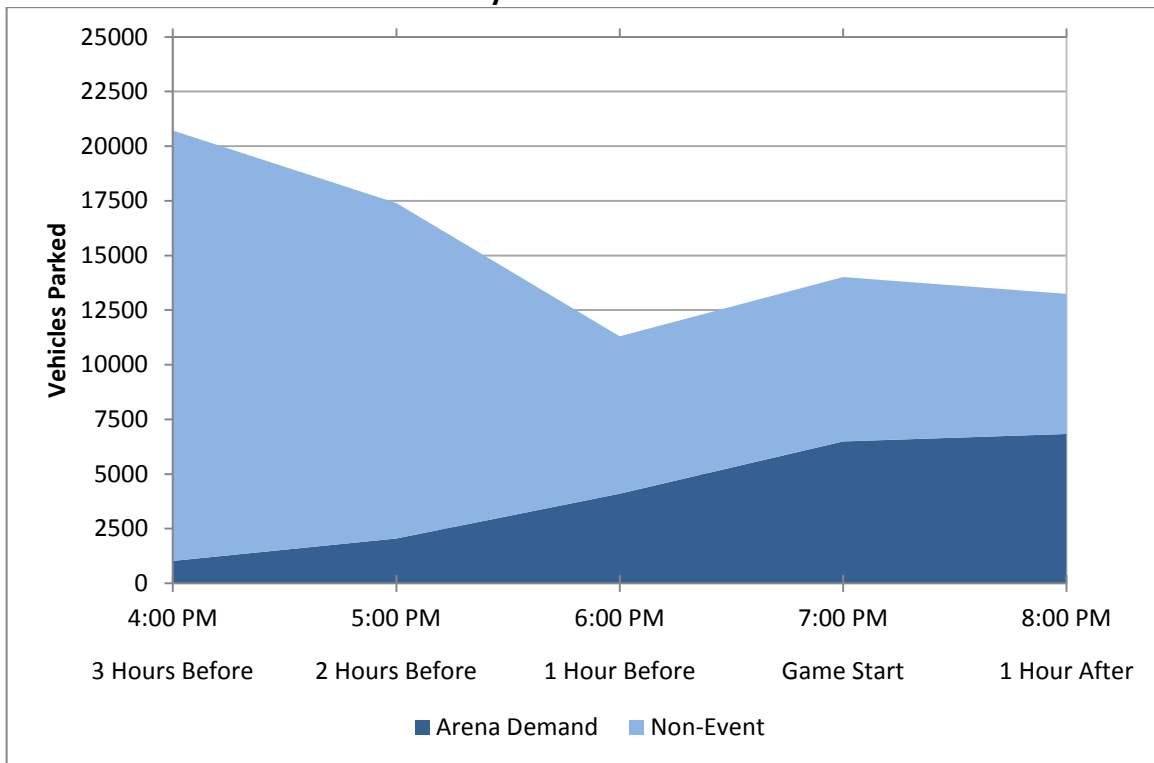


Figure 2–108 Stadium District Hourly Parking Demand – Weekday: Non-Event Plus Arena



Weekend

This same approach was taken for the weekend conditions. Conditions are documented for a Saturday evening, which typically has higher non-event parking demand than occurs on a Sunday. Figure 2–109 illustrates the existing non-event Saturday hourly demand in the study area and shows that parking demand is generally stable with a slight increase between 7:00 and 8:00 PM. Figure 2–110 shows the Arena hourly parking demand for a 7:00 PM event start time. As discussed for the weekday, a majority of vehicles associated with the Arena would be parked by 7:00 PM (start time) with approximately five percent of the vehicles arriving after the game starts. Figure 2–111 illustrates the total (non-event plus Arena) hourly parking demand and shows that on weekends the peak occurs at 8:00 PM for a 7:00 PM game.

**Figure 2–109 Stadium District Hourly Parking Demand –
Existing Weekend: Non-Event**

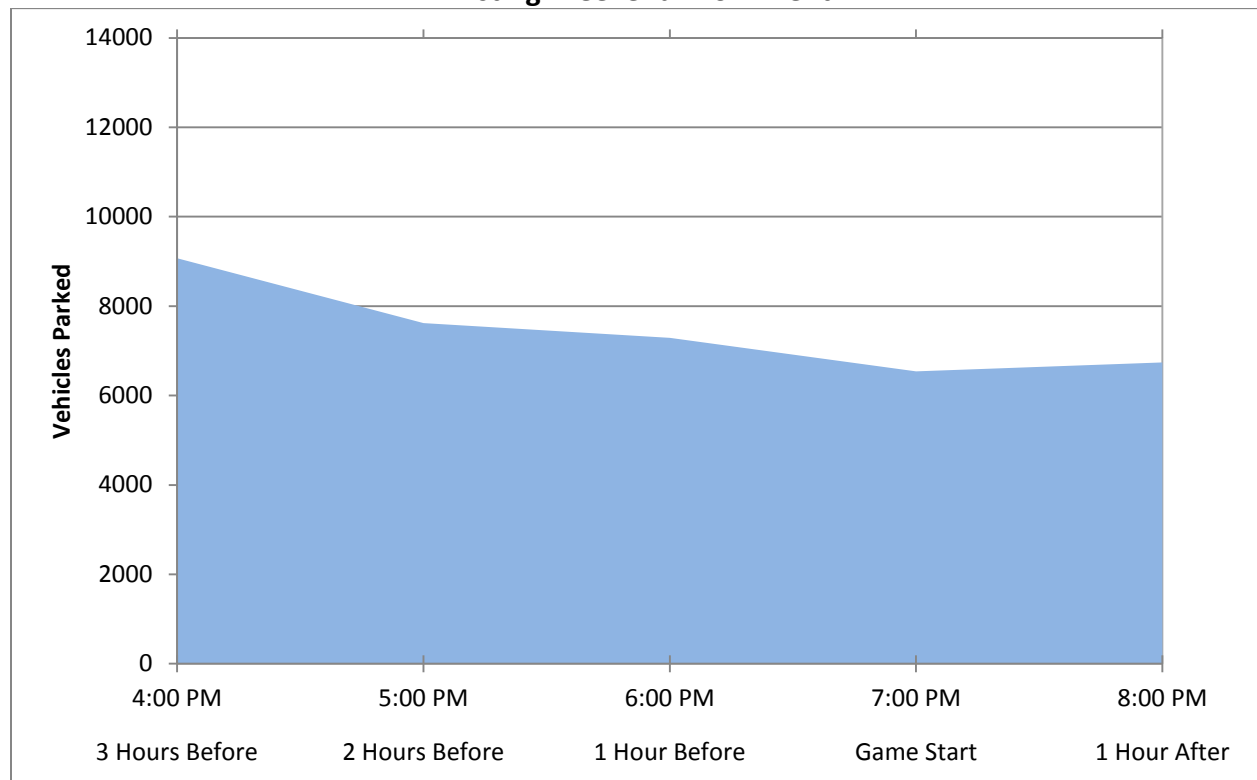


Figure 2–110 Stadium District Hourly Parking Demand - Weekend: Arena Only

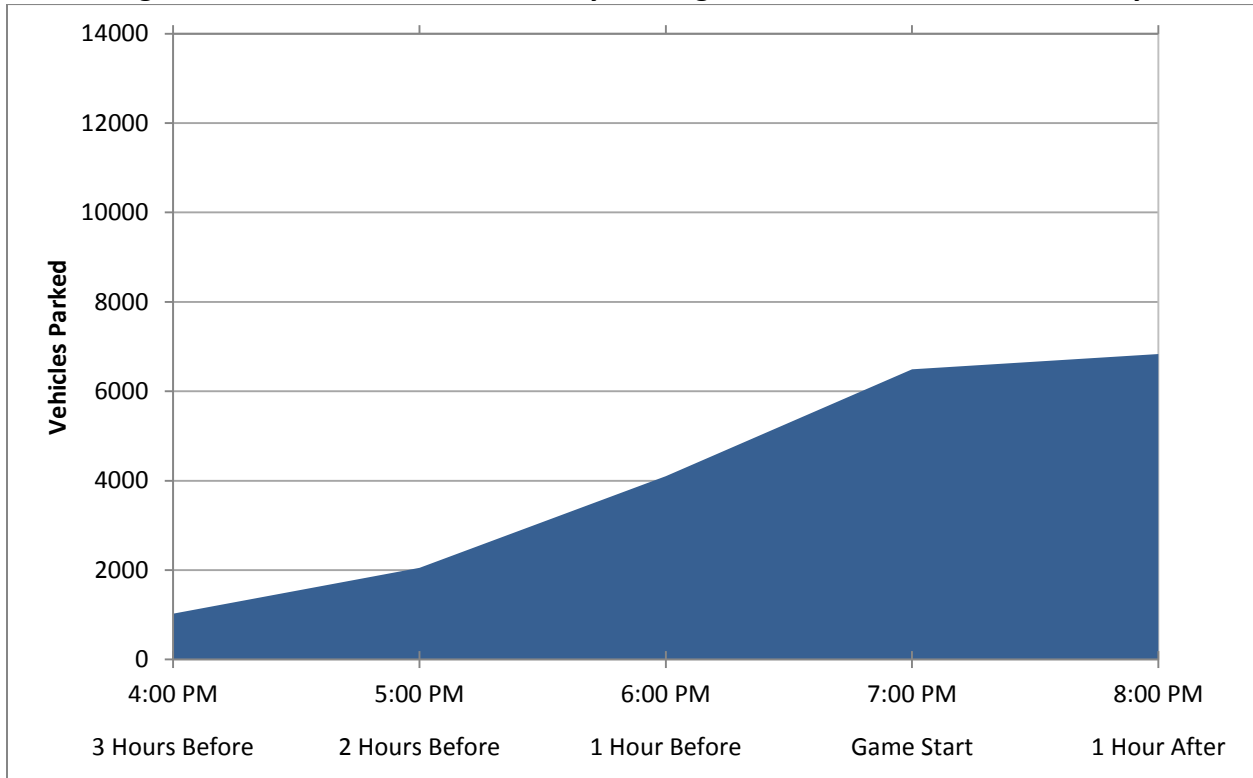
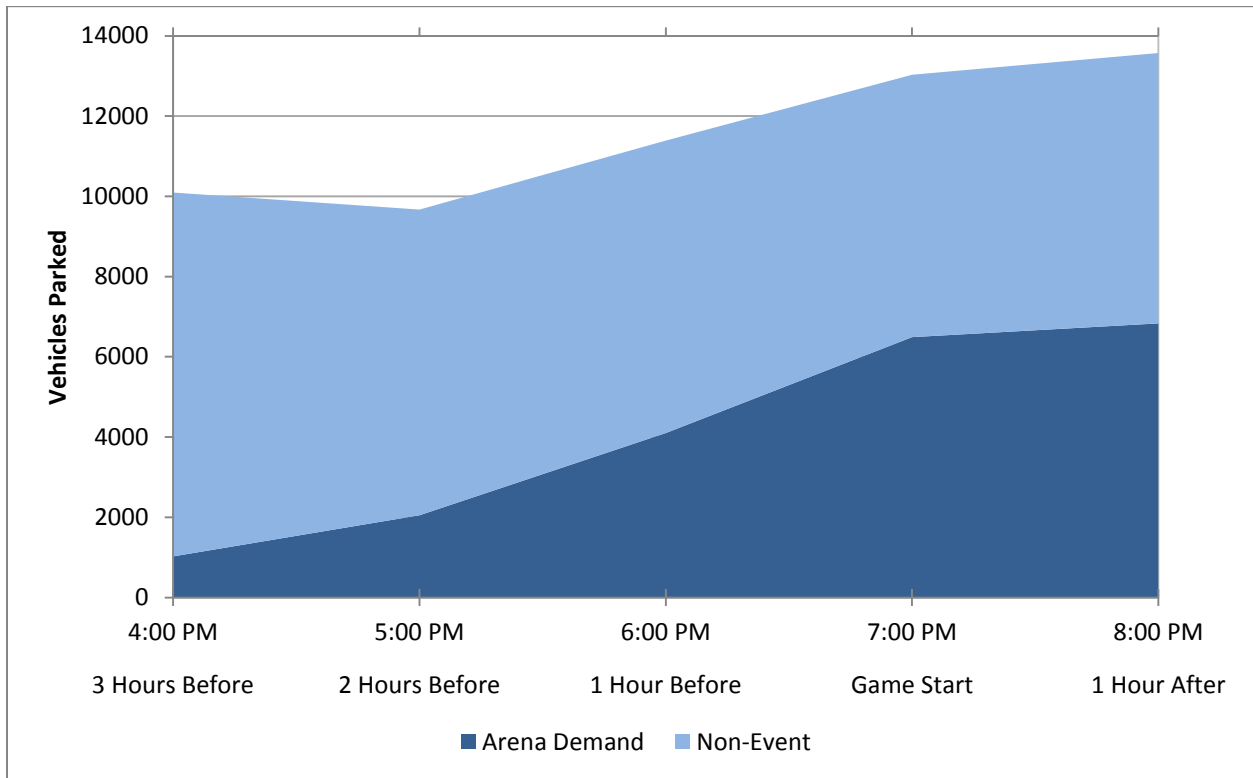


Figure 2–111 Stadium District Hourly Parking Demand – Weekend: Non-Event Plus Arena



Based on the information presented above, the quantified parking impact illustrations focus on:

- Weekday: 7:00 PM (Game Start) conditions
- Weekend: 8:00 PM (One-Hour After Game Start) conditions

2.8.1.3 Parking Supply Assumptions

For the purposes of this analysis, a single parking supply for both weekday and weekend conditions is used to represent physical availability of parking that is generally open to or that could be made available to the public. The supply includes on-street and off-street parking spaces that are available to the general public and would potentially be available for Seattle Arena event parking. This publicly-available parking supply includes private off-street parking lots and garages that are restricted for employee and customer use, but were observed to be open for event parking during data collection. There is a potential that additional private parking spaces could be available for event parking. The parking supply represents conditions at game start on an event day for both weekday and weekend conditions. Parking supply varies by time of day and day of the week. Factors affecting parking supply include:

- **Time of Day and Day of Week.** Parking in the study area is operated differently depending on the day of the week and the time of day.
 - On-street parking supply is impacted by time and loading zone restrictions. Parking within Pioneer Square, the International District, and CBD is generally two-hour paid parking Monday through Saturday. Pioneer Square and the Stadium District have time limited or paid parking is until 6:00 PM while the International District and CBD have paid parking until 8:00 PM. Near to the Stadium District Site, 1st Avenue S. parking has a one to two-hour time restriction and along S. Holgate Street there is no parking between 1st Avenue S. and 5th Avenue S., but east of 5th Avenue S. there is some unrestricted on-street parking.
 - Many of the study area off-street parking garages close after the commute period (i.e., around 6:00 PM) on weekdays due to limited demand without an event in the Stadium District. These garages are often closed or open limited hours on the weekends.
- **Stadium District Event Conditions.**
 - During an event day, many of the off-street parking lots and garages extend hours of operation. In addition, there are private lots that would otherwise be closed to the public, which allow event parking including the Safeco Field parking garage.

- The existing Stadium District has TCPs, which result in some on-street parking closures during an event³¹.
- The availability of the CenturyLink and Safeco Field parking facilities for Arena events³².

Existing Supply: Parking supply is based on data collected by Transpo Group supplemented by data from the SDOT, the Mariners, and PSRC. Figure 2–112 illustrates the on-and off-street parking within the primary study area.

Drivers utilize on- and off-street parking supply differently and these supplies are managed in different ways. On-street parking supply is often more desirable than off-street parking because there is an opportunity to be in close proximity or even adjacent to a driver’s destination. In addition, Seattle on-street hourly parking rates are often less expensive than off-street parking and within the study area on-street parking is free after 6:00 or 8:00 PM (as well as all day Sunday). From 8:00 AM to 6:00 / 8:00 PM when on-street parking has time restrictions (e.g., one- to two-hour time limits), it is used for short-term parking; however, lifting time limits at event start times causes long-term use by event attendees. Given the convenient location and limited cost, on-street parking typically fills first during Stadium District events, which results in limited short-term parking for adjacent businesses. In addition, drivers may circulate through the Stadium District and adjacent neighborhoods to park on-street and save money.

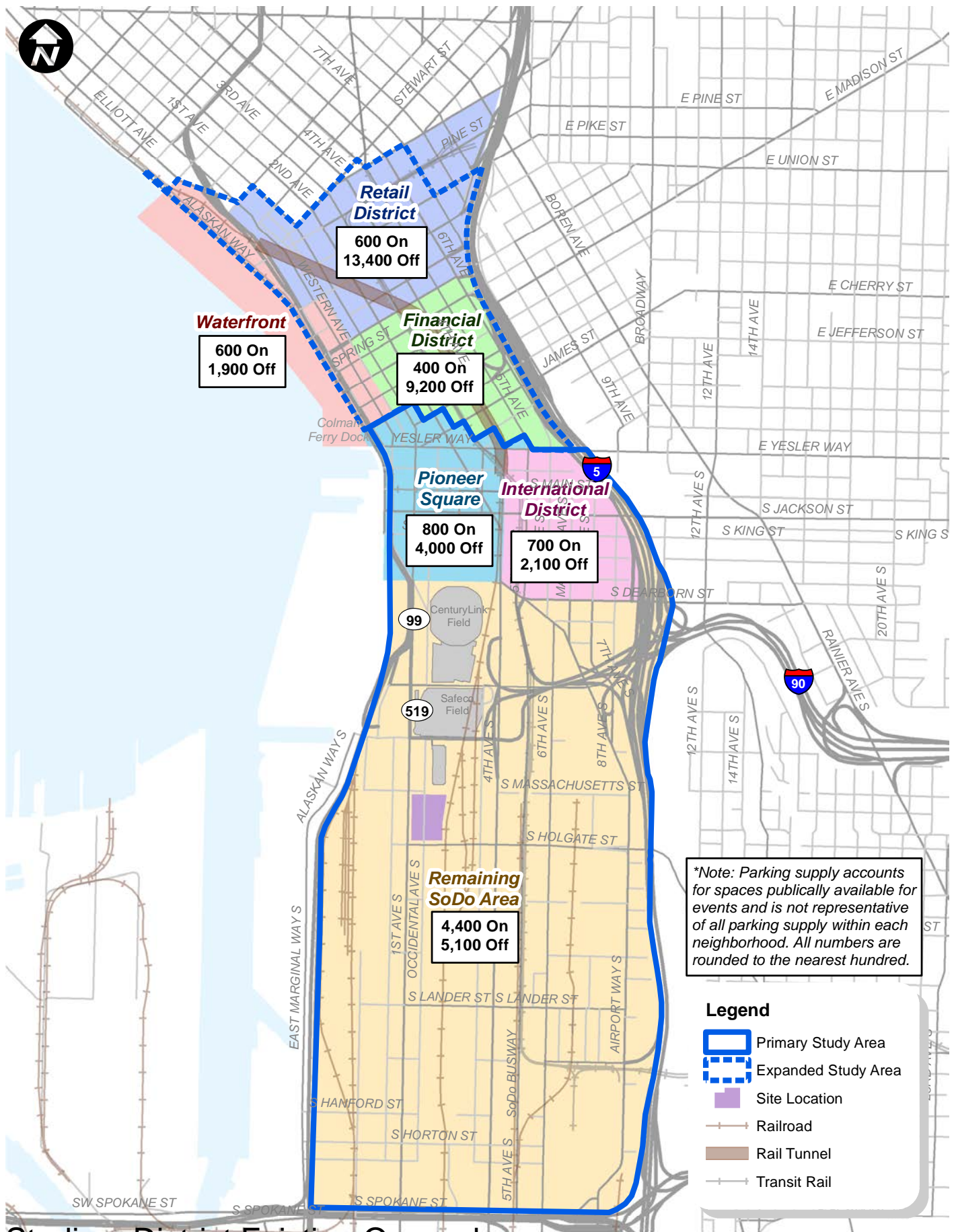
Off-street parking is generally provided for long-term use. During an event a flat rate is usually charged and garages and lots closest to the venue typically have higher rates.

There are approximately 17,000 parking spaces located within the primary study area and an additional 26,100 within the expanded study area for a total of 43,100 parking spaces. The primary study area has approximately 5,900 on-street and 11,100 off-street spaces while the expanded study area has approximately 1,600 on-street and 24,500 off-street spaces.

No Action Supply: The City provided information on future pipeline development that would likely be constructed and occupied by 2018. Key development projects considered in the parking forecasts include the North Lot (north of CenturyLink Field) and Home Plate (southwest corner of 1st Avenue S. and S. Atlantic Street) projects. Based on a review of pipeline projects, approximately 2,300 additional parking spaces will be developed with many potentially available for event parking. Even if all residential and retail parking were reserved, a substantial portion of the office parking would likely be available. However, to be conservative, no additional parking supply was assumed under the No Action Alternative.

³¹ The Safeco Field TCP results in approximately 30 parking spaces closed. This was not specifically accounted for in the parking supply; however, there were a number of other conservative assumptions including no increase in parking supply as a result of pipeline development.

³² The initial Arena evaluation assumes use of the Safeco and Century Link parking facilities with consideration of parking conditions without these facilities provided later in the section.



Stadium District Existing On- and Off-Street Event Parking Supply

Seattle Arena

Action Alternative Supply: Development on the Stadium District site would displace several businesses including approximately 500 event parking spaces located both on- and off-street. As discussed previously, with the development of the Arena, approximately 100 parking spaces would be developed on-site and parking spaces would be reserved at nearby parking facilities through shared parking agreements or by parking developed for the Arena. The evaluation focuses on the event arrival period; therefore, the approximately 100 parking spaces on-site are not considered in the parking supply since these would be filled prior to the event by coaches, players, and staff. Considering the loss in parking, the resulting parking supply would be approximately 16,500 parking spaces within the primary study area and 26,100 spaces in the expanded study area for a total of 42,600 spaces. This is 500 fewer parking spaces within the primary study area than the No Action Alternative.

The following sections describe the existing and 2018 parking demand for the primary and expanded study areas. No additional analysis is provided for the 2030 parking conditions. Accurately forecasting long-term parking demand is difficult given the uncertainty of area wide development and economic drivers. In addition, changes to parking policies relate to TDM may continue to evolve. With the continued investments in transit (i.e., light rail, streetcar, etc.) by 2030, it is anticipated that there will be a continued mode shift from auto to transit. This will result in a lower overall parking demand. Given this, overall parking impacts for Cases S1, S2, and S3 may be less than described herein for 2030 depending on the amount and type of redevelopment that occurs.

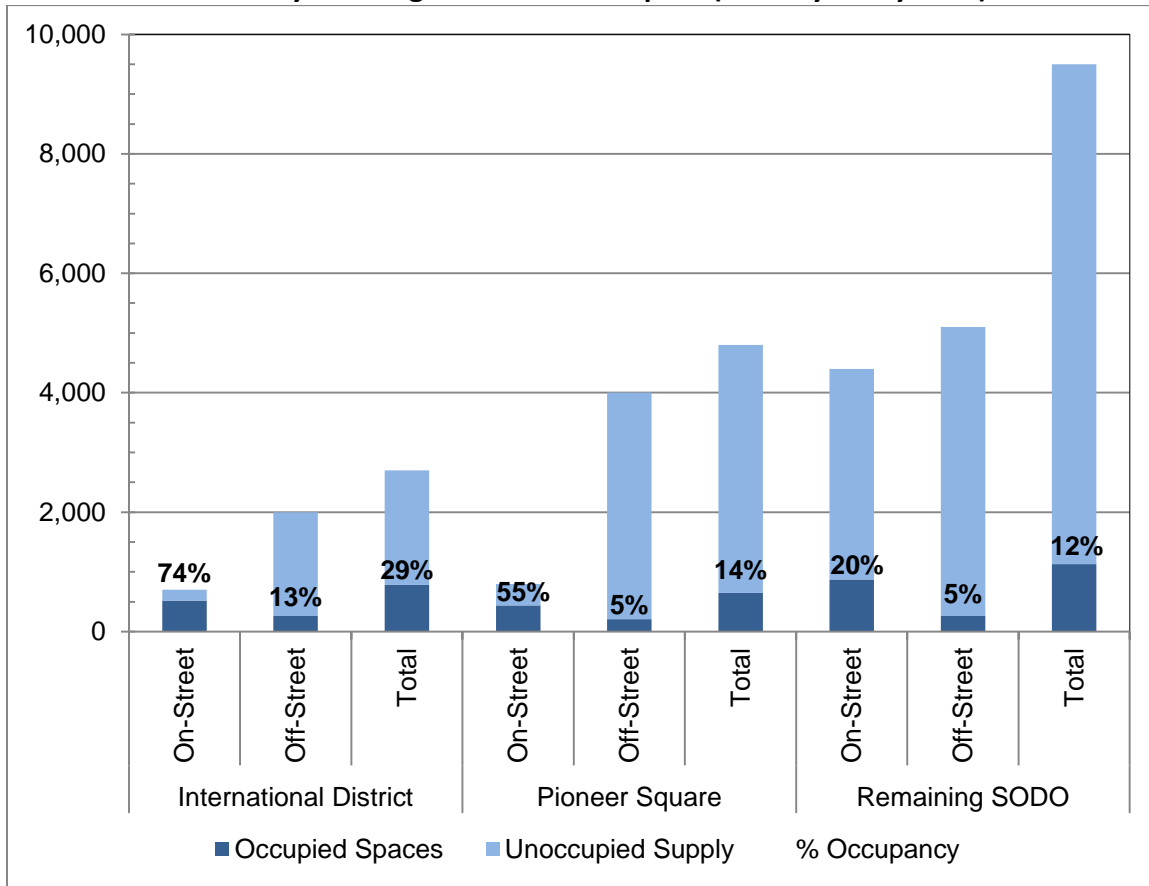
2.8.2 Affected Environment

Parking demand is based on data collected by Transpo Group supplemented by data from the SDOT, the Mariners, and PSRC. To understand how an event in the Stadium District affects parking availability, parking demand was inventoried during a Mariners games on Thursday, April 11 and Saturday, April 13, 2013. The following describes the existing weekday and weekend parking demand within the primary and expanded study areas.

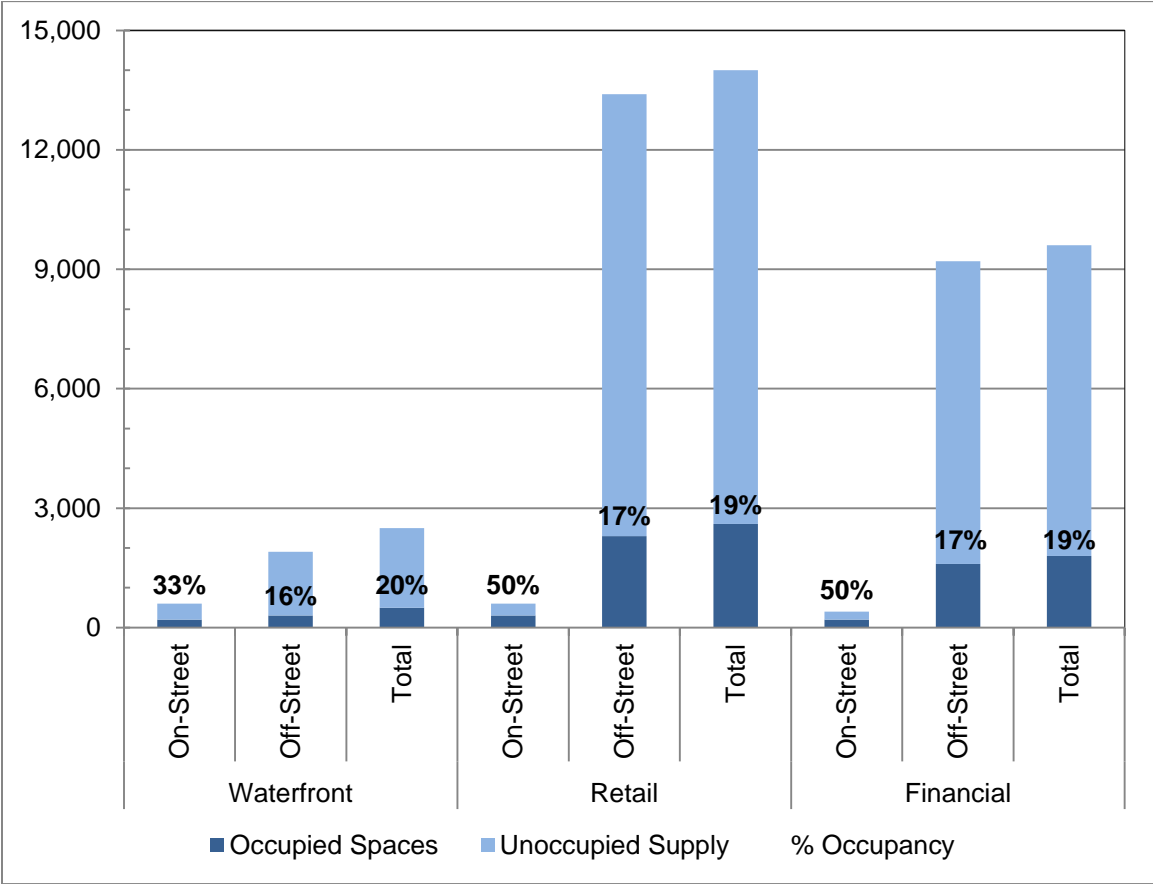
2.8.2.1 Weekday Occupancy

Figure 2–113 through Figure 2–116 illustrates weekday non-event and event parking occupancy within the primary and expanded study areas.

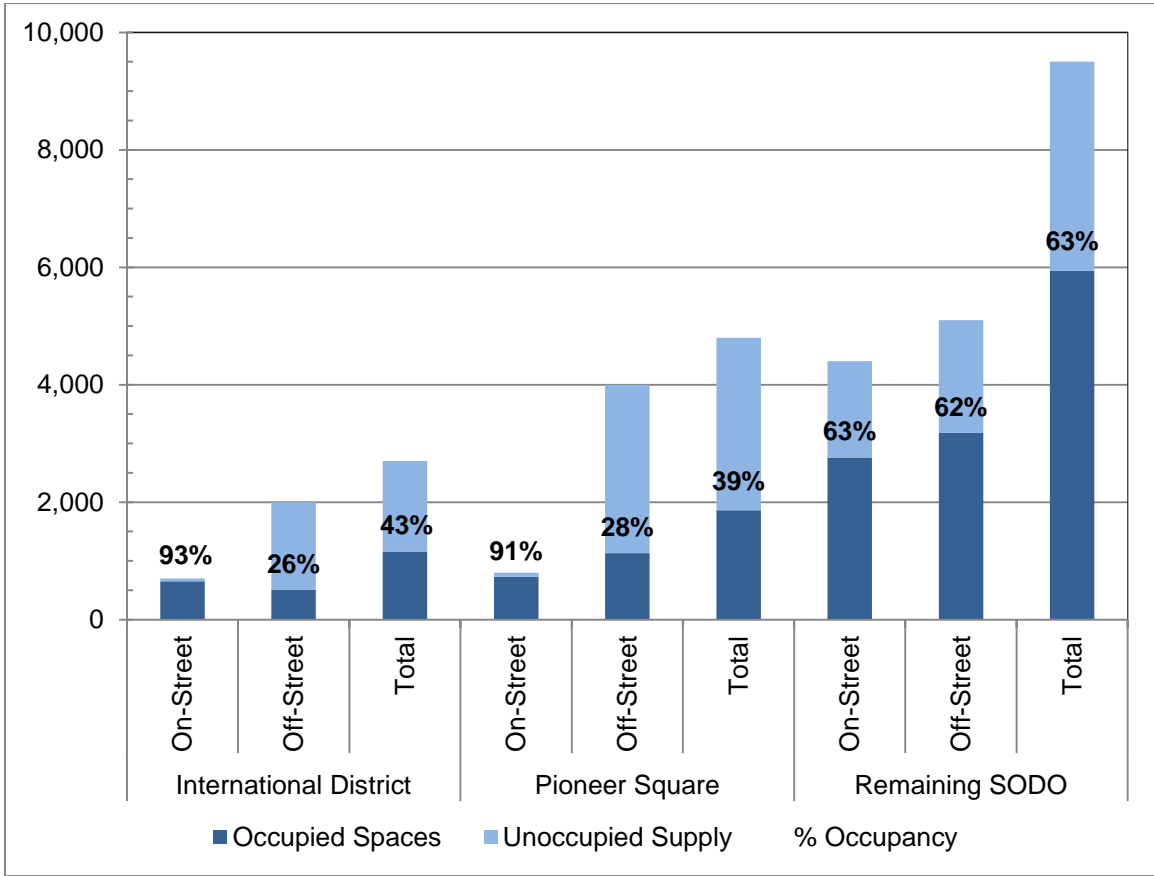
**Figure 2–113 Stadium District Parking Occupancy –
Weekday: Existing Non-Event 7:00 p.m. (Primary Study Area)**



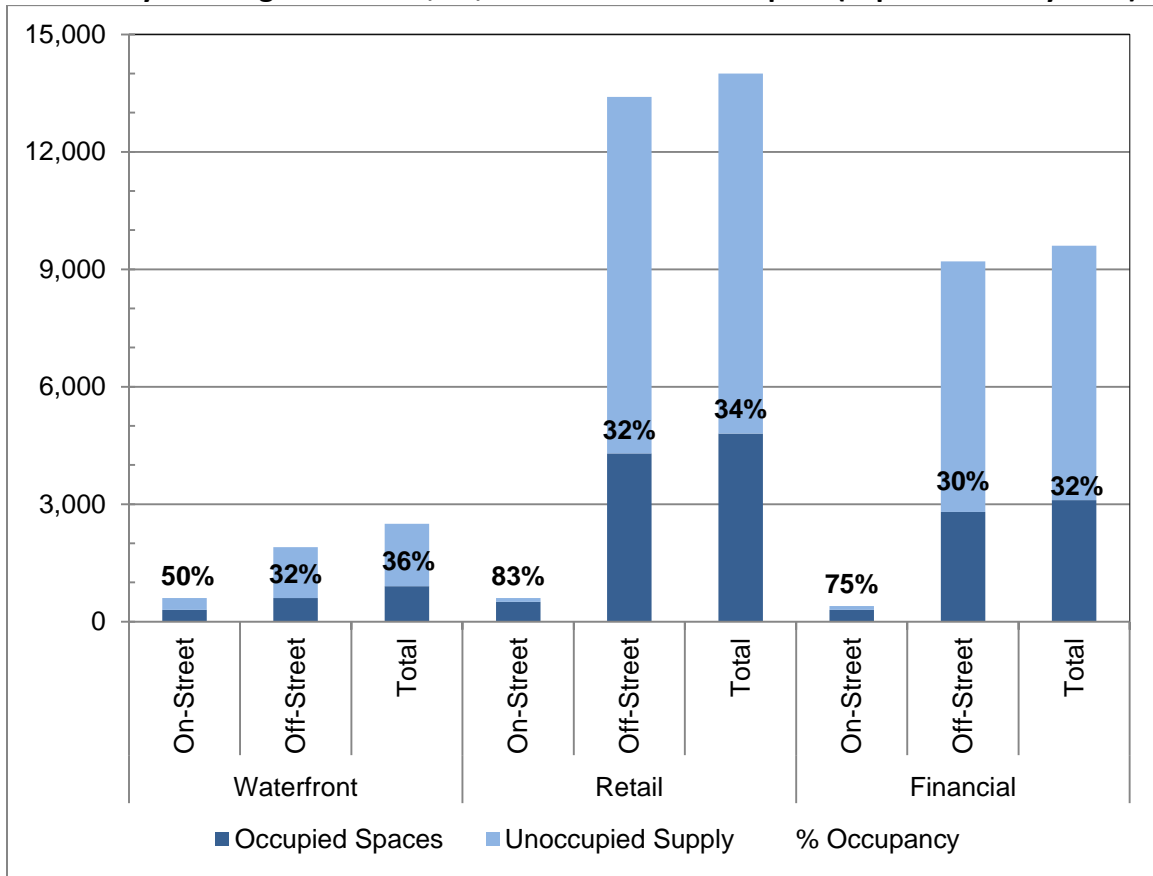
**Figure 2-114 Stadium District Parking Occupancy –
Weekday: Existing Non-Event 7:00 p.m. (Expanded Study Area)**



**Figure 2–115 Stadium District Parking Occupancy –
Weekday: Existing With Event, 22,900 Attendance 7:00 p.m. (Primary Study Area)**



**Figure 2–116 Stadium District Parking Occupancy –
Weekday: Existing With Event, 22,900 Attendance 7:00 p.m. (Expanded Study Area)**



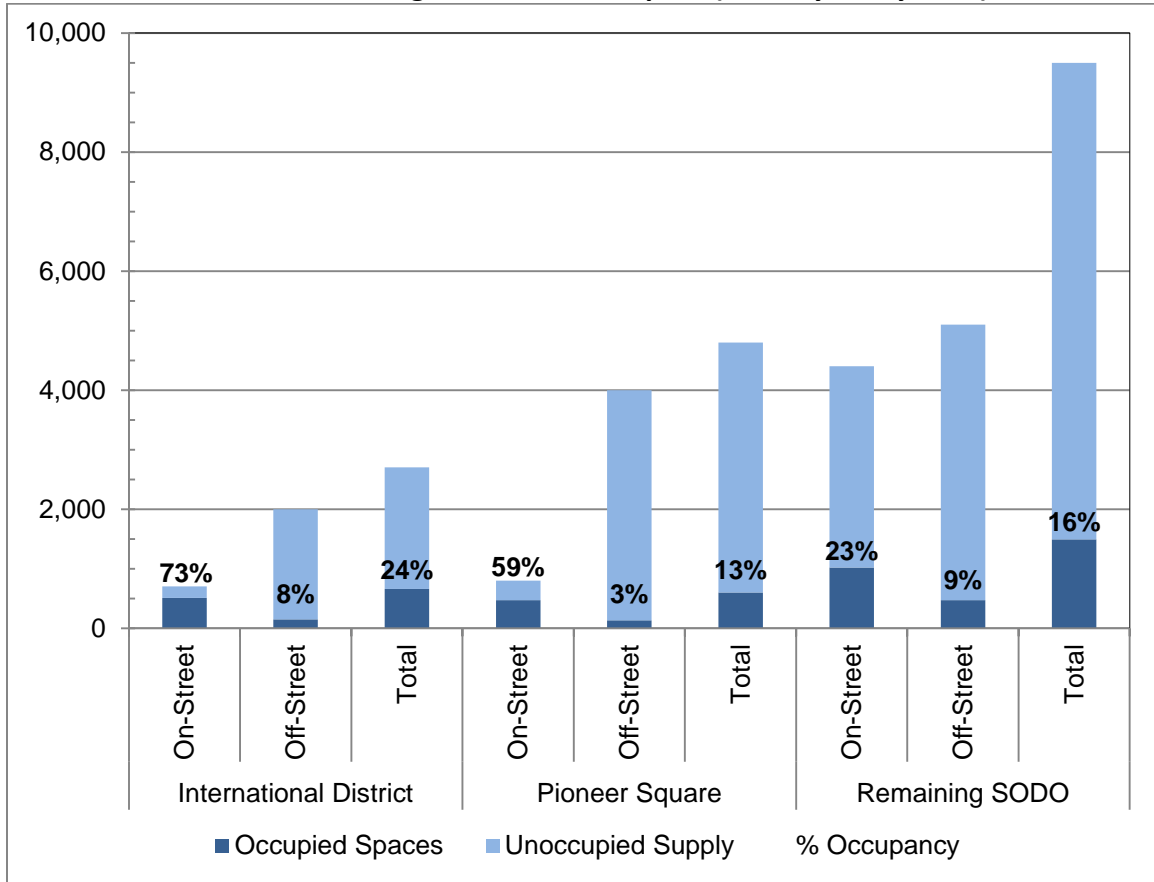
It becomes difficult to locate parking spaces within an area when occupancies are 85 to 90 percent and generally areas with occupancies at that level are considered “full.” As shown in the figures above:

- Non-event occupancies are generally low within both the primary and expanded study areas. Higher occupancy levels are found on-street especially in the International District and Pioneer Square neighborhoods as well as the retail area of the CBD where there are night activities such as restaurants and bars.
- During an event, overall occupancy increases within both the primary and expanded study areas with greater increases near Safeco Field within the primary study area.
- On-street parking becomes “full” within an event in both the International District and Pioneer Square neighborhoods.
- Field observations showed that on-and off-street facilities in the immediate vicinity of Safeco Field were full with a Mariners game. The figures show that there is additional parking within both the primary and expanded study areas; however, this parking is generally located in areas that are further from Safeco Field.

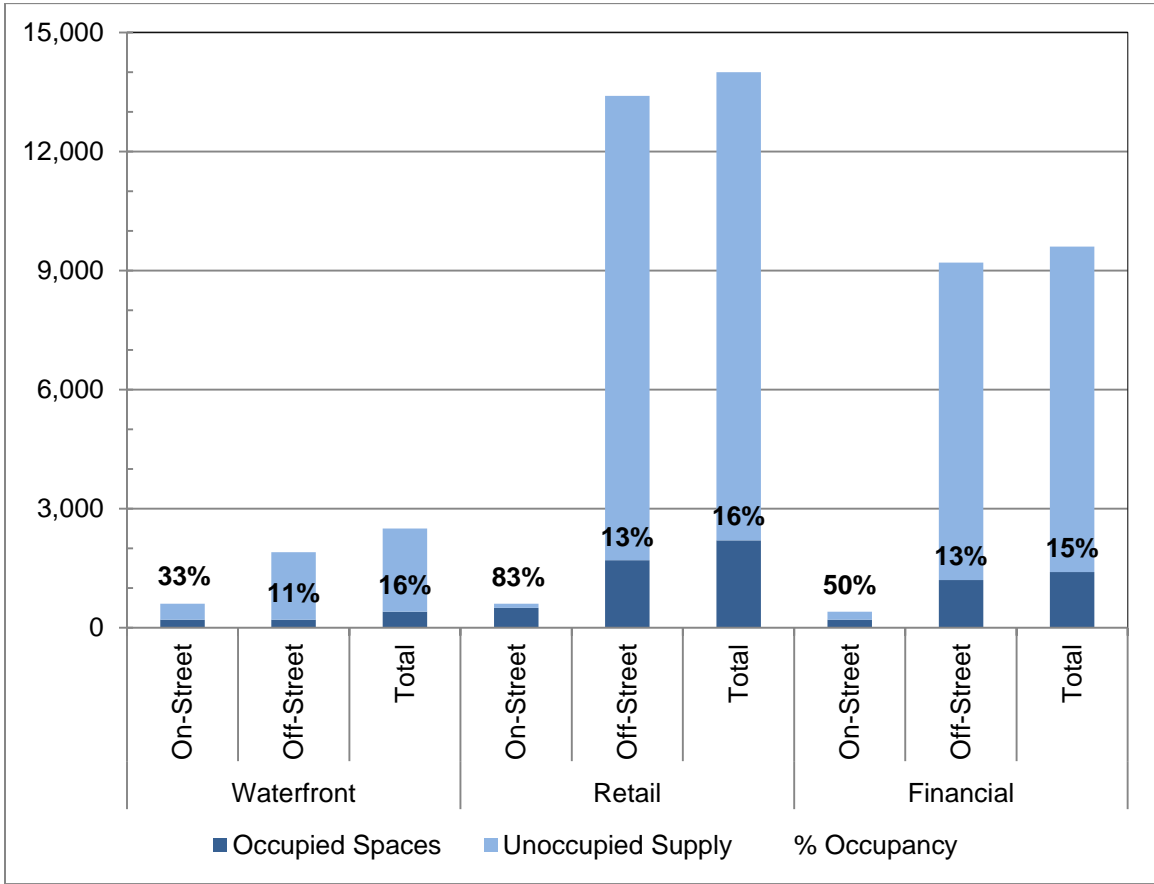
2.8.2.2 Weekend Occupancy

Figure 2–117 through Figure 2–120 illustrates weekend non-event and event parking occupancy within the primary and expanded study areas.

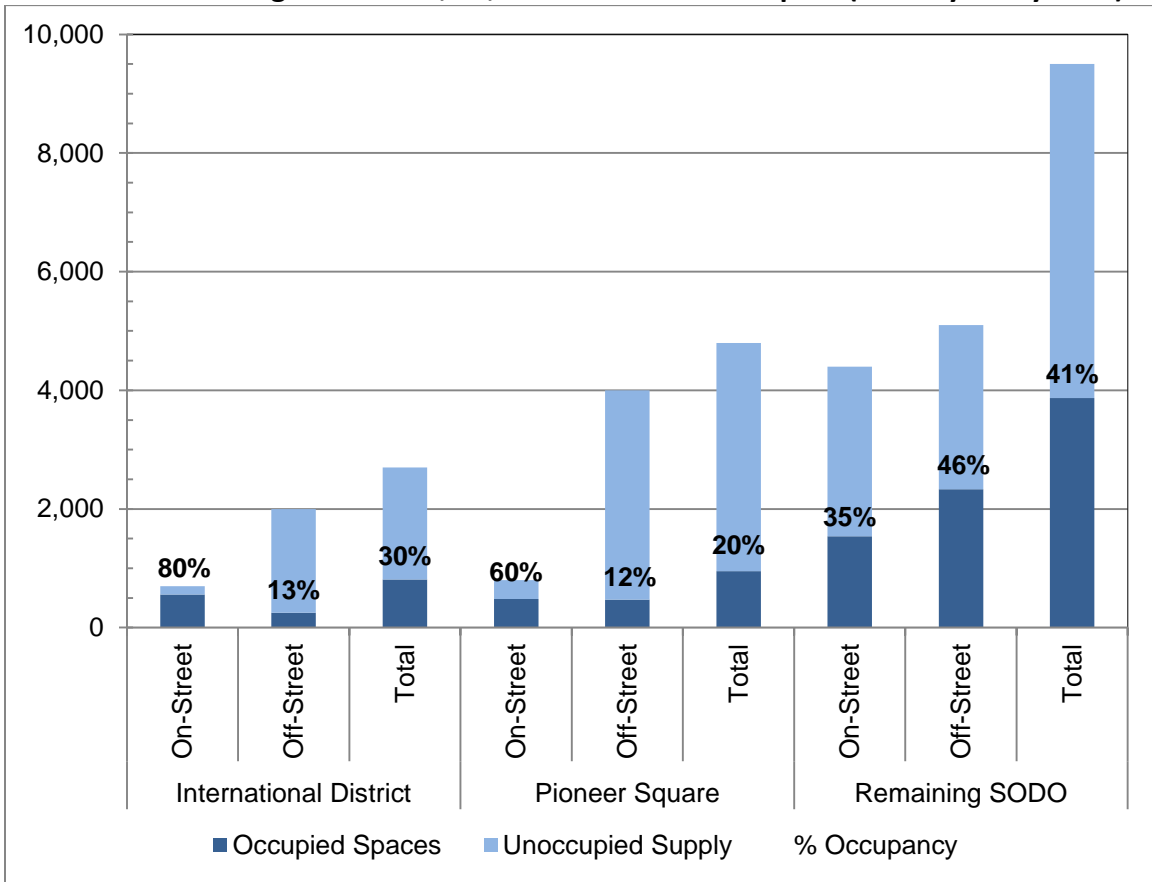
**Figure 2–117 Stadium District Parking Occupancy –
Weekend: Existing Non-Event 8:00 p.m. (Primary Study Area)**



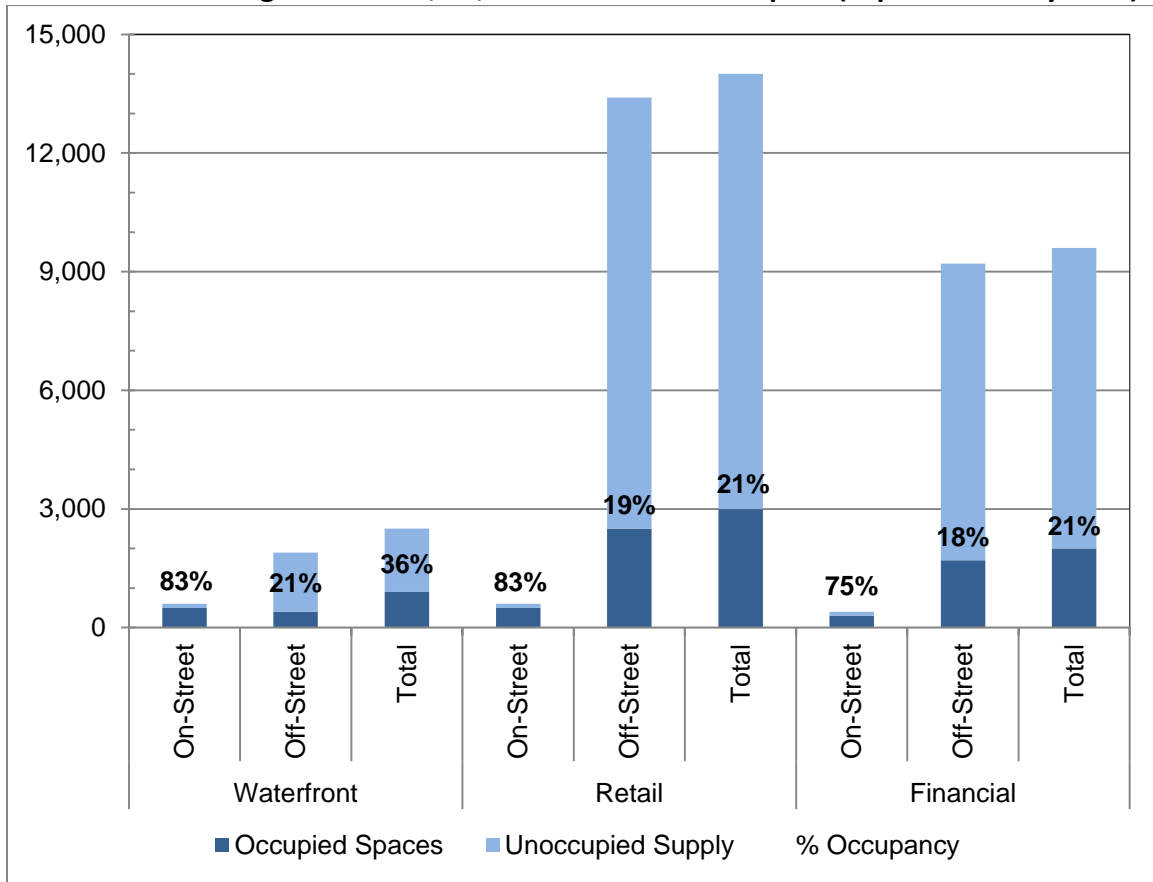
**Figure 2–118 Stadium District Parking Occupancy –
Weekend: Existing Non-Event 8:00 p.m. (Expanded Study Area)**



**Figure 2–119 Stadium District Parking Occupancy –
Weekend: Existing With Event, 23,500 Attendance 8:00 p.m. (Primary Study Area)**



**Figure 2–120 Stadium District Parking Occupancy –
Weekend: Existing With Event, 23,500 Attendance 8:00 p.m. (Expanded Study Area)**



As shown in the figures above:

- Non-event occupancies for the weekend are similar to a weekday where occupancy levels are below 85 percent and higher occupancies are found on-street.
- During an event, overall occupancy increases within both the primary and expanded study areas with greater increases near Safeco Field within the primary study area.
- Field observations showed that on-and off-street facilities in the immediate vicinity of Safeco Field were full with a Mariners game. The figures show that there is additional parking within both the primary and expanded study areas; however, this parking is generally located in areas that are further from Safeco Field.
- Although the weekend game attendance was slightly higher than the weekday, weekend event occupancies are generally lower than weekdays. The lower weekend occupancy is likely a result of a lower overall non-event parking demand on weekends.

2.8.3 Impacts of No Action Alternative

The Affected Environment provides context related to on-and off-street parking supply; however, projecting specifically where someone would park is difficult because the location depends on a variety of factors such as duration of stay, proximity to use, cost of parking, etc. Given the uncertainty around specific parking behavior, the review of future conditions considers the parking supply as a whole rather than separate consideration of on-and off-street parking.

2.8.3.1 Demand Forecasts

As described in the methodology portion of this section, the City provided information on future pipeline development that would likely be constructed and occupied by 2018. For purposes of this analysis and taking into account known development, the existing non-event parking demand was increased by 10 percent on the weekdays and 5 percent on the weekends for the overall study area. The majority of this increased demand was allocated to SoDo and the CBD where most of the pipeline projects would be located.

For the No Action Case S2 and S3, parking demand for the Mariners and Event Center was added to the non-event conditions. It was assumed that the arrival curve for these events would be consistent with that shown on Figure 1–5 with 95 percent arrival by 7:00 PM and 100 percent by 8:00 PM (assuming a 7:00 PM event start). The distribution of parking among neighborhoods assumed 80 percent within the primary study area, which is closest to the venues and the remaining 20 percent within the CBD. The No Action parking demand Case S2 and S3 was determined by adding the Mariners and Event Center parking demand to the No Action Case S1 parking demand, simply a layering process, with no adjustments or reductions in non-event demand.

2.8.3.2 Weekday Occupancy

Figure 2-121 through Figure 2-126 illustrate weekday No Action Case S1, S2, and S3 parking occupancy within the primary and expanded study areas.

**Figure 2–121 Stadium District Parking Occupancy –
Weekday: No Action Case S1 7:00 p.m. (Primary Study Area)**

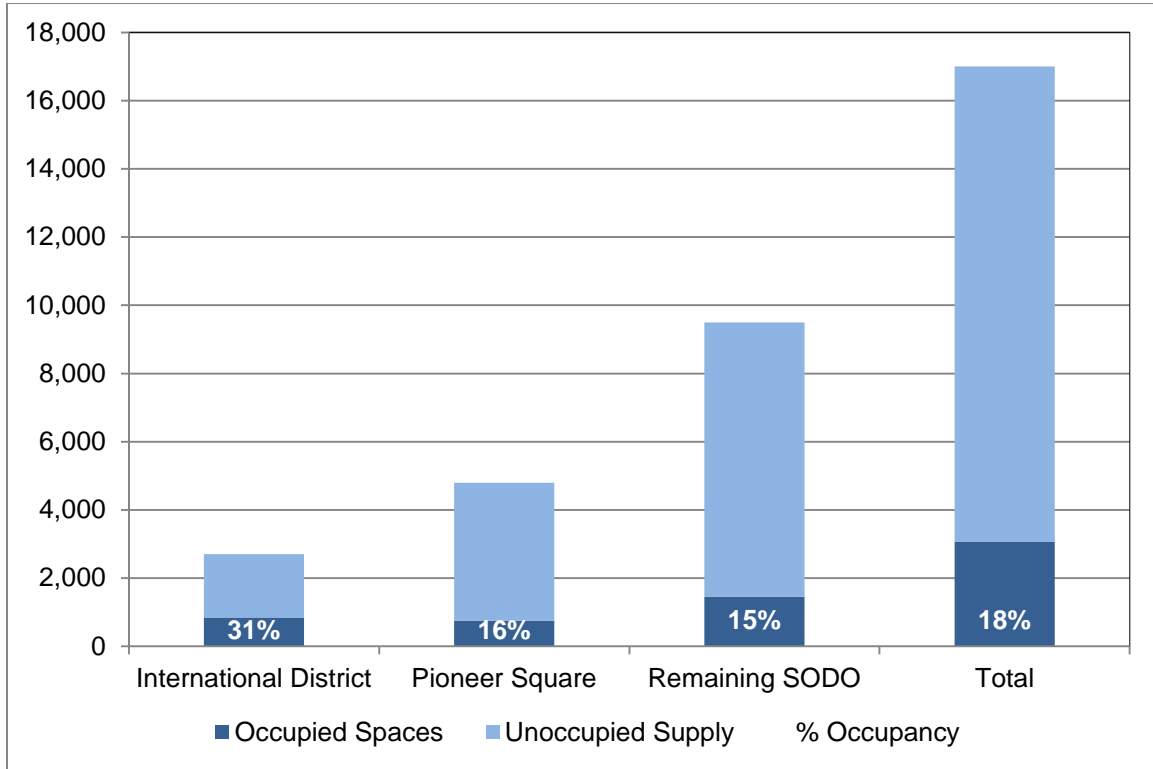


Figure 2–122 Stadium District Parking Occupancy – Weekday: No Action Case S1 7:00 p.m. (Expanded Study Area)

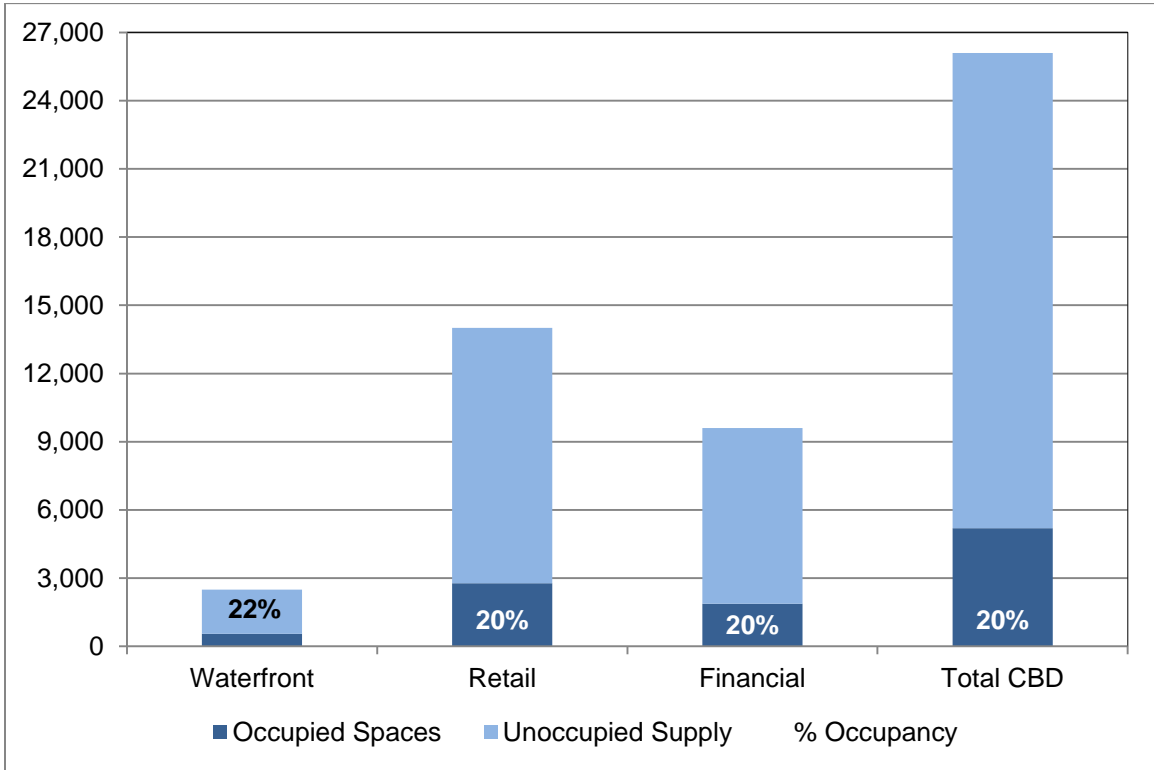
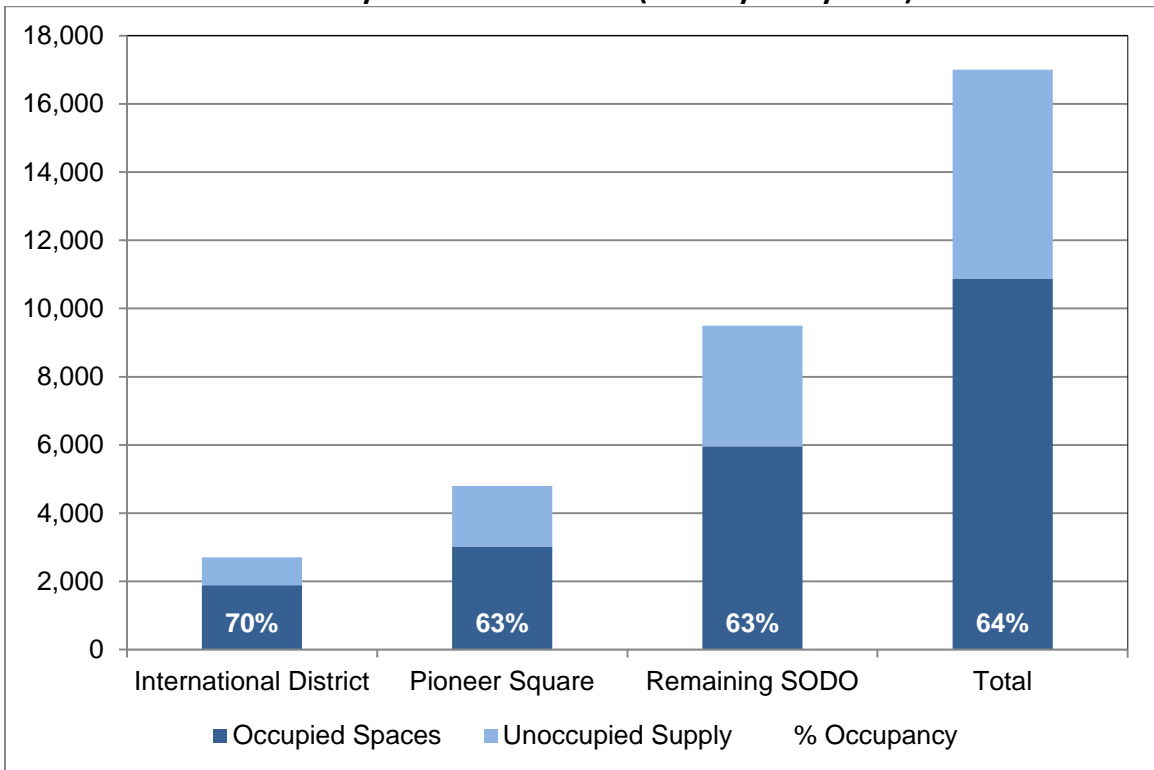
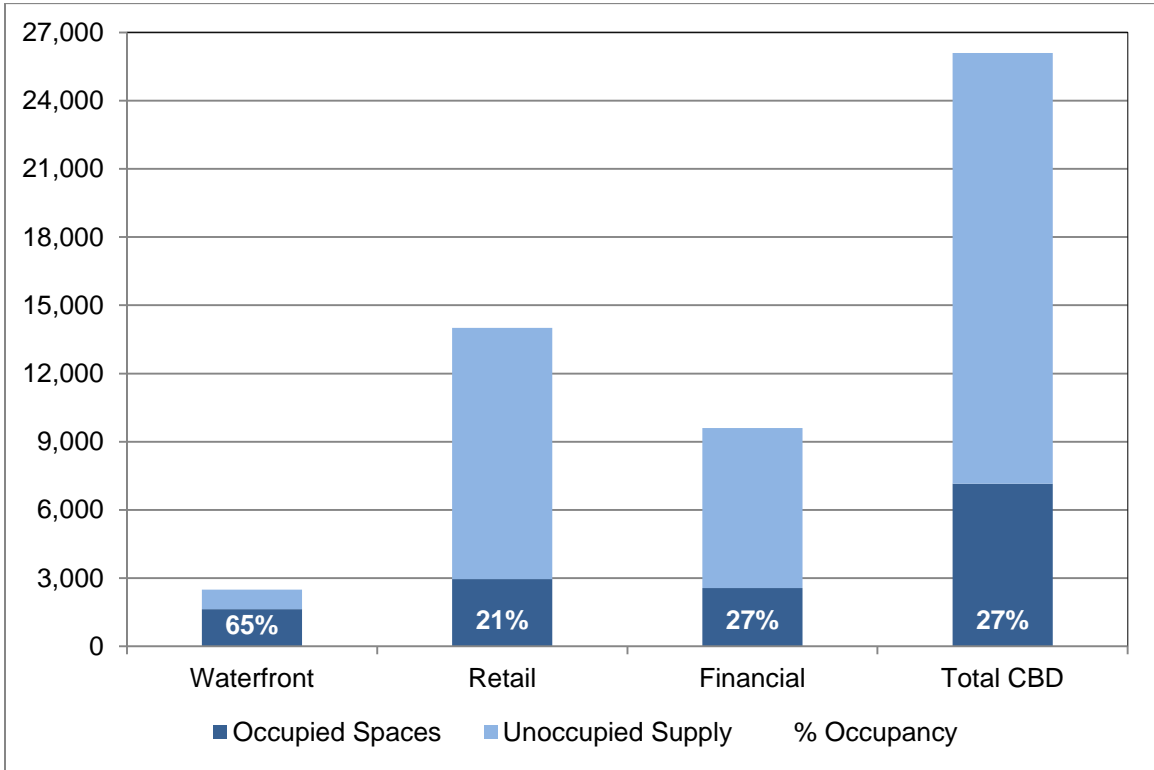


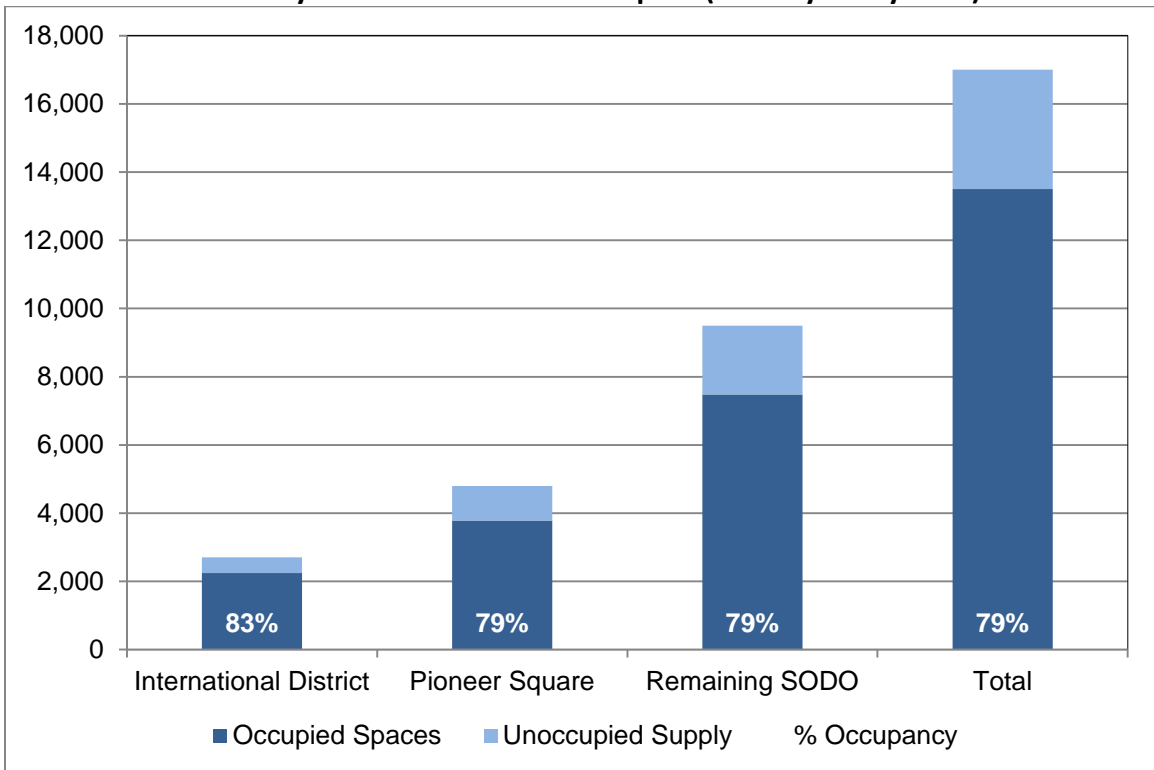
Figure 2–123 Stadium District Parking Occupancy – Weekday: No Action Case S2 (Primary Study Area)



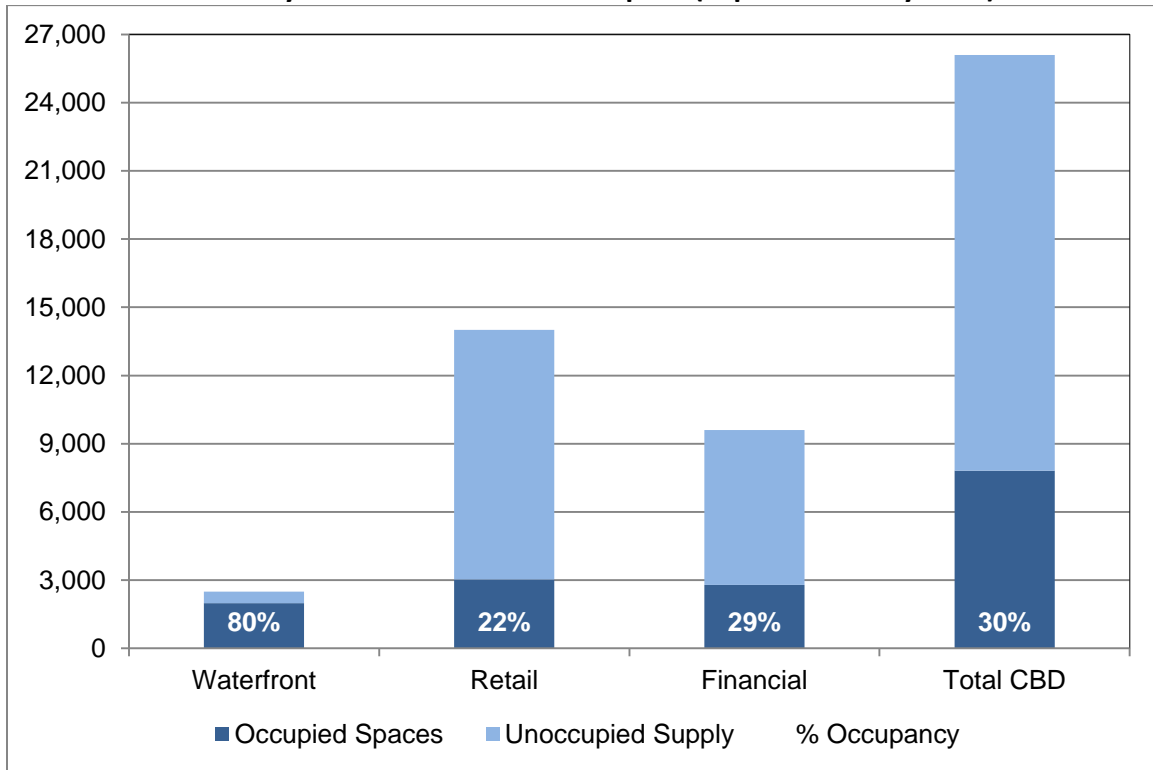
**Figure 2–124 Stadium District Parking Occupancy –
Weekday: No Action Case S2 7:00 p.m. (Expanded Study Area)**



**Figure 2–125 Stadium District Parking Occupancy –
Weekday: No Action Case S3 7:00 p.m. (Primary Study Area)**



**Figure 2–126 Stadium District Parking Occupancy –
Weekday: No Action Case S3 7:00 p.m. (Expanded Study Area)**



As shown in the figures above:

- No Action Case S1 occupancies in the primary study area are higher than existing conditions as a result of anticipated development primarily in the Pioneer Square and SoDo areas.
- For the No Action Case S2, representing a Mariners event totaling 40,500 attendees, parking utilization is substantially higher than observed for the Mariner game with approximately 20,000 attendees.
- Parking utilization in the International District and Pioneer Square neighborhoods would continue to increase with the single and dual event conditions.
- Overall primary study area occupancies are calculated to be approximately 60 to 85 percent for the event cases and the utilization of parking would continue to be concentrated around the event venues themselves.
- Parking occupancies for the CBD would be generally very low except for the Waterfront (65 to 80 percent), which is the most proximate area to the Stadium District.

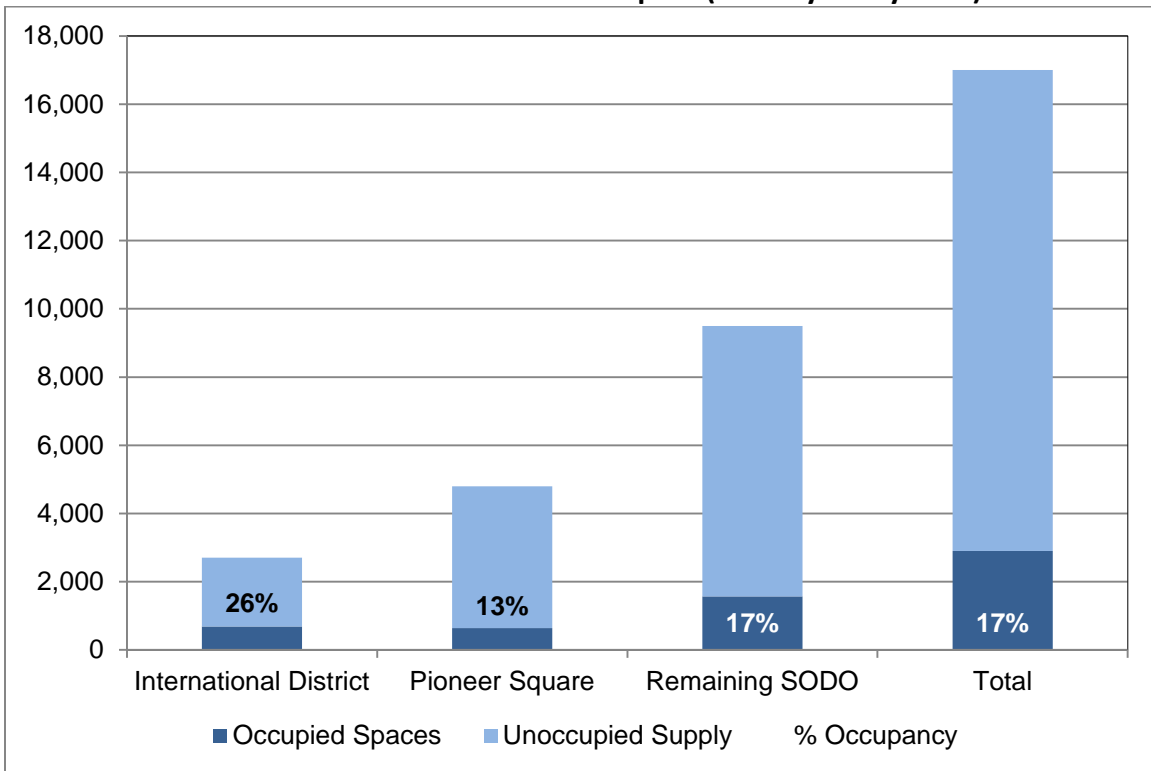
Looking at the primary and expanded study area in combination, the overall parking occupancy of the potential supply would be approximately 20 percent for No Action Case S1, 40 percent

for Case S2, and 50 percent for Case S3 indicating parking is available; however, it may not be in preferred locations depending on where visitors are going.

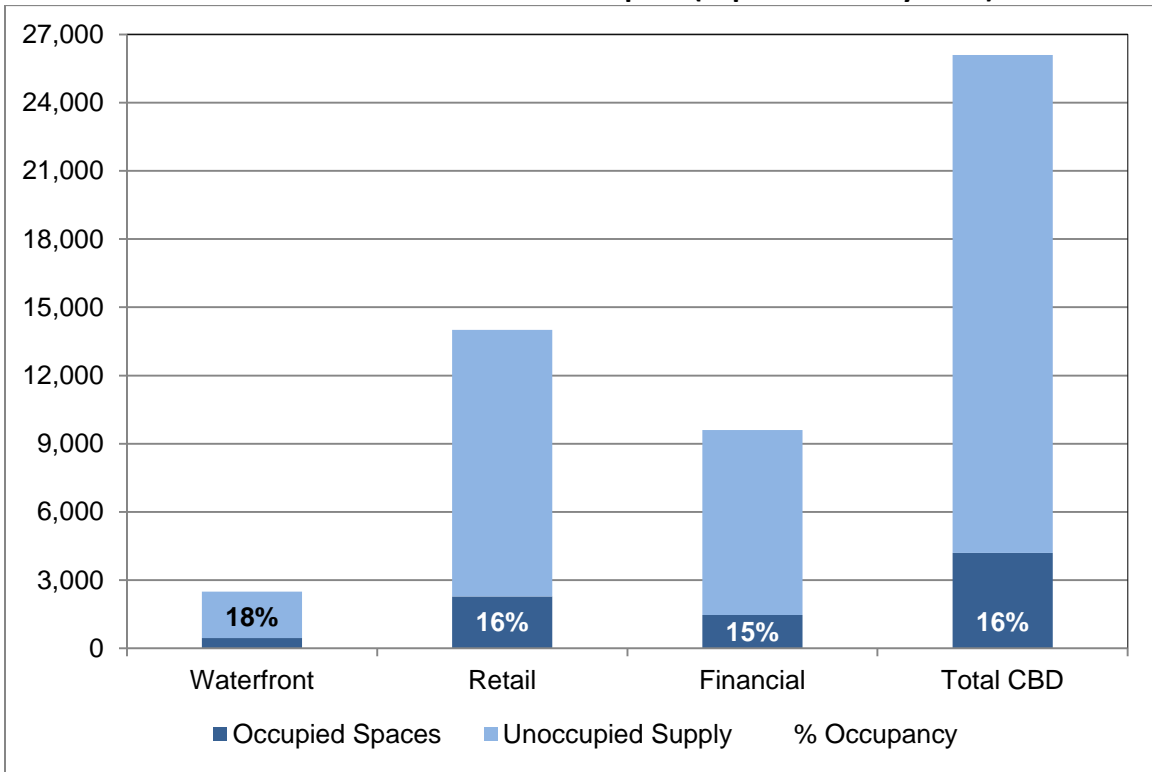
2.8.3.3 Weekend Occupancy

Figure 2–127 through Figure 2–132 illustrate weekday No Action Case S1, S2, and S3 parking occupancy within the primary and expanded study areas.

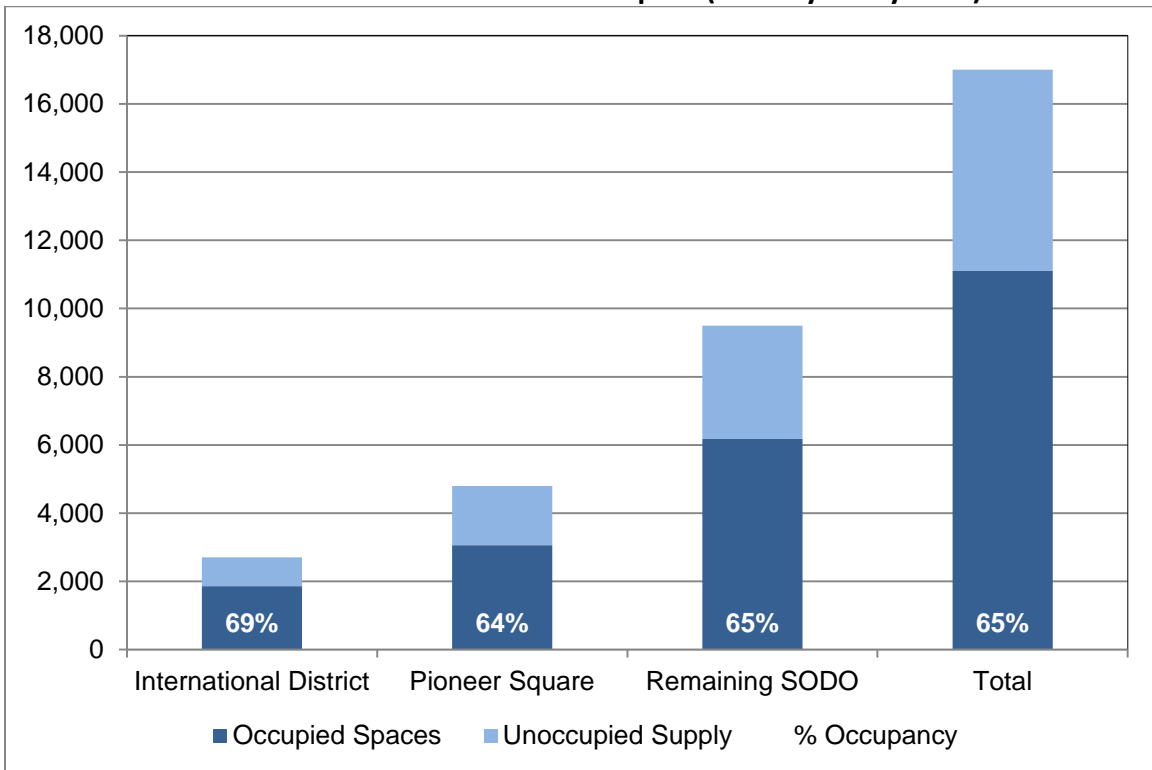
**Figure 2–127 Stadium District Parking Occupancy –
Weekend: No Action Case S1 8:00 p.m. (Primary Study Area)**



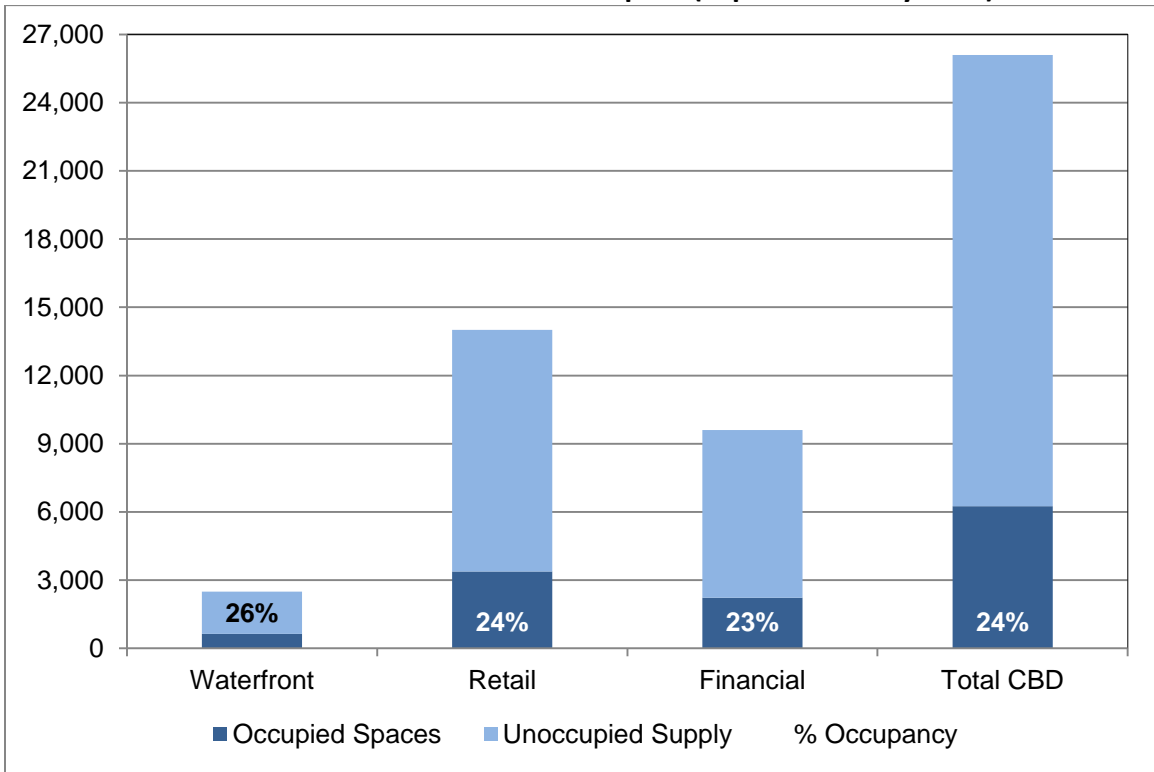
**Figure 2–128 Stadium District Parking Occupancy –
Weekend: No Action Case S1 8:00 p.m. (Expanded Study Area)**



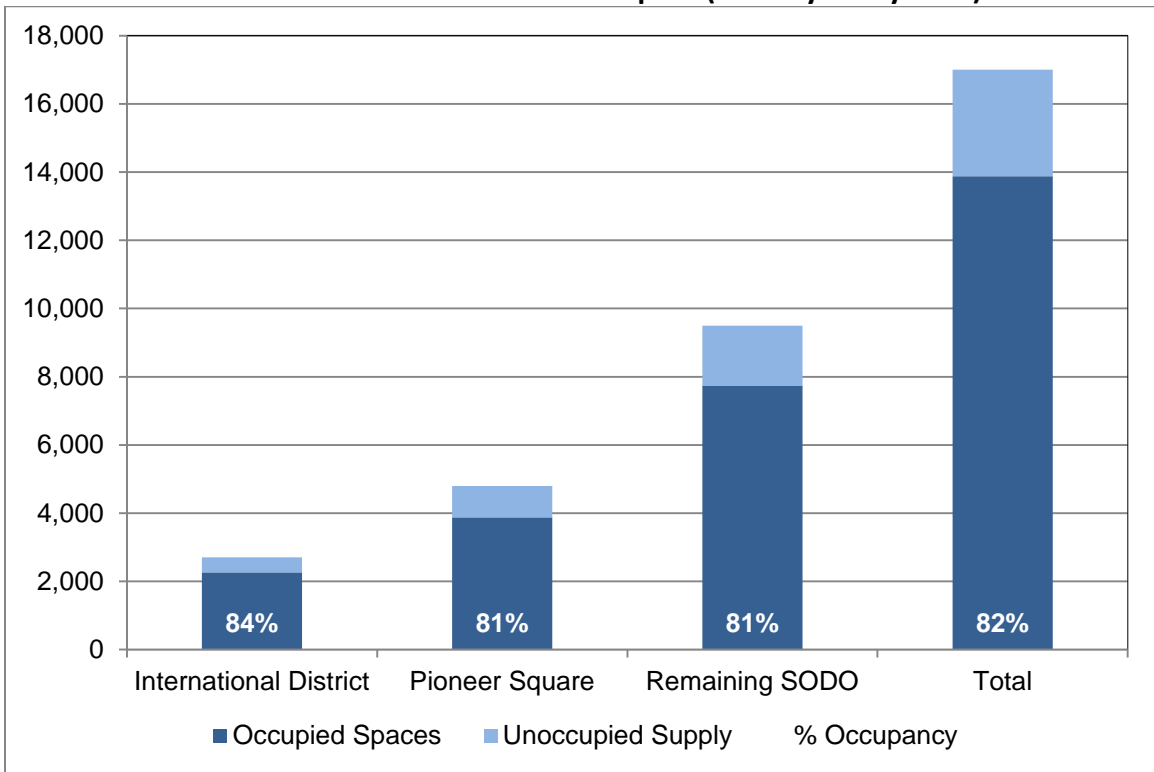
**Figure 2–129 Stadium District Parking Occupancy –
Weekend: No Action Case S2 8:00 p.m. (Primary Study Area)**



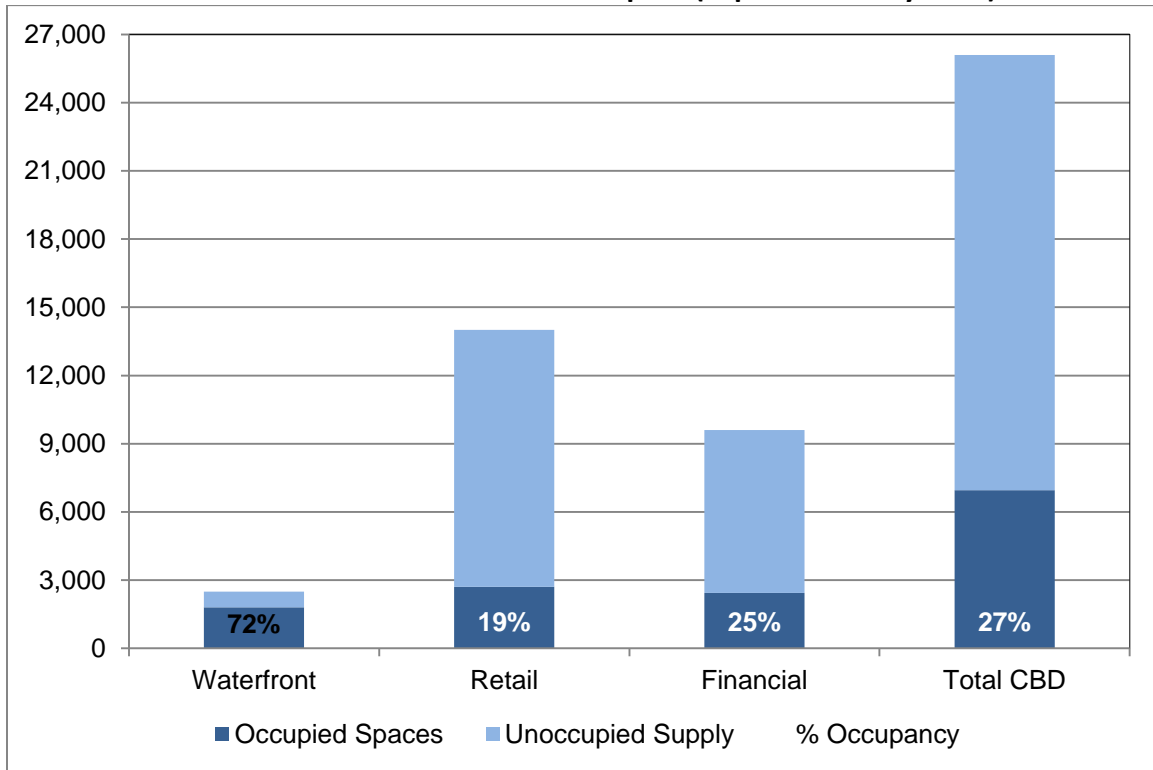
**Figure 2–130 Stadium District Parking Occupancy –
Weekend: No Action Case S2 8:00 p.m. (Expanded Study Area)**



**Figure 2–131 Stadium District Parking Occupancy –
Weekend: No Action Case S3 8:00 p.m. (Primary Study Area)**



**Figure 2–132 Stadium District Parking Occupancy –
Weekend: No Action Case S3 8:00 p.m. (Expanded Study Area)**



As shown in the figures above:

- No Action Case S1 occupancies in the primary study area are similar to existing conditions with only slight increases as a result of the anticipated future development.
- For the No Action Case S2 condition, representing a Mariners event totaling 40,500 attendees, parking utilization is substantially higher than observed for the Mariner game with approximately 20,000 attendees.
- Compared to weekday, the weekend No Action Case S2 and S3 occupancies are lower within both the primary and expanded study areas as a result of lower non-event demands. The lower weekend non-event demands within the primary study area allows for more event-related parking to occur within this area.
- Parking utilization in the International District and Pioneer Square neighborhoods would continue to increase with the single and dual event conditions.
- Overall primary study area occupancies are calculated to be approximately 65 to 85 percent for the event cases and the utilization of parking would continue to be concentrated around the event venues themselves.

- Parking occupancies for the CBD would be lower than weekday conditions given the ability to accommodate more of the event parking demand within the primary study area.

Looking at the primary and expanded study area in combination, the overall parking occupancy of the potential supply would be approximately 15 percent for No Action Case S1, 40 percent for Case S2, and 50 percent for Case S3 indicating parking is available; however, parking may not be in preferred locations depending on where visitors are going.

2.8.4 Impacts of Alternative 2

Parking impacts related to construction would be minimized by providing off-street parking, securing parking in near-by garages, as well as encouraging use of alternative modes. It is anticipated that parking impacts related to construction would be less than the 20,000-seat Seattle Arena. In addition, construction activities could result in the need to close on-street parking adjacent to the site. These closures would be coordinated with SDOT and appropriate notice and signs would be provided.

Alternative 2 is compared to the No Action Alternative to identify parking impacts of the Seattle Arena.

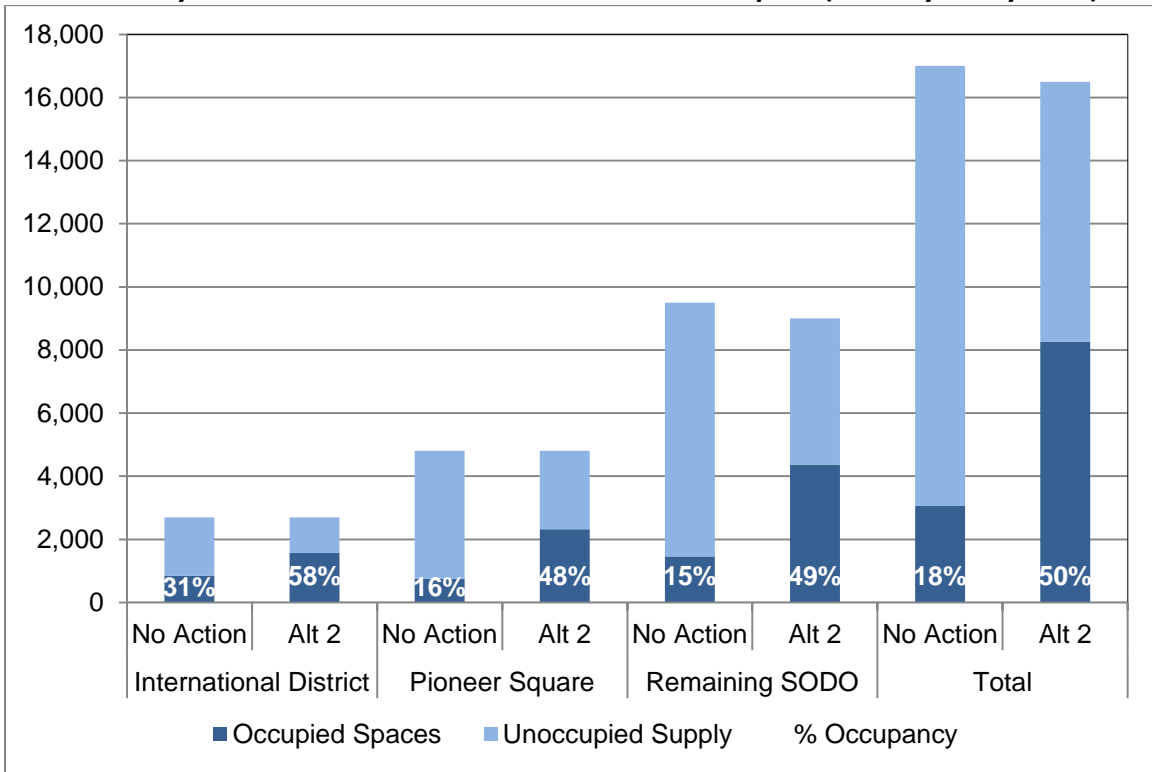
2.8.4.1 Arena Demand Forecasts

Alternative 2 parking demand represents an Arena event with an attendance of 20,000 people assuming the event arrival patterns described on Figure 1–4. Based on the arrival curve, 95 percent of the attendee arrivals occur by 7:00 PM and 100 percent by 8:00 PM. Similar to the No Action, 80 percent of the parking was assumed within the primary study area, which is closest to the venues and the remaining 20 percent within the expanded study area or CBD. For the multi-event scenarios (Cases S2 and S3), the parking demand of the combined events exceeds the parking supply within the primary study area; therefore, for these cases, it is assumed parking would occur within the closer neighborhoods until an approximately 90 percent utilization is reached and the remaining parking would occur within the CBD. The total Alternative 2 parking demand for each event case is determined by adding the Seattle Arena parking demand to the No Action Case S1, S2, and S3. A simple layering process was used with no adjustments or reductions in non-event demand.

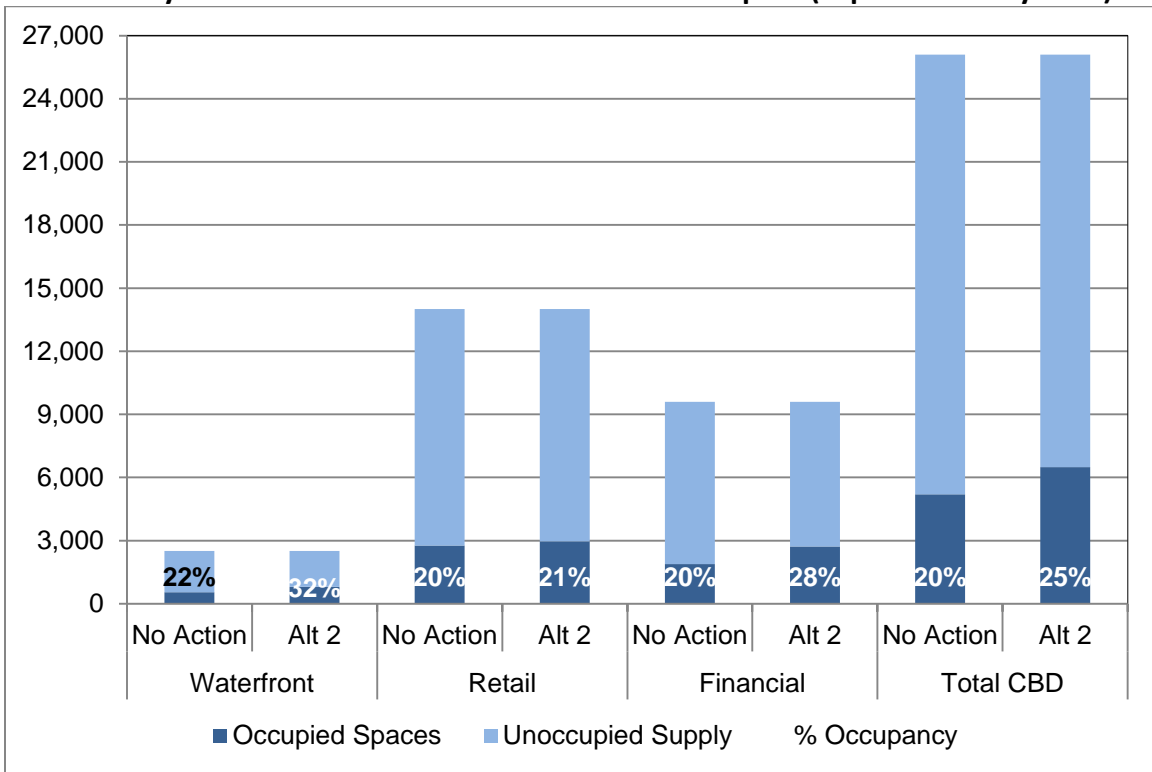
2.8.4.2 Weekday Occupancy

Figure 2–133 through Figure 2–138 provide a comparison between the No Action and Alternative 2 event cases within the primary and expanded study areas.

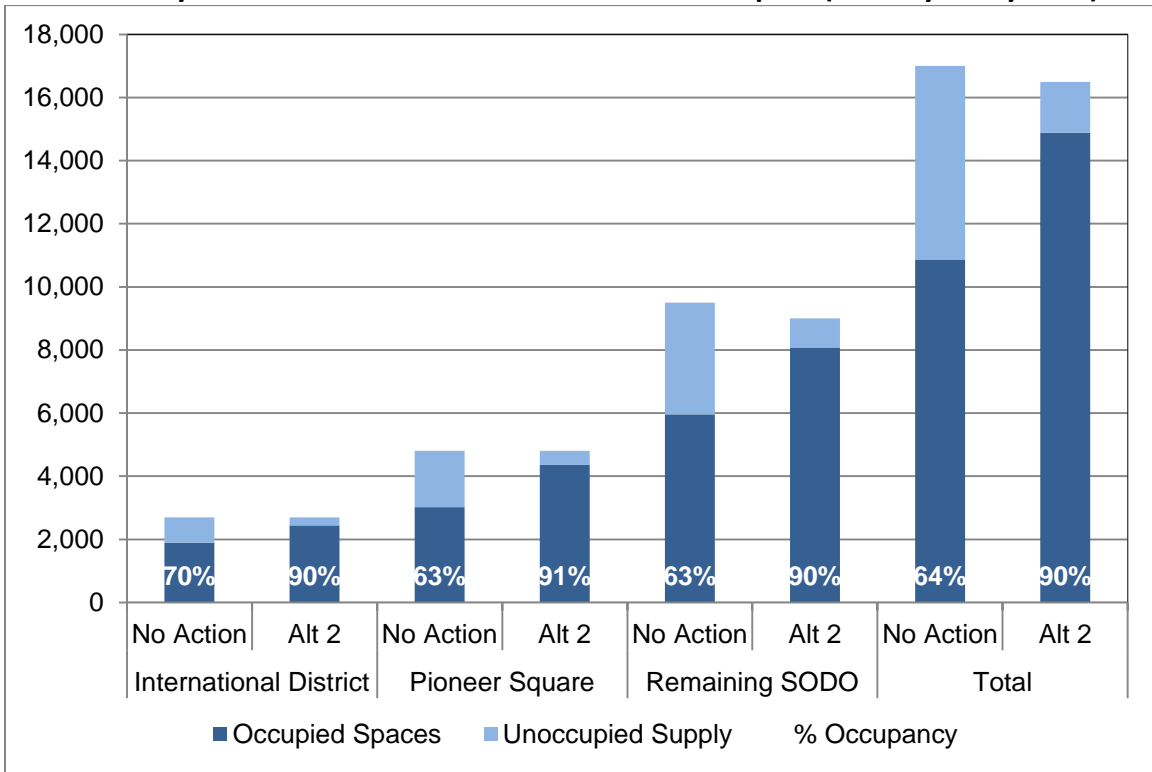
**Figure 2–133 Stadium District Parking Occupancy –
Weekday: No Action and Alternative 2 Case S1 7:00 p.m. (Primary Study Area)**



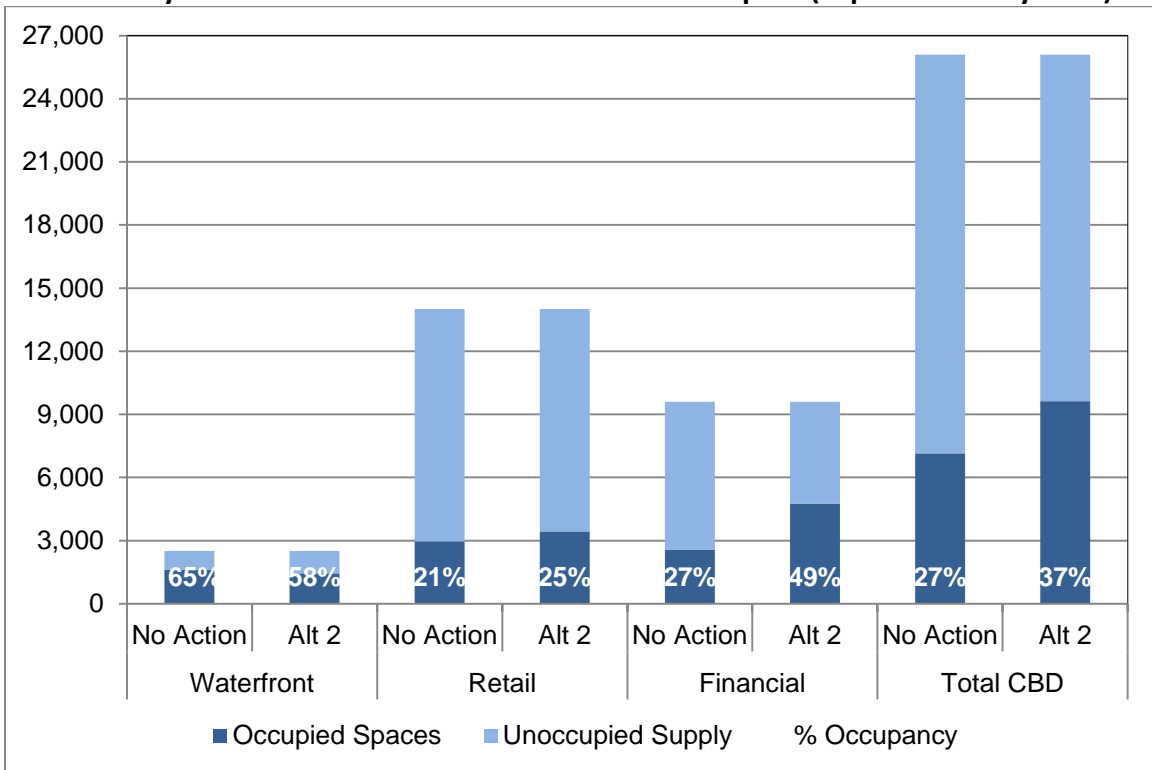
**Figure 2–134 Stadium District Parking Occupancy –
Weekday: No Action and Alternative 2 Case S1 7:00 p.m. (Expanded Study Area)**



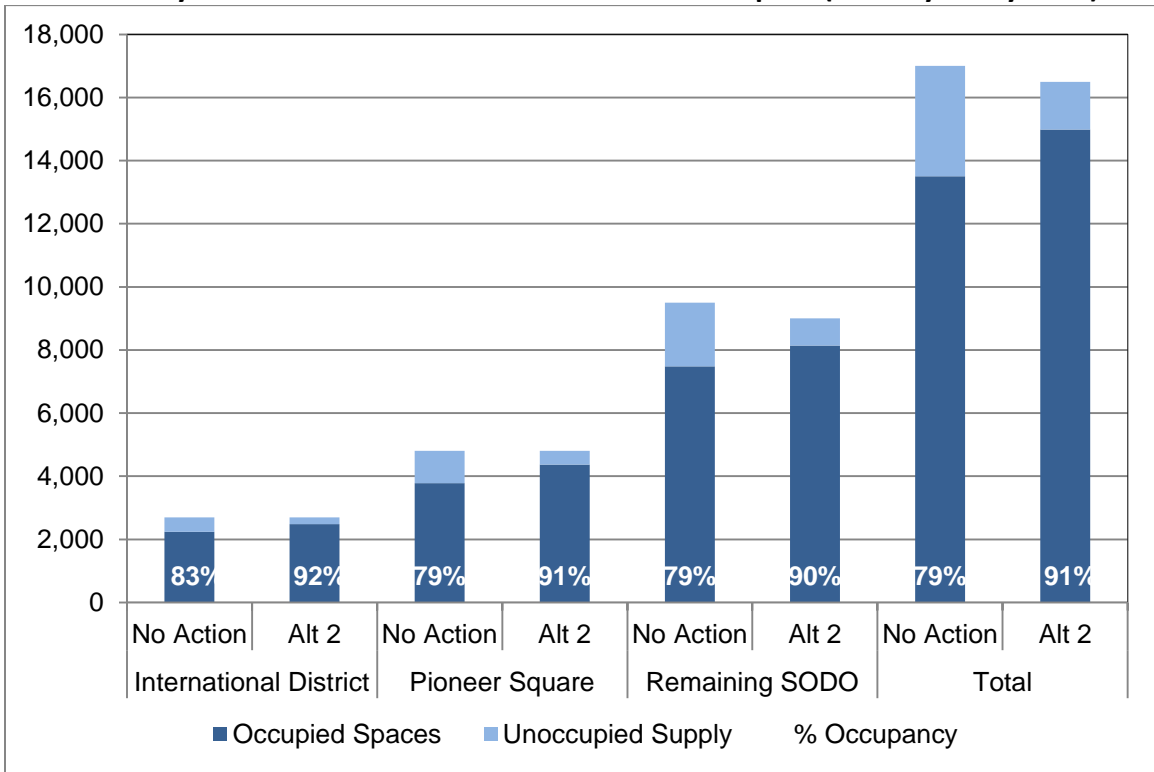
**Figure 2–135 Stadium District Parking Occupancy –
Weekday: No Action and Alternative 2 Case S2 7:00 p.m. (Primary Study Area)**



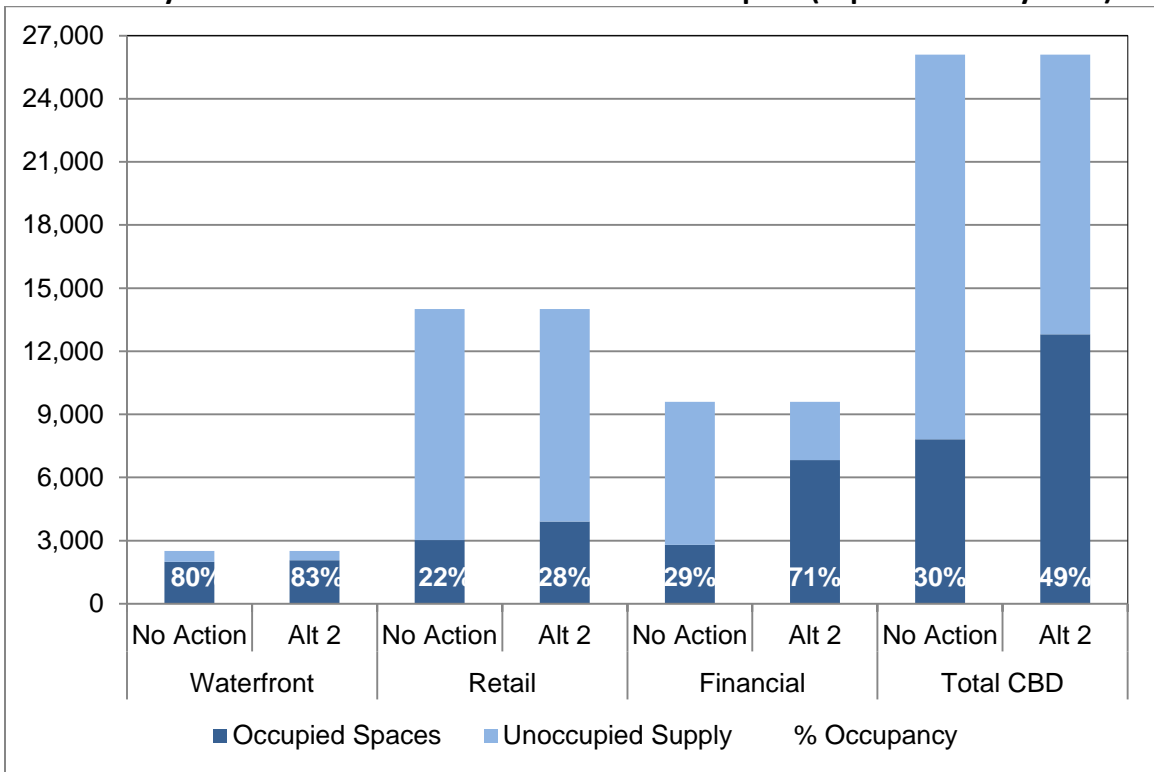
**Figure 2–136 Stadium District Parking Occupancy –
Weekday: No Action and Alternative 2 Case S2 7:00 p.m. (Expanded Study Area)**



**Figure 2–137 Stadium District Parking Occupancy –
Weekday: No Action and Alternative 2 Case S3 7:00 p.m. (Primary Study Area)**



**Figure 2–138 Stadium District Parking Occupancy –
Weekday: No Action and Alternative 2 Case S3 7:00 p.m. (Expanded Study Area)**



As shown in the figures above:

- Arena parking demand could be fully accommodated within the primary study area under Case S1 (i.e., no other events at nearby venues).
- Event parking would spill into the expanded study area under multi-event conditions (Case S2 and S3).
- For the Arena plus Mariners and/or Event Center scenarios (Case S2 and S3), parking occupancies within the primary study area would be approximately 90 percent as compared to the No Action event cases, which would have occupancies of approximately 65 to 85 percent.

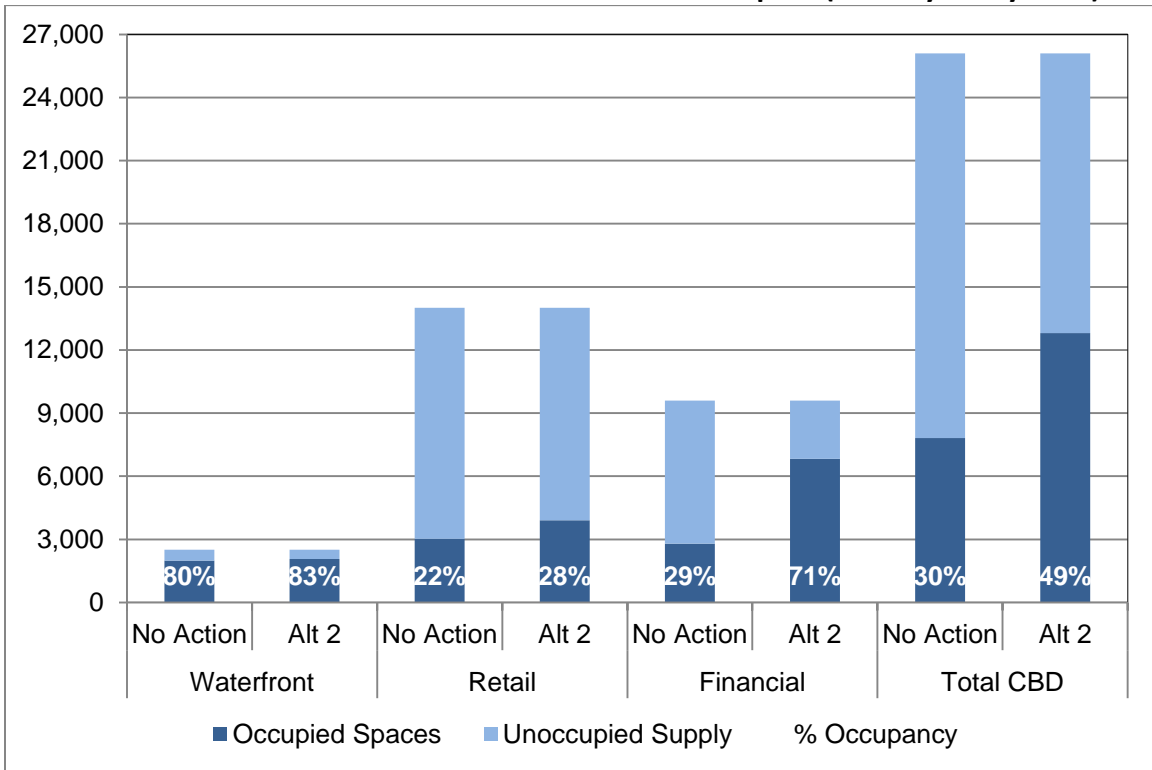
It is anticipated with any of the event cases parking closer to the Arena and / or other event venues would be more highly utilized. As the areas near the venues become full it would likely become more difficult to find parking. The primary study area would be full for multi-event Cases S2 and S3. There would be parking available within the CBD even with multiple events in the study area; however, in some cases this may be considered less desirable given the greater walking distance from the venue.

As discussed in Section 2.3.6, S. Holgate Street would be closed to pedestrians. There are two options for pedestrian access across S. Holgate Street, a pedestrian bridge or shuttles to King Street Station. With the change in pedestrian connectivity to the east, a total estimated 1,600 stalls are no longer likely to be used by patrons of the Arena. This is based on eliminating those stalls which would result in excessive out of direction travel for pedestrians if parked in those areas. With the reduction in supply based on these stalls, further pressure is put on the parking areas in the northern, southern and southeastern portions of the primary parking area.

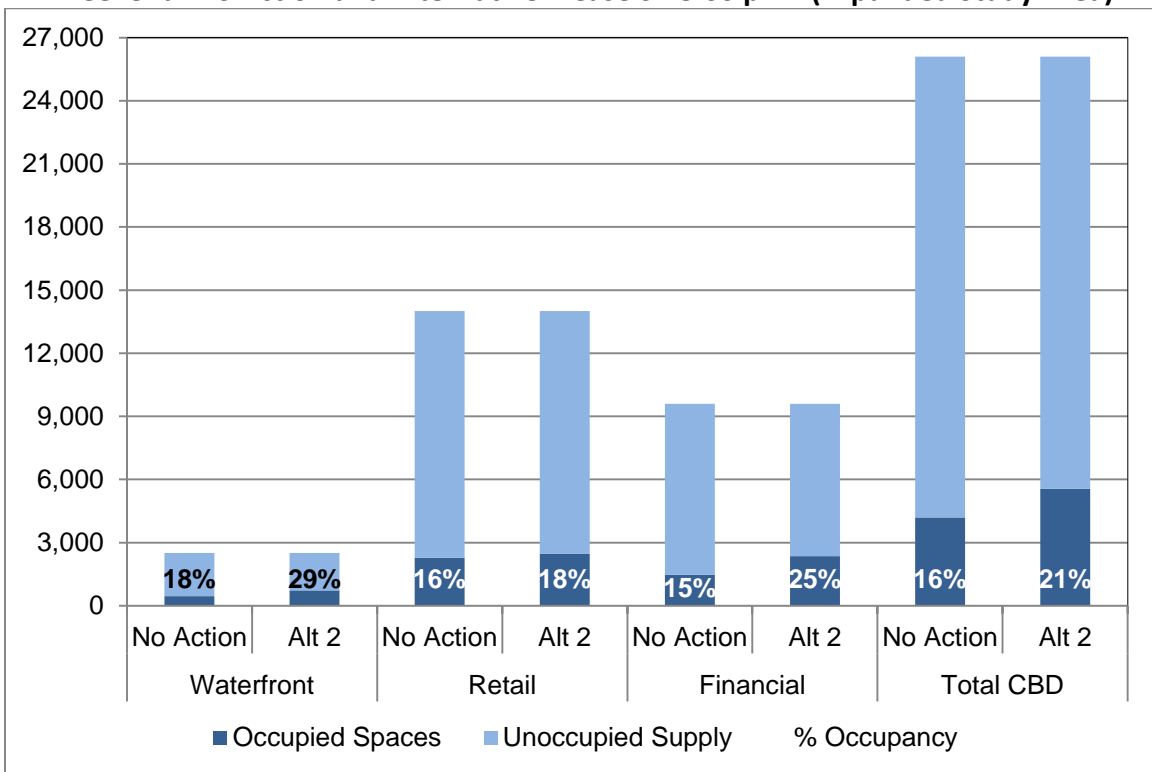
2.8.4.3 Weekend Occupancy

Figure 2–139 through Figure 2–144 illustrate weekday Case S1, S2, and S3 parking occupancy within the primary and expanded study areas.

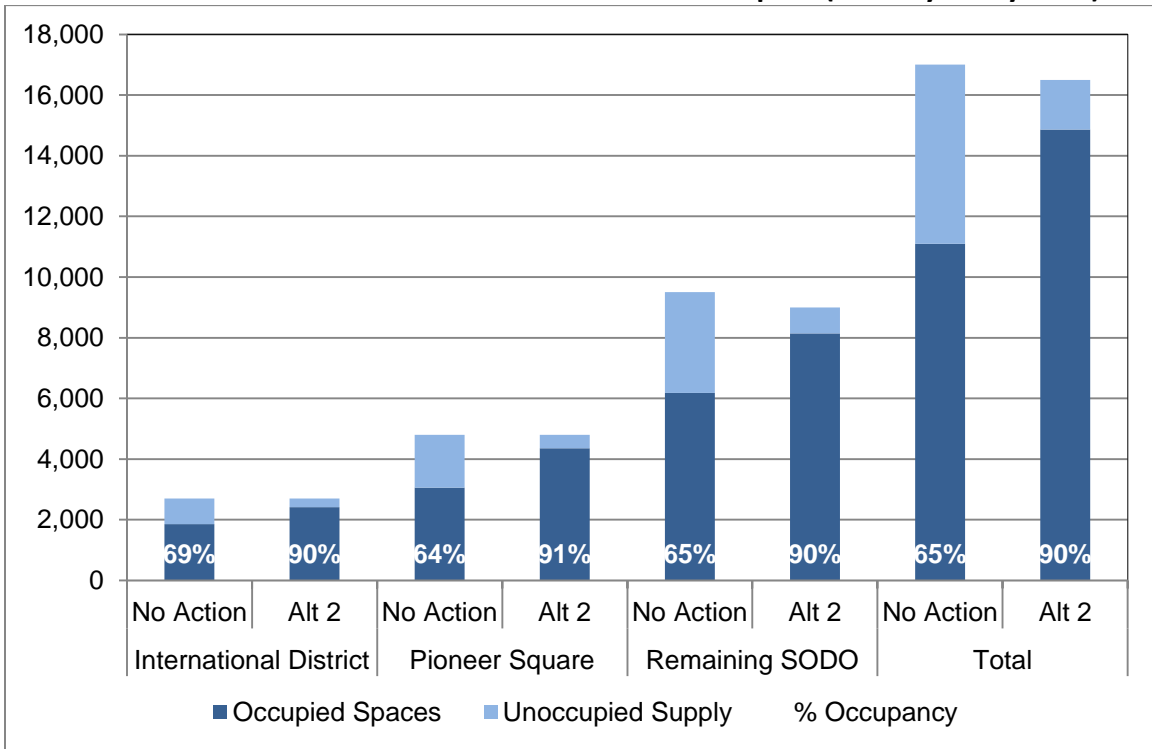
**Figure 2–139 Stadium District Parking Occupancy –
Weekend: No Action and Alternative 2 Case S1 8:00 p.m. (Primary Study Area)**



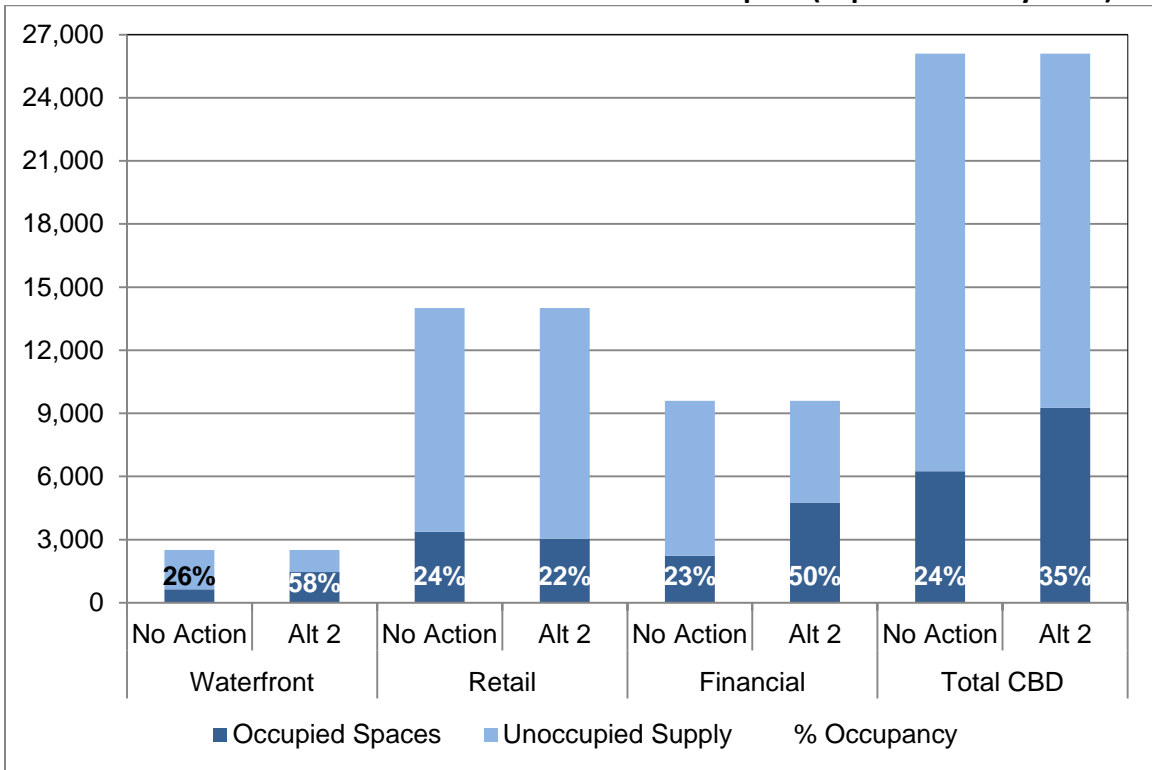
**Figure 2–140 Stadium District Parking Occupancy –
Weekend: No Action and Alternative 2 Case S1 8:00 p.m. (Expanded Study Area)**



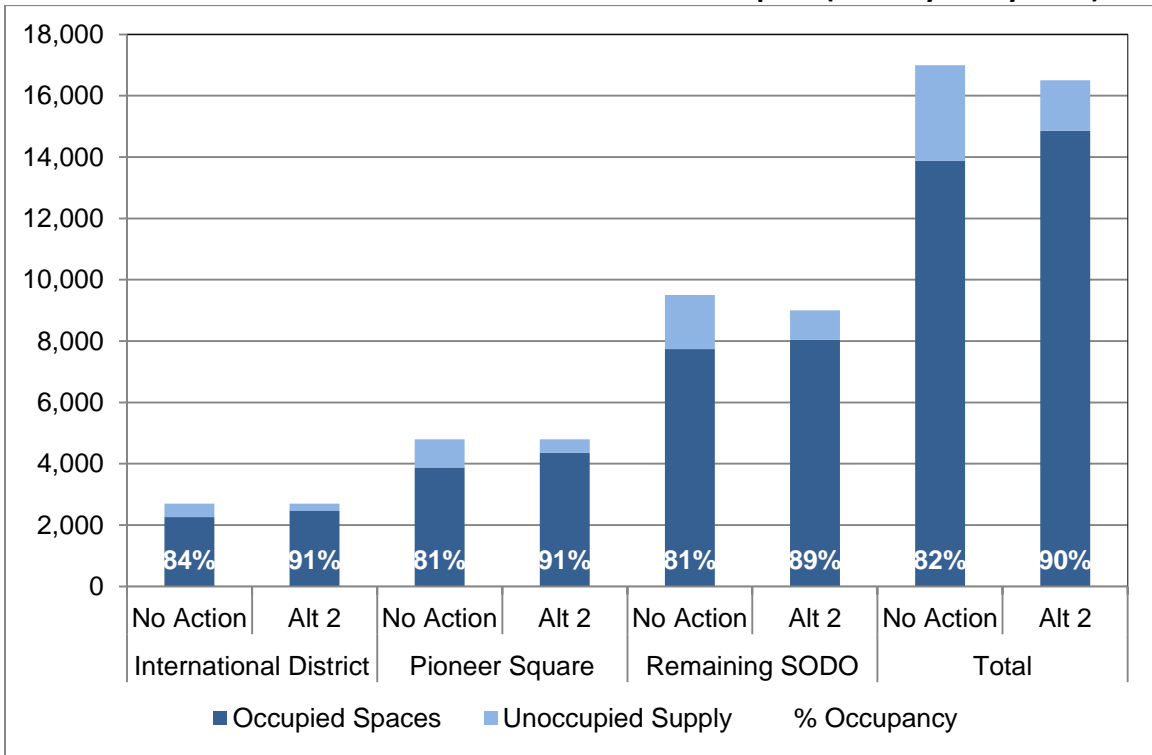
**Figure 2–141 Stadium District Parking Occupancy –
Weekend: No Action and Alternative 2 Case S2 8:00 p.m. (Primary Study Area)**



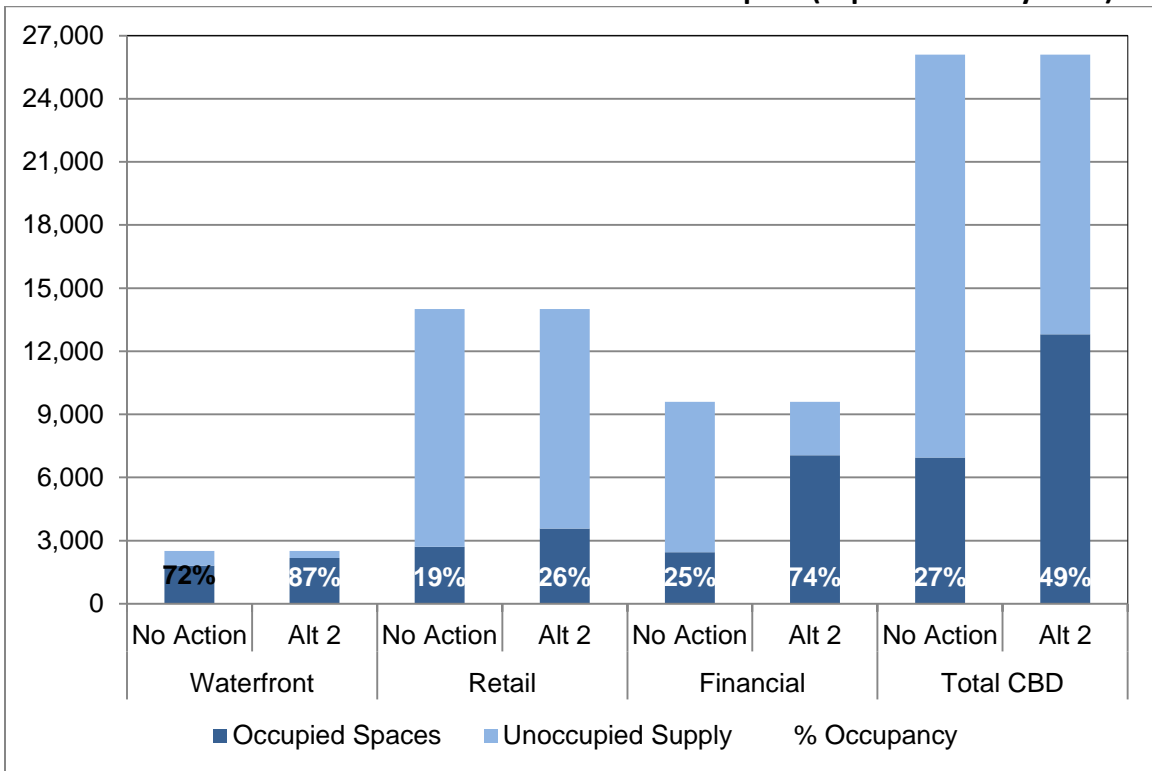
**Figure 2–142 Stadium District Parking Occupancy –
Weekend: No Action and Alternative 2 Case S2 8:00 p.m. (Expanded Study Area)**



**Figure 2–143 Stadium District Parking Occupancy –
Weekend: No Action and Alternative 2 Case S3 8:00 p.m. (Primary Study Area)**



**Figure 2–144 Stadium District Parking Occupancy –
Weekend: No Action and Alternative 2 Case S3 8:00 p.m. (Expanded Study Area)**



As shown in the figures above:

- Similar to weekday conditions, weekend Arena parking demand could be fully accommodated within the primary study area under Case S1 (i.e., no other events at nearby venues).
- Event parking would spill into the expanded study area under multi-event conditions (Case S2 and S3).
- For Alternative 2 Case S3, parking occupancies within the primary study area would be approximately 90 percent as compared to the No Action Case S3, which would have occupancies of approximately 80 to 85 percent.
- Given the lower overall weekend non-event parking demand within the expanded study, occupancies in this area are lower than the weekday.

It is anticipated with any of the event cases parking closer to the Arena and / or other event venues would be more highly utilized. As the areas near the venues become full, it would likely become more difficult to find parking. The primary study area would be full for multi-event cases (Case S2 and S3). There would be parking available within the CBD even with multiple events; however, in some cases this may be considered less desirable given the greater walking distance from the venue.

The Proposed Arena would result in an increase in events within the Stadium District regardless of the event case or day of week. The resulting parking demand associated with the Arena could displace some observed SoDo overnight truck parking in publicly available space to other areas (likely south of the Stadium District), which may be considered less convenient locations.

2.8.4.4 Impacts of Safeco and CenturyLink Field Parking Restriction

The evaluation presented above assumes availability of the Safeco Field and CenturyLink parking facilities for Arena events. If shared parking agreements are not secured with these facilities, there is a potential that during an Arena only event (Case S1) parking may not be available at the Safeco Field and CenturyLink parking facilities. Without these parking facilities, there would be approximately 4,500 fewer parking spaces within the primary study area for a total parking supply of approximately 12,000 parking spaces in the primary study area. Figure 2–145 through Figure 2–148 provide a comparison between the No Action and Alternative 2 with and without the parking facilities within the primary and expanded study areas for the weekday and weekend conditions.

A review of both weekday and weekend conditions shows that without the availability of the Safeco Field and CenturyLink parking facilities:

- Weekday and weekend occupancies in the primary study area would increase by approximately 15 to 25 percent with these parking facilities; however, levels would be less than 75 percent and not be considered full.

- Parking could continue to be accommodated in the primary study area; therefore, occupancies within the expanded study area would be similar with and without the Safeco and CenturyLink parking facilities.

Finding available parking in the vicinity of the Arena would likely become more difficult without the use of Safeco and CenturyLink parking facilities especially given that these make up over 25 percent of the parking in the primary study area and approximately 50 percent of the SoDo parking. With difficulty in finding parking, additional parking may occur in the expanded study area.

Figure 2–145 Stadium District Parking Occupancy – Weekday: No Action, Alternative 2, and Alternative 2 Adjusted (No CenturyLink & Safeco Parking) Case S1 7:00 p.m. (Primary Study Area)

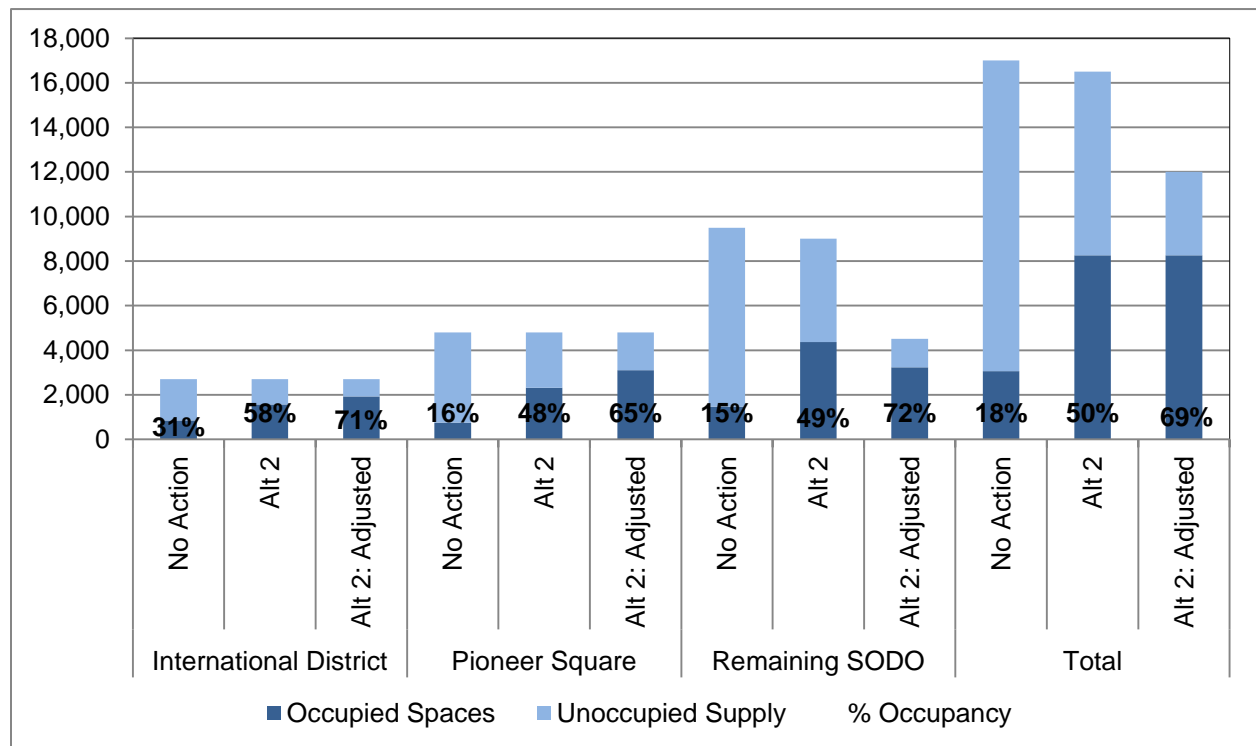


Figure 2–146 Stadium District Parking Occupancy – Weekday: No Action, Alternative 2, and Alternative 2 Adjusted (No CenturyLink & Safeco Parking) Case S1 7:00 p.m. (Expanded Study Area)

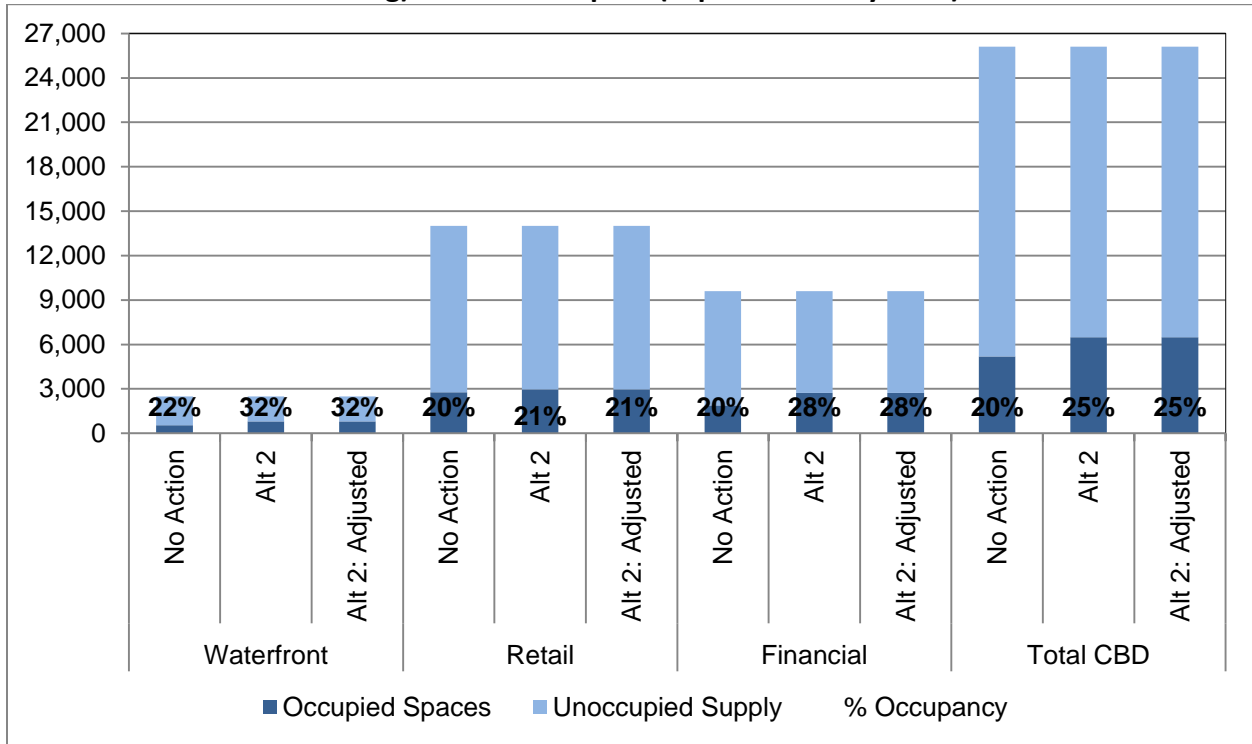


Figure 2–147 Stadium District Parking Occupancy – Weekend: No Action, Alternative 2, and Alternative 2 Adjusted (No CenturyLink & Safeco Parking) Case S1 8:00 p.m. (Primary Study Area)

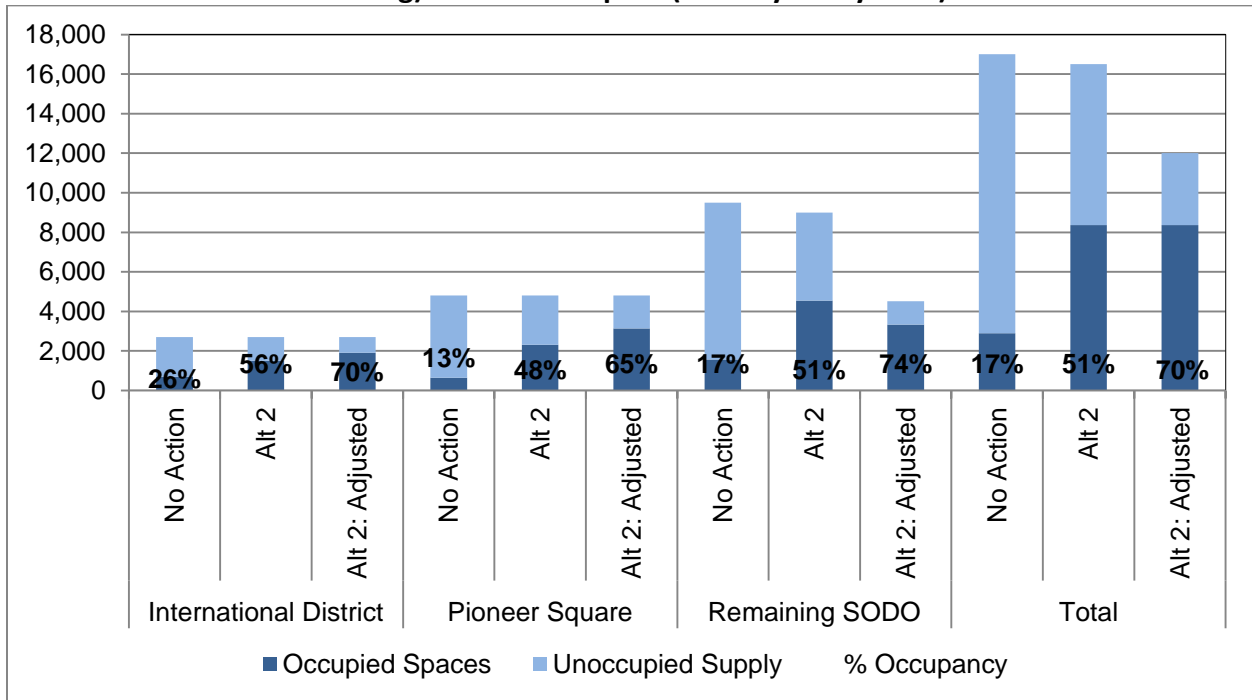
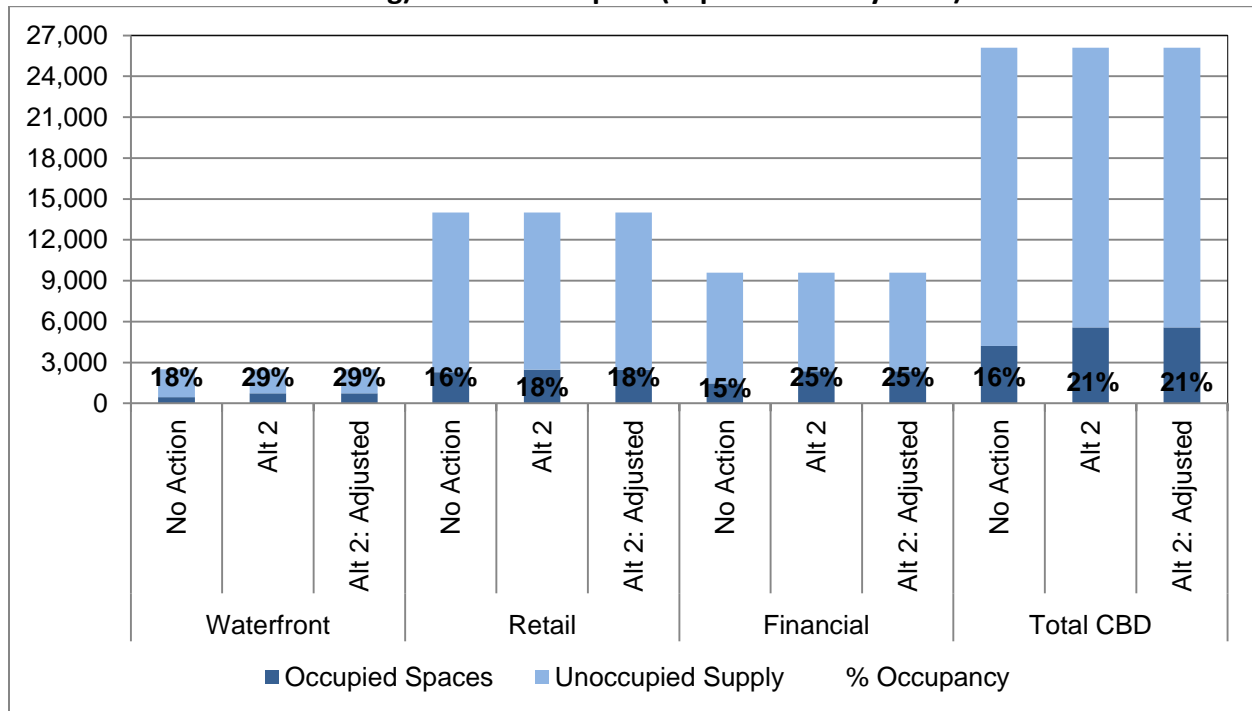


Figure 2–148 Stadium District Parking Occupancy – Weekend: No Action, Alternative 2, and Alternative 2 Adjusted (No CenturyLink & Safeco Parking) Case S1 8:00 p.m. (Expanded Study Area)



2.8.5 Impacts of Alternative 3

Parking impacts related to construction would be minimized by providing off-street parking, securing parking in near-by garages, as well as encouraging use of alternative modes. It is anticipated that parking impacts related to construction would be less than the 18,000-seat Seattle Arena. In addition, construction activities could result in the need to close on-street parking adjacent to the site. These closures would be coordinated with SDOT and appropriate notice and signs would be provided.

With 10 percent less seats, this would result in a 10 percent reduction in the overall parking demand as compared to Alternative 2. Given the lesser demand, overall transportation impacts for the Alternative 3 would be slightly less than those described for the Alternative 2 and the analysis of the Alternative 2 fully encompasses any transportation impacts that would occur as a result of developing Alternative 3.

2.8.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements. The following identifies those potential mitigation measures considered to have a high influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 2 and Alternative 3:

- Event schedule protocol and management
- Expand on-street parking controls
- Shared use parking protocol
- Establish covenant parking agreements
- Parking for event staff
- Pre-sell reserved arena covenant parking
- Promote and pre-sell offsite private parking

2.8.7 Secondary and Cumulative Impacts

Short term parking restrictions may be implemented to support event related activities as a result of traffic control plans, or other efforts to balance traffic, transit, freight and goods movement, and parking demands. In general, the impacts identified for the proposed Arena without other concurrent events are similar in magnitude and slightly less than for a Mariners event. However, the addition of the proposed Arena would increase the number of days in the SoDo neighborhood where an event occurs and could add cumulatively to reduction of parking availability in the SoDo neighborhood:

- Impacts of a TCP resulting in loss of parking
- Reduced parking supply as a result of potential improvements at study intersections and along roadways

2.8.8 Significant Unavoidable Adverse Impacts

As described in the impact analysis, the increase in event days anticipated with the Arena (especially the increase in high attendance event days) would result in the increased frequency of parking impacts. This results in greater competition for parking with other area stakeholders, including commercial businesses in neighborhoods such as SoDo, Pioneer Square, and the International District.

2.9 Safety

2.9.1 Methodology

Collisions were reviewed at the study area intersections and at-grade rail crossings. Records of reported collisions were obtained from SDOT for the five-year period between January 1, 2007, and December 31, 2011. A summary of the total and average annual reported accidents at each study intersection is provided in Attachment E-4, which is available from DPD upon request. The City of Seattle has adopted criteria for assigning high accident location status to signalized intersections with 10 or more reported collisions per year and unsignalized

intersections with 5 or more reported collisions per year. Intersections designated as high accident locations are targeted for future safety improvements in an effort to reduce the occurrence of accidents.

2.9.2 Affected Environment

Fewer than 5 collisions per year were reported at each unsignalized study intersections and for the signalized locations only the 6th Avenue / James Street intersection had an average of more than 10 collisions per year. No fatalities were identified in the study area during the five-year period.

A review of the collisions at the 6th Avenue / James Street intersection shows the number of collisions per year has decreased over the 5-year period with 15 collisions in 2007 to 8 collisions in 2011. A majority of the collisions at this location involved left-turning vehicles along James Street not granting right-of-way to vehicles traveling the opposite direction. These collisions are likely occurring as a result of the high traffic volume and the permitted left-turn phasing on the westbound approach James Street not yielding to oncoming eastbound traffic, which is typical of intersections with dual left-turn lanes with higher levels of turning traffic. The left turning collisions at this location could likely be reduced by providing protected left-turn phasing, which would be a trade-off with traffic operations, likely causing more delay that could increase other types of collisions such as rear-end.

The data were also reviewed for collisions involving pedestrians or bicyclists. Within the study area, 34 of the 64 study locations had collisions involving pedestrians and bicyclists. The only location that averaged more than one collision per year involving a pedestrian or bicyclists is the 5th Avenue S. / S. Jackson Street intersection, which has a much higher pedestrian demand than other locations in the study area. This intersection is located near the International District Station transit hub on the southwest corner of this intersection resulting in higher levels of pedestrian activity.

Collisions were also reviewed at the at-grade railroad crossings along S. Royal Brougham Way, S. Atlantic Street, S. Holgate Street, S. Lander Street, S. Hanford Street, S. Horton Street, and S. Spokane Street based on data provided by SDOT as well as the Federal Railroad Administration (FRA) database of accident reports. Vehicular traffic at these crossings is controlled by gates and non-motorized traffic is generally controlled through passive warning signs. Based on a review of *Pedestrian/Bicycle Warning Devices and Signs at Highway-Rail and Pathway-Rail Grade Crossings* (Illinois Center for Transportation, April 2013), implementation of control devices for non-motorized traffic should be evaluated on a case-by-case basis. There were 12 collisions in the 5-year time period related to trains at the at-grade crossings. These collisions occurred at the S. Atlantic Street, S. Royal Brougham Way, S. Hanford Street, S. Hinds Street, S. Holgate Street, and S. Royal Brougham Way crossings. A majority of the collisions resulted in property damage or injury. Implementation of active warning or gates for pedestrians could help prevent these types of safety issues. There was a pedestrian fatality in 2011 at the S. Holgate Street crossing between 3rd Avenue S. and Occidental Avenue S; however, the collision

review shows there were extenuating circumstances and the fatality was not a result of the train track or roadway conditions.

2.9.3 Impacts of No Action Alternative

As traffic volumes increase, the potential for traffic safety issues increases proportionately. The overall vehicular and non-motorized traffic in the area under 2018 and 2030 conditions are anticipated to be higher than occurs under existing conditions. There are changes in transportation infrastructure underway and the effect of these changes on transportation safety is unknown. The projects are all designed to current standards of practice.

2.9.4 Impacts of Alternative 2

Alternative 2 construction would increase vehicular traffic within the study area, which could result in increased conflicts between vehicular, pedestrian, and bicycle traffic. It is anticipated that safety impacts related to construction would be less than the 20,000-seat Seattle Arena.

As traffic volumes increase, the potential for traffic safety issues increases proportionately. Alternative 2 would increase both vehicular and non-motorized traffic within the study area. In the immediate vicinity of the site, there are several at-grade rail crossings along S. Holgate Street. Increased pedestrian activity at these locations as a result of travelling to and from the Seattle Arena could result in pedestrian safety issues. The *Pedestrian/Bicycle Warning Devices and Signs at Highway-Rail and Pathway-Rail Grade Crossings* (Illinois Center for Transportation, April 2013) notes that for at-grade crossings active warning devices are generally observed by users more often when paired with gates. This document also says that there is no standard procedure for determining control or warning devices and an evaluation should be conducted on a case-by-case basis. The S. Holgate Street corridor has multiple at-grade rail crossings closely spaced in the immediate vicinity of the site and pedestrian gates may not be feasible or appropriate. As described previously in the Pedestrian section, consideration could also be given to a grade separated pedestrian bridge that would be oriented east-west over the train tracks connecting the Arena to the S. Holgate Street / 3rd Avenue S. intersection or the closure of S. Holgate Street to pedestrians with events.

2.9.5 Impacts of Alternative 3

Alternative 3 construction would increase vehicular traffic within the study area, which could result in increased conflicts between vehicular, pedestrian, and bicycle traffic. It is anticipated that safety impacts related to construction would be less than the 18,000-seat arena.

Alternative 3 would have similar safety impacts as identified with Alternative 2; however, these impacts would be to a less extent since the traffic levels would be lower with the smaller venue.

2.9.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements.

The following identifies those potential mitigation measures considered to have a high influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 2 and Alternative 3:

- Pedestrian Improvements (i.e. pedestrian scale lighting, surface street improvements or pedestrian bridge on S. Holgate Street, etc.)
- North-South private connection located on the east side of the project site, connecting S. Holgate Street to the Safeco Field property

2.9.7 Secondary and Cumulative Impacts

No secondary or cumulative impacts have been identified.

2.9.8 Significant Unavoidable Adverse Impacts

Increased frequency of events together with the proximity of the Arena to the S. Holgate Street rail crossings would increase the potential for conflict between pedestrians and rail, east of the site. If a pedestrian overpass were constructed, this issue would be largely eliminated. With at-grade improvements together with increased manual control of pedestrians at crossings, the potential would be reduced but not eliminated.

2.10 Occidental Avenue South Street Vacation

An element of the Alternative 2 and Alternative 3 proposals includes the vacation of Occidental Avenue S. between S. Holgate Street and S. Massachusetts Street. The cumulative conditions with an arena event, inclusive of the street vacation, were accounted for in the analysis of Alternatives 2 and 3. This section provides a focused comparison of conditions intended to isolate the impacts of the vacation itself. It includes a comparison to developing the site under the current zoning; assuming no vacation of Occidental Avenue S. This additional development scenario is not considered an alternative for purposes of the EIS evaluations but has been included for purposes of assessing the impacts of the Occidental Avenue S. street vacation. This section evaluates the proposed street vacation, independently, and in the context of the development proposal.

2.10.1 Context

Occidental Avenue S. is classified as an access street. It serves a variety of purposes, ranging from local access for adjacent business and events, staging for events at Safeco Field and CenturyLink Field, event parking, to a potential route bypass to 1st Avenue S. during periods of higher traffic congestion.

North. North of S. Massachusetts Street, Occidental Avenue S. serves as service access and parking for businesses on the west side (with primary frontages on 1st Avenue S.), and provides access to the Safeco Field parking garage, including surface parking to the immediate east side of the garage. This parking access is provided via S. Massachusetts Street, via its intersection with Occidental Avenue, which also provides access to the Safeco Field parking garage, the

surface parking to the east, as well as the service road and fire lane south and west of the Safeco Field garage. In addition, the plaza area adjacent to the Safeco Field parking garage serves as a staging area for Safeco Field events, parking for charter buses, overflow parking, and emergency evacuation. This portion of Occidental Avenue S. carries a weekday average of approximately 4,300 vehicles per day with a peak of 500 vehicles per hour during the AM peak hour.

Site Area. The area of Occidental Avenue S. to be vacated connects S. Holgate Street with S. Massachusetts Street. The street section serves on-street parking in some sections, as well as access to the parcels adjacent to the street to the east and west. In addition, it provides continuity of connection between S. Horton Street and S. Atlantic Street. This portion of Occidental Avenue S. carries a weekday average of approximately 3,700 vehicles per day with a peak of 460 vehicles per hour during the AM peak hour.

South. South of S. Holgate Street, Occidental Avenue S. provides access and parking to local commercial businesses with primary frontages on 1st Avenue S. to the immediate west, as well as to freight related warehouse business operations on the east side of Occidental Avenue S., immediately south of S. Holgate Street. It exists as a contiguous connection from S. Atlantic Street to S. Horton Street, a distance of over one mile. This portion of Occidental Avenue S. carries a weekday average of approximately 2,700 vehicles per day with a peak of 340 vehicles per hour during the AM peak hour.

2.10.2 Local Circulation Issues

The Mariners emphasized the importance of maintaining accessibility to the Safeco Field parking garage and surface parking lot, as well as the service road and fire lane, and noted the use of the plaza area between the parking structure and Occidental Avenue S. for bus staging.

- **Safeco Field Parking Garage – Access and Usage.** The parking garage is used daily by staff and vendors at the facility, with approximately 250 parking spaces identified for these uses. Another 50 spaces are leased to adjacent office properties, except during game days. Access to the garage is provided directly from S. Atlantic Street on the north, as well as on the south and east faces of the garage, which access the street system via S. Massachusetts Street and / or Occidental Avenue S.
- **Service Road / Surface Parking Lot.** This drive, which extends east via an extension of S. Massachusetts Street, provides direct southerly access to the parking garage. In addition, it connects service activity (trucks, food delivery, etc.) for Safeco Field with the local street system, connecting under S. Atlantic Street to Safeco Field itself from east of the parking garage. This connection also serves as the fire lane for Safeco Field.
- **Plaza and Adjacent Right of Way.** This section of the sidewalk and right-of-way is open space for pedestrians during most periods; during events at Safeco Field, as well as some CenturyLink Field events, it is used for charter bus staging and pick-up / drop-off, ADA assisted parking.

In addition to the issues raised by the Mariners, concern has been expressed that Occidental Avenue S. is used by freight haulers and other traffic as a bypass to congestion on 1st Avenue S. With a section of Occidental Avenue S. closed, there would be reduced ability to avoid primary arterial congestion.

2.10.3 Methodology

The evaluation of the street vacation on the local transportation network was conducted consistent with the methodology previously discussed in the document. Consistent with the scope of this EIS, the impacts of the proposed street vacation were evaluated for the following transportation elements:

- Trip Generation
- Public Transportation
- Pedestrians
- Bicycle
- Traffic Volumes
- Traffic Operations (Intersection Operations / Local Circulation and Traffic Diversion)
- Freight and Goods
- Parking
- Safety

The future 2030 conditions were evaluated for two scenarios. First, the impact of the physical change in street connectivity is evaluated, independent of the proposed development or build-out under the current zoning. Second, the comparative impact of the two site development scenarios is summarized:

1. **Street Vacation Impact:** This scenario provides the most direct basis for understanding the singular effects of the vacation itself assuming no changes in land use or development. The No Action 2030 conditions without and with a street vacation are compared.
2. **Comparison of Site Development Options:** This scenario compares the results of the analysis conducted for Alternative 2 Case S1, with the vacation of Occidental Avenue S., to the development of an approximately 810,00 sf commercial project on the project site, without the Occidental Avenue S. vacation assuming build-out under current zoning.

2.10.4 Impacts of the Vacation

The following provides a summary of the key transportation elements and stakeholder issues associated with the impacts of vacating Occidental Avenue S. from two perspectives. First, the

impact of the physical change in street connectivity is evaluated, independent of the proposed Arena or buildout under the current zoning. Second, the comparative impact of the two development scenarios is summarized. All analyses considered 2030 conditions completed for each transportation element previously listed. The summary of impacts is described in relation to Alternative 2 only; impacts associated with Alternative 3 would be similar, but would reflect 10 percent less demand due to the difference in the attendance capacity of Alternative 3.

Trip Generation

Development under existing zoning without a street vacation is based on information provided by the Proponent and has been updated as part of the FEIS. Based on information from the Proponent, a total of 810,000 gross square-feet (gsf) of commercial space was assumed. The analysis assumed 60,000 gsf would be general retail and the remaining would be office. Trip rates used to forecast trip generation for the commercial development were consistent with the Home Plate project located on the southwest corner of the 1st Avenue S. / S. Atlantic Street intersection, which also includes primarily office uses. This methodology utilized vehicle trip rates from the ITE *Trip Generation Manual*, 9th Edition and applied local mode splits and average vehicle occupancies appropriate for this area in order to determine the peak hour trips.

The trip generation analysis focuses on the weekday AM, mid-day, and PM peak hour periods. Weekday AM and mid-day impacts were evaluated in addition to PM peak hour impacts to consider the potential shift in traffic volumes with the street vacation. Table 2-43 compares weekday PM, AM, and midday peak hours trip generation for Alternative 2 (Case S1) and Alternative 3 (Case S1) to the trip generation associated with the potential development that could occur under current zoning without the vacation of Occidental Avenue S.

**Table 2-43
Occidental Avenue S. Street Vacation Weekday PM Peak Hour
Trip Generation Summary – 2030 Horizon year**

	No Street Vacation Development Potential¹	With Street Vacation: Alternative 2² Case S1	With Street Vacation: Alternative 3² Case S1
PM Peak Hour			
Total Trips	937	2,200	1,970
Less Pass-by	72	-	-
Net New	865	2,200	1,970
AM Peak Hour			
Total Trips	813	0	0
Less Pass-by	18	-	-
Net New	795	0	0
Midday Peak Hour			
Total Trips	142	50	50
Less Pass-by	40	-	-
Net New	102	50	50

1. Assumes 810,000 square-feet of commercial spaces.
2. See section (Event Transportation Demand)

As shown in the table, during the PM peak hour with the development of the Arena, there would be an overall increase in trip generation on the order of 150 percent over what could be generated by development under the current zoning. This characterization assumes a capacity level event at the Arena (consistent with the analysis presented in other sections) compared to an average weekday PM peak hour associated with the development of a commercial project under current zoning. Two other factors for consideration include:

- While lower in trip generation, the development of 810,000 square feet of office on the subject site would result in traffic impacts to every working day of the year. An Arena would be expected to have capacity level events on a limited number of days each year, with a variety of below capacity events on other days. All event activity at the Arena would combine to a lower level of frequency than that of a commercial project.
- The proposed Arena is only proposing to construct approximately 100 parking spaces in association with its development and the remaining parking supply would be accommodate with shared parking agreements at existing parking lots or through development of a parking garage south of the Arena site. Total event parking demand would be accommodated throughout the SoDo primary and extended (CBD) study areas, as described in the parking impact section of this document.

Table 2-43 shows that the Arena has minimal trips during the AM and midday peak hours compared with the commercial development. During the AM peak hour, the Arena is

anticipated to have no trips whereas the commercial development is anticipated to have approximately 815 trips. During the midday peak hour, the Arena is anticipated to have approximately 50 trips, accounting for the preparation of an event.

Figure 2-149 through Figure 2-151 summarize the weekday PM, AM, and mid-day peak hour directional volumes, respectively, along site vicinity street links and LOS at key local intersections. The No-Build (top two boxes of each figure) scenario shows the effect of the street closure on 2030 No Action traffic volumes during the PM peak hour. The Build scenario (bottom two boxes) compares the traffic volumes associated with the two site development options described above (i.e., Arena or commercial project).

Public Transportation

Street Vacation Impact

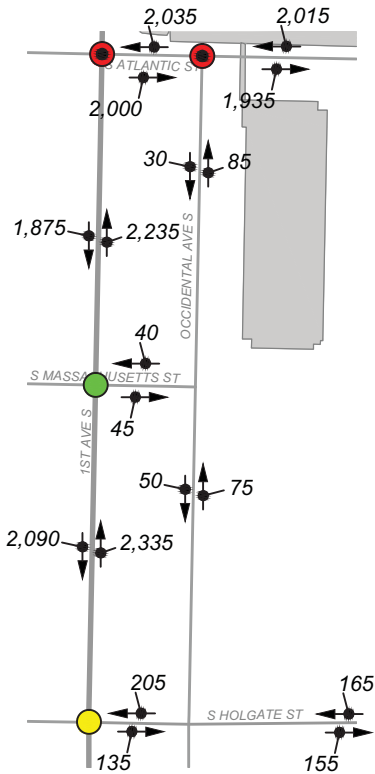
- Street vacation results in minor impacts associated with diversion of traffic and moderate increases in peak hour congestion along the 1st Avenue S. corridor in the immediate site vicinity. Since 1st Avenue S is not a transit corridor no impacts are anticipated.

Comparison of Site Development Options

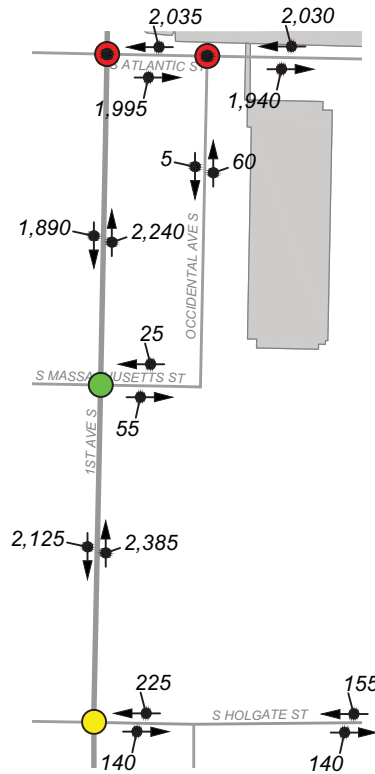
- Increased demand for public transportation associated with the Arena as described in the Public Transportation section of this document.
- With development under current zoning, increases in transit demand and need to connect pedestrians to transit would occur. The primary route to transit is along the S. Holgate Street corridor, which would connect to transit service along 4th Avenue S. as well as to the Link Light Rail corridor.
- Impacts to transit service speed and reliability would occur with the Arena on event days, at the magnitude and frequencies described in the Public Transportation section. With development under current zoning, overall traffic impacts would occur that would also impact transit speed and reliability. Impacts at 4th Avenue S. / S. Holgate Street would be similar to that of the Arena; impacts to the 1st Avenue S. corridor would be somewhat less due to the probable access configuration along the Occidental Avenue S. corridor (Note: No commercial project is proposed; access configuration was assumed for purposes of the analysis.)

No Build

No Build Without Occidental Vacation

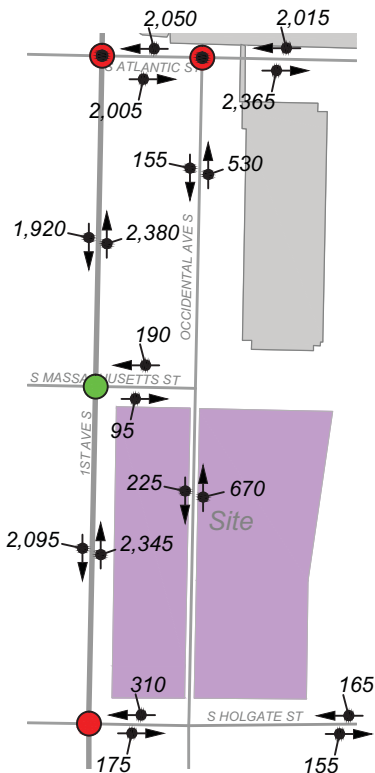


No Build With Occidental Vacation

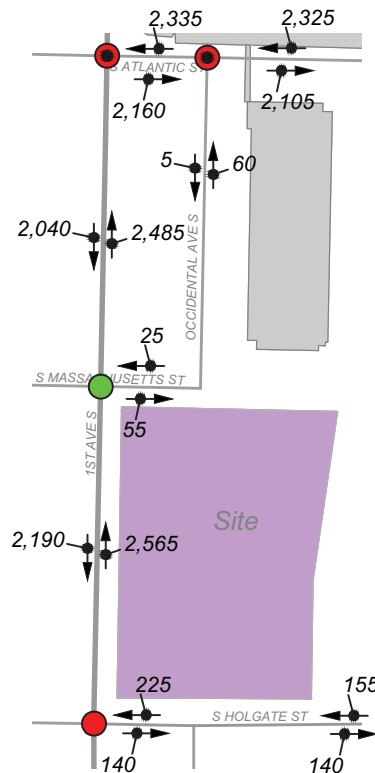


Build

Office Development Without Occidental Vacation



Alt 2 S1 With Occidental Vacation



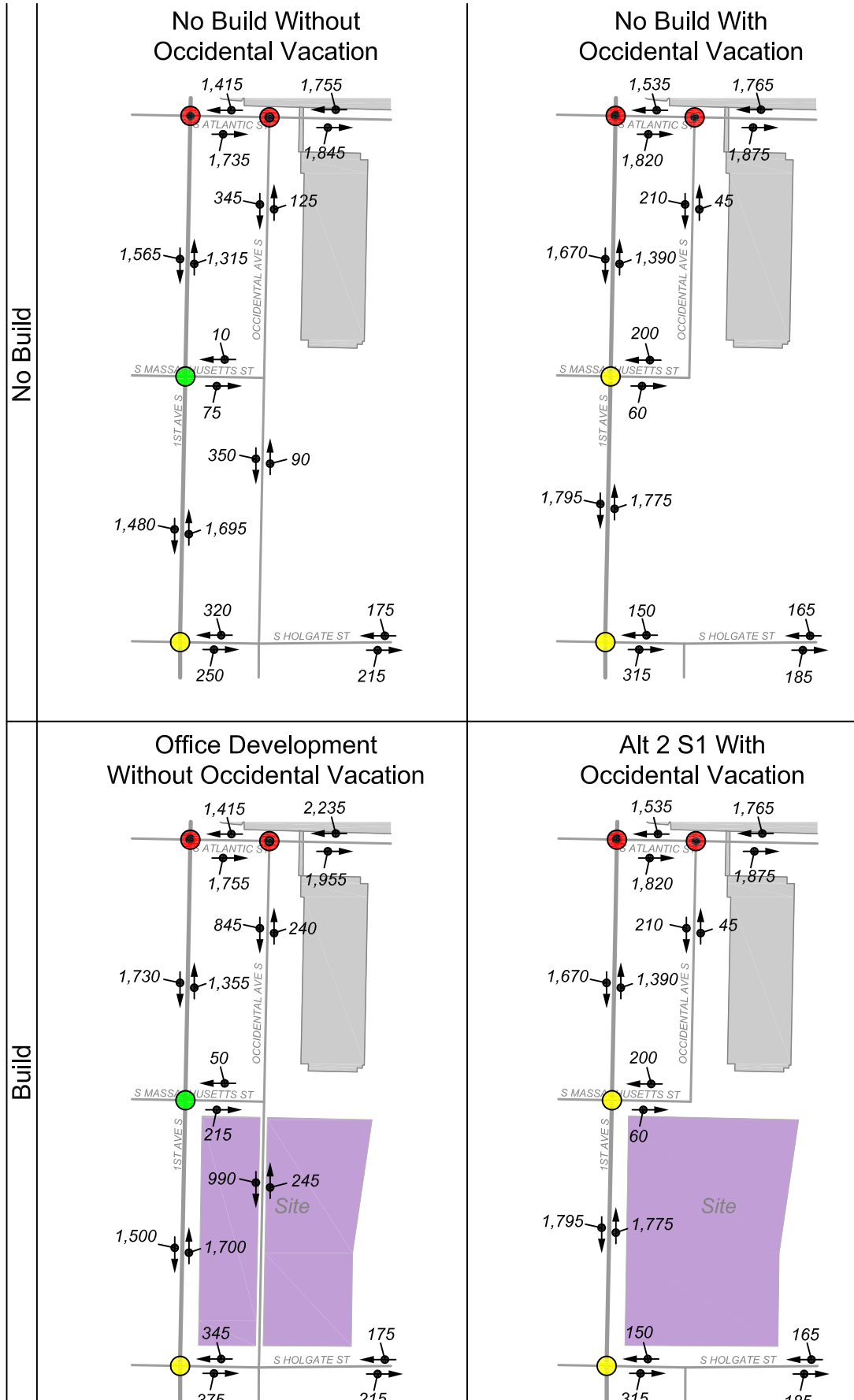
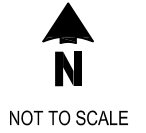
NOT TO SCALE

LEGEND

- X = PM PEAK HOUR TRAFFIC VOLUMES
- = LOS A - C
- = LOS D
- = LOS E
- = LOS F

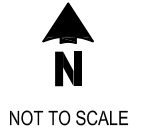
Occidental Avenue S. Street Vacation 2030 Weekday PM Peak LOS & Volumes

FIGURE 2-149



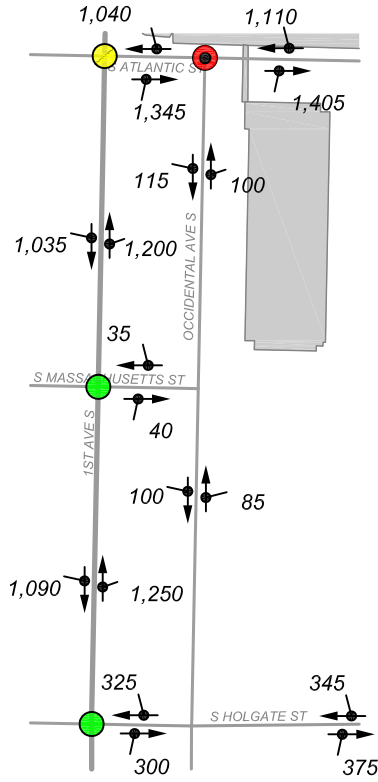
Occidental Avenue S. Street Vacation Weekday AM 2030 LOS & Volumes

FIGURE 2-150

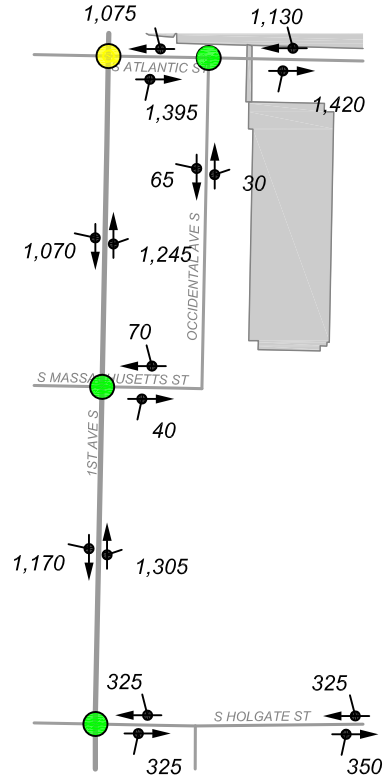


No Build

No Build Without Occidental Vacation

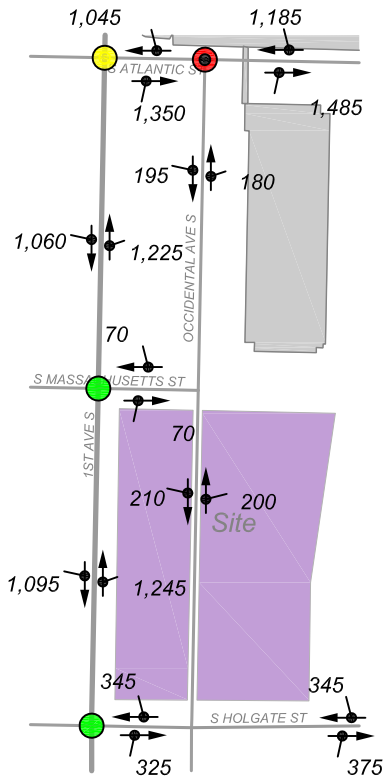


No Build With Occidental Vacation

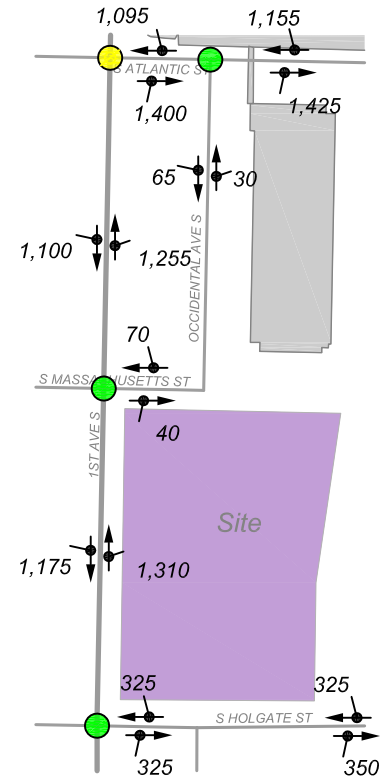


Build

Office Development Without Occidental Vacation



Alt 2 S1 With Occidental Vacation



LEGEND

- X = MIDDAY PEAK HOUR TRAFFIC VOLUMES
- = MIDDAY PEAK HOUR LOS
- = LOS A - C
- = LOS D
- = LOS E
- = LOS F

Occidental Avenue S. Street Vacation Weekday Midday 2030 LOS & Volumes

FIGURE 2-151

Pedestrians

Street Vacation Impact

- With the street vacation, pedestrians would divert from Occidental Avenue S. to either 1st Avenue S. or 4th Avenue S depending on the origin or destination of the trip. Pedestrian volumes were observed to be low along Occidental Avenue S., north of S. Holgate Street with and without an event.

Comparison of Site Development Options

- The Arena would result in concentrated, though comparatively infrequent, pedestrian demands during event ingress / egress; pedestrian demands associated with the development under current zoning would result in lower, more evenly distributed pedestrian demands occurring throughout the day, and especially during lunch breaks.
- In either case, additional pedestrian demands would contribute to increased use of local sidewalks including S. Holgate Street. Impacts of Arena related pedestrian peak demands are documented in the Pedestrian section; the impacts of the development under current zoning would be less, but also contribute to existing issues with pedestrian accessibility crossing the railroad tracks to the east. Office pedestrians could orient eastward to connect to bus and / or Link Light Rail service for commuting.

Bicycles

Street Vacation Impact

- Bicycle use of Occidental Avenue S. has been observed to be low; as a result its vacation in the proposed limits would not result in a significant adverse impact. It is acknowledged that, to the extent that bicycles travel on Occidental Avenue S., the vacation of this section would result in inconvenience and diversion, primarily to 1st Avenue S. between S. Holgate Street and S. Massachusetts Street.

Comparison of Site Development Options

- With development under current zoning, no disruption in bicycle routing would occur; however, additional trip generation associated with the development would add to traffic on Occidental Avenue S. near the site, and potentially conflict with bicycle travel compared to current conditions.
- With the proposed Arena, the diversion of bicyclists due to the closure of Occidental Avenue S. would occur as described previously; added events and related traffic would increase the potential for conflict with bicycles throughout SoDo depending on the specific route traveled.

Traffic Volumes

Street Vacation Impact

Traffic volumes along Occidental Avenue S. were reviewed to identify approximate numbers of vehicles that use Occidental Avenue S. as an alternative travel route to 1st Avenue S. Weekday peak hour turning movement volumes collected in December 2013 demonstrate that this diversion is greatest during the weekday AM peak hour when approximately 200 westbound vehicles on S. Atlantic Street divert southbound onto Occidental Avenue S. to primarily turn right onto S. Holgate Street (150 vehicles). Hourly traffic volumes collected along 1st Avenue S. over a seven-day period in December 2013 demonstrated that additional capacity appears available on 1st Avenue S., suggesting that the observed diversion may not be due to congestion on 1st Avenue S. Field observations indicated that westbound traffic on Edgar Martinez Drive can include substantial truck traffic destined for Terminal 46 at the Port of Seattle. When this happens, queuing on Edgar Martinez Drive occurs, which appears to induce some traffic destined for 1st Avenue S. to turn left onto Occidental Avenue S., then right onto S. Holgate Street, before turning south onto 1st Avenue S. The vacation of Occidental Avenue S. would result in this pattern being altered, with these vehicles turning west onto S. Massachusetts Street to access 1st Avenue S. instead of S. Holgate Street.

Traffic volumes observed crossing S. Holgate Street were approximately 70 vehicles per hour during the weekday AM peak and 45 vehicles per hour during the weekday PM peak. These volumes are substantially less than the traffic turning to/from the west onto S. Holgate Street from Occidental Avenue S. (160 vehicles – AM, 75 vehicles – PM).

Peak Hour Comparison of Site Development Options

- The difference between trip generation associated with development under the current zoning and Alternative 2 would result in the changes in total traffic listed below along links in the immediate vicinity of the Stadium District site. Note that during AM and mid-day conditions, changes in traffic due to the Arena are largely a result of shifts due to the vacation of Occidental Avenue S.; Arena generated traffic would be minimal during these time periods.
 - 1st Avenue S. from S. Holgate Street to S. Massachusetts Street:
 - +315 vph as a result of the Arena (PM peak hour)
 - +370 vph as a result of the Arena (AM peak hour)
 - +110 vph as a result of the Arena (midday peak hour)
 - 1st Avenue S. from S. Massachusetts Street to S. Atlantic Street:
 - +225 vph as a result of the Arena (PM peak hour)
 - +180 vph as a result of the Arena (AM peak hour)
 - +75 vph as a result of the Arena (midday peak hour)
 - Occidental Avenue S. from S. Massachusetts Street to S. Atlantic Street:

- -620 vph as a result of the Arena (PM peak hour)
- -1,025 vph as a result of the Arena (AM peak hour)
- -260 vph as a result of the Arena (midday peak hour)
- S. Atlantic Street east of Occidental Avenue S.:
 - +50 vph as a result of the Arena (PM peak hour - Note: Westbound traffic volumes would increase by approximately 310 vehicles due to the inbound orientation of weekday PM peak hour Arena traffic)
 - -550 vph as a result of the Arena (AM peak hour)
 - -95 vph as a result of the Arena (midday peak hour)

Traffic Operations

Intersection Operations

Street Vacation Impact

- The vacation of Occidental Avenue S. would divert traffic to 1st Avenue S., but the 1st Avenue S. / S. Holgate St. intersection would continue to operate at LOS D even with the increase traffic during the PM peak hour and would continue to operate at LOS C or better during the midday peak hour. During the AM peak hour the intersection would degrade from LOS C or better to LOS D with the shift in traffic.

Comparison of Site Development Options

- The Arena (Alternative 2 Case S1) and street vacation would maintain intersection operations along 1st Avenue S. as compared to the current zoning:
 - 1st Avenue S. / S. Atlantic Street:
 - LOS F (PM and AM peak hours)
 - LOS D (midday Peak hour)
 - 1st Avenue S. / S. Holgate Street:
 - LOS E (PM peak hour)
 - LOS D (AM Peak hour)
 - LOS C or better (midday peak hour)
- The Edgar Martinez Drive/Occidental Avenue S. intersection would operate at LOS F under all development and Occidental Avenue S. vacation scenarios with the exception of mid-day conditions with the vacation and arena development. Under these conditions the trips generated by the arena are low and background traffic volumes along Occidental Avenue S. are also low such that the intersection is forecast to operate at LOS B during mid-day conditions.

- Traffic volumes and operations east of the site, at 4th Avenue S. / S. Holgate Street would not materially change between the two build scenarios.
- As described in the traffic operations section, the more concentrated impacts associated with event traffic would occur less frequently than the everyday added congestion associated with site buildout under the current zoning.

Local Access / Traffic Diversion

Street Vacation Impact

- Peak hour traffic volumes would be nominal and minimal impacts to circulation are identified, as described in relation to traffic volumes and operations
- With the street vacation, the continuity of Occidental Avenue S. from S. Horton Street to S. Atlantic Street would be interrupted, disrupting a potential parallel route to 1st Avenue S. during periods of congestion. However, northbound and southbound through traffic volumes across S. Holgate Street are minor, and do not represent a substantial movement.
- Impacts to emergency vehicle access to the south could occur if the street was vacated without providing a parallel replacement link to S. Holgate Street.

Comparison of Site Development Options

- The impact of eliminating the Occidental Avenue S. connection to S. Holgate Street could be mitigated by the Arena proposal to replace it with a north-south drive connecting S. Holgate Street with the extension of S. Massachusetts Street, which could provide access to the Safeco Field garage, surface parking, and service roadway. This new connection would be a private road; however, an agreement could be crafted to assure that the use of the drive would be available during all appropriate event and activity times for Safeco Field operations. Provision of this roadway coupled with the agreement for Safeco Field use would minimize impacts of the Occidental Avenue S. vacation on Safeco Field operations including deliveries, garage access, and emergency access/evacuation.
- Increased reliance on access to the Safeco Field garage, Occidental Avenue S., north of the Arena, and the businesses on the west side of Occidental Avenue S. would be enhanced by the proposed realignment of S. Massachusetts Street between 1st Avenue S. and Occidental Avenues S.
- The new private drive along the east edge of the Arena between the Safeco Field property and Holgate Streets could help support emergency vehicle access to the Safeco Field garage during event periods.
- With the Arena, which includes the development of a parallel private access drive between S. Holgate and Safeco Field property, and the realignment of S. Massachusetts Street from 1st to Occidental Avenues S., access to the section of Occidental Avenue S.,

north of S. Massachusetts Street, as well as the plaza adjacent to the right-of-way near the garage would be maintained.

- The realignment of S. Massachusetts Street also increases the space south of S. Massachusetts Street for pedestrian gatherings associated with the Arena, reducing the likelihood of spillover into the street that would otherwise conflict with traffic accessing Safeco Field garage, service roadway, or surface parking lot.

Freight and Goods

Street Vacation Impact

- A limited number of trucks currently utilize Occidental Avenue S. for deliveries in the immediate site vicinity. Those trucks serving existing uses along this section of Occidental Avenue S. would be redirected to 1st Avenue S. Based on traffic counts during the weekday PM, AM, and midday peak hours and additional field observations, the amount of truck traffic varies from no trucks to up to 10 vehicles per hour along this section of Occidental Avenue S.
- The contiguous connection of Occidental Avenue S. between S. Atlantic Street and S. Horton Street would be interrupted by the vacation. To the extent that a freight vehicle uses Occidental Avenue S. to bypass 1st Avenue S. congestion during peak or other periods, this route would be altered. Use of Occidental Avenue S. could occur at realigned S. Massachusetts Street, as well as between S. Holgate and S. Horton Streets.

Comparison of Site Development Options

- Site related truck traffic is likely to decrease except during pre / post-event conditions with the Arena; office development would require onsite loading docks and would receive deliveries throughout the day.
- Added congestion on event days would impact general area freight along with other traffic; building under no vacation would impact area-wide traffic and freight to a lesser degree, but at a higher frequency.

Parking

Street Vacation Impact

- The elimination of this section of Occidental Avenue S. would result in the removal of on-street parking for this street segment. Based on the parking supply surveys and actual usage, approximately 60 spaces would be removed.

Comparison of Site Development Options

- With redevelopment under current zoning, the impact to on-street parking is not clear. It is likely that some amount of formal on-street parking would be provided along an improved curb. With new formal parking spaces and the development of commercial

uses near street level, the likelihood of higher local parking utilization on an everyday weekday basis would occur.

- With the Arena, approximately 60 on-street parking spaces would also be removed.

Traffic Safety

Street Vacation Impact

- Addition of pedestrians and bicycles to 1st Avenue S. for the Occidental Avenue S. street vacation could increase vehicle / pedestrian / bicycle conflicts. Sidewalk exists on 1st Avenue S.; thus, pedestrian safety would be unlikely to be noticeably impacted. Bicycles could be required to interact with 1st Avenue S. vehicular traffic, which has a higher level of activity as compared to Occidental Avenue S.; therefore, bicyclists would experience increased conflicts.

Comparison of Site Development Options

- In either case, additional pedestrian demands would contribute to increased use of local sidewalk including S. Holgate Street. Impacts of Arena related pedestrian peak demands are documented previously; the impacts of the development under current zoning would be less, but also contribute to existing issues with pedestrian accessibility crossing the railroad tracks to the east. Office pedestrians could orient eastward to connect to bus and / or Link light service for commuting.

2.10.5 Secondary and Cumulative Impacts

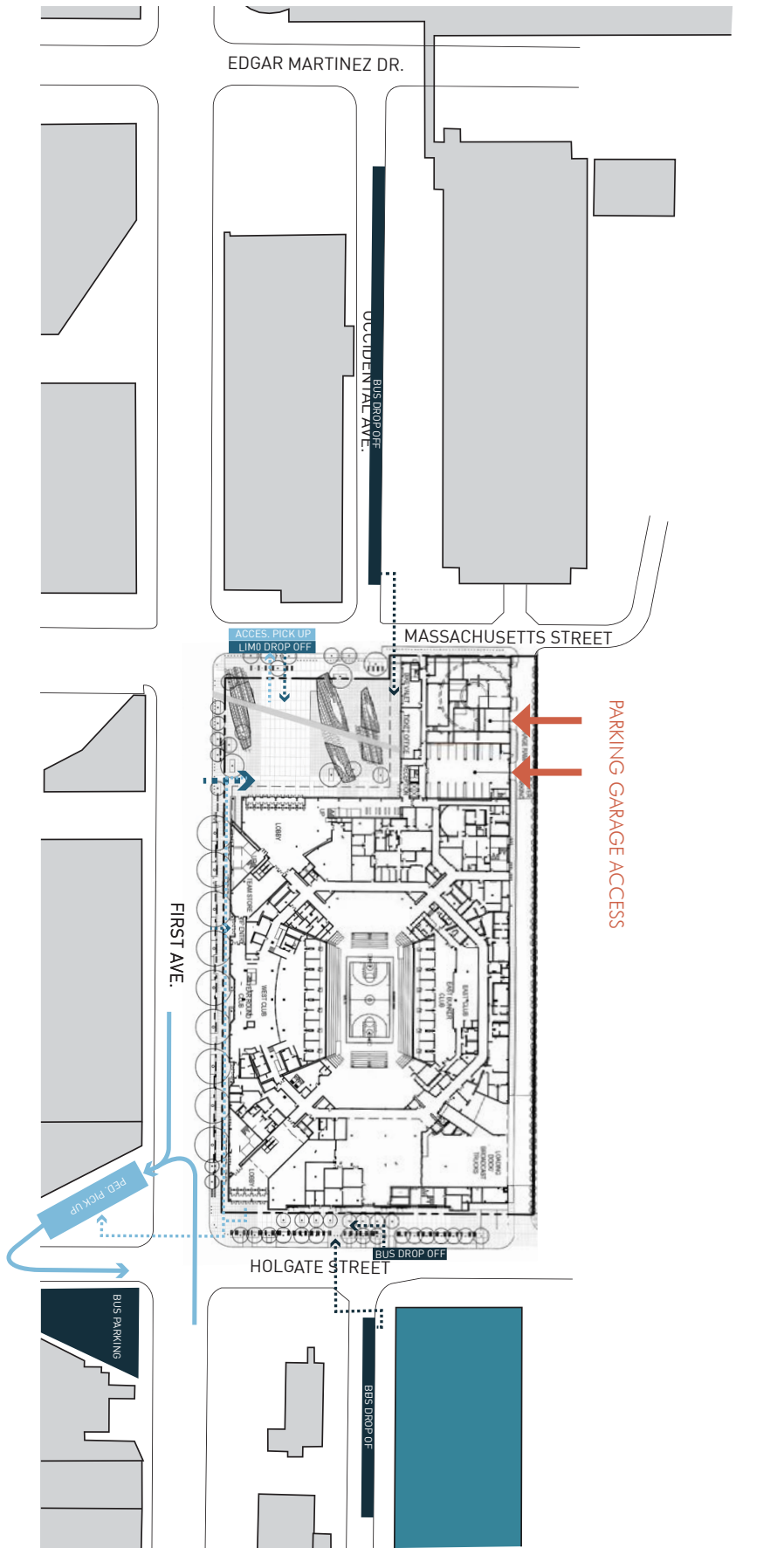
No secondary or cumulative impacts were identified.

2.10.6 Significant Unavoidable Adverse Impacts

The vacation of Occidental Avenue for the block between S. Holgate and Massachusetts Streets would result in the permanent interruption of a parallel route to 1st Avenue South from S. Horton Street to S. Atlantic Street. The operation of the intersection at S. Holgate Street at 1st Avenue S. would degrade to LOS F on event days with a capacity event in the Arena; the range of mitigation offered could reduce the level of impact at this location, depending on the effectiveness of the range of public information, traffic routing and management, and final location of any potential new parking facilities.

2.11 Site Access

The proposed Arena would be located north of S. Holgate Street, south of S. Massachusetts Street, and east of 1st Avenue S. The following describes the access and circulation in the vicinity of the site for pedestrians, bicyclists, vehicles, taxi, charter buses, and drop-off/pick-up activity. Figure 2–152 illustrates the proposed site plan for the Arena. Alternatives 2 and 3 would have similar access and circulation plans.



Stadium District Proposed Arena Site Plan

Seattle Arena



FIGURE
2-152

Pedestrians

The main entrance to the Arena would be located at 1st Avenue S. and S. Massachusetts Street at the northwest corner of the building. There would be secondary entrances along the 1st Avenue S. frontage and at the southwest corner of the building at 1st Avenue S. and S. Holgate Street. S. Holgate Street would also have service entrances. Along the site frontage, the sidewalks would be widened to 24-feet along 1st Avenue S. and S. Holgate Street. A large pedestrian plaza would be provided along the S. Massachusetts Street frontage, immediately north of the main building entrance.

Bicycles

The main access for bicyclists to the Arena would be the S. Massachusetts Street entrance. A bicycle valet with 87 spaces would be provided for attendees using this mode. In addition, 48 bicycle parking spaces would be provided outside the Arena along the 1st Avenue S. street frontage.

Vehicles

On-site parking would be provided for players, coaches, and staff. This parking would be accessed along a private driveway/connection at S. Holgate Street. As described in the evaluation of parking, attendee parking would be provided through shared parking agreements with existing facilities or construction of a new parking garage south of the proposed Arena along S. Holgate Street at Occidental Avenue S. If a new parking garage is provided, it is likely that sidewalks would be improved along the south side of S. Holgate between 1st Avenue S. and the parking garage to facilitate access between the garage and the Arena.

Service and Deliveries

Delivery and service vehicles would also access the site via the private connection at S. Holgate Street. Through an easement, this private connection could also be used to facilitate access and deliveries to the Safeco Field garage.

Charter Bus

Drop-off/pick-up for Charter buses would primarily occur along Occidental Avenue S. north of S. Massachusetts similar to what is currently done for Safeco Field events. In the case of multiple events where the area north of the Arena is used by another venue, charter bus staging could be located on Occidental Avenue S. south of S. Holgate Street. If a parking facility is developed on the South Warehouse site, charter bus staging could be integral or adjacent to this garage.

Drop-off/Pick-up

There would be two drop-off/pick-up areas for limos, taxi, other private cars and smaller buses. Personal vehicle drop-off would occur along S. Massachusetts Street in front of the main entrance for those with disabilities and at the northwest corner of the 1st Avenue S./S. Holgate Street intersection for other pedestrians. If a garage is developed south of S. Holgate Street, drop-off could be accommodated along the Occidental Avenue S. frontage.

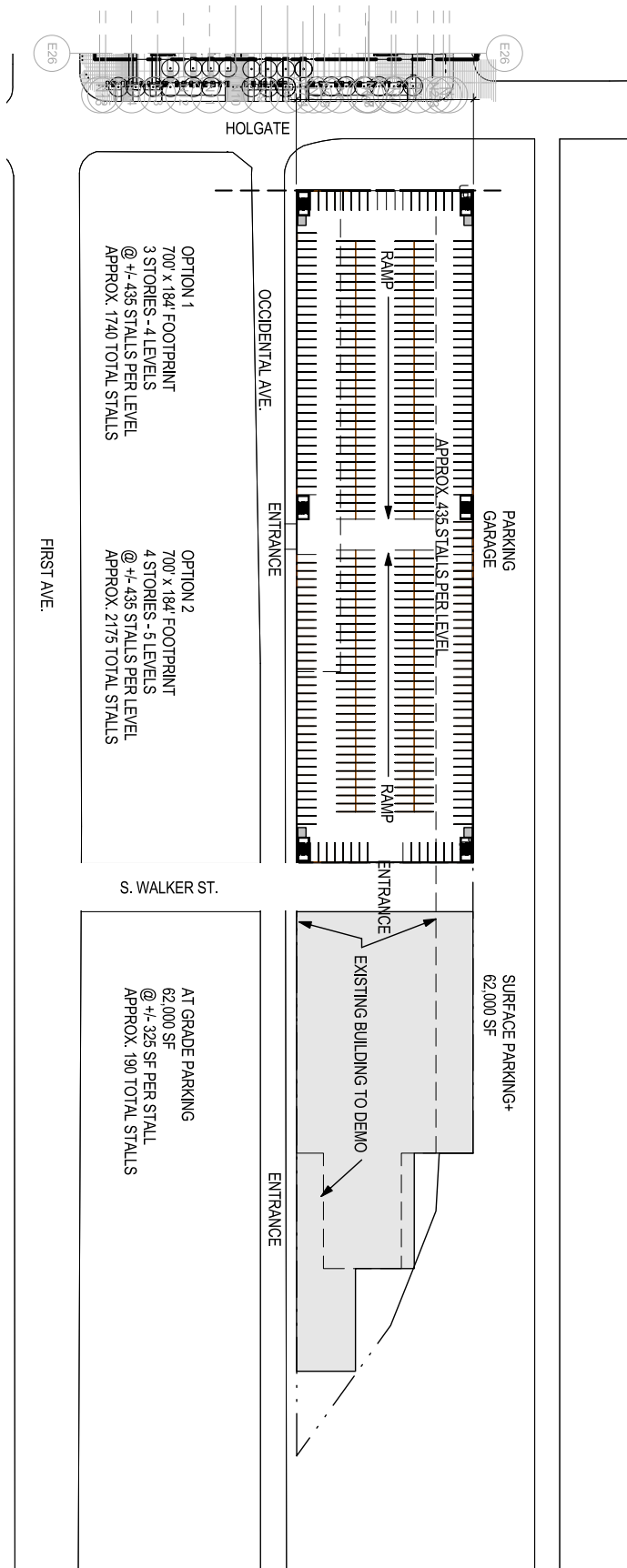
2.12 South Warehouse Garage Sensitivity Analysis

Although not included as an integral part of Alternative 2 or 3, an offsite parking garage could be provided to meet parking code requirements should a shared parking agreement not be reached with any existing garage operators to accommodate the code-required parking. This section summarizes the potential impacts associated with the construction of a 2,025 stall parking garage accessed primarily from Occidental Avenue S. and S. Walker Street at 1st Avenue S.

Potential impacts of the garage were evaluated within the vicinity of the Arena site to identify potential changes to previously presented analysis results. The analysis focuses on the primary transportation elements summarized throughout this document. This includes:

- Traffic volumes
- Pedestrian circulation patterns
- Intersection LOS at intersections within the Arena vicinity
- Freight and Goods
- Parking

The core methodology used to conduct the analysis of each element is consistent with that described previously in each of the respective sections. The analysis was conducted for forecast 2030 conditions based on the same trip generation used for both Alternative 2 Case S1 (Arena only) and Case S3 (Arena, Mariners, and CenturyLink events). The Safeco Field parking garage was assumed to be open and available in both Cases S1 and S3. Figure 2–153 illustrates the conceptual site plan for the South Warehouse parking garage.



NOT TO SCALE

South Warehouse Parking Garage Conceptual Site Plan

Table 2-44 provides a summary of the key transportation impacts associated with the construction of an approximately 2,025-stall parking garage on Occidental Ave S South of S. Holgate Street

**Table 2-44
Parking Garage Sensitivity Analysis**

Transportation Element	2030 Alternative 2 With Addition of South Warehouse Garage
Vehicular Traffic Volumes	<p>Provision of a parking garage on the South Warehouse site would result in a shift in traffic accessing the site. The resulting impacts of this shift in traffic distribution include:</p> <ul style="list-style-type: none"> • For both Case S1 and S3, weekday PM peak hour traffic volumes would generally be similar to the Alternative 2 analysis presented previously with approximately 7 and 16 percent more vehicles westbound vehicles on S. Atlantic Street for Case S1 and Case S3, respectively. Southbound on 1st Avenue S. between S. Holgate Street and S. Atlantic Street volumes would increase approximately 11 percent and 30 percent, respectively. • Peak hour activity associated with the garage loading is estimated to total 240 vehicles per hour (vph) under Case S1 and 665 vph under Case S3 during the weekday PM peak hour. • During post-event conditions, garage traffic is unlikely to use S. Holgate Street due to congestion on the roadway from rail crossing activity. Nearly all post-event traffic from the garage is likely to use S. Walker Street to access 1st Avenue S. and the wider roadway network.
Pedestrian Circulation	<p>The South Warehouse garage would double the amount of parking that occurs south of S. Holgate Street from approximately 10 percent to 20 percent. This would result in:</p> <ul style="list-style-type: none"> • Pedestrian volumes crossing S. Holgate Street at the Occidental Avenue S. and 1st Avenue S. intersections would increase. • There is an existing sidewalk with a width of 10-feet along the south side of S. Holgate Street between 1st Avenue S. and Occidental Avenue S. A review of post event pedestrians flows with the South Warehouse garage along the sidewalk shows severely restricted conditions without widening. At a minimum the sidewalk width would need to be approximately 16-feet to accommodate the post event conditions. <p>To prevent pedestrians from crossing S. Holgate Street north-south at Occidental Avenue S., physical barriers on the north sidewalk could be considered, which would encourage patrons to use the designated crosswalk at 1st Avenue S.</p>

Transportation Element	2030 Alternative 2 With Addition of South Warehouse Garage
Traffic Operations	<p>While there is a general shift to the south for traffic accessing the garage, overall intersection operations would be similar to the results previously presented without the garage. Locations where intersection levels of service would change include:</p> <ul style="list-style-type: none"> • 1st Avenue S. / S. Massachusetts Street worsens from LOS A to LOS B under case S1 and LOS B to LOS D under case S3 • 1st Avenue S. / S. Holgate Street worsens from LOS E to LOS F under case S1 • 1st Avenue S. / S. Lander Street worsens from LOS C to LOS D under case S1 and LOS D to LOS F • Occidental Avenue S. / S. Lander Street worsens from LOS C to LOS D under case s1 • 4th Avenue S. / S. Lander Street worsens from LOS D to LOS E under case s1 <p>Delays would increase at 1st Avenue S. / S. Atlantic Street and 1st Avenue S. / S. Holgate Street both operating at LOS F due to either increased vehicular and / or pedestrian volumes.</p> <p>In addition to these intersections, since much of the garage traffic would travel through 1st Avenue S./S. Walker Street, this unsignalized intersection would operate at LOS F with the construction of the garage. Under post-event conditions, intersection operations generally do not differ from without-garage conditions but the 1st Avenue S./S. Walker Street intersection would also operate at LOS F. The traffic control plans for the Arena would be adjusted to accommodate traffic shifts with garage users directed south on 1st Avenue S. via S. Walker Street.</p>
Traffic Safety	<p>Safety impacts within the overall study area would remain similar to Alternative 2; however, changes would occur in the immediate vicinity of the South Warehouse garage including:</p> <ul style="list-style-type: none"> • Additional pedestrians would cross S. Holgate Street resulting in more potential conflicts with vehicular traffic. • As noted above, traffic control plans would be updated to minimize use of S. Holgate Street by vehicular traffic and direct vehicles via 1st Avenue S. and Walker Street.
Freight and Goods	<ul style="list-style-type: none"> • Occidental Avenue S. south of S. Holgate Street provides access to local businesses and would experience increased traffic volumes and delay. • Additional delay to freight movement along S. Atlantic Street and 1st Avenue S. would occur due to increases in intersection delay.
Parking	<ul style="list-style-type: none"> • The parking garage would increase the available parking supply and reduce parking demand in other locations such as Downtown, Pioneer Square, and the International District.

3.0 SEATTLE CENTER AREA ALTERNATIVES (ALTERNATIVES 4 AND 5)

Within the Seattle Center area, the potential sites for the Seattle Arena are the existing KeyArena and Memorial Stadium. The Seattle Center is one of the main performing arts and entertainment areas in the City. There are “events” nearly every day throughout the year, from classes to performances to recreational sports, to larger events such as festivals and concerts. Larger events at Memorial Stadium currently have an attendance of approximately 5,000 people, while the average attendance at KeyArena is approximately 12,000 people. Figure 3–1 shows the Seattle Center study area. The study area was defined based on the primary travel patterns for traffic to and from the Seattle Center area, as well as anticipated parking impacts. The transportation analysis includes an evaluation of approximately 50 study intersections as illustrated on Figure 3–1.

3.1 Street System

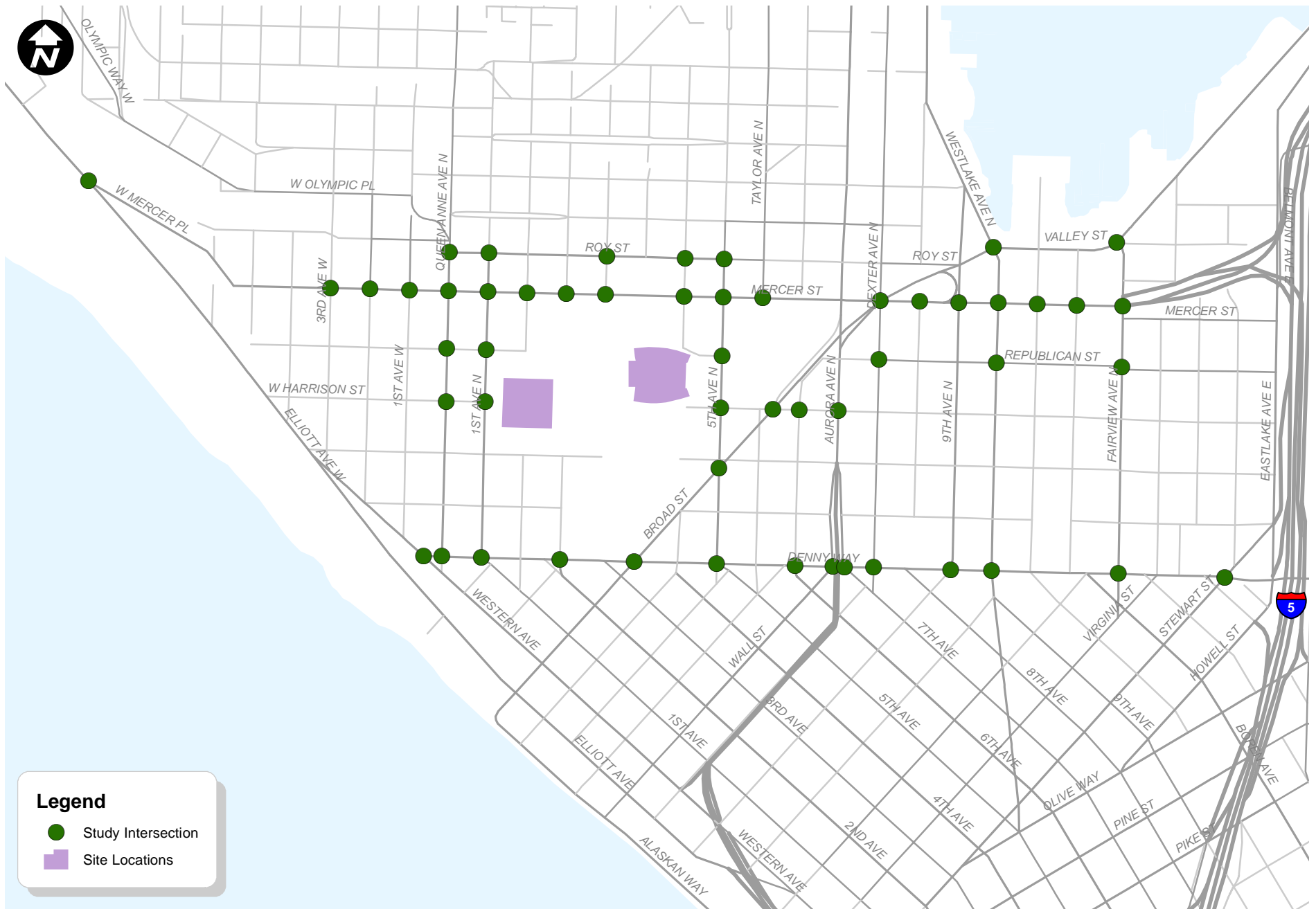
3.1.1 Methodology

The general approach to the evaluation of street system impacts included:

- Inventory of existing roadway infrastructure
- Identification of future transportation projects
- Evaluation of street system impacts considering Alternative 4 and 4 changes to the street network

3.1.2 Affected Environment

Regional access to the area is provided primarily via I-5 and SR 99 to the east. Table 3-1 summarizes the characteristics of major corridors within the study area, highlighting the roadway classification, speed limit, number of lanes, and general characterization of the non-motorized facilities. Roadways in the immediate vicinity of the Seattle Center consist mainly of principal arterials that are a combination of one-and two-way multi-lane streets with on-street parking and sidewalks. Signalized intersections are controlled with actuated traffic signals, which are generally coordinated with adjacent signals. Traffic on the minor approach of unsignalized intersections is controlled with stop signs. The primary arterial routes serving the area are Queen Anne Avenue N., 1st Avenue N. and 5th Avenue N. running north-south and Mercer Street and Denny Way running east-west.



Seattle Center Area Study Intersections

Seattle Arena

FIGURE

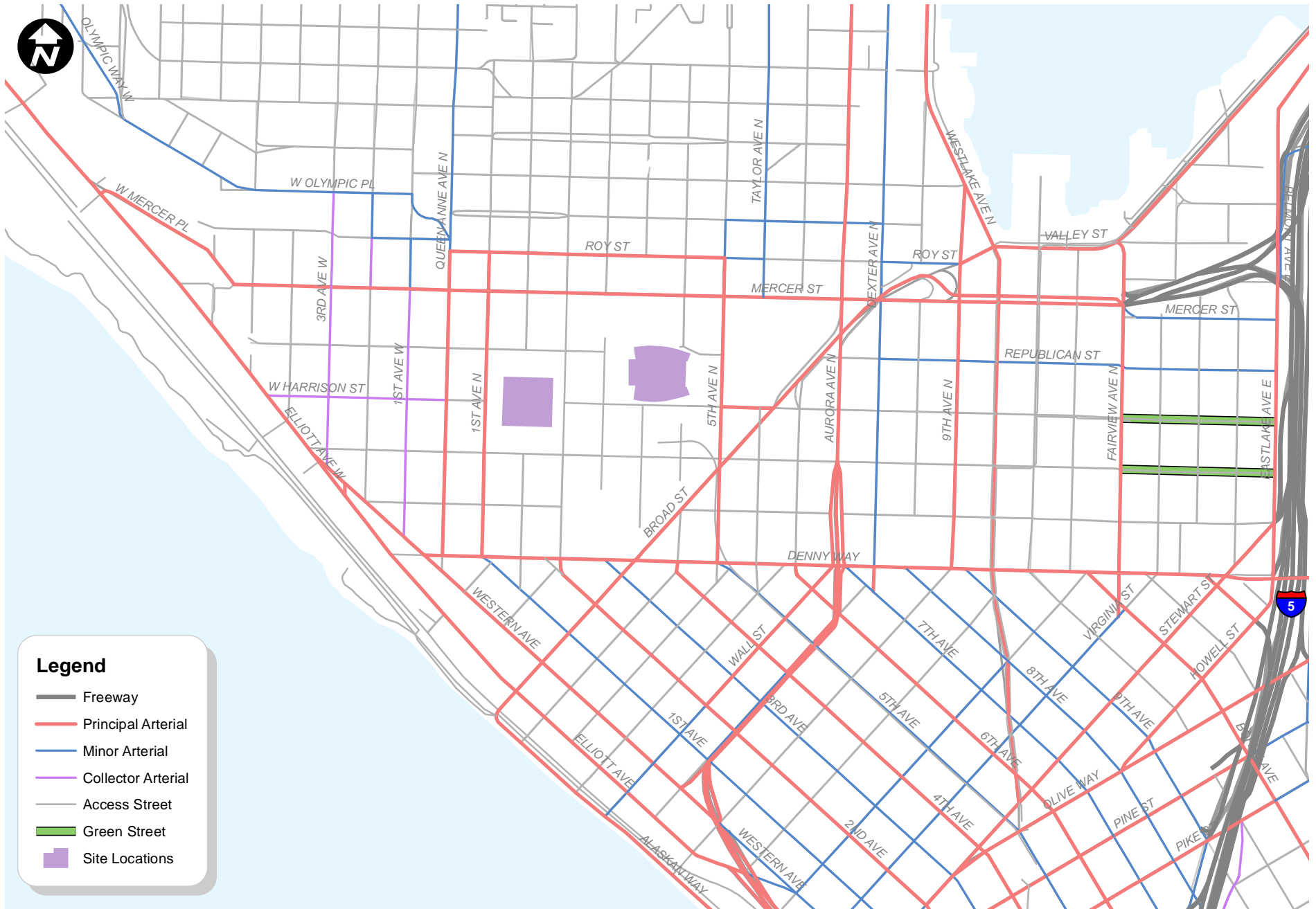
3-1

**Table 3-1
Seattle Center Area Existing Street System Summary**

Roadway	Arterial Classification	Posted Speed Limit	Number of Travel Lanes	Parking?	Sidewalks?	Bicycle Facilities?
Mercer St (West of Aurora Ave N.)	Principal Arterial	30 mph	4 lanes	Some Blocks	Free Flow	Most Blocks
Mercer St (East of Aurora Ave N.)	Principal Arterial	30 mph	5:00 to 7:00 lanes	Free Flow	Free Flow	No
W. Mercer Pl	Principal Arterial	30 mph	2 lanes	Free Flow	Some Blocks	No
W. Mercer St	Principal Arterial	30 mph	2 lanes	Free Flow	Free Flow	No
Roy St (West of 5th Ave N.)	Principal Arterial	30 mph	2 lanes	Most Blocks	Free Flow	Free Flow
Roy St (East of 5th Ave N.)	Access Street	30 mph	2 lanes	Free Flow	Free Flow	No
Denny Way	Principal Arterial	30 mph	4 to 5 lanes	No	Free Flow	No
Broad St	Principal Arterial	30 mph	4 to 5 lanes	No	Free Flow	No
1st Ave N.	Principal Arterial	30 mph	2 to 3 lanes	Most Blocks	Free Flow	Free Flow
Queen Anne Ave N.	Principal Arterial	30 mph	2 lanes	Most Blocks	Free Flow	Free Flow
Elliott Ave W.	Principal Arterial	35 mph	6 to 7 lanes	Most Blocks	Some Blocks	No
9th Ave N.	Principal Arterial	30 mph	2 lanes	Free Flow	Free Flow	Free Flow
Dexter Ave N.	Minor Arterial	30 mph	4 lanes	Free Flow	Free Flow	Free Flow
Westlake Ave N.	Principal Arterial	30 mph	4 lanes	Most Blocks	Free Flow	Most Blocks
Fairview Ave N.	Principal Arterial	30 mph	5 lanes	Most Blocks	Free Flow	No
Stewart St	Principal Arterial	30 mph	4 lanes	Some Blocks	Free Flow	Free Flow
Aurora Ave N.	Principal Arterial	40 mph	6 to 7 lanes	No	Most Blocks	No
5th Ave N.	Principal Arterial	30 mph	4 to 5 lanes	Most Blocks	Free Flow	No
Western Ave N.	Principal Arterial	35 mph	3 lanes	Most Blocks	Free Flow	No
Republican St	Minor Arterial	30 mph	2 lanes	Free Flow	Free Flow	No
Harrison St	Access Street	30 mph	NA	NA	Free Flow	Most Blocks
Valley St	Principal Arterial	30 mph	6 lanes	No	Free Flow	Free Flow

Figure 3–2 shows the street functional classifications for the study area. Unlike the Stadium District, the Seattle Center does not have event-related TCPs that change the use of intersections and roadways during events. There were TCPs for the Seattle Center area, when the Sonics NBA franchise played at the KeyArena, including manual traffic control at intersections and key garage exits, lane restrictions, etc. Currently, there are special event signal timing plans for the Mercer Street and Denny Way corridors to flush post-event traffic from the Seattle Center to I-5 and SR 99. This provides for faster egress than would otherwise occur with the surge in traffic after an event. It is noted that these were initiated at a time when Mercer Street was a four-lane one-way eastbound arterial connecting directly to I-5, and the KeyArena still accommodated the Sonics.

Several of the arterials within the Seattle Center area have freight designations. These designations include truck streets and seaport and intermodal connectors. These routes are used by freight operators to access Port of Seattle facilities and the region. Those designations are discussed further in the Freight and Goods section of the report



Seattle Center Area Street System

Seattle Arena

FIGURE

3-2

3.1.3 Impacts of No Action Alternative

The study area is undergoing major transportation system changes. A review of local and regional capital improvement programs and long-range transportation plans was conducted to determine planned (funded and unfunded) transportation projects that would impact the study area. The review included, but was not limited to, transportation plans from WSDOT, City of Seattle, King County, ST, and the Port of Seattle. Table 3-2 provides a summary of key future transportation projects in the study area. In addition, the table provides an understanding of how these transportation projects were incorporated into the No Action Alternative evaluation. Many of the major street system projects impacting vehicular movements would be completed by 2018. Projects slated to be completed beyond 2018 are primarily related to the non-motorized and transit system and would a decrease in dependence on the auto mode, during both typical commuter periods, as well as for events in the Seattle Center.

Following the tables is a more detailed discussion on how specific transportation projects impact the study area.

**Table 3-2
Seattle Center Area: Key Study Area Planned Transportation Projects**

Project Description	Responsible Agency	Expected Completion Date	Funded? ¹	Assumed in Analysis? ²	
				2018	2030
Alaskan Way Viaduct Replacement: SR 99 viaduct replaced with a tunnel between S. Royal Brougham Way and Mercer Street.	WSDOT	TBD ³	Yes	✓	✓
SR 520 Bridge Replacement: Construction of a new SR 520 floating bridge with 2 general purpose lanes and 1 HOV / transit lane per direction. Transit and non-motorized projects between SR 202 and I-5. The eastside and floating bridge segments are funded. The westside projects in the Montlake Interchange vicinity are not funded.	WSDOT	2017	Partial	✓	✓
Mercer Corridor: Convert Mercer Street, Roy Street, and Valley Street to two-way operations and improve non-motorized access.	SDOT	2015	Yes	✓	✓
First Hill Streetcar: Two-mile streetcar line serving Capitol Hill, First Hill and International District with connections to Link light rail, Sounder commuter rail and bus service.	SDOT	2015	Yes	✓	✓

Project Description	Responsible Agency	Expected Completion Date	Funded? ¹	Assumed in Analysis? ²	
				2018	2030
Link Light Rail: Extension of the regional light rail system. All segments are funded in ST2, but the year of completion may vary depending on revenue available to fund construction. The segments include: North—University District and Capitol Hill North—Northgate North—Lynnwood East—Bellevue and Redmond South—Extension to S. 200th Street South—Extension to Kent-Des Moines Road	Sound Transit	2016	Yes	✓	✓
		2021	Yes		✓
		2023	Yes		✓
		2023	Yes		✓
		2016	Yes	✓	✓
		2023	Yes		✓
King Street Station Multimodal Terminal: Improve station access including opening of the Grand Stairs to connect the upper Jackson plaza and King Street Station entrance and a new entrance on Jackson plaza. These connections will transform the station into a transportation hub with easy access to express buses, commuter trains and light rail service.	SDOT	2013	Yes	✓	✓
Elliott Bay Seawall Replacement: Replacement of the existing seawall along the Seattle waterfront from S. Washington Street to Broad Street.	SDOT	2019	Yes		✓
Waterfront Seattle: This project creates a continuous public waterfront between S. King Street and Bell Street and includes the design and construction of the new surface Alaskan Way and Elliott Way arterial streets.	SDOT	2014 and beyond	Partial	✓	✓
Southend Transit Pathway: This project creates a new transit corridor on Alaskan Way and Columbia Street.	SDOT / King County Metro Transit	2017	Yes	✓	✓
Convention Place TOD: Expansion of the Washington State Convention Center to include a reconfiguration or relocation of transit access, layover and passenger amenities at Convention Place Station. The EIS is under way for this project.	King County Metro Transit / King County	Unknown	No		

Project Description	Responsible Agency	Expected Completion Date	Funded? ¹	Assumed in Analysis? ²	
				2018	2030
Rapid Ride: Bus rapid transit service in 6 corridors (A through F) and the potential to expand into additional corridors in the future. Service has been initiated in 4 of the 6 corridors, and the E and F Lines are expected to start service in 2014.	King County Metro Transit	2014	Yes	✓	✓
Electric Trolleybus Fleet Replacement: Metro will replace its fleet of 159 trolleybus with modern low-floor vehicles providing more capacity on these routes.	King County Metro Transit	2015	Yes	✓	✓
Industrial Way Direct Access Ramps: This project would provide a direct connection from I-5 to and from the south to the SoDo Busway.	King County Metro Transit / WSDOT	Unknown	No		
Downtown Neighborhood Projects: Installation of pedestrian countdown signals and sidewalk repairs at the 1st Avenue S. intersections with S. Main Street and S. King Street.	SDOT	2013	Yes	✓	✓
S. Lander Street Grade Separation: This project grade separates S. Lander St. roadway and the BSNF mainline railroad tracks between 1st Avenue S. and 4th Avenue S.	SDOT	Unknown	No		

1. "Yes" means the project is fully funded for construction, "partial" means the project has some, but not complete funding for construction, and "no" means the project does not have any construction funding.

2. A check indicates that the project was assumed in the analysis related to the horizon year.

3. Due to construction delays, the timing of this is to be determined (TBD) per WSDOT's website March 30, 2015. The improvement was assumed in this analysis for both 2018 and 2030 conditions.

Planned projects assumed in the 2018 and 2030 analyses are described in more detail in the following sections.

3.1.3.1 2018 Planned Projects

The planned transportation projects assumed to be completed by 2018 and key features of each project are described below:

- **Mercer Corridor:** This project extends between I-5 and Elliott Avenue W. The main purpose is to improve the east-west connection in the area by turning Mercer Street into a two-way corridor and improving access for pedestrians and bicyclists. The project is separated into two phases, Mercer East and Mercer West. The impact to the study area of each phase is:
 - **Mercer East:** This portion of the project is located between Fairview Avenue N. and Dexter Avenue N. It provides two-way operations along both Mercer Street and Valley Street. The portion along Mercer Street is complete and has three travel lanes in each direction and sidewalks on both sides. Two new traffic signals are provided along Mercer Street at the Terry Avenue NE and Boren Avenue N. intersections. Valley Street is currently under construction and will

have one lane in each direction with bicycle and pedestrian improvements. The project is scheduled to be completed by summer of 2013.

- **Mercer West:** The portion stretches from Dexter Avenue N. to 5th Avenue W. Mercer Street will have three travel lanes in each direction between Dexter Avenue N. and 5th Avenue W., two lanes in each direction between 5th Avenue N. and 1st Avenue W., and one lane in each direction between 1st Avenue W. and 5th Avenue W. Roy Street will also be converted to have two-way operations with one lane of travel lane in each direction. Pedestrian and bicycle improvements will be provided along both Mercer Street and Roy Street, including bike lanes in both directions along Roy Street between 5th Avenue N. and Queen Anne Avenue N., a bike path on the north side of Mercer Street near the Aurora Avenue underpass, and new and / or improved sidewalks along the project corridor. This project is scheduled to be complete by mid-2015 and will connect to improvements made in the area related to the Alaskan Way Viaduct Replacement Project.
- **Alaskan Way Viaduct Replacement – North Portal:** This portion of the project provides connections transportation system in the Seattle Center area:
 - **Tunnel Access at Republican Street and 6th Avenue N.:** Access to SR 99 will be provided via new ramps at Republican Street. The northbound off-ramp traffic will exit to the east toward Dexter Avenue N. and the southbound traffic will merge onto SR 99 via a new 6th Avenue N. between Harrison Street and Mercer Street west of SR 99. The new 6th Avenue N. roadway will have one to two lanes in each direction and a traffic signal at the SR 99 ramp intersection.
 - **New Street Connections to Aurora Avenue N. (SR 99):** John Street, Thomas Street, and Harrison Street will connect to Aurora Avenue N. Thomas Street will have bike lanes between Dexter Avenue N. and 5th Avenue N. Aurora Avenue N. will have two travel lanes in each direction, an additional transit-only lane, and turn pockets between Denny Way and Harrison Street. The Denny Way intersections with John Street, Thomas Street, and Harrison Street will be signalized.

3.1.3.2 2030 Planned Projects

Transportation improvements assumed as part of the 2030 evaluation for the Seattle Center study area include:

- **Link Light Rail:** The regional light rail system is anticipated to extend beyond Seattle by 2030 with four extensions planned:
 - **Northgate:** The light rail will extend between the University extension and Northgate. The three locations where stations are planned are the U-District near NE 45th Street and Brooklyn Avenue NE, Roosevelt High School near 12th

Avenue NE and NE 65th Street, and Northgate Mall / Transit Center near NE 103rd Street. This project is under construction and service is expected in 2021.

Lynnwood: This segment will connect from the northern point of the Northgate extension and terminate in Lynnwood. Several stations are planned along the route at NE 130th / 145th / 155th Street in Seattle / Shoreline, NE 185th Street in Shoreline, 236th Street SW in Mountlake Terrace, and 200th Street SW in Lynnwood which follows the I-5 corridor. Construction would begin in 2018 with service expected to begin in 2023.

- **East:** This extension will link Bellevue and Mercer Island to the International District / Chinatown Station in Seattle. Several stations are planned along the route: Rainier Avenue S.; Mercer Island; South Bellevue, East Main, Bellevue Transit Center, Overlake Hospital, 120th Avenue NE, and 130th Avenue NE in Bellevue; and Overlake Village and Overlake Transit Center in Redmond. Construction is expected to begin in 2015 with service in 2023.
- **South:** This segment would extend Link from S. 200th Street in SeaTac to add one additional station at Kent-Des Moines Road in the vicinity of Highline Community College. The project is anticipated to open for service in 2023.

3.1.4 Impacts of Alternative 4

Construction impacts related to the street system would mostly occur on Mercer Street, Denny Way, and 1st Avenue N. adjacent to the site. Street closures and other disruptions to the street system would be minimized and scheduled during the off-peak periods to minimize impacts to the system.

Planned offsite improvements in the study area for 2018 and 2030 conditions are consistent with the No Action Alternative. No additional changes offsite or within the Seattle Center area street system have been identified as a result of Alternative 4. No plans for an arena on the KeyArena site have been prepared.

3.1.5 Impacts of Alternative 5

Construction impacts related to the street system would mostly occur on Mercer Street, Denny Way, and 5th Avenue N. adjacent to the site. Street closures and other disruptions to the street system would be minimized and scheduled during the off-peak periods to minimize impacts to the system.

Planned offsite improvements in the study area for 2018 and 2030 conditions are consistent with the No Action Alternative. No additional changes offsite or within the Seattle Center area street system have been identified as a result of Alternative 5. No plans for an arena on the Memorial Stadium site have been prepared.

3.1.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements. The following identifies those potential mitigation measures considered to have a high influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 4 and Alternative 5.

- Construction management plan
- Central construction coordinator
- Street and sidewalk closure detour plans (construction)

3.1.7 Secondary and Cumulative Impacts

No secondary or cumulative impacts have been identified.

3.1.8 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts are expected.

3.2 Public Transportation

3.2.1 Methodology

The general approach to the evaluation of public transportation impacts included:

- Determination of existing transit passenger capacity during pre-and post-event periods for weekday and weekend events
- Identification of future 2018 and 2030 growth in ridership and change in capacity
- Consideration of event ridership associated with event cases for No Action and Alternatives 4 and 5
- Evaluation of capacity needed to support Alternatives 4 and 5
- Consideration of speed and reliability under existing and future conditions

The analysis focuses on weekday event conditions because transit ridership and motorized volumes are highest during this timeframe; this provides a conservative estimate of transit capacity and reliability impacts. The Seattle Center area transit capacity and ridership was developed in the same manner described for the Stadium District.

In Fall 2014, Seattle voters approved Proposition 1 to provide funding to maintain current transit service on existing routes in the City of Seattle. The measure came after King County Metro had announced that it would cut 180,000 service hours starting in February 2015.

Transit capacity and route assumptions were not revised to reflect Proposition 1 in this analysis. Proposition 1 affects only Seattle routes, which serve less than half of the event patrons who use transit; thus, the impact of the service change would be minimal. The added transit capacity is not anticipated to change the analysis results in the over capacity zones. Also, the specific schedule changes resulting from Proposition 1 have not yet been released.

3.2.2 Affected Environment

Regional public transit is provided by King County Metro Transit and the City of Seattle and offers a number of ways for people to access Seattle Center area including bus, streetcar, and monorail transit as illustrated on Figure 3–3. Figure 3–4 summarizes bus routes serving the Seattle Center by roadway, stop location, and general downtown Seattle service areas.

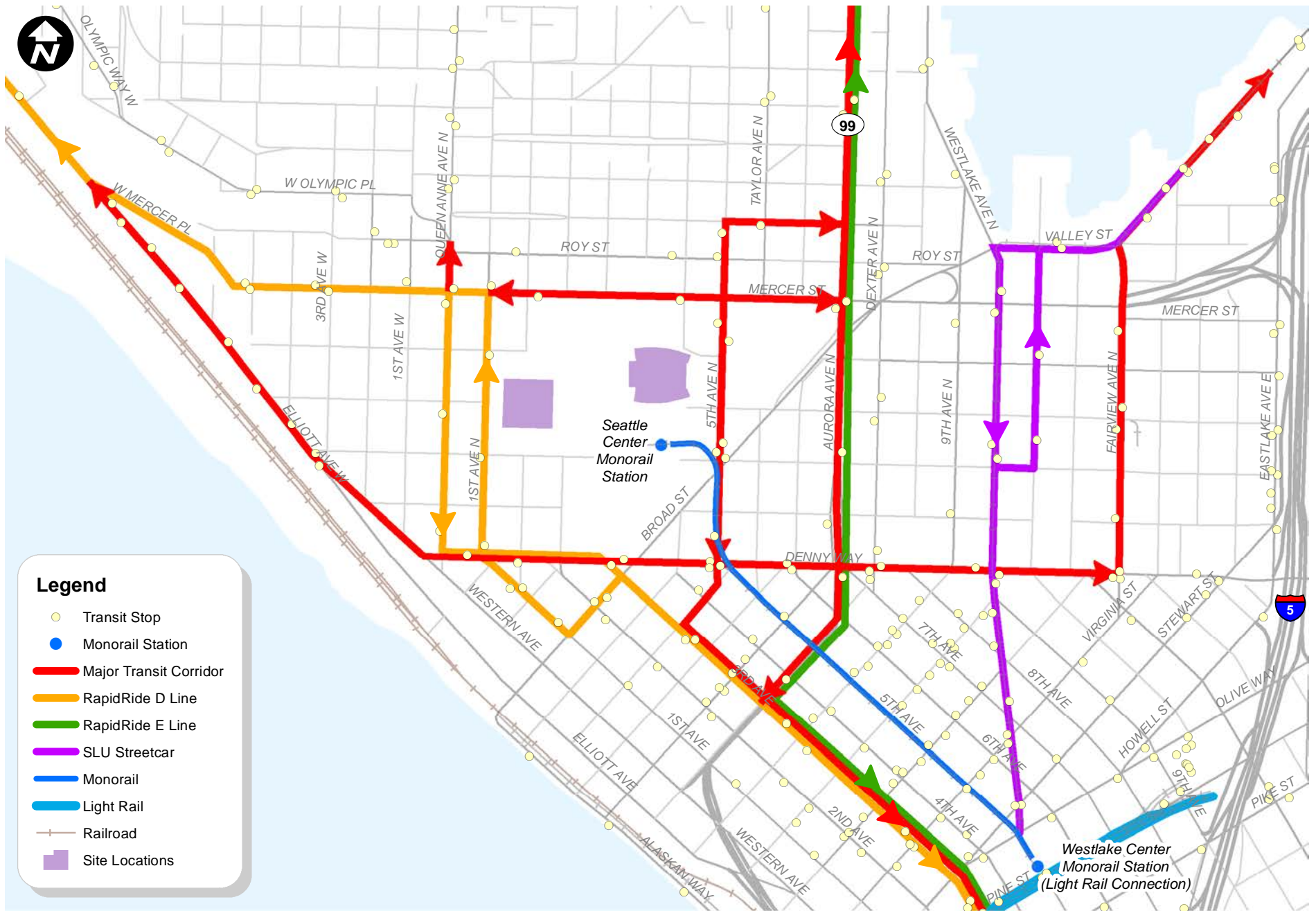
3.2.2.1 Bus Transit

Bus transit for the Seattle Center area is concentrated along 1st Avenue, Queen Anne Avenue N., Mercer Street, Denny Way, 5th Avenue, Aurora Avenue N., and Dexter Avenue N. (see Figure 3–3). Bus service to the area is currently provided by King County Metro Transit.

The number of buses in service on routes through the Seattle Center area during the peak weekday afternoon commuter period is higher leaving the downtown Seattle core than entering. Also, the number of buses in service in the late evening is less than the weekday afternoon commuter period. Similarly, bus headways are shorter during peak weekday afternoon commuter periods (10 to 30 minutes) compared to late evening and weekend service (30 to 60 minutes).

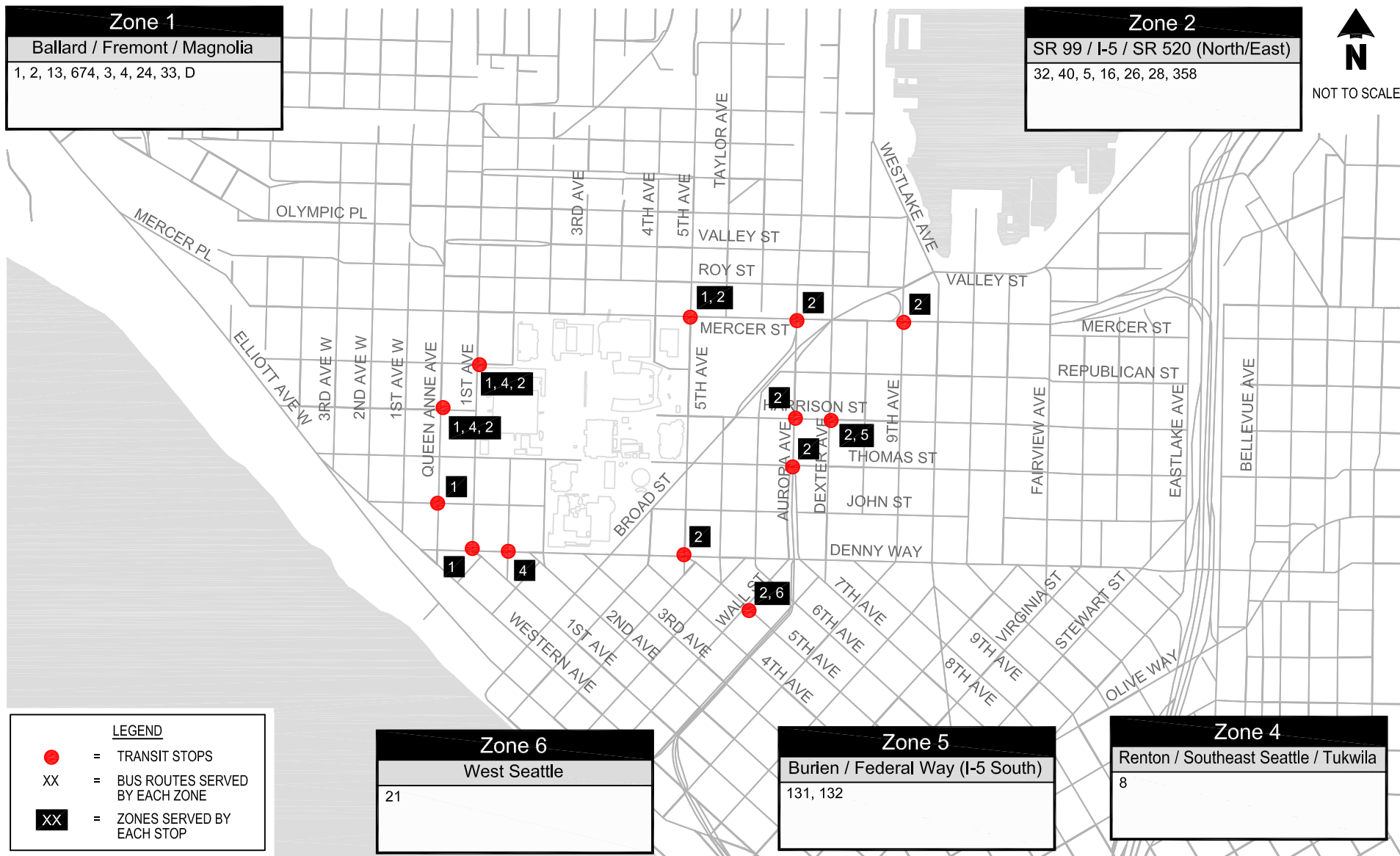
Bus Ridership: Existing bus ridership was provided by King County Metro Transit for buses serving the Seattle Center area that travel to downtown Seattle from 5:00 to 7:00 PM and out of downtown Seattle from 9:00 to 11:00 PM. There is no ST service to Seattle Center area. The available bus service was grouped into six service zones or corridors consistent with the Stadium District analysis:

- Zone 1: Magnolia, Ballard and Fremont area of Seattle
- Zone 2: Along SR 99, I-5, and SR 520, and areas to the north and northeast
- Zone 3: Bellevue, Issaquah, and areas east along I-90 to the east
- Zone 4: Southeast Seattle, Tukwila, and Renton
- Zone 5: South on I-5, Federal Way, Burien, and areas to the south
- Zone 6: West Seattle



Seattle Center Area Transit Facilities and Corridors

Seattle Arena



NOTE: No Zone 3 service provided in study area.

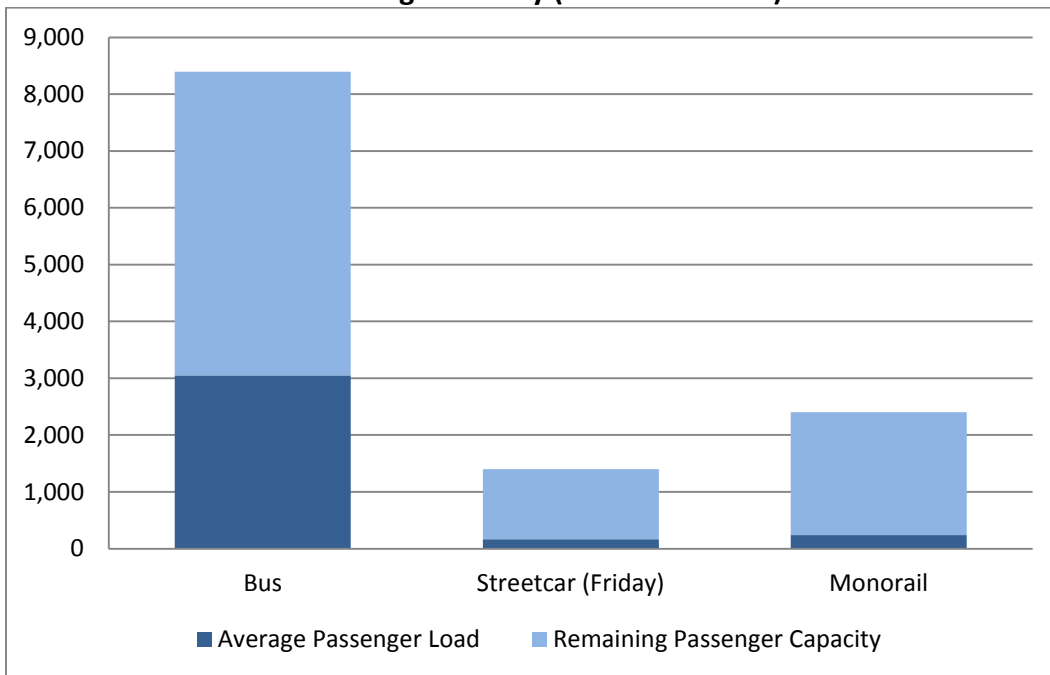
Seattle Center Area Bus Routes

Seattle Arena

FIGURE
3-4

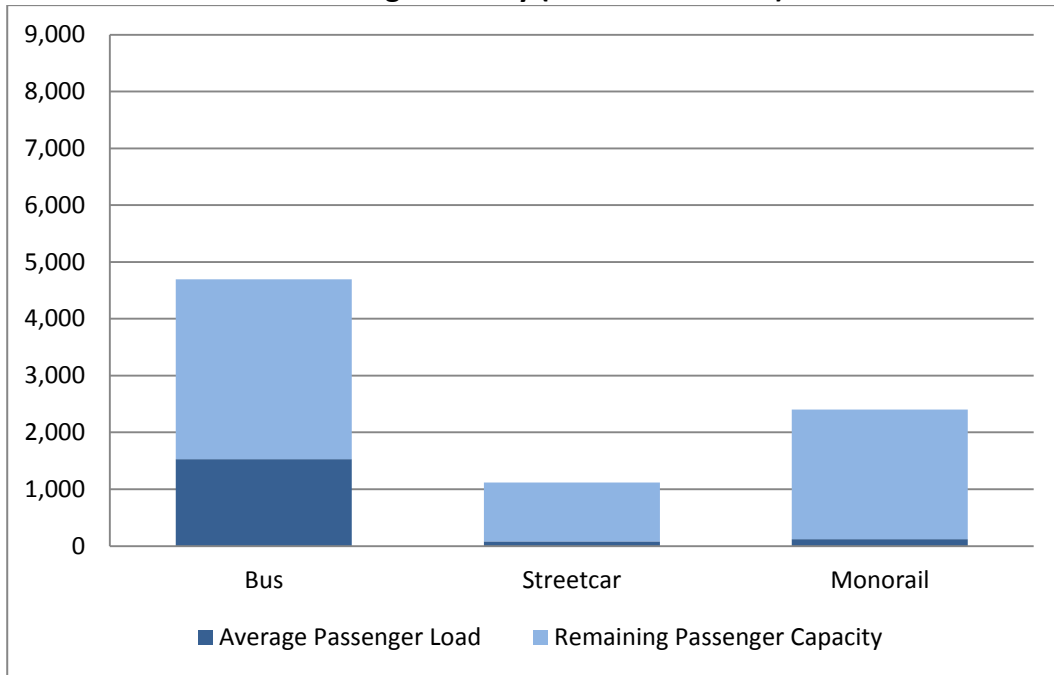
The capacity of these transit services to transport people to and from the Seattle Center area varies by day (weekday or weekend service) and by the time of day (peak commuter period, evening services, etc.). This section summarizes the total passenger capacity and available passenger capacity to and from the Seattle Center area during a weekday evening for transit modes; this includes inbound to downtown Seattle transit service from 5:00 to 7:00 PM and outbound from downtown Seattle transit service from 9:00 to 11:00 PM. The total and available passenger capacities for an average weekday on all available transit services are illustrated on Figure 3–5 and Figure 3–6.

**Figure 3–5 Seattle Center Area Transit Passengers Inbound
– Existing Weekday (5:00 to 7:00 PM)**



Note: Streetcar and monorail Friday service was used for outbound passenger capacity because outbound service is not provided after 9 PM Monday through Thursday.

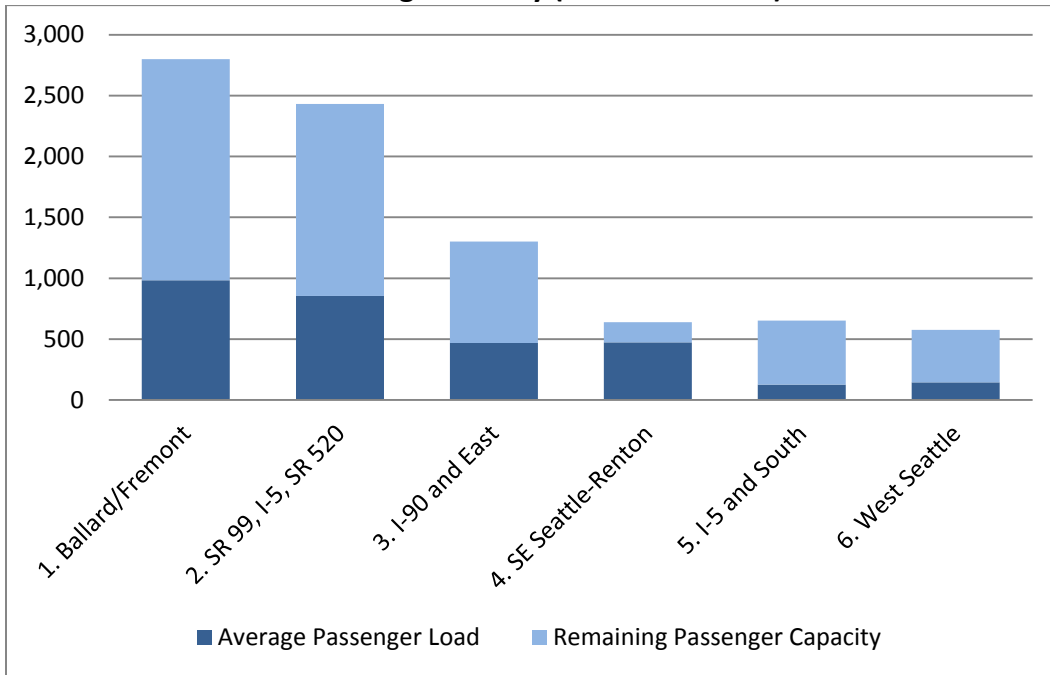
**Figure 3–6 Seattle Center Area Transit Passengers Outbound
– Existing Weekday (9:00 to 11:00 PM)**



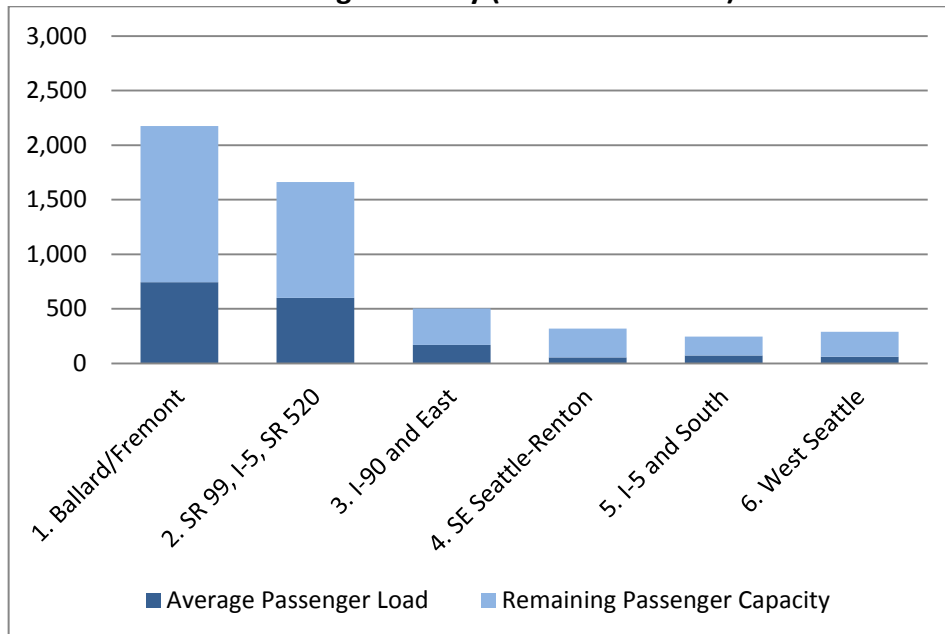
Note: Streetcar and monorail Friday service was used for outbound passenger capacity because outbound service is not provided after 9 PM Monday through Thursday.

Bus transit provides almost double the passenger capacity for bringing people to an event from 5:00 to 7:00 PM (see Figure 3–7) compared to leaving an event from 9:00 to 11:00 PM (see Figure 3–8). Also, the amount of bus passenger capacity varies to the different areas of King County; there is more bus service to Ballard / Fremont and along SR 99, I-5, and SR 520 compared to other service centers, for buses operating through the Seattle Center area. The occupancy rate for these buses, which is the total number of passengers on buses through the Seattle Center area divided by the total passenger capacity of those buses, is approximately 36 percent for both inbound (5:00 to 7:00 PM) and approximately 33 percent outbound (9:00 to 11:00 PM) service. This means that approximately 3,000 people were traveling to the Seattle Center area and 1,500 people were traveling away from the Seattle Center area to areas served by the selected King County Metro Transit routes. Also, the remaining capacity on all buses could accommodate approximately 5,350 passengers inbound and 3,150 outbound during these time frames. During peak commute periods and event days, specific buses and routes within the six zones experience higher ridership and overcrowding.

**Figure 3–7 Seattle Center Area Bus Passengers Inbound
– Existing Weekday (5:00 to 7:00 PM)**



**Figure 3–8 Seattle Center Area Bus Passengers Outbound
– Existing Weekday (9:00 to 11:00 PM)**



Weekday bus service (passenger capacity) is reduced by approximately 30 percent from 5:00 to 7:00 PM on weekends and approximately 10 percent from 9:00 to 11:00 PM. Based on King County Metro Transit ridership, the average number of passengers is approximately 30 percent

less on weekends from 5:00 to 7:00 PM compared to weekdays and almost no change from 9:00 to 11:00 PM.

Speed and Reliability. On-time performance information was provided by King County Metro Transit for routes serving the Seattle Center area, which was used to determine the reliability of buses to meet schedules. Bus reliability is one indicator for how attractive bus transit is to people as a choice for making a trip.

King County Metro Transit bus service to downtown Seattle from 5:00 to 7:00 PM was on-time approximately 75 percent of the time. This indicates that buses were no more than 1 minute early to no more than 5 minutes late 75 percent of the time. Buses leaving downtown Seattle from 9:00 to 11:00 PM were on-time approximately 77 percent of the time.

The travel time for buses (an indication of speed and reliability) would be similar to general purpose traffic because they operate in mixed flow through the Seattle Center area (not including the time it takes for buses to serve bus stops). The traffic operations impact analysis of this report provides a detailed evaluation of three key routes within the Seattle Center area including Mercer Street, Denny Way, and 5th Avenue, which have bus service (see Section 3.6 Traffic Operations Table 3-12).

Other Service Information. The effects of Proposition 1, which was passed in Fall 2014 to fund current levels of King County Metro bus service in the City of Seattle through 2020, were not taken into account in this analysis for reasons mentioned at the beginning of this section (Section 3.2.1 Methodology).

ST provides additional bus service as necessary to accommodate passenger loads to special events. Prior to events, an assessment of extra service is determined based on ticket sales for the event. Historically, when the Sonics were playing at KeyArena, ST notes that they did not typically experience a notable ridership uptake because getting to KeyArena would involve a transfer.

3.2.2.2 South Lake Union Streetcar

The SLU Streetcar provides service between SLU and Westlake shopping center with five intermediate stops along Westlake Avenue and Terry Avenue N. in both directions. Stops are located within a 10-minute walk of the Seattle Center area; the closest stop is located at the intersection of Westlake Avenue and Thomas Street. Currently, the streetcar operates on 15-minute headways. The SLU Streetcar operates from 6:00 AM to 9:00 PM Monday through Thursday, and 6:00 AM to 11:00 PM on Friday and Saturday. Sunday service is operated from 10:00 AM to 7:00 PM. With the existing service, streetcar service would not be available after events from Sunday to Thursday. Weekday streetcar service (passenger capacity) is reduced by approximately 20 percent from 5:00 to 7:00 PM on weekends and no change from 9:00 to 11:00 PM.

Streetcar Ridership

As illustrated on Figure 3–5 and Figure 3–6, streetcar transit provides a total capacity for approximately 1,120 passengers traveling inbound and outbound to the Seattle Center area (the Streetcar does not provide outbound service Monday through Thursday). The City of Seattle provided a limited sampling of daily streetcar passenger observations summarized by stop; on average, the SLU Streetcar carried 2,200 passengers. By applying the daily average load at stop closest the Seattle Center area, streetcars would be carrying approximately 165 passengers inbound and 80 passengers outbound from Westlake Center in downtown Seattle. This means the SLU Streetcar has a remaining passenger capacity of approximately 1,235 inbound passengers (see Figure 3–5) and 1,040 outbound passengers (see Figure 3–6). Because the average daily passenger load was used in this analysis, it is likely the passenger loads are higher from 5:00 to 7:00 PM and lower from 9:00 to 11:00 PM.

3.2.2.3 Monorail

The Seattle Center Monorail, which is owned by the City of Seattle, provides a non-stop connection between Westlake Center (near 5th Avenue and Pine Street) to Seattle Center. The Monorail operates on 10-minute headways from 7:30 AM to 9:00 PM Monday through Thursday, and from 7:30 AM to 11:00 PM on Friday. The Seattle Center Monorail also provides a direct connection to light rail at Westlake Center. Weekend monorail service or passenger capacity from 5:00 to 7:00 PM is the same as weekday service.

Monorail Ridership

Existing monorail ridership was provided by Seattle Monorail Services, the operator of the Seattle Center Monorail. Today, monorail transit provides a total capacity for approximately 2,400 passengers traveling inbound and outbound to Seattle Center. As illustrated on Figure 3–5 and Figure 3–6, monorail transit has approximately 240 passengers from Seattle Center to Westlake Center (inbound to downtown Seattle) from 5:00 to 7:00 PM and approximately 120 passengers to Seattle Center from 9:00 to 11:00 PM (Friday-only because service stops at 9:00 PM Monday through Thursday). This means the remaining capacity on monorail could accommodate approximately 2,160 passengers inbound and 2,280 outbound during these time frames.

Other Service Information

Seattle Monorail Services noted that monorail ridership increases by approximately 150 to 200 people with events at KeyArena such as concerts and Sonics games. There is a slight increase in ridership of approximately 40 to 50 passengers with events at Safeco Field and CenturyLink Field.

3.2.2.4 Washington State Ferries Transit

WSF provides ferry service to Seattle at Colman Dock, located near Alaskan Way and Yesler Way. Colman Dock is approximately one and a half miles south of the Seattle Center area. Ferries to / from Seattle serve Bainbridge Island and Bremerton. The ferries have arrivals and

departures scheduled throughout the day with headways of approximately 60 minutes for Bainbridge Island service and approximately 75 minutes for Bremerton service. Ferries serving both of these routes are some of the largest ferries in WSF's fleet, providing combined vehicle and passenger service. According to WSF's website, these ferries are capable of transporting 2,500 passengers per trip, in addition to vehicles. Weekend ferry service (passenger capacity) increases by approximately ten percent over weekday ferry service.

Ferry Ridership

WSF Colman Dock service provides a total capacity for approximately 7,300 passengers traveling inbound to the Seattle Center area from 5:00 to 7:00 PM and 9,800 passengers outbound from 9:00 to 11:00 PM. Currently, WSF only collects ridership information for westbound (outbound) ferries at Colman Dock. The eastbound (inbound) ridership from 5:00 to 7:00 PM was estimated by assuming westbound passengers leaving from 7:00 to 9:00 AM (2012 counts) would return to Seattle from 5:00 to 7:00 PM. Also, this ridership was increased by ten percent to account for people traveling to Seattle for events not related to the Seattle Center. These assumptions result in an average inbound passenger load of approximately 210 passengers. During May 2012 service, ferries had an average load of approximately 640 passengers traveling outbound from 9:00 to 11:00 PM.

3.2.3 Impacts of No Action Alternative

This section describes the impacts of the No Action Alternatives for analysis years 2018 and 2030. As compared to weekday, weekend service characteristics were assumed to be similar to existing conditions.

3.2.3.1 Year 2018

The Alaskan Way Viaduct Replacement project would reconnect John Street, Thomas Street and Harrison Street, which were previously bisected by SR 99. This improvement was not assumed to change ridership, but would provide alternative pedestrian connections to and from the SLU Streetcar and bus transit routes to the Seattle Center area. The new fleet of King County Metro Transit trolley buses are anticipated to reduce bus loading / unloading times at bus stops, but were not assumed to impact passenger demand or capacity.

For all transit modes serving the Seattle Center, no change in passenger capacity (service levels) was assumed because of the uncertainty of transit funding.

Bus Transit

As described in the methodology, the number of bus riders was anticipated to increase by approximately two percent annually from 2013 to 2018. Headways were assumed to remain unchanged. King County Metro Transit Rapid Ride E-Line began service after this analysis was completed and has increased service in the study area. Bus transit passenger loads would increase by approximately 710 inbound passengers and 545 outbound passengers compared to existing conditions for No Action Case K2/M2 (this includes transit riders for 12,000 patron

events at KeyArena and 5,000 patron events at Memorial Stadium as well as background growth).

As illustrated on Figure 3–9 and Figure 3–10, the total passenger loads for No Action Case K2/M2 could be accommodated with assumed bus service levels for all service zones. Buses do not operate directly from Seattle Center to I-90 in the evening and event attendees would be required to use other bus routes, monorail, or streetcar to transfer to bus service to the east in downtown Seattle. The remaining passenger capacity on these modes is sufficient to accommodate the approximately 290 event attendees connecting from the Seattle Center area to east side transit service in downtown Seattle (see Figure 3–11 and Figure 3–12). The number of event attendees required to transfer would be less for other No Action scenarios because there are less event attendees.

Because the No Action Case K2/M2 scenarios has the highest assumed passenger demand, the No Action Case K1 (12,000 patrons) and Case M1 (5,000 patrons) could also be accommodated. Similar to existing conditions, some bus routes would experience higher levels of passenger ridership and potentially overcrowding.

Figure 3–9 Seattle Center Area Bus Transit Inbound – 2018 No Action Case K2/M2

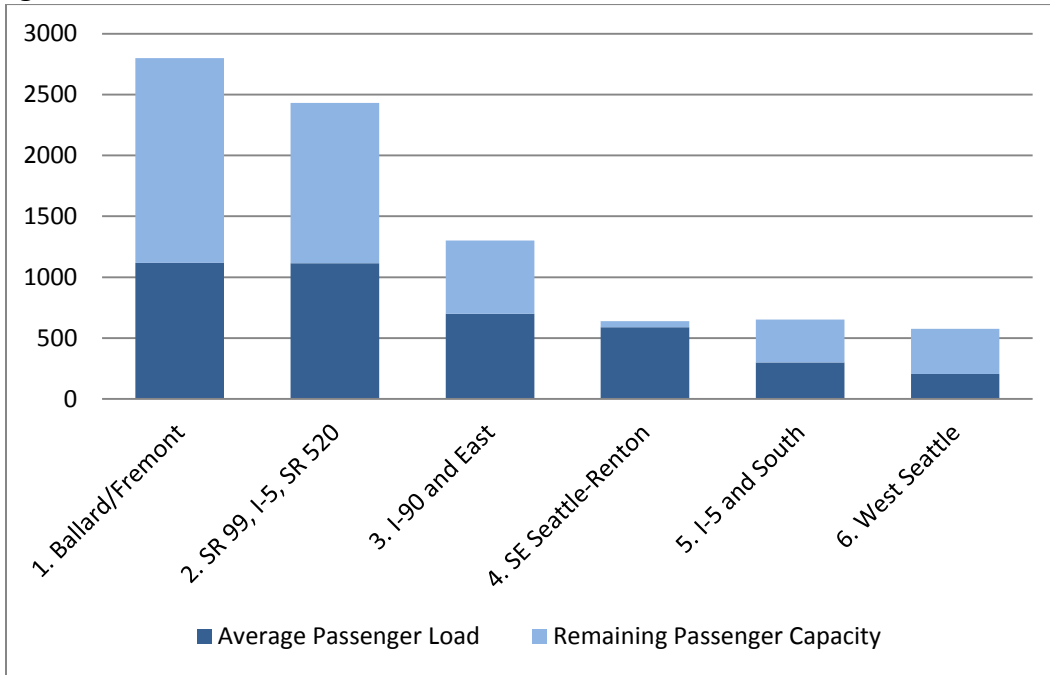
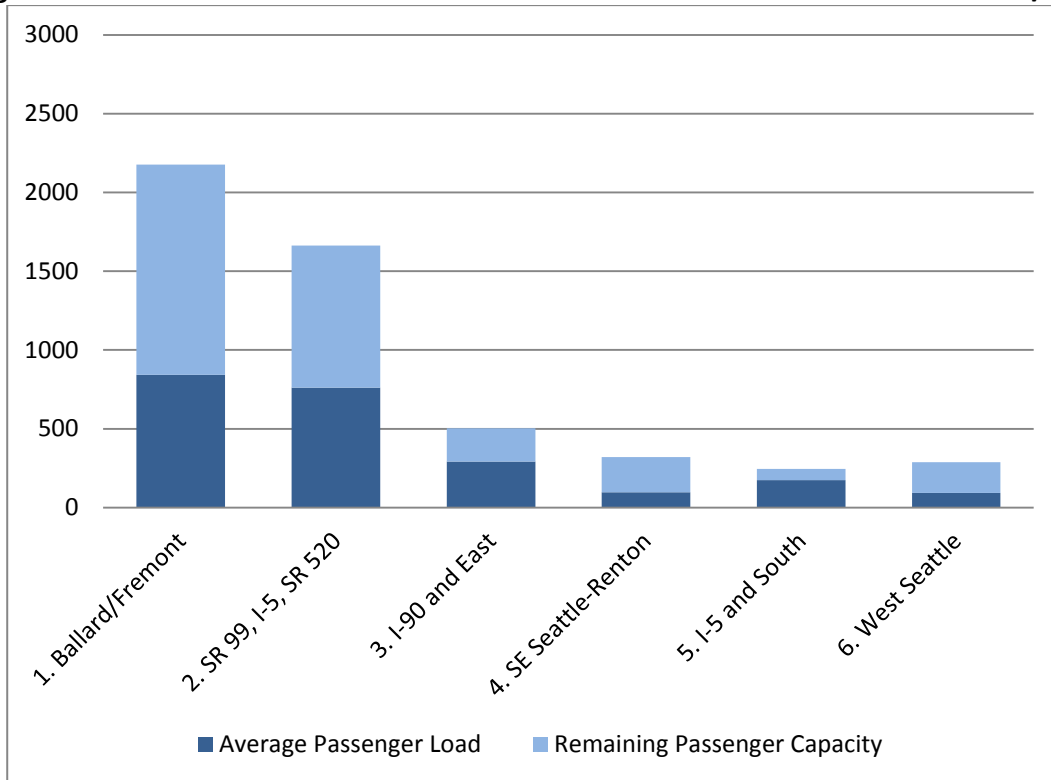


Figure 3–10 Seattle Center Area Bus Transit Outbound – 2018 No Action Case K2/M2



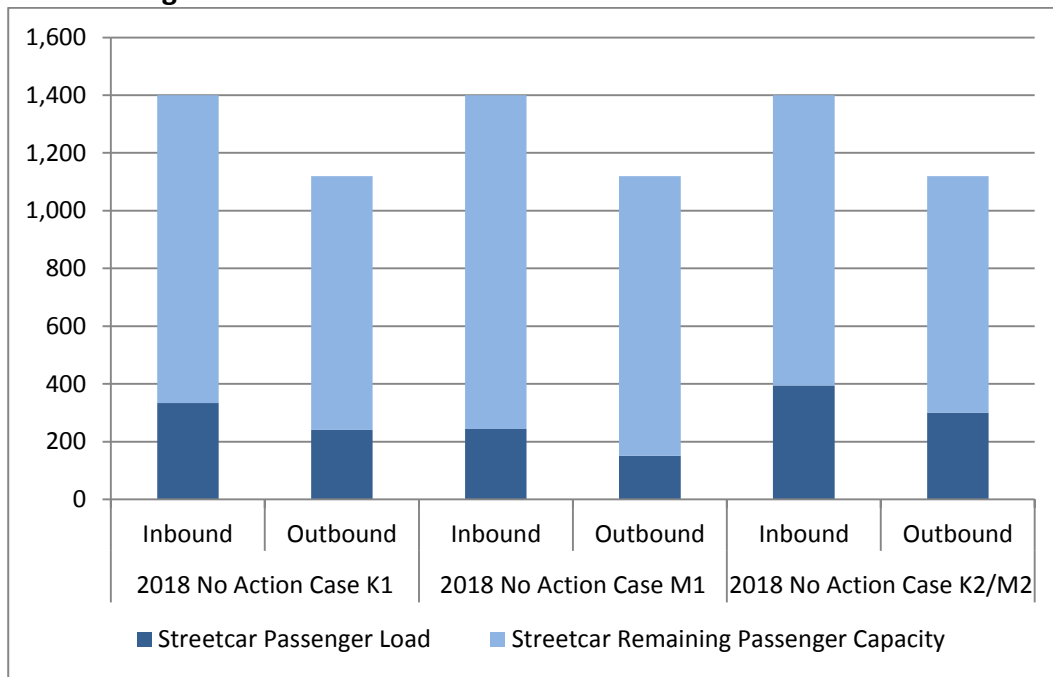
The travel time for buses (an indication of speed and reliability) would be similar to general purpose traffic because they operate in mixed flow through the Stadium District (not including the time it takes for buses to serve bus stops). As indicated in the traffic operations section of

this report, travel times under 2018 conditions increase from existing conditions and further increase with the addition of event traffic, compared to existing conditions (see Section 3.6 Traffic Operations Table 3-14).

Streetcar Transit

The number of people who would use streetcar transit was anticipated to increase by approximately two percent annually from year 2013 to year 2018. Headways were assumed to remain unchanged. Streetcar passenger loads would increase by approximately 230 inbound passengers and 220 outbound passengers for No Action Case K2/M2 compared to existing conditions. As illustrated on Figure 3–11, No Action Case K2/M2 has the highest assumed passenger demand and could be accommodated with existing streetcar service levels, No Action Case K1 and Case M1 could also be accommodated.

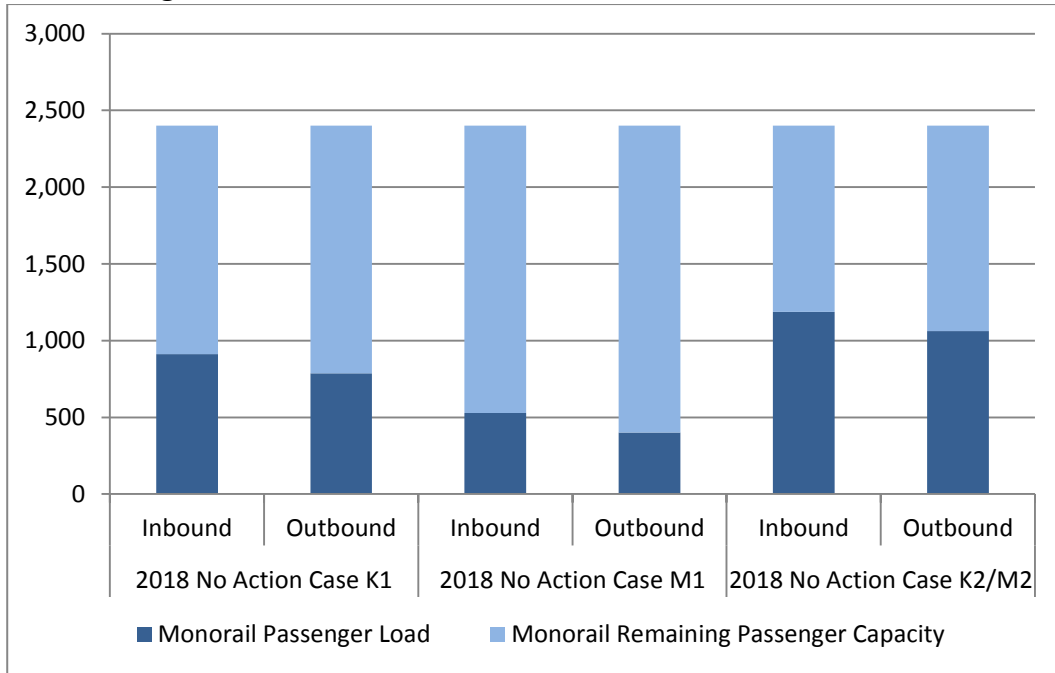
Figure 3–11 Seattle Center Area Streetcar – 2018 No Action



Monorail Transit

The number of people who would use the Seattle Monorail was anticipated to increase by approximately one percent annually from year 2013 to year 2018. Headways were assumed to remain unchanged. Monorail passenger loads would increase by approximately 945 inbound passengers and 940 outbound passengers for the No Action Case K2/M2 compared to existing conditions. As illustrated on Figure 3–12, Case K2/M2 has the highest assumed passenger demand and could be accommodated with existing monorail service levels, the No Action Case K1 and Case M1 with an event at either Memorial Stadium or KeyArena could also be accommodated.

Figure 3–12 Seattle Center Area Monorail – 2018 No Action



Washington State Ferries

No change in the number of WSF vessels serving Colman Dock was assumed from the year 2013 to 2018. The number of walk-on passengers was anticipated to increase by approximately three percent annually from 2013 to 2018. Approximately 340 inbound passengers and 405 outbound passengers would use WSF service for part of their trip to events at Seattle Center for the No Action Case K2/M2. Event attendees would connect between Colman Dock and the Seattle Center area using bus, monorail, streetcar, and / or other services such as a taxi, walking, or bicycling. It is difficult to anticipate the impact of these event attendees on public transit. Many of them would already be in or around the Seattle area, having completed the ferry-leg of their trip in the morning for the commute into work. From 5:00 to 7:00 PM bus routes through downtown would experience an increase in passenger demand as some ferry riders use bus service to travel to an event at the Seattle Center area. Another 80 patrons were assumed to drive to connect to Seattle Center and complete part of their trip using WSF service.

3.2.3.2 Year 2030

For all transit modes serving the Seattle Center area, no change in passenger capacity (service levels) was assumed because of the uncertainty of transit funding.

Bus Transit

The number of people who would use bus service was anticipated to increase by approximately two percent annually to year 2030. Headways were assumed to remain unchanged. Bus transit passenger loads would increase by approximately 1,620 inbound passengers and 980 outbound passengers for No Action Case K2/M2 compared to existing conditions. Because No Action Case K2/M2 has the highest assumed passenger demand and could be accommodated with existing

bus service levels, No Action Case K1 and Case M1 could also be accommodated. As illustrated on Figure 3–13 and Figure 3–14, the No Action Case K2/M2 (assumes 12,000 patrons at KeyArena and another 5,000 patrons at Memorial Stadium) could be accommodated with assumed bus service levels for all service zones, except for:

- Inbound bus routes serving southeast Seattle and Renton areas (Zone 4): Bus passengers would use other bus and light rail service to downtown Seattle accessed via park and ride lots or local feeder bus service and transfer in downtown Seattle to bus, monorail, and / or streetcar services. This would impact approximately 65 passengers.

Figure 3–13 Seattle Center Area Bus Transit Inbound – 2030 No Action Case K2/M2

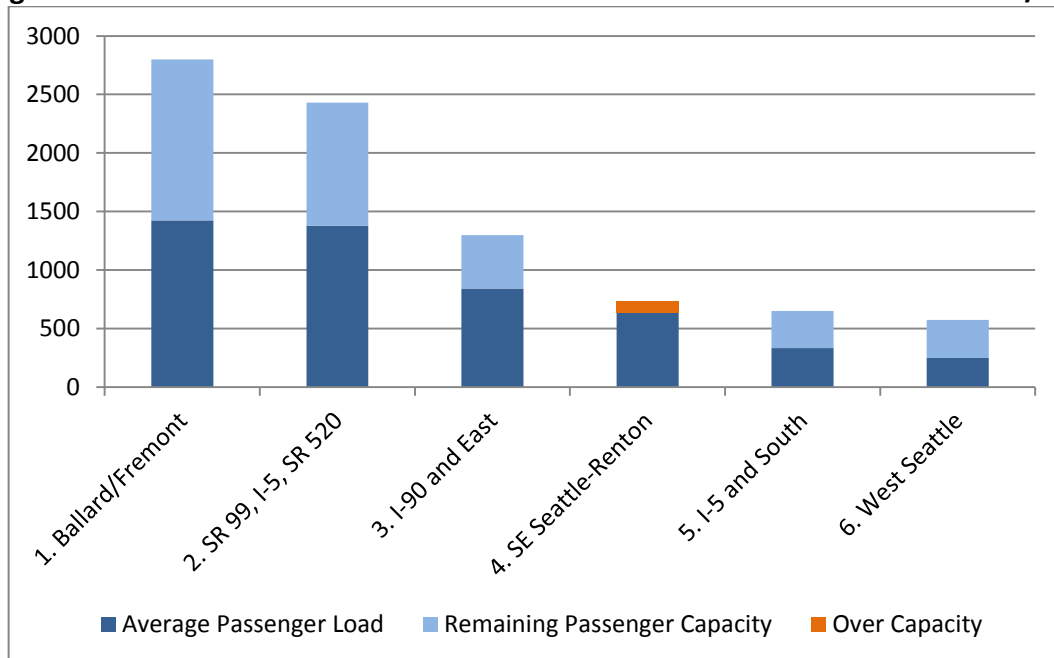
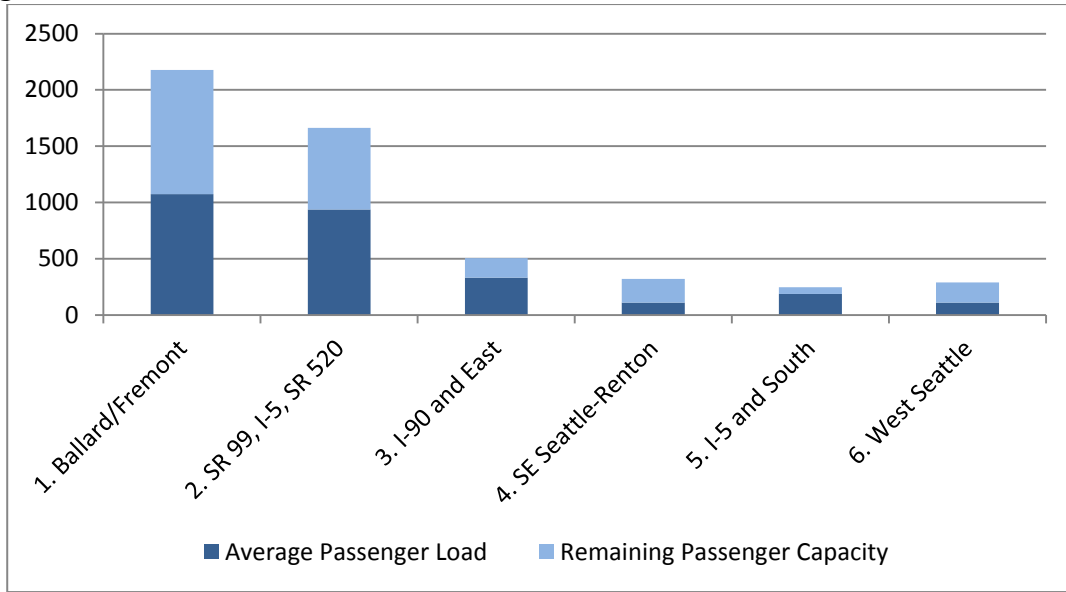


Figure 3–14 Seattle Center Area Bus Transit Outbound – 2030 No Action Case K2/M2

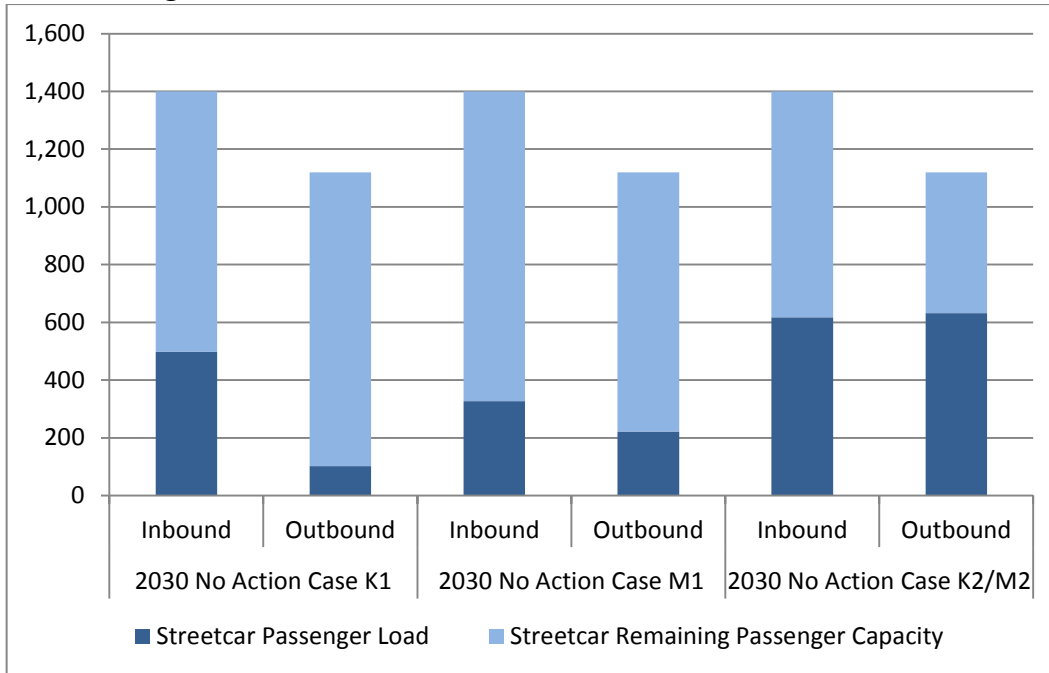


The travel time for buses (an indication of speed and reliability) would be similar to general purpose traffic because they operate in mixed flow through the Seattle Center area (not including the time it takes for buses to serve bus stops). As indicated in the traffic operations section of this report, travel times under 2030 conditions are generally similar to 2018 conditions (see Section 3.6 Traffic Operations Table 3-15).

Streetcar Transit

The number of people who would use streetcar service was anticipated to increase by approximately two percent annually to year 2030. Headways, the time between streetcars at stations, were assumed to remain unchanged. Streetcar passenger loads would increase by approximately 450 inbound passengers and 430 outbound passengers for the No Action Case K2/M2 compared to existing conditions. As illustrated on Figure 3–15, the total passenger load for this scenario and the 2030 No Action Case K1 and Case M1, which would have fewer passengers, could be accommodated with assumed streetcar service levels.

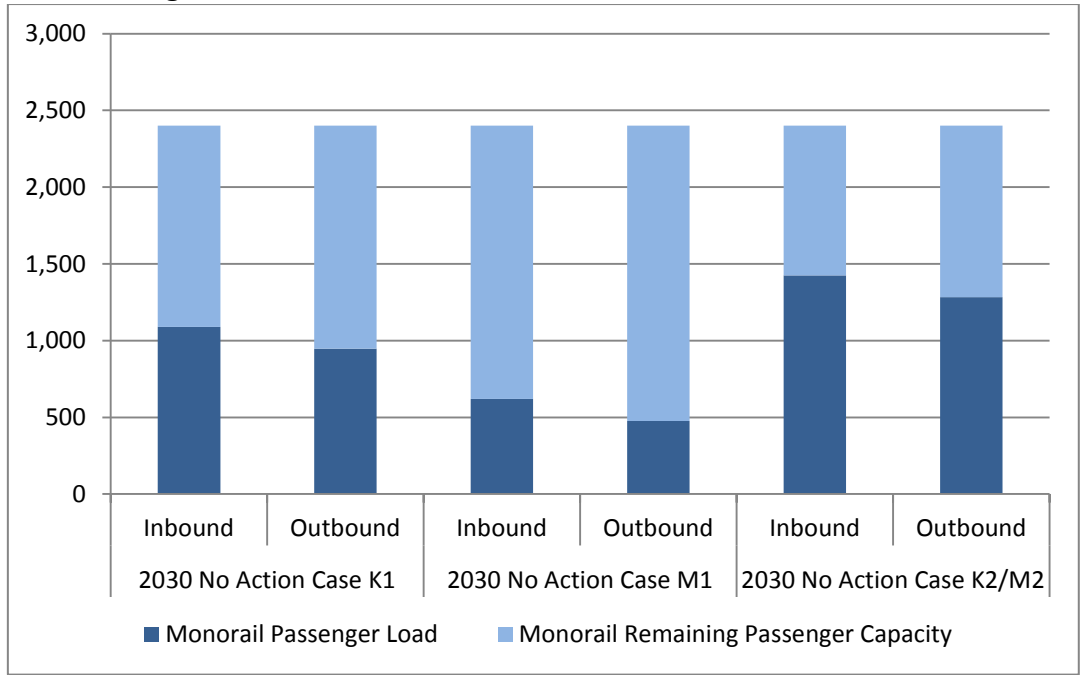
Figure 3–15 Seattle Center Area Streetcar – 2030 No Action



Monorail Transit

The number of people who would use the Seattle Monorail was anticipated to increase by approximately one percent annually to year 2030. Headways, the time between trains at stations, were assumed to remain unchanged. Monorail passenger loads would increase by approximately 1,180 inbound passengers and 1,160 outbound passengers for the No Action Case K2/M2 compared to existing conditions. As illustrated on Figure 3–16, the total passenger load for this scenario and the 2030 No Action Case K1 and Case M1, which would have fewer passengers, could be accommodated with assumed monorail service levels.

Figure 3–16 Seattle Center Area Monorail – 2030 No Action



Washington State Ferry Service

The number of people who would use ferry was anticipated to increase by approximately three percent annually to the year 2030. No change in the number of WSF vessels serving Colman Dock was assumed from the year 2018 to 2030. Approximately 370 inbound passengers and 500 outbound passengers would use WSF service for part of their trip to events at Seattle Center for No Action Case K2/M2. This scenario and the 2030 No Action Case K1 and Case M1, which would have fewer passengers, could be accommodated with assumed ferry service levels.

Event attendees would connect between Colman Dock and the Seattle Center area using bus, monorail, streetcar, and / or other services such as a taxi, walking, or bicycling. It is difficult to anticipate the impact of these event attendees on public transit on weekdays. Many of them would already be in or around the Seattle area, having completed the ferry-leg of their trip in the morning for the commute into work. From 5:00 to 7:00 PM bus routes through downtown would experience an increase in passenger demand as some ferry riders use bus service to travel to an event at Seattle Center. Another 25 patrons would drive to connect to Seattle Center and complete part of their trip using WSF service.

3.2.4 Impacts of Alternative 4

This alternative would result in a small reduction in the number of event attendees using transit to travel to the Seattle Center area compared to Alternative 5. The operational and construction impacts would be similar to Alternative 5.

3.2.5 Impacts of Alternative 5

Construction of Alternative 5 could result in some increase in ridership as a result of construction workers traveling to and from the site. It is anticipated that public transportation impacts related to construction would be less than a 20,000-seat event at the arena. In addition, construction related activities could impact nearby transit routes and stops as well as pedestrian accessibility to these facilities. A construction management plan could be prepared and impacts to transit could be coordinated with the transit agency in advance and appropriate relocation and signage provided.

This section describes the impacts of the Alternative 5 Cases for analysis years 2018 and 2030.

3.2.5.1 Year 2018

The analysis assumes a fully-attended event, with approximately 2,320 event attendees arriving by bus, light rail (using another transit mode to connect to the Seattle Center area), streetcar, monorail, and ferry: eight percent arrive by transit and another four percent arrive by ferry. As discussed for the Stadium District site, it is anticipated that the passengers driving on the ferry to go to the arena would be minimal given the estimated traffic congestion between the ferry dock and arena. The analysis assumed that approximately 90 percent of ferry riders would use transit to connect to the arena.

Approximately 10 percent of event attendees using ferry would take their vehicle on the ferry and could arrive outside the analysis period such as during the morning commute period as they take ferry to work and then attend an Arena event in the evening. As such, they are included in the No Action condition for parking and are not additive to the impact of the project.

Transit service provided in the study area is assumed consistent with No Action conditions. Also, park-and-ride lots served by light rail to the Seattle Center area would experience increased use during events.

Bus Transit

It was estimated that approximately 17 percent of event attendees on transit would use existing bus service to the arena. This would add approximately 390 bus passengers traveling to and from the Seattle Center area.

As illustrated on Figure 3–17 and Figure 3–18, this Alternative (which assumes 20,000 event attendees at a new arena and 12,000 event patrons at KeyArena Stadium for Case M2) could be accommodated with assumed bus service levels for all service zones.

Figure 3–17 Seattle Center Area Bus Transit Inbound – 2018 Alternative 5 Case M2

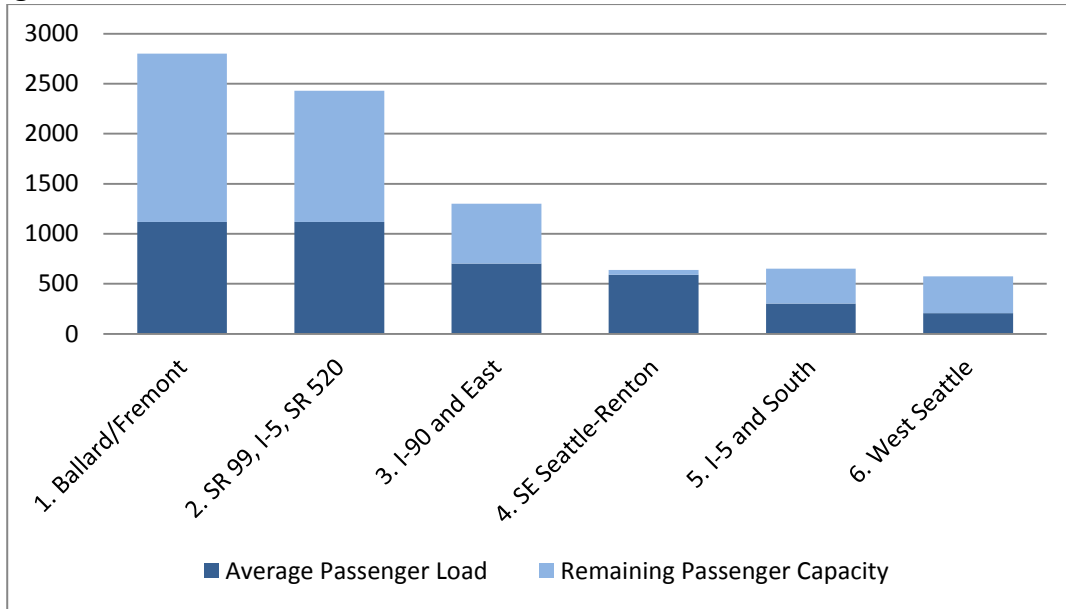
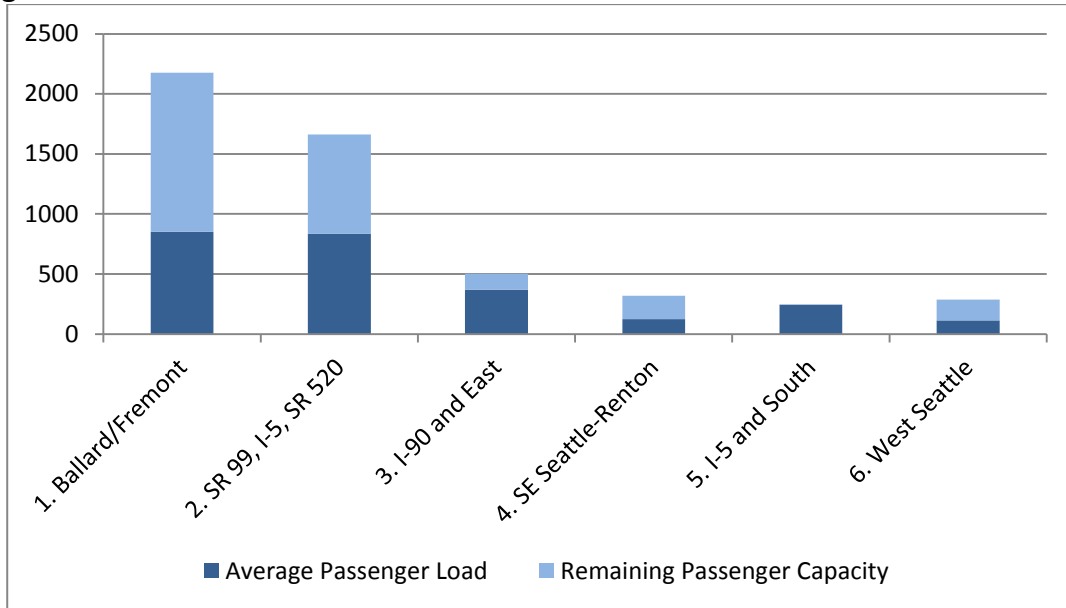


Figure 3–18 Seattle Center Bus Transit Area Outbound – 2018 Alternative 5 Case M2



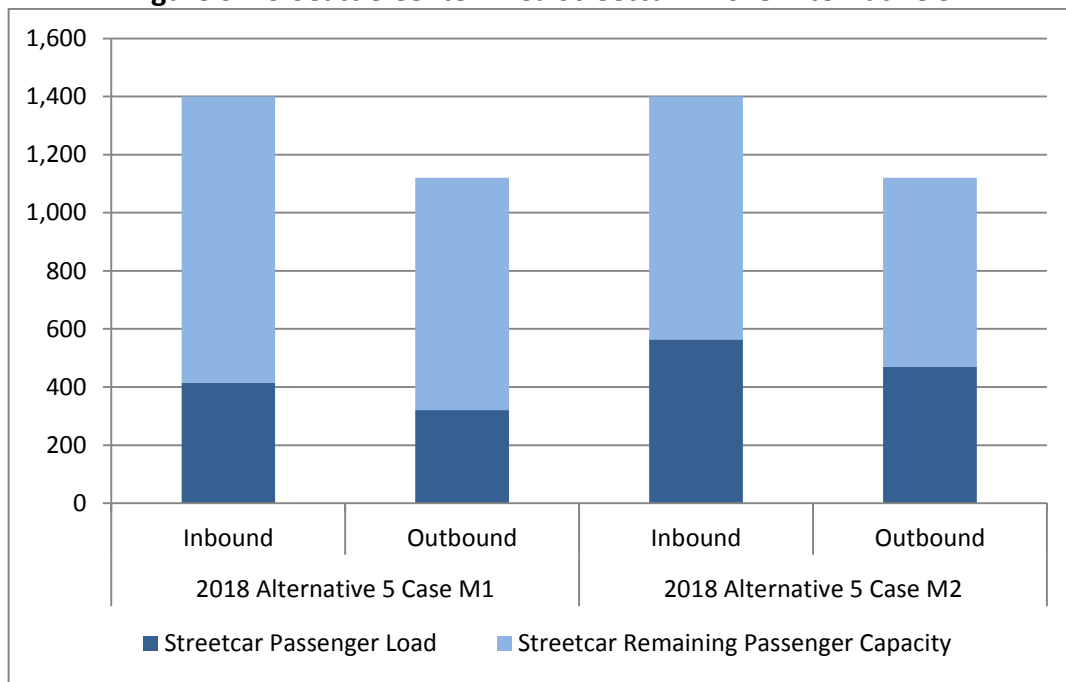
The travel time for buses (an indication of speed and reliability) would be similar to general purpose traffic because they operate in mixed flow through the Seattle Center area (not including the time it takes for buses to serve bus stops). As indicated in the traffic operations analysis for Alternative 5, travel times increase with the addition of arena event traffic with a substantial increase of over 30 minutes along westbound Mercer Street. It is noted that No Action and all future estimates of event traffic volumes are simply additive to No Action conditions with no consideration of potential traffic diversion due to event conditions. This additive approach likely overestimates future traffic and congestion related to events; however,

it does provide a consistent basis for comparing alternatives. Additional detail related to corridor travel times is provided in Section 3.6 Traffic Operations Table 3-26.

Streetcar Transit

It was estimated that approximately 10 percent of event attendees on transit would use streetcar service to the arena. This would add approximately 230 streetcar passengers traveling to and from the Seattle Center arena on the SLU streetcar for Case M2. This scenario and the 2018 Case M1 could be accommodated with assumed streetcar service levels (see Figure 3–19).

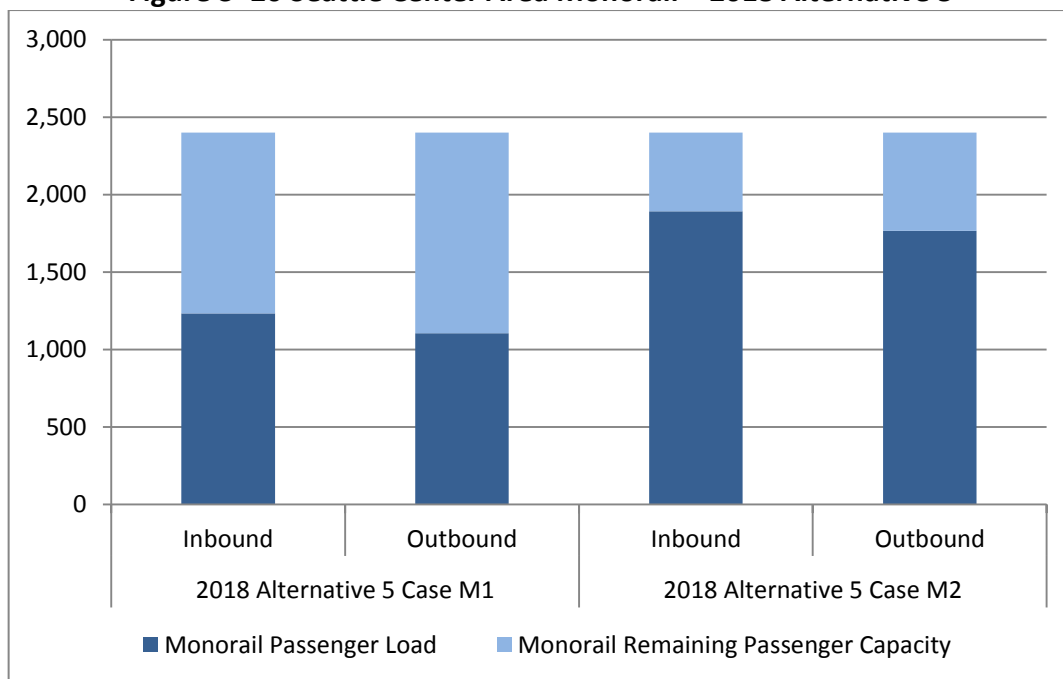
Figure 3–19 Seattle Center Area Streetcar – 2018 Alternative 5



Monorail Transit

It was estimated that approximately 42 percent of event attendees on transit would use monorail service to the arena. This would add approximately 980 monorail passengers traveling to and from the Seattle Center area for the Alternative 5 Case M2. This scenario and the 2018 Alternative 5 Case M1 could be accommodated with assumed monorail service levels (see Figure 3–20).

Figure 3–20 Seattle Center Area Monorail – 2018 Alternative 5



Washington State Ferries

No change in the number of WSF vessels serving Colman Dock was assumed from the year 2013 to 2018. The number of walk-on passengers was anticipated to increase by approximately three percent annually from 2013 to 2018. Approximately 720 event attendees would use WSF service for part of their trip to events at Seattle Center for the Alternative 5 Case M2 scenario: there is sufficient capacity to accommodate event attendees. Event attendees would connect between Colman Dock and the Seattle Center area using bus, monorail, streetcar, and / or other services such as a taxi, walking, or bicycling. It is difficult to anticipate the impact of these event attendees on public transit. Many of them would already be in or around the Seattle area, having completed the ferry-leg of their trip in the morning for the commute into work. From 5:00 to 7:00 PM bus routes through downtown would experience an increase in passenger demand as some ferry riders use bus service to travel to an event at Seattle Center.

3.2.5.2 Year 2030

Alternative 5 would construct a new 20,000-seat arena near the Seattle Center. Approximately ten percent of patrons were estimated to use transit to travel to and from events. The analysis assumes a fully-attended event, with approximately 2,720 event attendees arriving by bus, light rail, streetcar, and ferry: ten percent arriving by transit and another four percent arriving by ferry. Consistent with 2018 conditions, approximately 10 percent of event attendees using ferry would take their vehicle on the ferry and could arrive outside the analysis period such as during the morning commute period as they take ferry to work and then attend an Arena event in the evening. As such, they are included in the No Action condition for parking and are not additive to the impact of the project.

Transit service provided in the study area is assumed consistent with No Action conditions. Also, park-and-ride lots served by light rail to the Seattle Center area would experience increased use during events.

Bus Transit

It was estimated that approximately 13 percent of event attendees taking transit would use bus service to the arena. This would add approximately 340 bus passengers traveling to and from the Seattle Center area (see Affected Environment, *Bus Ridership* for how passenger capacity was determined).

As illustrated on Figure 3–21 and Figure 3–22, this Alternative (which assumes 20,000 event attendees at a new arena and 12,000 patrons at KeyArena for Case M2) could be accommodated with assumed bus service levels for all service zones, except for:

- Inbound bus routes serving southeast Seattle and Renton areas (Zone 4): Bus passengers would use other bus and light rail service to downtown Seattle accessed via park and ride lots or local feeder bus service and transfer in downtown Seattle to bus, monorail, and / or streetcar services. This would impact approximately 90 passengers.

The number of event attendees required to transfer would be less for other event cases because there are less event attendees, but would have the same over capacity considerations except for I-5 and south.

Figure 3–21 Seattle Center Area Bus Transit Inbound – 2030 Alternative 5 Case M2

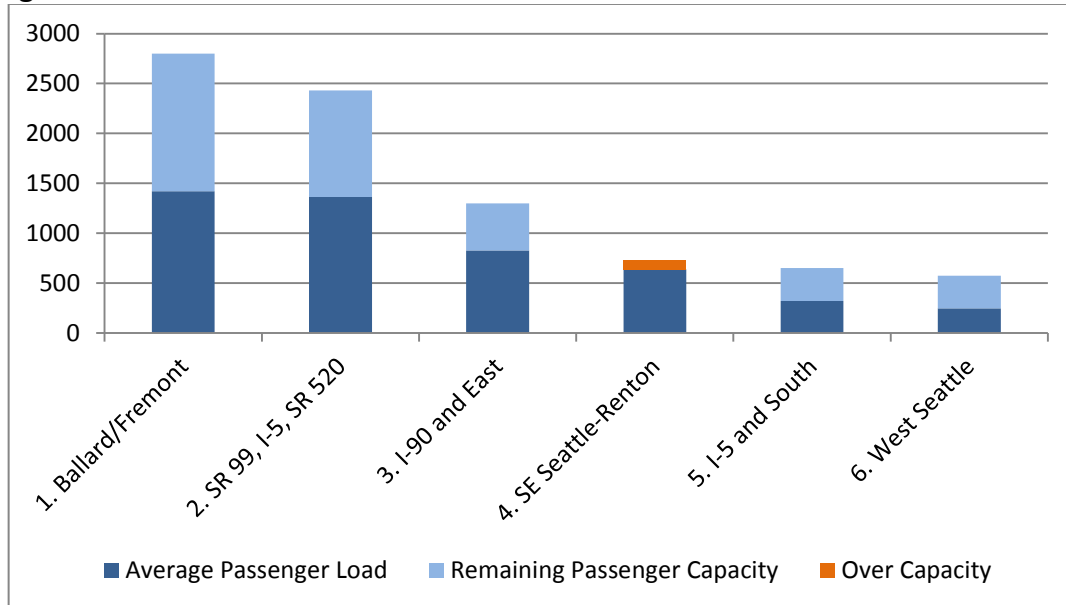
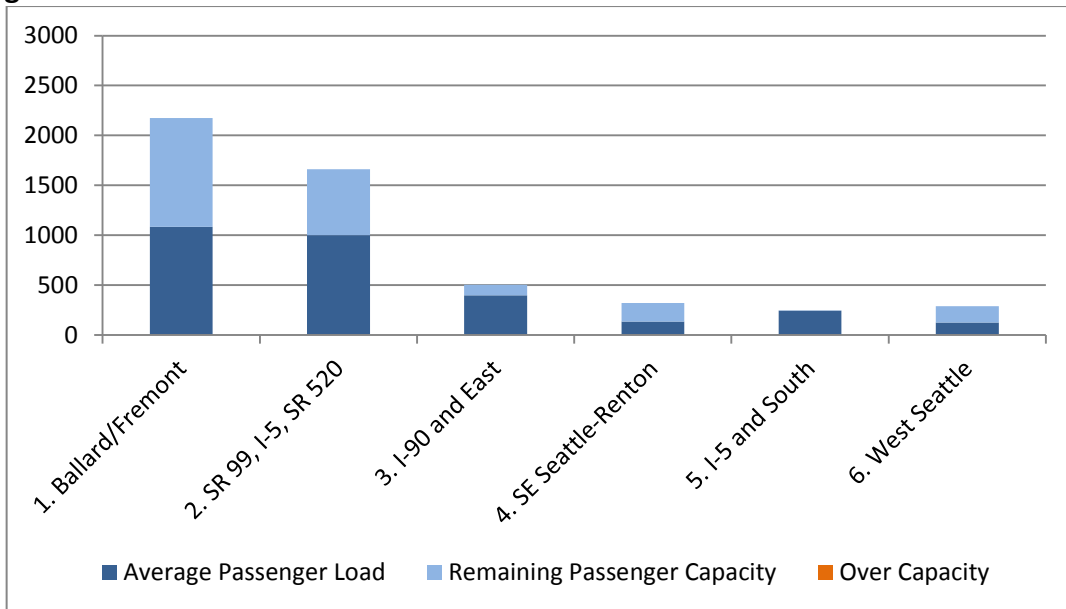


Figure 3–22 Seattle Center Area Bus Transit Outbound – 2030 Alternative 5 Case M2

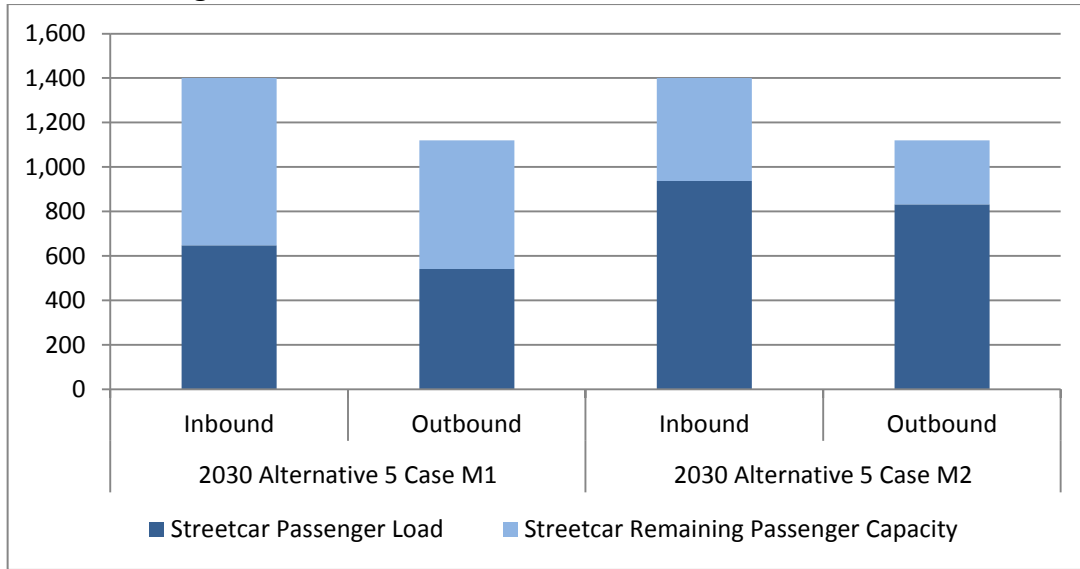


The travel time for buses (an indication of speed and reliability) would be similar to general purpose traffic because they operate in mixed flow through the Seattle Center area (not including the time it takes for buses to serve bus stops). As indicated in the traffic operations analysis for Alternative 5, 2030 travel times are similar to 2018 conditions. Additional detail related to corridor travel times is provided in Section 3.6 Traffic Operations.

Streetcar Transit

It was estimated that approximately 16 percent of event attendees on transit would use streetcar service to the arena. This would add approximately 440 streetcar passengers traveling to and from the Seattle Center area on the SLU Streetcar for Alternative 5 Case M2. This scenario and the 2030 Alternative 5 Case M1 could be accommodated with assumed streetcar service levels (see Figure 3–23).

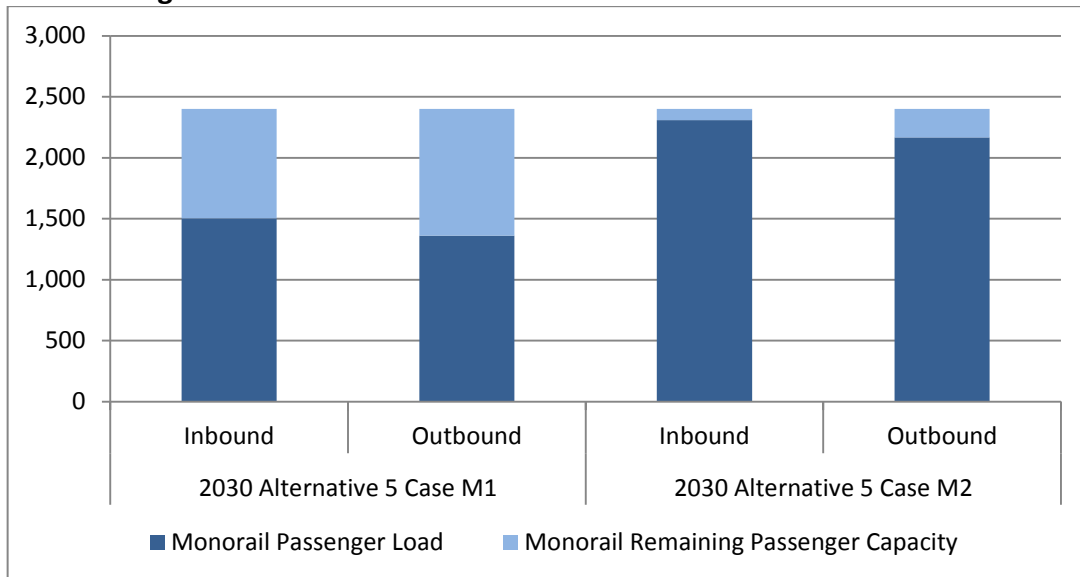
Figure 3–23 Seattle Center Streetcar – 2030 Alternative 5



Monorail Transit

It was estimated that approximately 44 percent of event attendees on transit would use monorail service to the arena. This would add approximately 1,220 monorail passengers traveling to and from Seattle Center for Alternative 5 Case M2. Alternative 5 Case M1 could also be accommodated with assumed monorail service levels (see Figure 3–24).

Figure 3–24 Seattle Center Area Monorail – 2030 Alternative 5



Washington State Ferries

The number of people who would use ferry was anticipated to increase by approximately three percent annually to the year 2030. No change in the number of WSF vessels serving Colman

Dock was assumed from the year 2018 to 2030. Approximately 720 event attendees would use WSF service for part of their trip to events at Seattle Center for the Alternative 5 Case M2 scenario. These attendees can be accommodated with the current WSF service. Event attendees would connect between Colman Dock and the Seattle Center area using bus, monorail, streetcar, and / or other services such as a taxi, walking, or bicycling. It is difficult to anticipate the impact of these event attendees on public transit. Many of them would already be in or around the Seattle area, having completed the ferry-leg of their trip in the morning for the commute into work. From 5:00 to 7:00 PM bus routes through downtown would experience an increase in passenger demand as some ferry riders use bus service to travel to an event at Seattle Center.

3.2.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements. The following identifies those potential mitigation measures considered to have a high influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 4 and Alternative 5.

- Premium transit service
- Shuttles
- Subsidize transit fares
- Rail/lodging/ticket packages

3.2.7 Secondary and Cumulative Impacts

A 1st Avenue streetcar currently being considered as part of the Center City Transit Study would provide another way for event attendees, especially those using ferry services, to connect to Seattle Center. This would reduce the number of people using bus, monorail, and South Lake Union Streetcar transit services.

3.2.8 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts related to bus, streetcar, and monorail transit service resulting from Alternatives 4 and 5 have been identified.

3.3 Pedestrians

3.3.1 Methodology

The pedestrian environment in the Seattle Center study area is significantly different than that described in the Stadium District. There is a well-connected gridded sidewalk network with multiple paths for pedestrians to take to and from the Seattle Center area. With the multitude

of pedestrian paths in the study area capacity is not an issue, and performing a link evaluation does not provide an understanding of pedestrian impacts. Given the difference between the two study areas, a methodology tailored toward the Seattle Center study area was used to evaluate pedestrian impacts. The approach included:

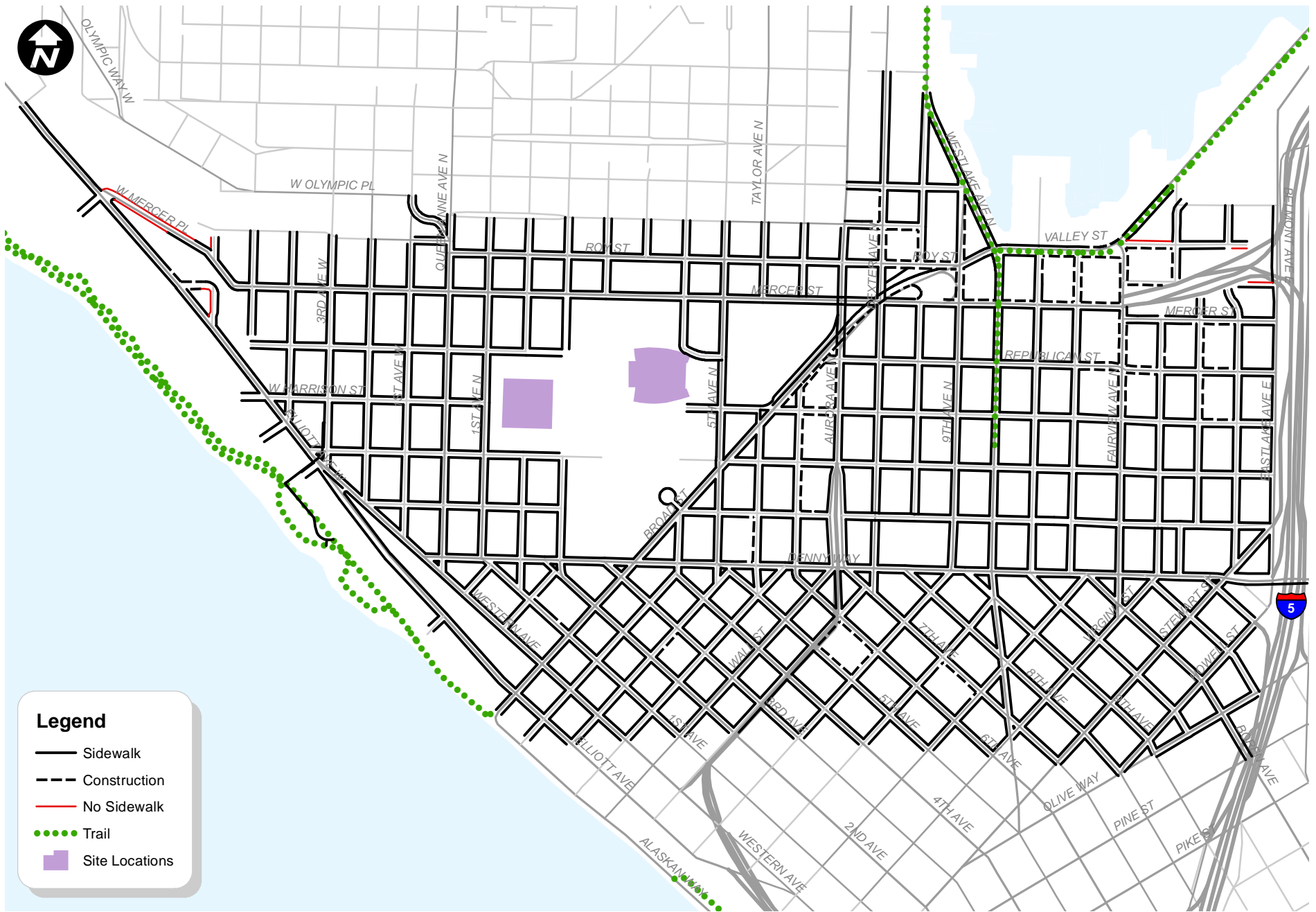
- Inventory of existing pedestrian facilities
- Identification of existing gaps in connectivity
- Review of existing pedestrian volumes
- Determination of future plans related to pedestrian facilities and the potential shift in pedestrian travel patterns with new facilities
- Evaluation of pedestrian impacts considering changes in volumes

3.3.2 Affected Environment

Figure 3–25 shows the pedestrian network in the study area and identifies both existing trails and gaps in the sidewalk network. Sidewalks are provided along nearly all roadways with few exceptions. There is a missing connection in the northwest portion of the study area along West Mercer Place as well as limited east-west connections across SR 99. A large amount of construction is occurring within the study area particularly in the South Lake Union area along Mercer Street.

The study area contains a gridded pedestrian network creating high connectivity between activities centers, businesses and parking; however, as noted above, connectivity from the Seattle Center area to east of SR 99 is limited. Off-street parking surrounds the Seattle Center area, with a large concentration of parking directly to the east (adjacent to Memorial Stadium) and southwest (near KeyArena). Sidewalks connect these parking lots to the Seattle Center area.

There are two off-street multi-use trail in the study area, the Elliot Bay Trail and Cheshiahud Lake Union Loop. The Elliot Bay Trail runs along the Waterfront to the west of the study area; it extends between the Waterfront and SoDo neighborhood to the south and to Magnolia on the north. Pedestrians can access the trail at several crossings along Elliot Avenue W. The Cheshiahud Lake Union Trail connects the SLU neighborhood with Gasworks Park and links a number of pocket parks that ring the lake. Access to the Cheshiahud Trail is currently limited due to the lack of connections across SR 99.



Seattle Center Area Pedestrian Facilities

Seattle Arena

FIGURE
3-25

Significant transportation improvement projects have been under construction in the study area for the past several years. Due to the continuing effects of ongoing construction, previous studies and historical data sources were utilized to understand existing pedestrian activity near the Seattle Center. Higher pedestrian volumes are seen along the principal arterials of Mercer Street, Denny Way, Queen Anne Avenue N., 1st Avenue N., and 5th Avenue N. The intersections with the highest pedestrian activity are Queen Anne Avenue N. / Mercer Street and 1st Avenue N. / Mercer Street. These high pedestrian volumes are reflective of the intersection proximity to the Seattle Center and commercial uses in the area.

3.3.3 Impacts of No Action Alternative

There are several area-wide transportation projects that will enhance the pedestrian system in the Seattle Center study area. In addition, planned development is anticipated to increase pedestrian demands. This section focuses on general pedestrian demands and shifting pedestrian orientations associated with new facilities and linkages.

3.3.3.1 2018 Conditions

The SR 99 North Portal and Mercer Corridor projects will result in enhanced pedestrian connectivity and infrastructure. The Mercer Corridor improvements are scheduled to be completed by 2015. Pedestrian improvements are also included on Roy and Valley Streets. The completion of these improvements will create a viable pedestrian linkage between the Seattle Center area and the SLU Neighborhood as well as the SLU Park and related trail connections.

In addition, the completion of the SR 99 North Portal will result in sidewalk connections across SR 99 at John, Harrison and Thomas Streets, effectively linking the Seattle Center area and the neighborhood surrounding the Bill and Melinda Gates Foundation Campus with the SLU area.

Under No Action, changes in non-motorized demands are likely to occur as a result of ongoing redevelopment associated with neighborhoods surrounding the Seattle Center; however, no significant change in the Seattle Center area pedestrian activity is anticipated. There could be some increase in general pedestrian activity between the Seattle Center and points east, with the enhancements to the Mercer Corridor as well as connections across SR 99 described above. In addition, pedestrian activity would likely increase in SLU and the Denny Triangle neighborhoods as a result of commercial or residential redevelopment. In general, increased pedestrian activity is considered a positive impact since with this activity a sense of pedestrian and personal safety results.

3.3.3.2 2030 Conditions

No additional major infrastructure projects are funded or planned that would directly affect the Seattle Center area non-motorized transportation in 2030. While pedestrian travel is expected to grow between 2018 and 2030, no significant increases or jumps in activity are foreseen.

Overall, the No Action Alternative would not result in an adverse impact to non-motorized transportation for the Seattle Center area alternatives.

3.3.4 Impacts of Alternative 4

Alternative 4 construction would result in intermittent sidewalk and pedestrian facility closures along the frontage of the site. A construction management plan would be developed and adequate pedestrian circulation would be provided adjacent to the construction site through the use of temporary walkways, detours and signs.

Development of Alternative 4 would not result in any changes to the pedestrian facilities within the Seattle Center area. Consistent with the Stadium District, pedestrian levels associated with an event at an arena would be highest during the post-event egress. Currently, average attendance for the KeyArena is approximately 12,000 people. Alternative 4 would result in a net increase of 8,000 pedestrians for a total of 20,000 pedestrians associated with an arena event. As discussed previously, the existing and planned pedestrian network is well-connected and facilities will accommodate increased pedestrian demand levels. This type of pedestrian demand or higher is already accommodated at the Seattle Center with the several festivals held there each year.

Increases in pedestrian as well as vehicle demands on events days would increase the potential for conflicts between these two modes. Pedestrian impacts in 2018 and 2030 are anticipated to be similar.

3.3.5 Impacts of Alternative 5

Alternative 5 construction would result in intermittent sidewalk and pedestrian facility closures along the frontage of the site. A construction management plan would be developed and alternate pedestrian circulation would be provided adjacent to the site through the use of temporary walkways, detours and signs.

Pedestrian impacts associated with Alternative 5 are anticipated to be consistent with those described for Alternative 4.

3.3.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements. The mitigation measure considered to have a high influence on this transportation element is a wayfinding system. This potential mitigation measure is appropriate for both Alternative 4 and Alternative 5.

3.3.7 Secondary and Cumulative Impacts

No secondary or cumulative impacts have been identified.

3.3.8 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts are expected.

3.4 Bicycle

3.4.1 Methodology

The general approach to the evaluation of bicycle impacts included:

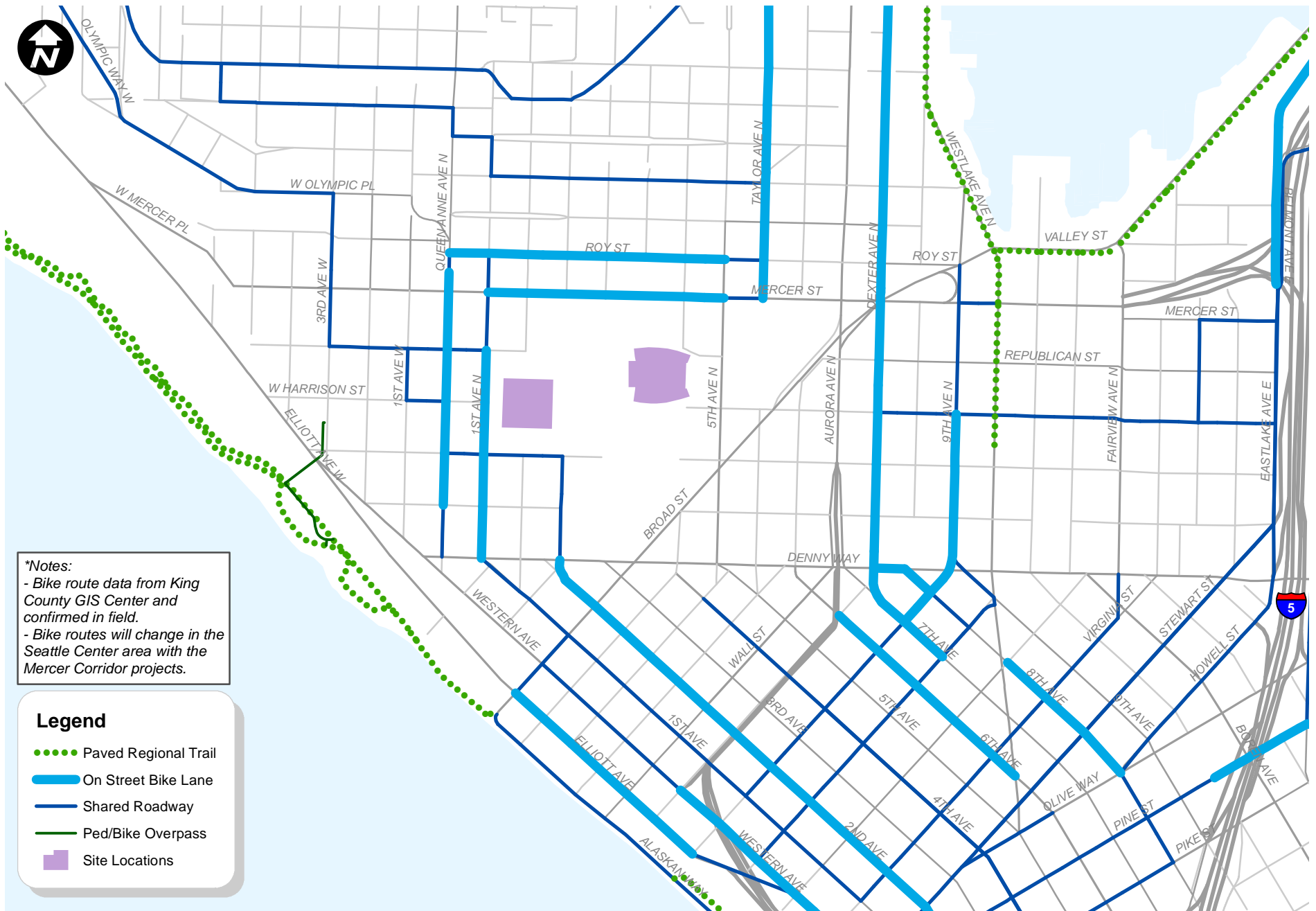
- Inventory of existing bicycle facilities
- Identification of future plans related to bicycle facilities
- Evaluation of bicycle impacts considering changes in volumes

3.4.2 Affected Environment

Figure 3-26 illustrates the bicycle network within the study area. The study area facilities consist mostly of bike lanes and designated shared roadways. The streets with bicycle facilities closest to the arena sites (KeyArena and Memorial Stadium) are Queen Anne Avenue N. and 1st Avenue N. to the west, and Mercer Street and Roy Street to the north. All four of these streets have a mix of on-street bike lane and sharrows (i.e., marked shared bicycle in the vehicle travel lanes). In addition, portions of the arterial streets to the west and south of Seattle Center are designated routes for bicycles including 2nd Avenue N., Thomas Street, W. Harrison Street, W. Republican Street, and 3rd Avenue W.

As described in the Pedestrians section (3.3), there are off-street multi-use trails in the study area, including the Elliot Bay Trail and Cheshiahud Lake Union Loop. The Elliot Bay Trail runs along the waterfront to the west of the study area; it extends between the Waterfront and SoDo to the south and to Magnolia on the north. Bicyclists can access the trail at several crossings along Elliot Avenue W. The Cheshiahud Lake Union Trail connects the SLU neighborhood with Gasworks Park and links a number of pocket parks that ring the lake.

SDOT bicycle counts from January and July 2012 were reviewed to understand the level of bicycle traffic in the study area. The SDOT bicycle counts included three locations within the Seattle Center area. Commuter peak hour bicycle volumes ranged from 8 at the Mercer Street / Fairview Avenue N. intersection to 155 at the intersection of Dexter Avenue N. / Denny Way. The Mercer Street / 9th Avenue N. intersection saw 29 bicyclists during the commuter peak hour. The high counts along Dexter Avenue N. are consistent with this street's function as the primary bicycle route to downtown from the north. In addition, the combination of high traffic volumes coupled with construction activity along Mercer Street likely contributes to lower volumes at the Mercer Street / Fairview Avenue N. intersection. While the average number of peak hour cyclists in this data was much higher (nearly 50 percent) in the summer compared to winter counts, both Mercer Street intersections were marginally less in the summer than the winter, perhaps reflecting peak summer construction activity disrupting bicycle route choices.



Seattle Center Area Bicycle Facilities

Seattle Arena

FIGURE 3-26

3.4.3 Impacts of No Action Alternative

Bicycle conditions for 2018 and 2030 No Action cases are described below.

3.4.3.1 2018 Conditions

Bicycle improvements planned and funded in the Seattle Center study area were reviewed. Ongoing projects associated with the Alaskan Way Viaduct North Portal, as well as the Mercer East and West projects will result in enhanced bicycle connectivity and infrastructure. The Mercer Corridor improvements are scheduled to be completed by 2015. Bicycle improvements are included on Roy and Valley Streets as well as 5th Avenue N. The completion of these improvements will create a viable bicycle linkage between the Seattle Center area and the SLU Neighborhood as well as the SLU Park and related trail connections. In addition, the completion of the North Portal will result in sidewalk connections across SR 99 at John, Harrison and Thomas Streets, effectively linking the Seattle Center area and the neighborhood surrounding the Bill and Melinda Gates Foundation with the SLU area.

Bicycle use is anticipated to continue to grow in Seattle as transportation congestion and cost of parking increases. Under No Action, changes in bicycle demands are likely to occur as a result of ongoing redevelopment associated with neighborhoods surrounding the Seattle Center area and more direct connections between this area and SLU and the Cheshiahud Lake Union Loop Trail. No significant change in bicycle traffic is forecasted resulting in an adverse impact.

3.4.3.2 2030 Conditions

There are no additional funded improvements for 2030 at this time; however, the City is going through a draft Bicycle Master Plan and the result of the planning process will be priorities for bicycle improvements.

Bicycle demand is expected to grow between 2018 and 2030; however, no significant increases in bicycle volumes are foreseen and no new adverse impacts to bicycle travel would occur.

In general, as traffic volumes increase in the study area due to future 2018 and 2030 growth, there is a potential for increased conflict between vehicles and bicyclists.

3.4.4 Impacts of Alternative 4

Construction of Alternative 4 may result in intermittent bicycle facility closures or rerouting along Mercer Street and 1st Avenue N. as well as within the Seattle Center area. A construction management plan would be developed and alternate bicycle circulation would be provided adjacent to the construction site through the use of temporary facilities, detours, and signs.

Alternative 4 is not anticipated to impact bicycle facilities within the study area. As described in the Affected Environment, bicycle volumes within the study area vary from one corridor to the next; however, Alternative 4 is anticipated to result in minimal increase in bicycle activity. Development of the arena would result in increased vehicular demands on event days within

the study area, which would increase the potential conflicts between bicyclists and vehicles. Bicycle impacts in 2018 and 2030 are anticipated to be similar.

3.4.5 Impacts of Alternative 5

Construction of Alternative 5 may result in intermittent bicycle facility closures or re-routing along Mercer Street as well as within the Seattle Center area. A construction management plan would be developed and alternate bicycle circulation would be provided adjacent to the construction site through the use of temporary facilities, detours, and signs.

Bicycle impacts associated with Alternative 5 are anticipated to be consistent with those described for Alternative 4.

3.4.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements. The following identifies those potential mitigation measures considered to have a high influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 4 and Alternative 5.

- Bicycle racks
- Bicycle route improvements

3.4.7 Secondary and Cumulative Impacts

No secondary or cumulative impacts have been identified.

3.4.8 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts are expected.

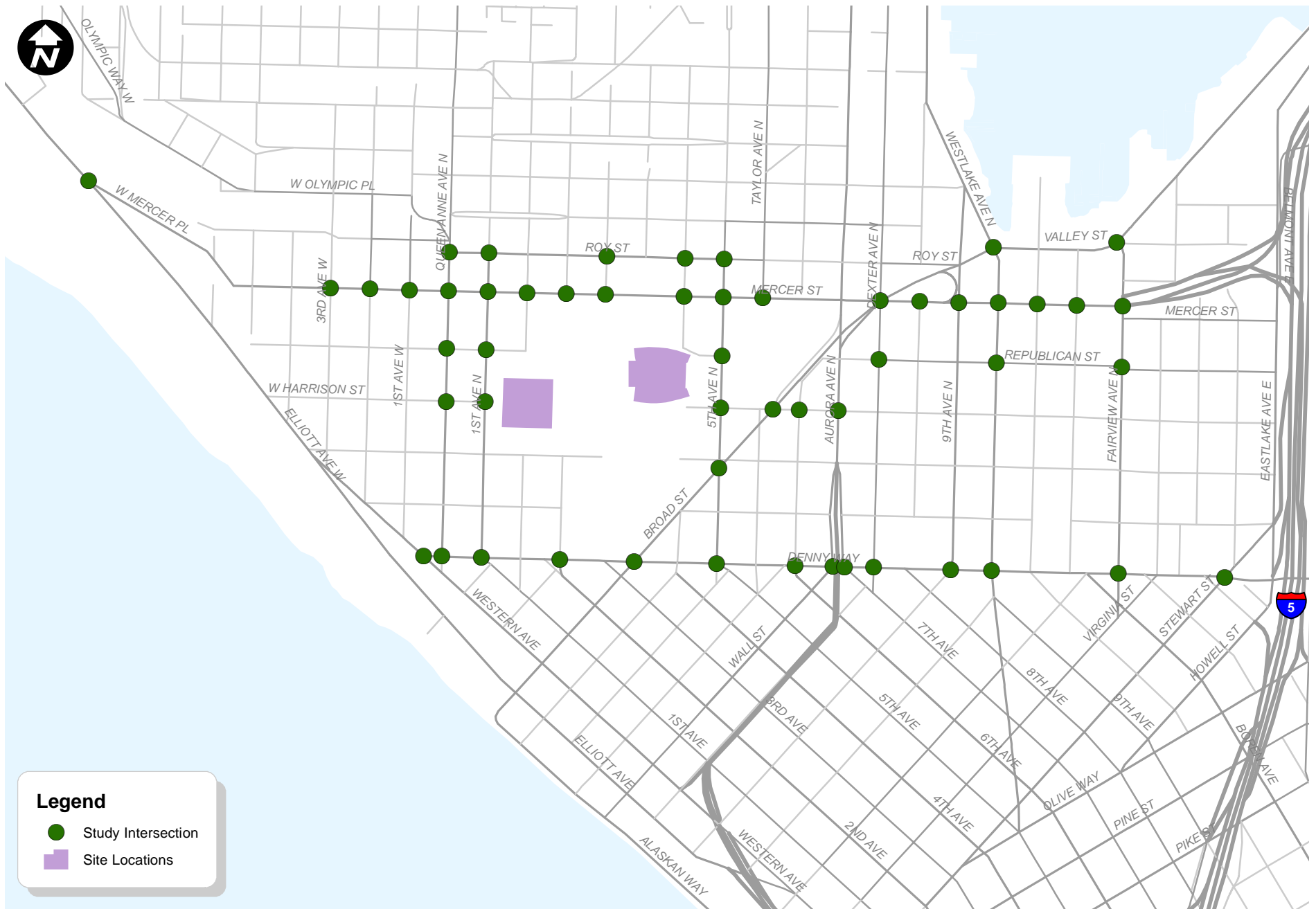
3.5 Traffic Volumes

This section provides a summary of the existing and forecast traffic volumes in the study area and presents the method used to develop traffic forecasts for No Action and Alternatives 4 and Alternative 5.

3.5.1 Methodology

3.5.1.1 Study Area

A total of 53 intersections were addressed for the Seattle Center Area Alternatives, as shown on Figure 3–27. Study intersections were defined considering existing conditions, impacts of future road improvements, and potential impacts of an arena.



Seattle Center Area Study Intersections

Seattle Arena

FIGURE
3-27

3.5.1.2 Analysis Time Periods

Similar to the SoDo alternatives, the peak periods for the traffic analyses for the Seattle Center Area Alternatives were identified based on a review of existing traffic. To determine the appropriate analysis period, City of Seattle 24-hour tube counts were reviewed to understand variations in traffic volumes throughout the week, specifically related to weekday and weekend trends. Table 3-3 summarizes the 24-hour tube count information for several key locations within the study area where data was available. The data presented in Table 3-3 represents the peak of the day and may not necessarily correspond to the same hour at each location but has been presented in this way to compare the “relative” peak hour volumes for each time period.

Table 3-3 Seattle Center Area 24-hour Count Comparison (Weekday versus Weekend)

Location	Peak Hour Volume of the Roadway (vehicles)		
	Weekday ¹	Saturday ² (Percent of Weekday)	Sunday ³ (Percent of Weekday)
Mercer Street, west of 1st Avenue N. ⁴	1,010	1,030 (102%)	920 (91%)
W. Mercer Street at 1st Avenue W. ⁵	1,160	935 (81%)	825 (71%)
Denny Way, west of 2nd Avenue ⁶	2,395	1,940 (81%)	1,580 (66%)
5th Avenue N., between Mercer Street and Republican Street ⁷	1,465	1,360 (93%)	1,180 (81%)
1st Avenue N., south of Republican Street ⁴	940	1,020 (109%)	755 (80%)
1st Avenue N., south of Mercer Street ⁴	860	865 (101%)	680 (79%)

1. Weekday traffic volumes represent the PM peak hour between 4:00 to 7:00 PM
2. Saturday peak hour traffic volumes are from 12:00 to 1:00 PM along Mercer Street west of 1st Avenue N., 1:00 to 2:00 PM for W. Mercer Street, 2:00 to 3:00 PM for Denny Way, 6:00 to 7:00 PM for 5th Avenue N., and 7:00 to 8:00 PM for 1st Avenue.
3. Sunday peak hour traffic volumes are from 1:00 PM to 2:00 PM along Mercer Street west of 1st Avenue N. and W. Mercer Street, 2:00 to 3:00 PM for Denny Way, 5:00 to 6:00 PM for 5th Avenue N., and 6:00 to 7:00 PM for 1st Avenue.
4. July 2007 traffic data.
5. April 2011 traffic data.
6. January 2013 traffic data.
7. October 2006 traffic data.

As shown in Table 3-3, traffic volumes observed during the Saturday period ranged between about 80 and 110 percent of the weekday volumes. During a peak hour, volumes on a Sunday are the lightest and range between about 65 and 90 percent of the weekday PM peak hour. Based on this information, the analysis of event traffic occurring during the weekday or Saturday period represents the most appropriate basis for detailed traffic analysis through the Seattle Center area. Data related to Saturday conditions is inconclusive since half of roadway segments have Saturday traffic volumes that are approximately equal to the weekday traffic volumes. Therefore, given that traffic analysis relies on intersection turning movements,

data was collected in March 2013 at key locations for Saturday as a second point of comparison (see Table 3-4).

**Table 3-4
Seattle Center Area Existing Intersection Traffic Count Comparison (Weekday vs. Weekend)**

Location	Weekday ¹	Saturday ¹ (Percent of Weekday)
5th Avenue N. / Mercer Street	2,520	2,645 (105%)
Fairview Avenue N. / Mercer Street	7,990	4,960 (62%)
Westlake Avenue N. / Denny Way	3,005	2,650 (88%)

1. Weekday traffic volumes represent forecasted 2013 PM peak hour conditions based on the Mercer Corridor projects and data provided by SDOT.
2. Saturday traffic volumes represent the PM peak hour between 4:00 to 7:00 PM in March 2013.

As shown in Table 3-4, traffic volumes observed during the Saturday period ranged between 62 to 105 percent of the weekday volumes. Based on this information, the analysis of event traffic occurring during the weekday period represents the most appropriate basis for detailed traffic analysis through the Seattle Center area since the weekday traffic volumes are generally higher. Traffic volumes generally fluctuate day-to-day by up to five percent; therefore, the differences at 5th Avenue N. / Mercer Street are within the day-to-day changes in traffic volumes.

Within the Seattle Center study area, significant transportation improvement projects have been under construction for the past several years. Due to ongoing construction activities and impacts to traffic circulation and roadway capacities, existing traffic counts were not conducted within the defined study area. Instead previous traffic models and studies developed for the area were reviewed and utilized to develop estimated “existing” condition traffic volumes and are presented in detail in a later section. A more comprehensive discussion of these models is included in the Affected Environment section of this chapter.

3.5.1.3 Traffic Forecast Methodology – No Action Analyses

Future weekday PM peak hour vehicular traffic volumes were developed based on the following general approach:

- Traffic volume forecasts from the Final EIS’s for the Alaskan Way Viaduct Replacement Project (July 2011) were summarized for the overlapping study area intersections.
- Traffic forecasts at intersections not included in the Final EIS’s for the Alaskan Way Viaduct Replacement Project were estimated based on existing travel patterns and approach volumes for intersections previously reported in the EIS.
- Traffic forecasts for the No Action event cases were developed by adding traffic from either a 5,000 attendee event at Memorial Stadium, a 12,000 attendee event at KeyArena, or both events.

Similar to the Stadium District, analysis cases are linked to each alternative (Cases K1 and K2 for the KeyArena site; Cases M1 and M2 for the Memorial Stadium site). As before Case 1 reflects single events and Case 2 reflects dual events. In the instance of a single event, Case K1 reflects the 12,000 attendee event at KeyArena and M1 reflects a 5,000-person event at Memorial Stadium. Case K2 and M2 reflect a dual event condition (referenced jointly as K2/M2 under No Action), and in the instance of the No Action alternative includes both the Memorial Stadium event added to an event at KeyArena.

Traffic forecasts for the three No Action cases were developed for the 2018 and 2030 horizon years. Based on this methodology, under 2018 conditions a 5,000 person event at Memorial Stadium is estimated to generate approximately 360 vehicular trips during the weekday PM peak hour and the 12,000 person event at the KeyArena would generate approximately 850 trips. As traffic congestion throughout the Puget Sound region increases, attendees of events in the Seattle Center area would be increasingly likely to use transportation modes other than passenger cars. For the 2030 conditions, the transit mode split was increased. This increase in transit usage results in a forecast of approximately 350 vehicular trips associated with a Memorial Stadium event in 2030 and 820 trips forecast for a KeyArena event.

3.5.1.4 Traffic Forecast Methodology – Arena Event Traffic

Traffic forecasts for the 2018 and 2030 horizon years were prepared for Alternative 4 and Alternative 5. Future weekday PM peak hour vehicular traffic volumes for the each alternative were developed by adding traffic from the arena to the No Action volumes. Similar to the No Action discussion, traffic forecasts for multiple event cases are presented in this section. The Alternative 4 and Alternative 5 event cases are compared to the corresponding No Action event case to define the impacts of the Alternative. The Alternative 4 cases are described below; similar comparisons were completed for Alternative 5:

- No Action Case K1 is compared to Alternative 4 Case K1
 - No Action Case K1 is a 12,000 attendee KeyArena event
 - Alternative 4 Case K1 is a 20,000 attendee Arena event at KeyArena site
- No Action Case K2 is compared to Alternative 4 Case K2
 - No Action Case K2 is a 5,000 attendee Memorial Stadium event and 12,000 attendee KeyArena event
 - Alternative 4 Case K2 is a 5,000 attendee Memorial Stadium event and 20,000 attendee Arena event at KeyArena site

As described in the Event Transportation Demand section (page 1-17), traffic associated with the arena attendees was forecast based on a 20,000 attendance level, mode splits, average vehicle occupancies, and arrival patterns tailored for the Seattle Center area venues. Forecast traffic volumes for the 2018 and 2030 horizon years for the multiple event cases were developed by adding the arena related to traffic to the No Action event cases.

For 2018 conditions, an NBA event is estimated to generate approximately 2,050 vehicular trips during the weekday PM peak period. As attendees increasingly choose travel modes other than passenger cars further into the future (2030), PM peak hour trip generation would reduce to approximately 1,975 vehicles per hour (vph).

Traffic associated with an event in the arena was distributed to the study area roadways following the distribution shown on Figure 3–28. This regional trip distribution pattern is consistent with assumptions for the Stadium District site, modified to reflect localized access patterns. These trips external to the study area were then distributed throughout the study area consistent with the No Action parking supply.

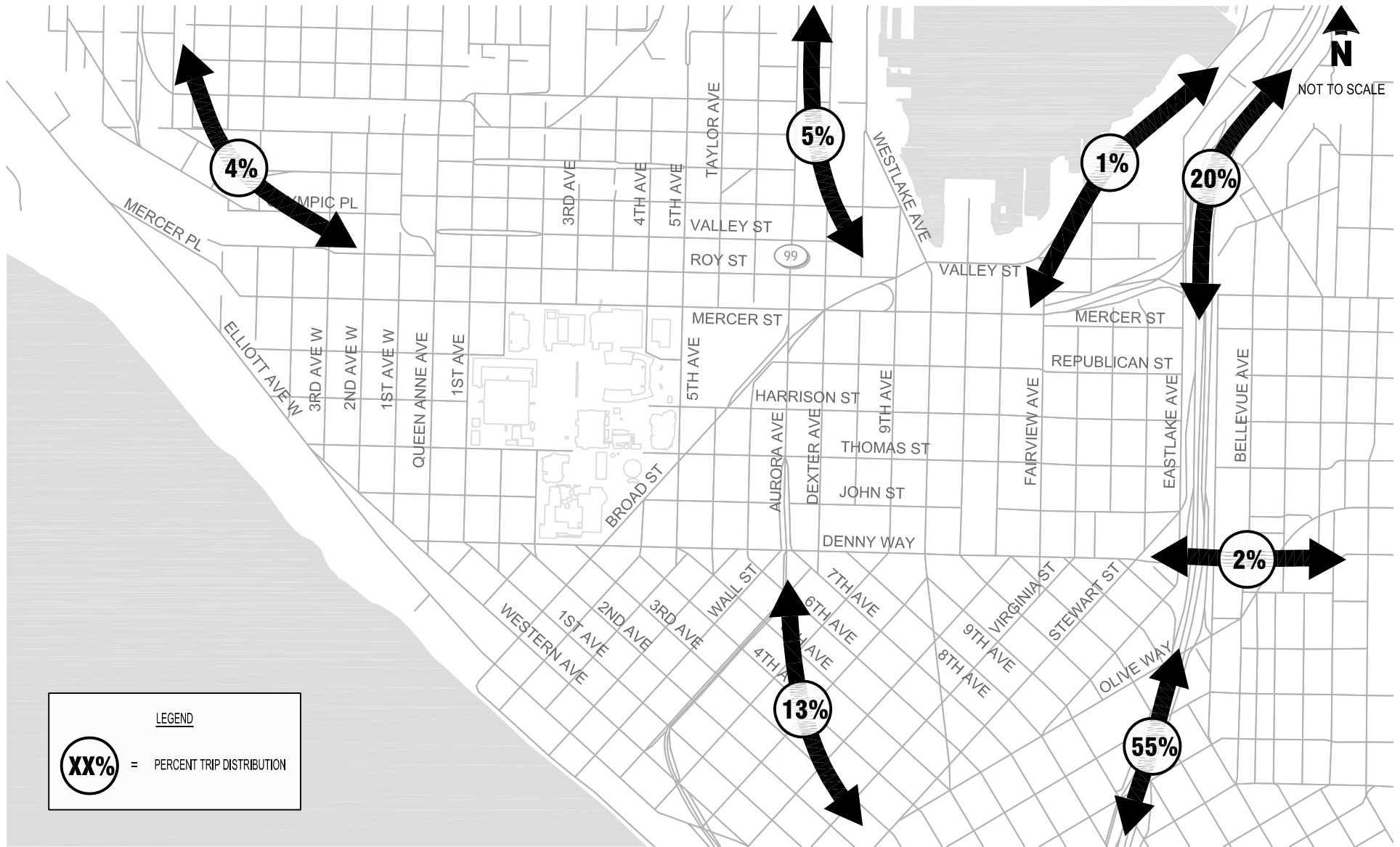
3.5.2 Affected Environment

The following summarizes the existing traffic volumes in the study area.

3.5.2.1 Existing Weekday PM Peak Hour - Without Event

Within the Seattle Center study area, significant transportation improvement projects have been under construction for the past several years. Due to ongoing construction activities and impacts to traffic circulation and roadway capacities, existing traffic counts were not conducted within the defined study area. Instead previous traffic models and studies developed for the area were reviewed. These studies and the extents of the intersections used from each study are as follows:

- Existing 2010 traffic volumes for the Mercer West project
 - Roy Street from Queen Anne Avenue N. to 5th Avenue N.
 - Mercer Street-W. Mercer Place from Elliot Avenue W. to 5th Avenue N.
 - Republican Street / 5th Avenue N.
- Forecast 2010 traffic volumes for the Mercer East project (with two-way travel on Mercer Street)
 - Mercer Street from Broad Street to Fairview Avenue N.
 - Broad Street at Westlake Avenue N. and Fairview Avenue N.
 - Republican Street at Dexter Avenue N., Westlake Avenue N., and Fairview Avenue N.
 - 5th Avenue N. at Harrison Street and Broad Street
- Existing 2010 traffic volumes from SDOT's Denny Way Signal optimization
 - Denny Way from Western Avenue to Stewart Street



Seattle Center Area Event Trip Distribution Map

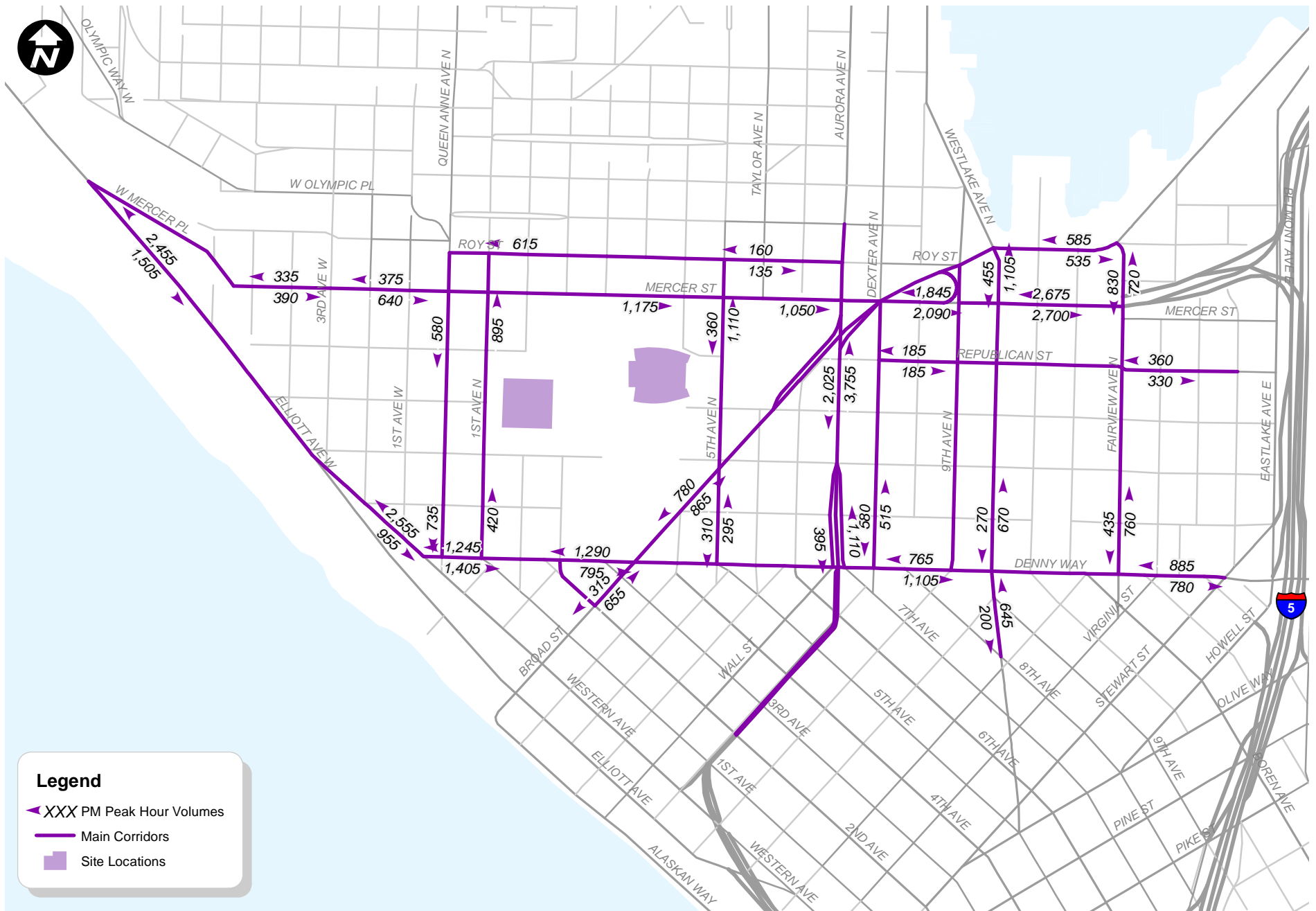
Seattle Arena

FIGURE 3-28

The traffic volumes from each of these studies were then compared and balanced. The balanced 2010 weekday peak hour traffic volumes were then forecasted to 2013 conditions based on an annual growth rate of 1.5 percent per year consistent with studies completed in the SLU area. The resulting 2013 estimated weekday PM peak hour traffic volumes are summarized on Figure 3–29, with detailed estimated turning movement volumes provided in Attachment E-1, which is available from DPD upon request.

As shown on Figure 3–29, weekday PM peak hour traffic within the study area is concentrated along the Mercer Street, Denny Way, and Elliot Avenue W. corridors. Traffic volumes are greatest along Mercer Street in the vicinity of the ramps to and from I-5 and decrease further to the west. Mercer Street has over 1,000 vehicles during the peak hour along the Seattle Center frontage and over 5,000 vehicles near the I-5 / Fairview Avenue N. interchange. Denny Way has approximately 2,000 vehicles during the peak hour along Seattle Center frontage and approximately 1,700 vehicles near I-5. Elliot Avenue W. carries approximately 4,000 vehicles during the peak hour near W. Mercer Place.

Truck volumes on the primary streets that border the Seattle Center, including 1st Avenue S., Mercer Street, 5th Avenue N., Broad Street, and Denny Way are generally less than five percent during the weekday PM peak hour.



Seattle Center Area Existing Weekday PM Peak Hour Traffic Volumes

FIGURE 3-29

3.5.3 Impacts of No Action Alternative

Weekday PM peak hour without event traffic volumes for the 2018 and 2030 horizon years were estimated based on 2015 and 2030 traffic volume forecasts from the Final EIS's for the Alaskan Way Viaduct Replacement Project (July 2011). Traffic volumes developed for the non-tolled bored tunnel alternative were used and account for anticipated changes in traffic volumes and travel patterns.

Forecast traffic volumes from the Alaskan Way Viaduct analysis were available at nearly all study intersections identified for this EIS and accounted for two-way travel along Mercer Street (both E. Mercer and W. Mercer projects completed). Figure 3–30 identifies the current study area intersections for the Seattle Center study area, included in the Alaskan Way Viaduct replacement Project analysis and those that were not. Forecast traffic volumes at study intersections not included in the Alaskan Way Viaduct analysis were estimated based on traffic forecasts and entering / exiting volumes at adjacent intersections that were included in the Alaskan Way Viaduct analysis, as well as anticipated changes in general travel patterns.

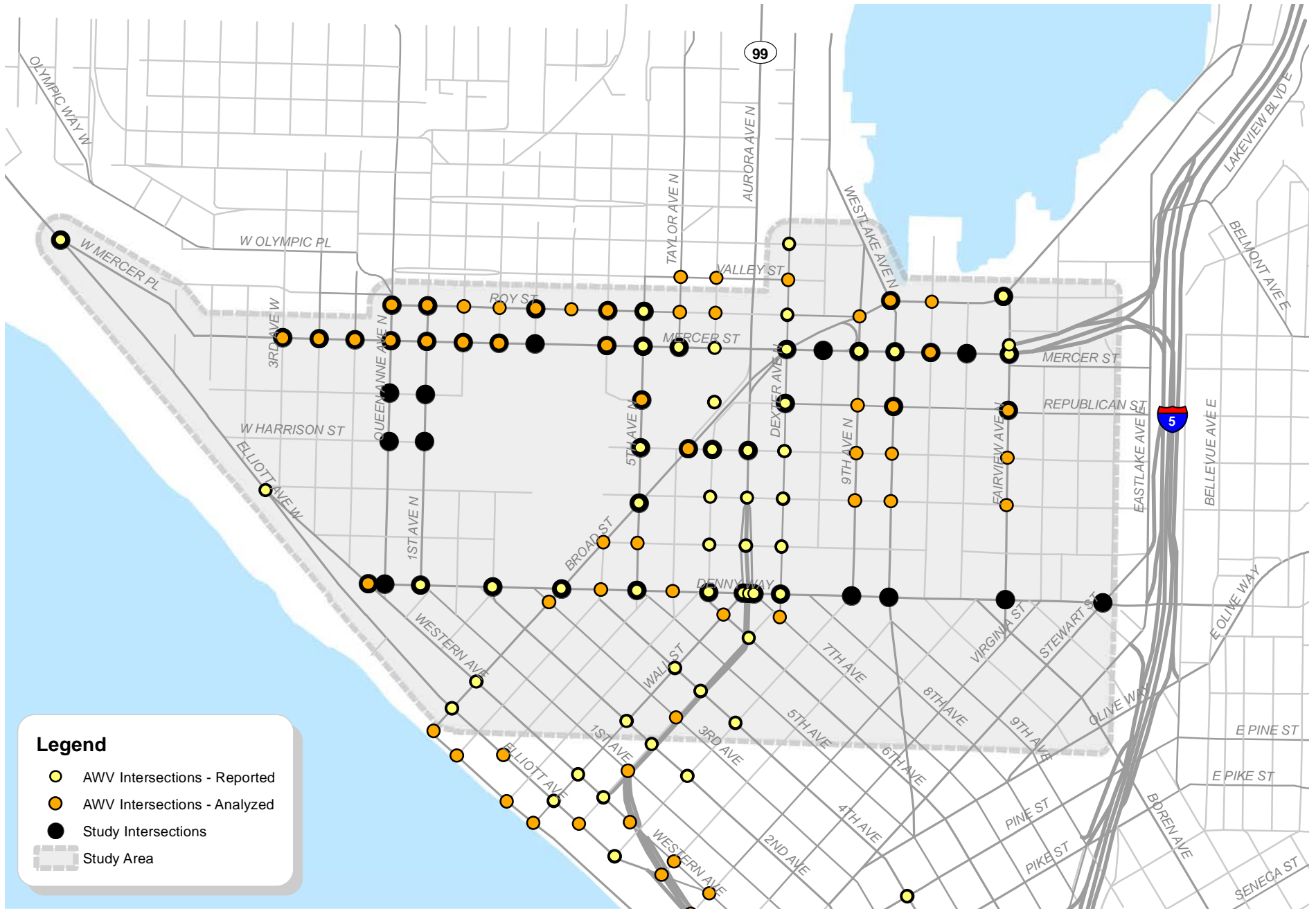
Traffic volumes developed for 2018 conditions were estimated by interpolating between 2015 and 2030 traffic volumes from the Alaskan Way Viaduct Replacement Project analysis.

Traffic forecasts for the three No Action event cases were developed for the 2018 and 2030 horizon years. These cases include:

- Case M1 - 5,000-person event at Memorial Stadium
- Case K1 - 12,000-person event at the KeyArena
- Case K2/M2 - A 5,000-person event at Memorial Stadium and a 12,000-person event at KeyArena that occur at the same time

Event traffic associated with these three event cases are outlined in the Event Transportation Demand section of this report. Based on this methodology, under 2018 conditions the 5,000 person event at Memorial Stadium is estimated to generate approximately 360 vehicular trips during the weekday PM peak hour and the 12,000-person event at Key Arena would generate approximately 850 trips.

As traffic congestion throughout the Puget Sound region increases, attendees of events in the Seattle center would be increasingly likely to use transportation modes other than passenger cars. For the 2030 conditions, the transit mode split was increased. This increase in transit usage results in a forecast of approximately 350 vehicular trips associated with a 5,000-person event at Memorial Stadium in 2030 and 820 trips forecast for a 12,000-person event at the KeyArena.



Seattle Center Area Alaskan Way Viaduct/Seattle Arena
EIS Study Area Comparison

Seattle Arena

FIGURE
3-30

Traffic from these events was distributed to the study area roadways. The distribution is consistent with event travel patterns in the Seattle Center area. Trips were then assigned throughout the study area, consistent with the No Action parking supply. As shown, 28 percent of vehicular trips to an event at either Memorial Stadium or KeyArena were assumed to travel to the study from the north, 2 percent from the east, 68 percent from the south, and 2 percent from the west.

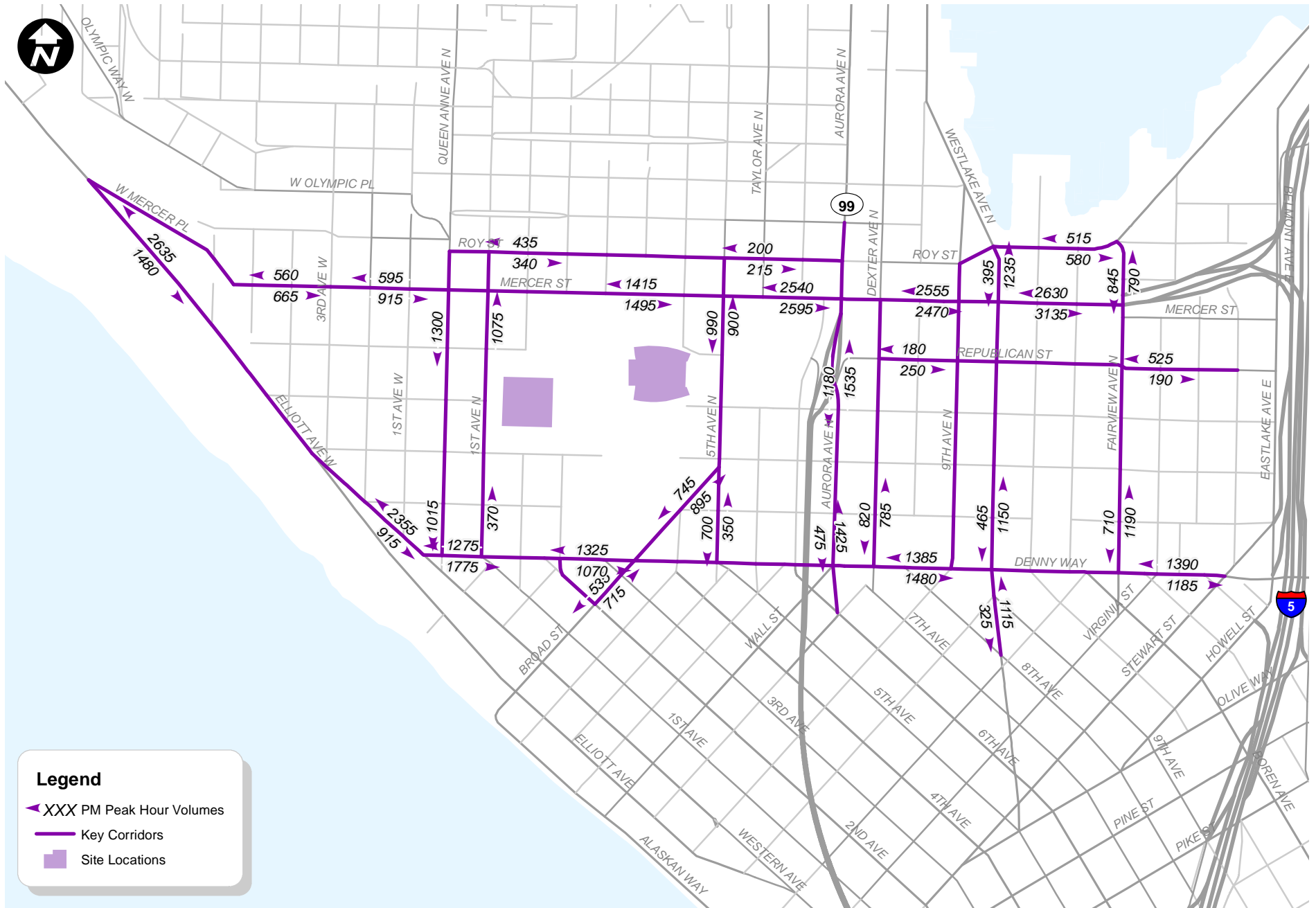
3.5.3.1 2018 Traffic Volumes

Traffic volumes along key corridors under 2018 conditions are summarized on Figure 3–31 through Figure 3–33 for the No Action Cases K1, M1, and K2/M2. Detailed turning movement volumes for each scenario and at each study intersection are provided in Attachment E-1, which is available from DPD upon request.

2018 No Action Case K1 traffic volumes are shown on Figure 3–31. The following provides a general overview of the increases in volumes from existing conditions given the assumptions outlined above for the 12,000-person event at KeyArena:

- Mercer Street, between 1st Avenue N. and 5th Avenue N. – 148 percent increase
- Denny Way, between 1st Avenue N. and 5th Avenue N. – 15 percent increase
- 1st Avenue N., south of Mercer Street – 20 percent increase
- 5th Avenue N., north of Denny Way – 29 percent increase

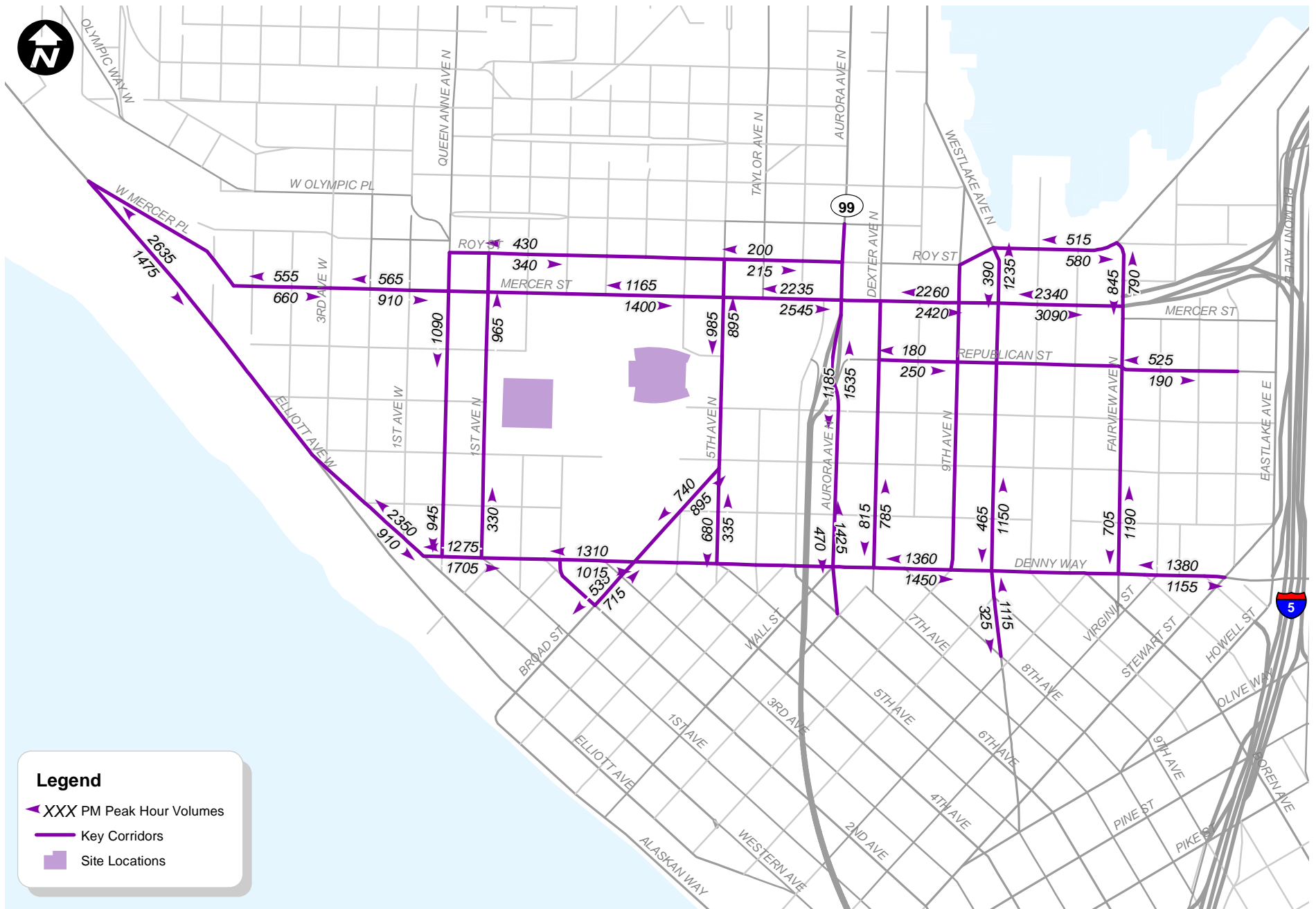
Given historical growth (approximately one to two percent annually) in background traffic, the primary contributing factor to the increase in traffic is the shifts due to the configuration of the bored tunnel and the lack of access to the Central Business District from within the tunnel.



Seattle Center Area 2018 No Action Case K1
 Weekday PM Peak Hour Traffic Volumes

Seattle Arena

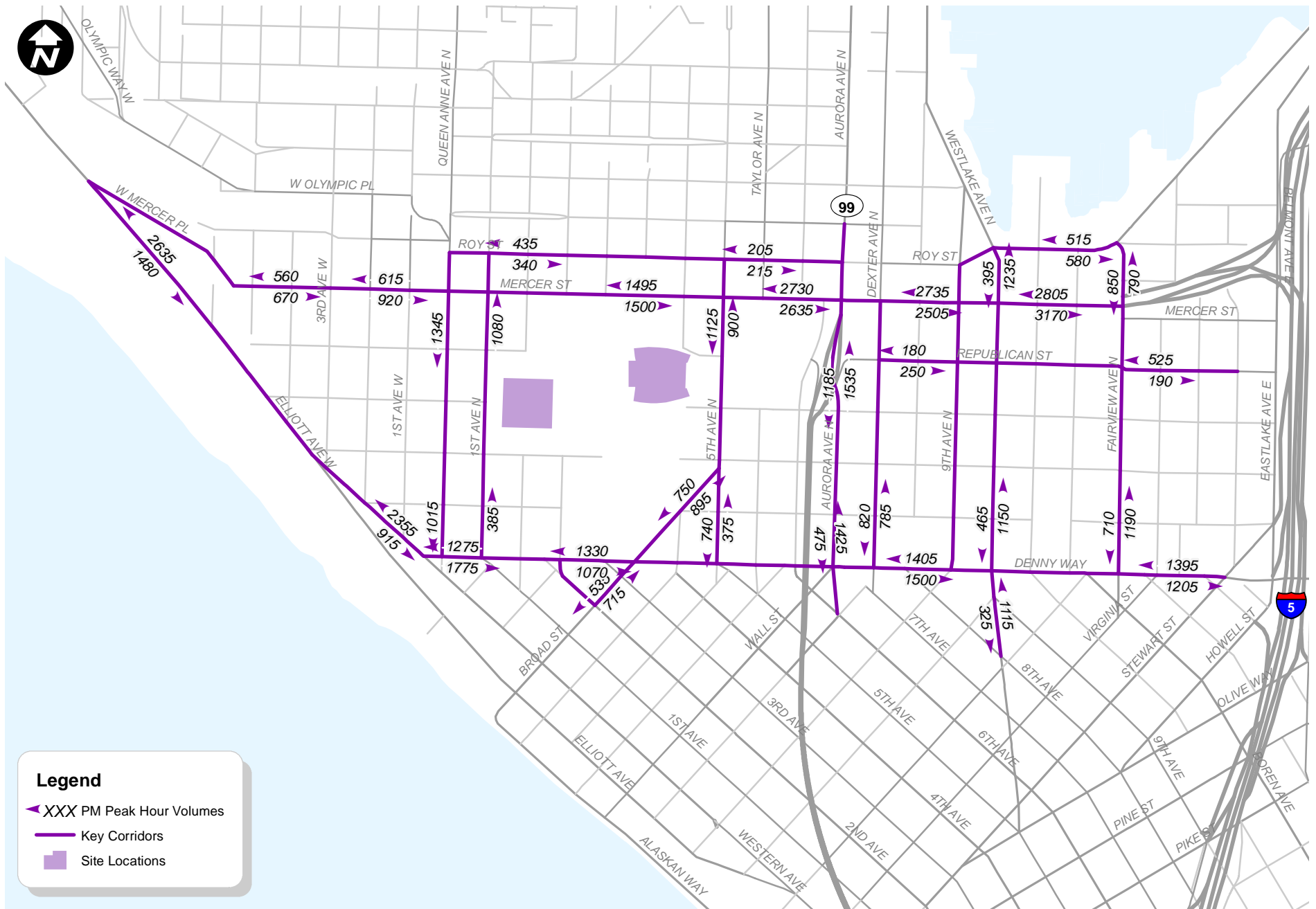
FIGURE
 3-31



Seattle Center Area 2018 No Action Case M1
 Weekday PM Peak Hour Traffic Volumes

Seattle Arena

FIGURE
 3-32



Seattle Center Area 2018 No Action Case K2/M2
 Weekday PM Peak Hour Traffic Volumes

Seattle Arena

FIGURE
 3-33

2018 No Action Case M1 traffic volumes are shown on Figure 3–32. The following provides a general overview of the increases in volumes from existing conditions given the assumptions outlined above for the 5,000-person event at Memorial Stadium:

- Mercer Street, between 1st Avenue N. and 5th Avenue N. – 118 percent increase
- Denny Way, between 1st Avenue N. and 5th Avenue N. – 12 percent increase
- 1st Avenue N., south of Mercer Street – 8 percent increase
- 5th Avenue N., north of Denny Way – 28 percent increase

2018 No Action Case K2/M2 traffic volumes are shown on Figure 3–33. The following provides a general overview of the increases in volumes from existing conditions given the assumptions outlined above for dual events at Memorial Stadium and KeyArena:

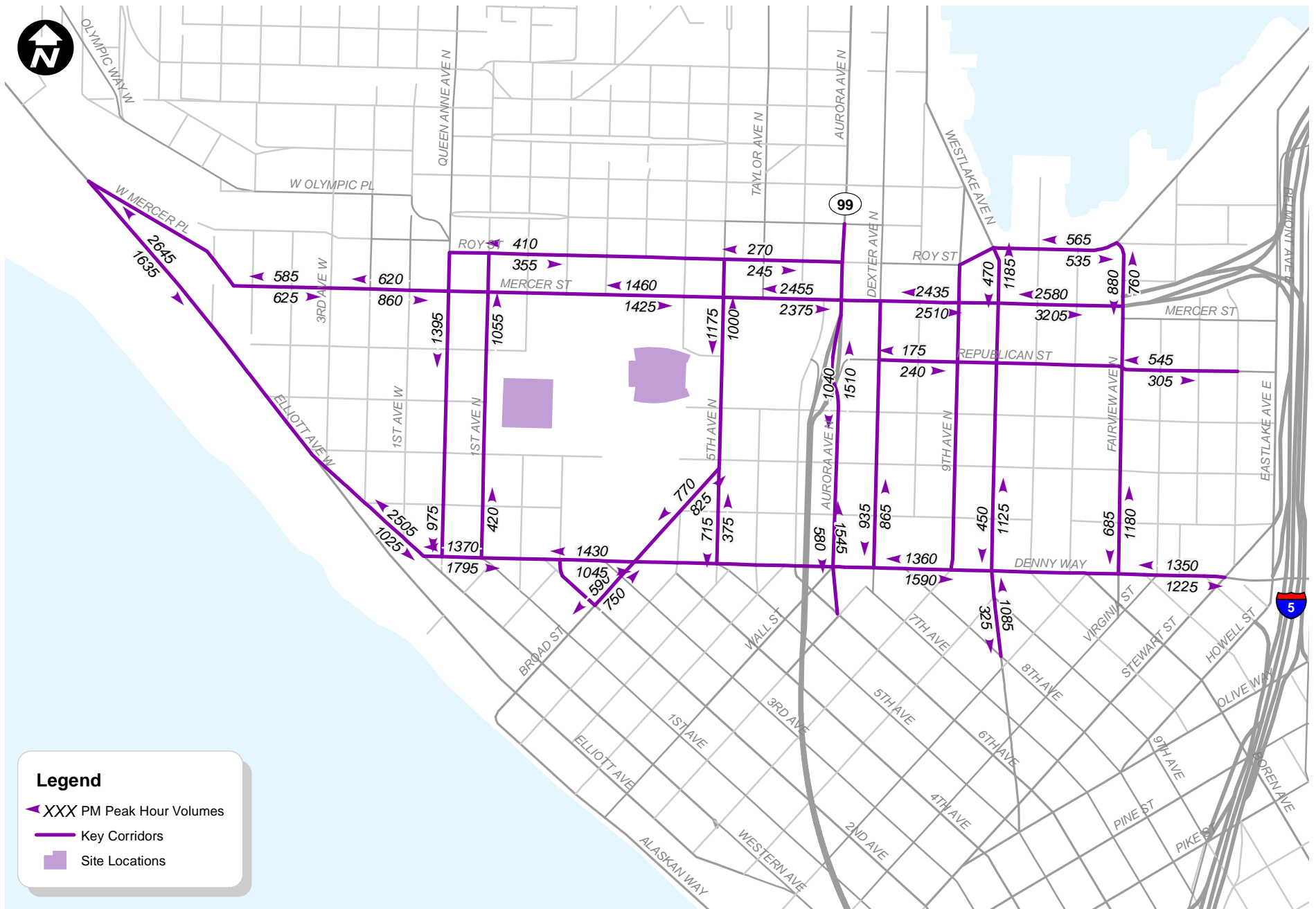
- Mercer Street, between 1st Avenue N. and 5th Avenue N. – 155 percent increase
- Denny Way, between 1st Avenue N. and 5th Avenue N. – 15 percent increase
- 1st Avenue N., south of Mercer Street – 21 percent increase
- 5th Avenue N., north of Denny Way – 38 percent increase

3.5.3.2 2030 Traffic Volumes

Traffic volumes along key corridors under 2030 conditions are summarized on Figure 3–34 through Figure 3–36 for the No Action Cases M1, K1, and K2/M2. Detailed turning movement volumes for each scenario and at each study intersection are provided in Attachment E-1, which is available from DPD upon request.

2030 No Action Case K1 traffic volumes are shown on Figure 3–34. The following provides a general overview of the increases in volumes from existing conditions given the assumptions outlined above for the 12,000-person event at KeyArena:

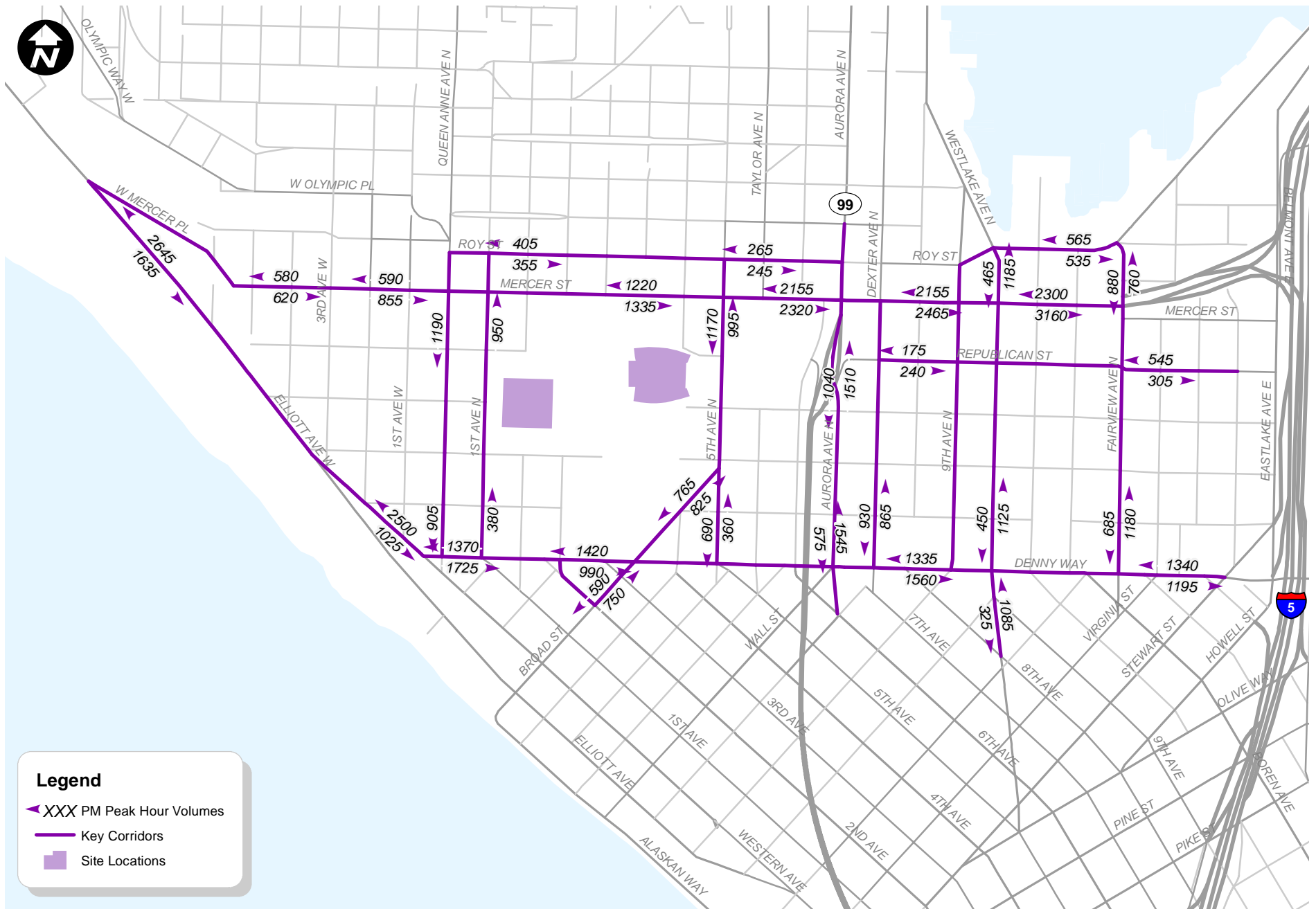
- Mercer Street, between 1st Avenue N. and 5th Avenue N. – 146 percent increase
- Denny Way, between 1st Avenue N. and 5th Avenue N. – 19 percent increase
- 1st Avenue N., south of Mercer Street – 18 percent increase
- 5th Avenue N., north of Denny Way – 48 percent increase



Seattle Center Area 2030 No Action Case K1
Weekday PM Peak Hour Traffic Volumes

Seattle Arena

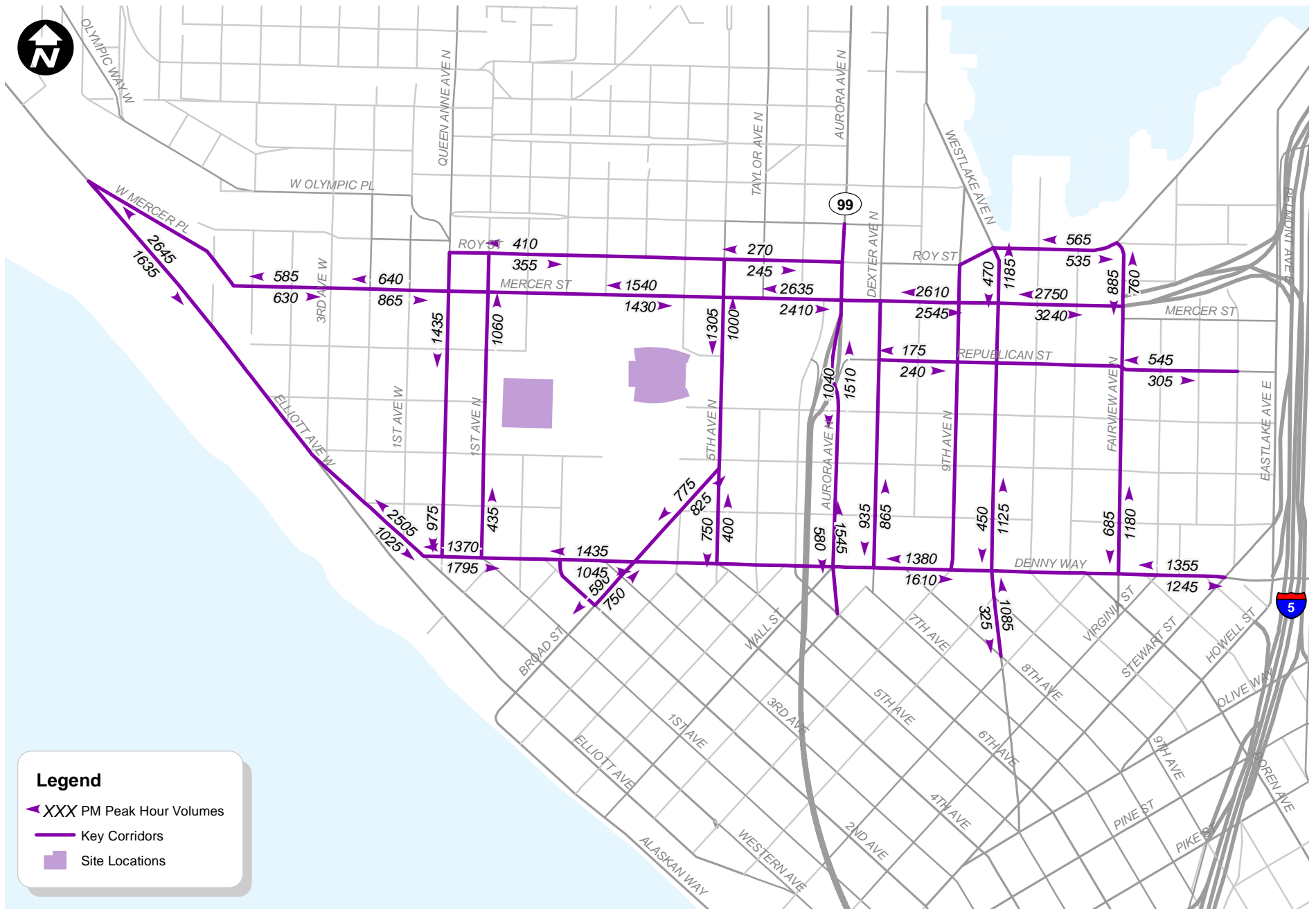
FIGURE
3-34



Seattle Center Area 2030 No Action Case M1
 Weekday PM Peak Hour Traffic Volumes

Seattle Arena

FIGURE
 3-35



Seattle Center Area 2030 No Action Case K2/M2
 Weekday PM Peak Hour Traffic Volumes
 Seattle Arena

FIGURE
 3-36

2030 No Action Case M1 traffic volumes are shown on Figure 3–35. The following provides a general overview of the increases in volumes from existing conditions given the assumptions outlined above for the 5,000-person event at Memorial Stadium:

- Mercer Street, between 1st Avenue N. and 5th Avenue N. – 117 percent increase
- Denny Way, between 1st Avenue N. and 5th Avenue N. – 16 percent increase
- 1st Avenue N., south of Mercer Street – 6 percent increase
- 5th Avenue N., north of Denny Way – 47 percent increase

2030 No Action Case K2/M2 are shown on Figure 3–36. The following provides a general overview of the increases in volumes from existing conditions given the assumptions outlined above for dual events at Memorial Stadium and KeyArena:

- Mercer Street, between 1st Avenue N. and 5th Avenue N. – 153 percent increase
- Denny Way, between 1st Avenue N. and 5th Avenue N. – 19 percent increase
- 1st Avenue N., south of Mercer Street – 18 percent increase
- 5th Avenue N., north of Denny Way – 57 percent increase

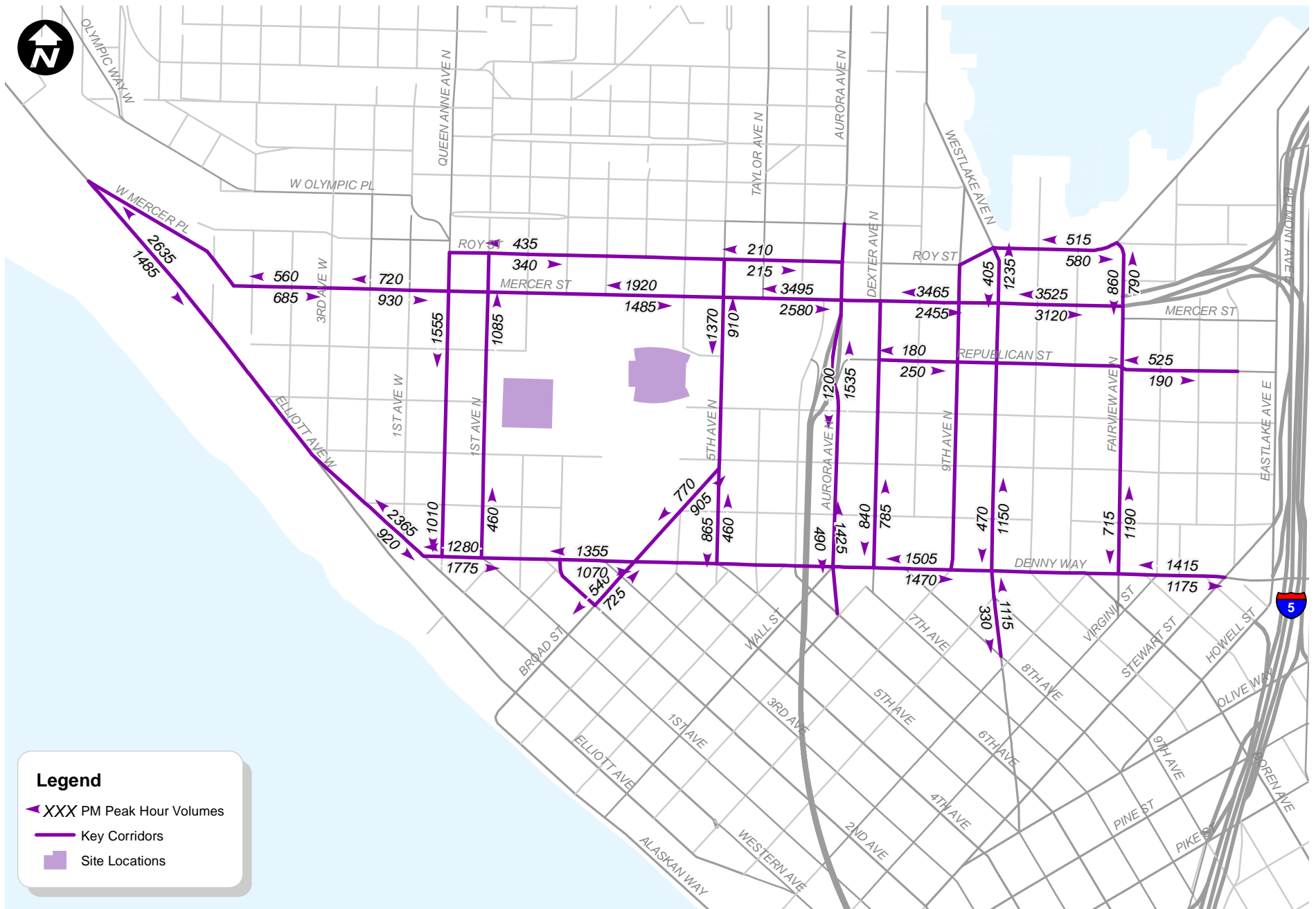
3.5.4 Impacts of Alternative 4

Alternative 4 would result in an increase in traffic volumes due to workers traveling to and from the site, delivery of material, and truck hauling. It is anticipated that the increase in traffic volumes would be less than generated by a 20,000-seat event at the arena.

3.5.4.1 2018 Traffic Volumes

Traffic volumes along key corridors under 2018 conditions for No Action Cases K1 and K2 are summarized on Figure 3–37 and Figure 3–38. Detailed turning movement volumes for each scenario and at each study intersection are provided in Attachment E-1, which is available from DPD upon request.

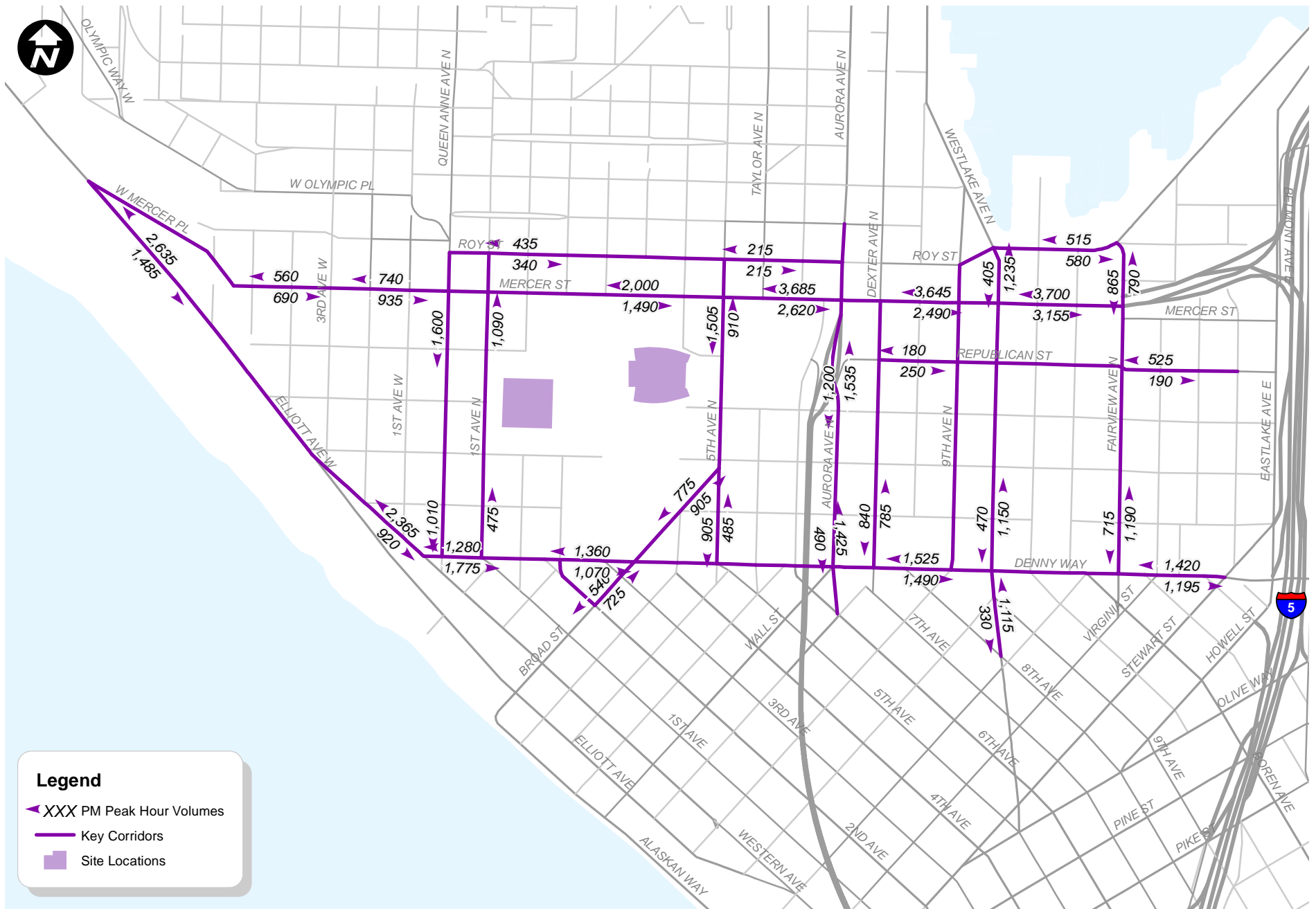
Table 3-5 summarizes the total traffic volumes at several locations within the arena vicinity under Alternative 4 Case K1. This table includes locations with a greater proportion of regional traffic (i.e. Mercer Street east of Terry Avenue N. accessing I-5) and locations near the Seattle Center (i.e. Mercer Street east of 3rd Avenue N.) and shows the percent increase in traffic volumes compared to 2018 No Action conditions.



Seattle Center Area 2018 Alternative 4 Case K1
 Weekday PM Peak Hour Traffic Volumes

Seattle Arena

FIGURE
 3-37



Seattle Center Area 2018 Alternative 4 Case K2
 Weekday PM Peak Hour Traffic Volumes

Seattle Arena

FIGURE
 3-38

**Table 3-5
2018 Alternative 4 Weekday PM Peak Hour Traffic Volumes Comparison**

Location	Case K1		Case K2	
	No Action	Alternative 4	No Action	Alternative 4
Mercer Street east of Terry Avenue N.	5,765	6,645 (+15%) ¹	5,975	6,855 (+15%)
Denny Way west of Stewart Street	2,575	2,590 (+1%)	2,600	2,615 (+1%)
Western Avenue northwest of Denny Way	3,270	3,285 (+1%)	3,270	3,285 (+1%)
Mercer Street east of 3rd Avenue N.	2,910	3,405 (+17%)	2,995	3,490 (+17%)
Queen Anne Avenue N. south of Mercer Street	1,300	1,555 (+20%)	1,345	1,600 (+19%)
1st Avenue N. south of Mercer Street	1,075	1,085 (+1%)	1,080	1,090 (+1%)
5th Avenue N. south of Mercer Street	1,890	2,280 (+21%)	2,025	2,415 (+19%)

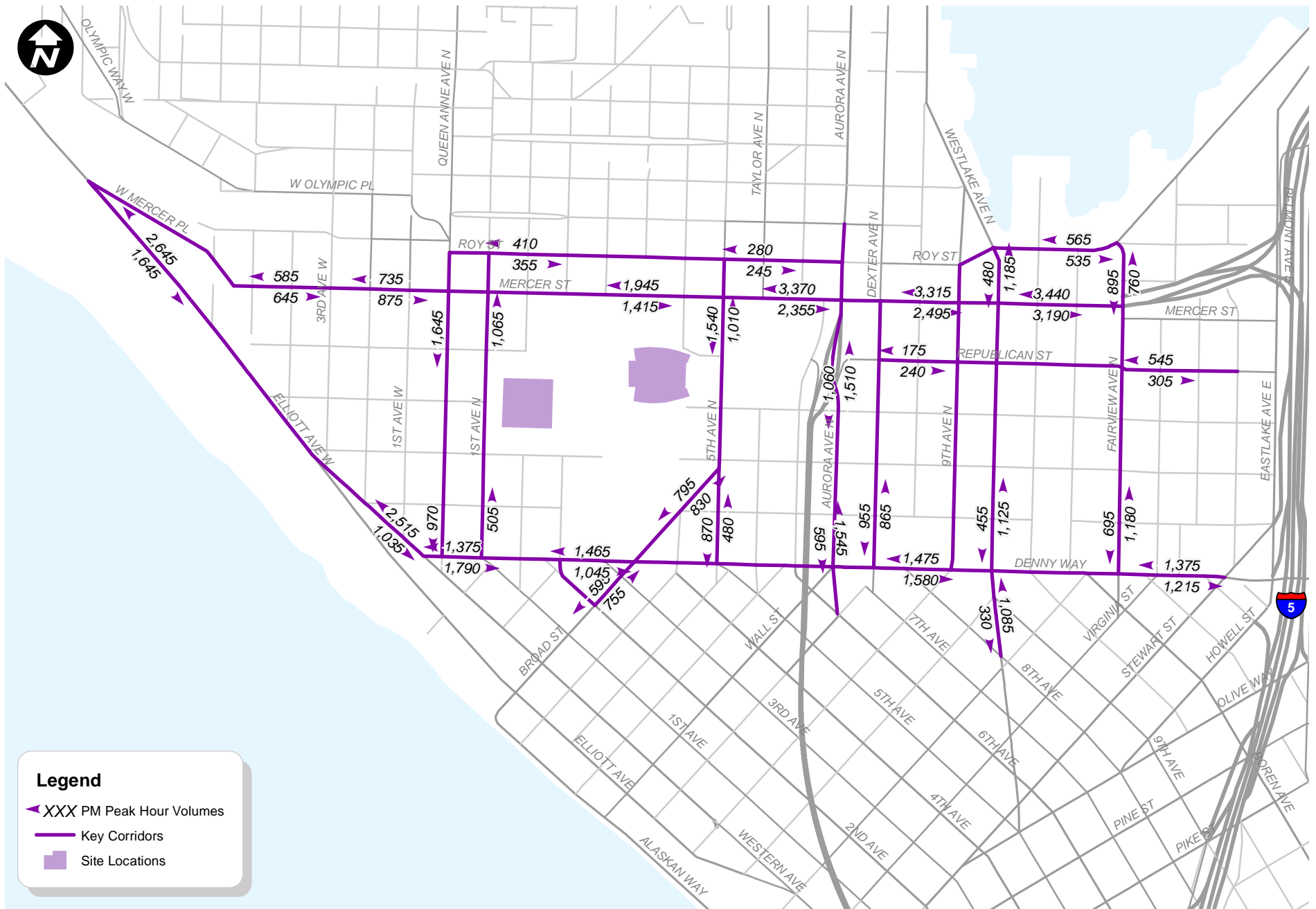
1. Percent increase from No Action conditions.

The assignment of arena event related traffic reflects the overall distribution of parking in the area as well as the travel patterns accessing the Seattle Center area. Comparing No Action Case K1 to Alternative 4 Case K1, roadway volumes increase between 1 and 21 percent within the arena vicinity under either 2018 or 2030. The percent increase is influenced by the level of background traffic, as well as the level of event traffic. As a result, proportional increases under the Case K2 (multiple event scenario) are slightly less than Case K1, although the total projected volumes increase.

3.5.4.2 2030 Traffic Volumes

Weekday PM peak hour 2030 Alternative 4 traffic volumes are shown on Figure 3–39 and Figure 3–40 for the Alternative 4 Cases K1 and K2. Detailed turning movement volumes for each scenario and at each study intersection are provided in Attachment E-1, which is available from DPD upon request.

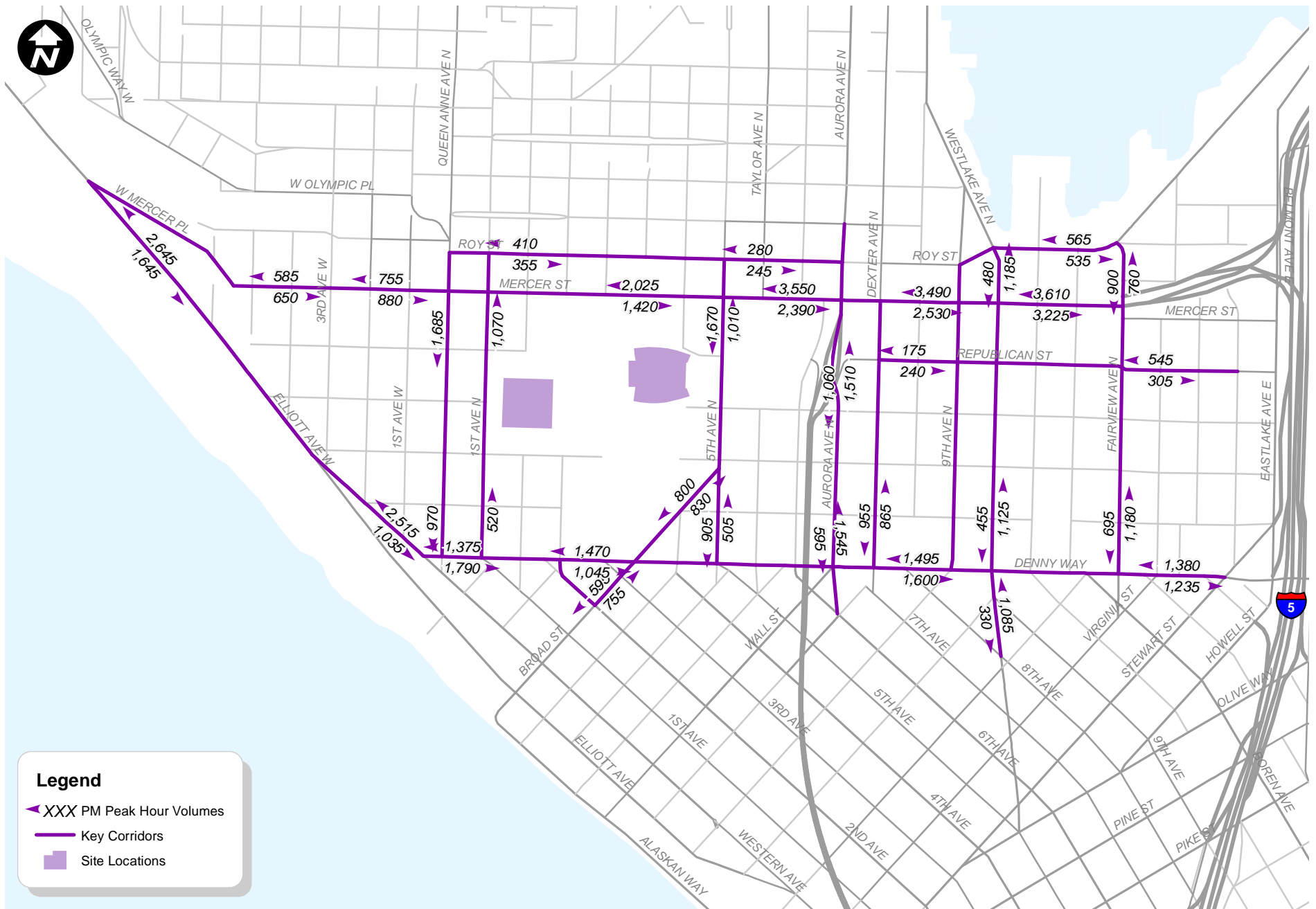
Table 3-6 summarizes the total traffic volumes within the arena vicinity and shows the percent increase in traffic volumes compared to 2030 No Action Case K2 conditions.



Seattle Center Area 2030 Alternative 4 Case K1
Weekday PM Peak Hour Traffic Volumes

Seattle Arena

FIGURE
3-39



Seattle Center Area 2030 Alternative 4 Case K2
Weekday PM Peak Hour Traffic Volumes

Seattle Arena

FIGURE
3-40

**Table 3-6
2030 Alternative 4 Weekday PM Peak Hour Traffic Volumes Comparison**

Location	Case K1		Case K2	
	No Action	Alternative 4	No Action	Alternative 4
Mercer Street east of Terry Avenue N.	5,785	6,630 (+15%) ¹	5,990	6,835 (+14%)
Denny Way west of Stewart Street	2,575	2,590 (+1%)	2,600	2,615 (+1%)
Western Avenue northwest of Denny Way	3,530	3,550 (+1%)	3,530	3,550 (+1%)
Mercer Street east of 3rd Avenue N.	2,885	3,360 (+16%)	2,970	3,445 (+16%)
Queen Anne Avenue N. south of Mercer Street	1,395	1,645 (+18%)	1,435	1,685 (+17%)
1st Avenue N. south of Mercer Street	1,055	1,065 (+1%)	1,060	1,070 (+1%)
5th Avenue N. south of Mercer Street	2,175	2,550 (+17%)	2,305	2,680 (+16%)

1. Percent increase from No Action conditions.

As shown on Figure 3–39 and Figure 3–40, and Table 3-6, roadway volumes increase between 1 and 18 percent within the arena vicinity as a result of the addition of arena traffic under either cases K1 and K2. The percent increase is influenced by the level of background traffic, as well as the level of event traffic. As a result, proportional increases under the Case K2 multiple event scenario are slightly less than for Case K1, although the project volumes increase.

3.5.4.3 Transportation Concurrency

The City of Seattle has implemented a Transportation Concurrency system to comply with one of the requirements of the Washington State Growth Management Act (GMA). The system, described in the DPD Director’s Rule 5-2009 and the City’s Land Use and Zoning Code, is designed to provide a mechanism that determines whether adequate transportation facilities would be available “concurrent” with proposed development projects.

The screenlines closest to the project site were chosen for review. The screenlines that were analyzed are shown in Table 2-13 and include:

- Magnolia (Screenline 2)
- Ship Canal (Freemont Bridge, Screenline 5.12),
- Ship Canal (Aurora Bridge, Screenline 5.13), and
- South of Lake Union (Screenline 8).

As a conservative estimate, it was assumed that all 2018 project-generated traffic (the greater passenger vehicle trip generation year) traveling in the direction of the screenlines would extend across the screenlines included in this analysis.

**Table 3-7
Alternative 4 Transportation Concurrency Analysis**

SL# ¹	Location	Dir ²	Capacity	2008 Volume	Alternative 4 Traffic ³	V/C Ratio with Project	LOS Standard
2	Magnolia	EB	4,300	611	39	0.15	1.00
		WB	4,300	1,141	3	0.27	1.00
5.12	Ship Canal (Freemont Bridge)	NB	1,600	1,757	3	1.10	1.20
		SB	1,600	1,229	40	0.79	1.20
5.13	Ship Canal (Aurora Bridge)	NB	5,100	4,472	3	0.88	1.20
		SB	5,100	3,756	40	0.74	1.20
8	South Lake Union	EB	6,000	4,509	55	0.76	1.20
		WB	3,600	3,020	195	0.89	1.20

1. SL# = Screenline Number
2. Direction: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound
3. 2018 trip generation and assignment

The transportation concurrency analysis indicates that with traffic generated by the project, the screenlines would have v/c ratios that are less than the City level of service threshold and thus, the conditions would meet concurrency requirements.

3.5.5 Impacts of Alternative 5

Alternative 5 would result in an increase in traffic volumes due to workers traveling to and from the site, delivery of material, and truck hauling. It is anticipated that the increase in traffic volumes would be less than generated by a 20,000-seat event at the arena.

3.5.5.1 2018 Traffic Volumes

Traffic volumes along key corridors under 2018 conditions for the multiple event cases are summarized on Figure 3-41 and Figure 3-42. Detailed turning movement volumes for each scenario and at each study intersection are provided in Attachment E-1, which is available from DPD upon request.

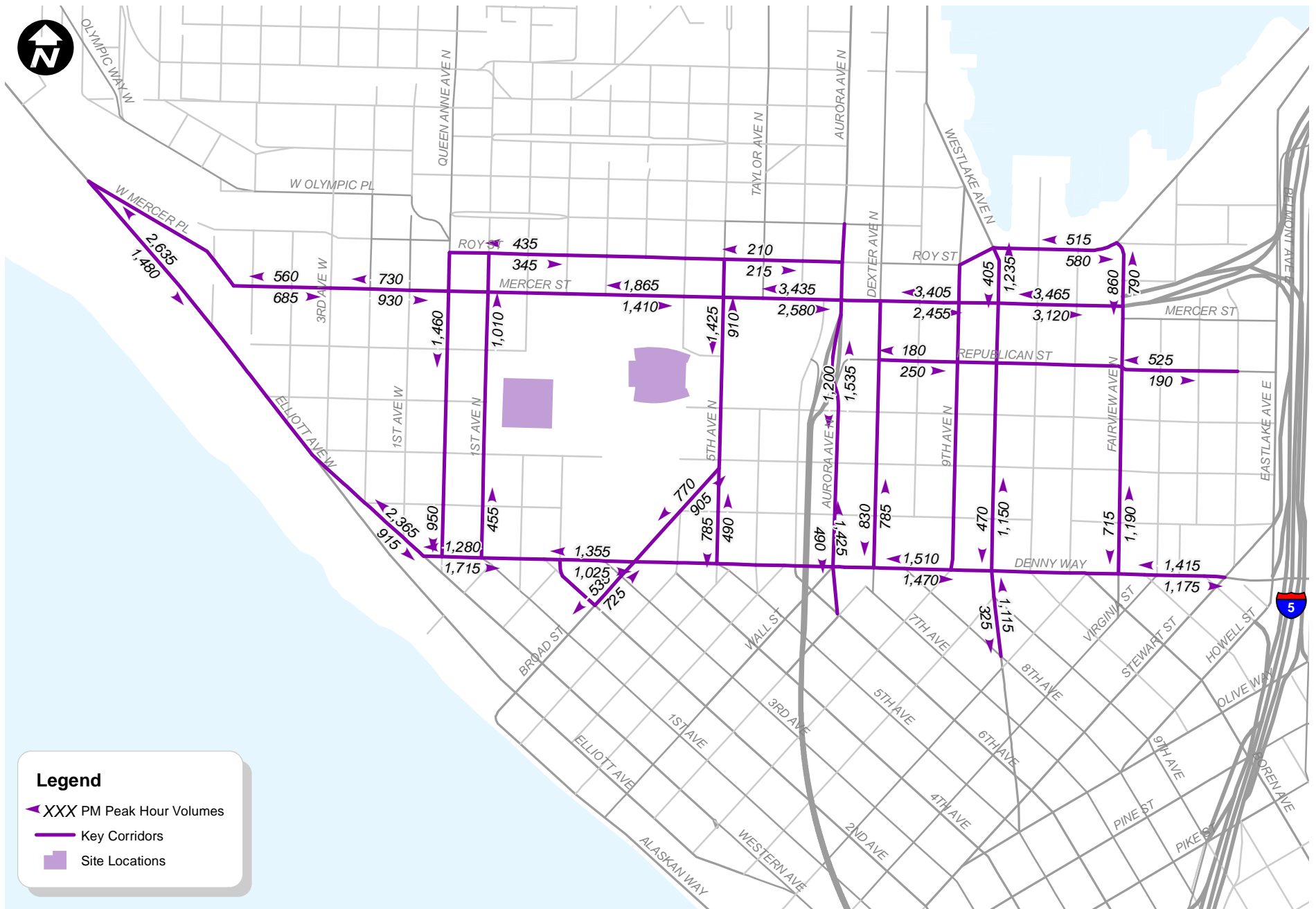
Table 3-8 summarizes the total traffic volumes within the arena vicinity and shows the percent increase in traffic volumes compared to 2018 No Action conditions for Cases M1 and M2.

**Table 3-8
2018 Alternative 5 Weekday PM Peak Hour Traffic Volumes Comparison**

Location	Case M1		Case M2	
	No Action	Alternative 4	No Action	Alternative 4
Mercer Street east of Terry Avenue N.	5,430	6,585 (+21%) ¹	5,975	7,130 (+19%)
Denny Way west of Stewart Street	2,535	2,590 (+2%)	2,600	2,655 (+2%)
Western Avenue northwest of Denny Way	3,260	3,280 (+1%)	3,270	3,290 (+1%)
Mercer Street east of 3rd Avenue N.	2,565	3,275 (+28%)	2,995	3,705 (+24%)
Queen Anne Avenue N. south of Mercer Street	1,090	1,460 (+34%)	1,345	1,715 (+28%)
1st Avenue N. south of Mercer Street	965	1,010 (+5%)	1,080	1,125 (+4%)
5th Avenue N. south of Mercer Street	1,880	2,335 (+24%)	2,025	2,480 (+22%)

1. Percent increase from No Action conditions.

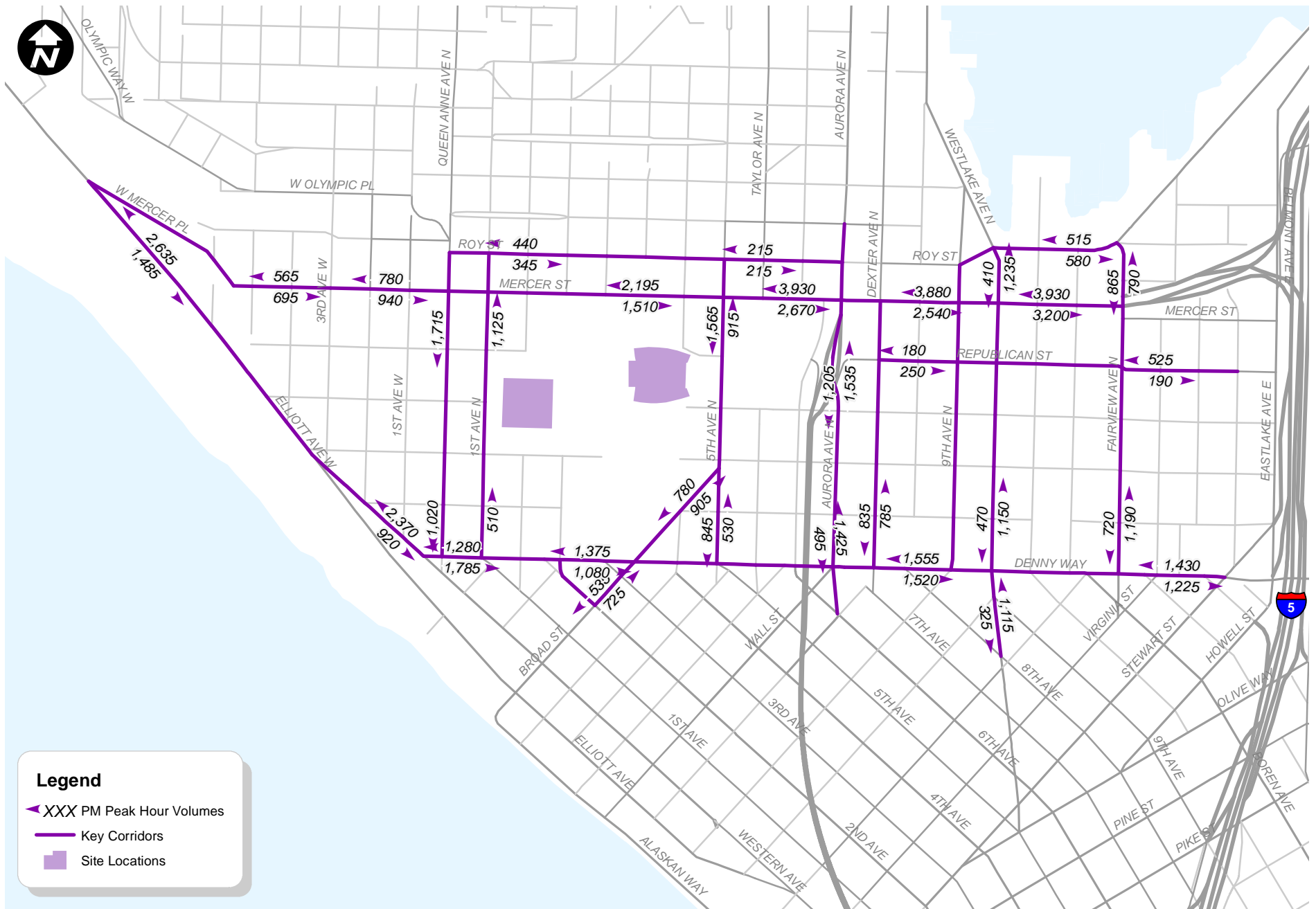
The assignment of arena event related traffic reflects the overall distribution of parking in the area as well as the travel patterns accessing the Seattle Center area. Comparing No Action Case M1 to Alternative 4 Case M1, roadway volumes increase between 5 and 24 percent within the arena vicinity under either 2018 or 2030. The percent increase is influenced by the level of background traffic, as well as the level of event traffic. As a result, proportional increases under the Case M2 multiple event scenario are slightly less than for Case M1, the single event scenario.



Seattle Center Area 2018 Alternative 5 Case M1
 Weekday PM Peak Hour Traffic Volumes

Seattle Arena

FIGURE
 3-41



Seattle Center Area 2018 Alternative 5 Case M2
 Weekday PM Peak Hour Traffic Volumes

Seattle Arena

FIGURE
 3-42

When compared to the growth identified for the Alternative 4 cases, growth under Alternative 5 is greater. This increase is due to the increase growth in attendees with an arena event at either site. At the KeyArena site the anticipated growth increases from 12,000 attendees to 20,000 attendees for an increase of 8,000 attendees. At Memorial Stadium event attendance would increase from 5,000 to 20,000 for an increase of 15,000 attendees.

3.5.5.2 2030 Traffic Volumes

Weekday PM peak hour 2030 Proposed Action traffic volumes are shown on Figure 3–43 and Figure 3–44 for the assumed NBA event at Memorial Stadium and with the addition of a 12,000 person event at KeyArena. Detailed turning movement volumes for each scenario and at each study intersection are provided in Attachment E-1, which is available from DPD upon request.

Table 3-9 summarizes the total traffic volumes within the arena vicinity and shows the percent increase in traffic volumes compared to 2030 No Action conditions for Cases M1 and M2.

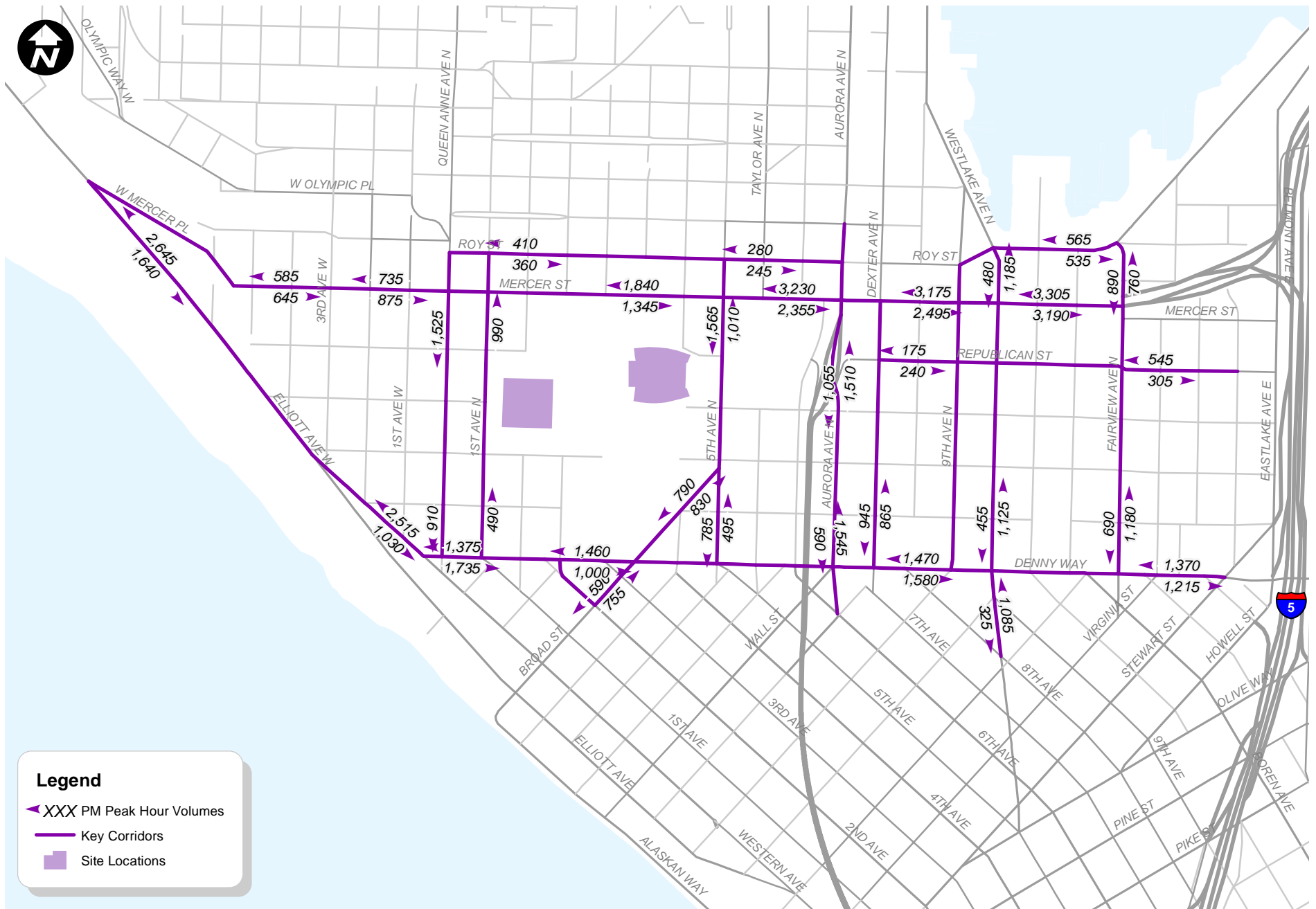
**Table 3-9
2030 Alternative 5 Weekday PM Peak Hour Traffic Volumes Comparison**

Location	Case M1		Case M2	
	No Action	Alternative 4	No Action	Alternative 4
Mercer Street east of Terry Avenue N.	5,460	6,495 (+19%) ¹	5,990	7,025 (+17%)
Denny Way west of Stewart Street	2,535	2,585 (+2%)	2,600	2,650 (+2%)
Western Avenue northwest of Denny Way	3,525	3,545 (+1%)	3,530	3,550 (+1%)
Mercer Street east of 3rd Avenue N.	2,555	3,185 (+25%)	2,970	3,600 (+21%)
Queen Anne Avenue N. south of Mercer Street	1,190	1,525 (+28%)	1,435	1,770 (+23%)
1st Avenue N. south of Mercer Street	950	990 (+4%)	1,060	1,100 (+4%)
5th Avenue N. south of Mercer Street	2,165	2,575 (+19%)	2,305	2,715 (+18%)

1. Percent increase from No Action conditions.

As shown on Figure 3–43 and Figure 3–44, and Table 3-9, roadway volumes increase between 1 and 28 percent within the arena vicinity as a result of the addition of arena traffic under either cases M1 and M2. The percent increase is influenced by the level of background traffic, as well as the level of event traffic. As a result, increases under the Case M2 multiple event scenario are slightly less than for Case M1, the single event scenario.

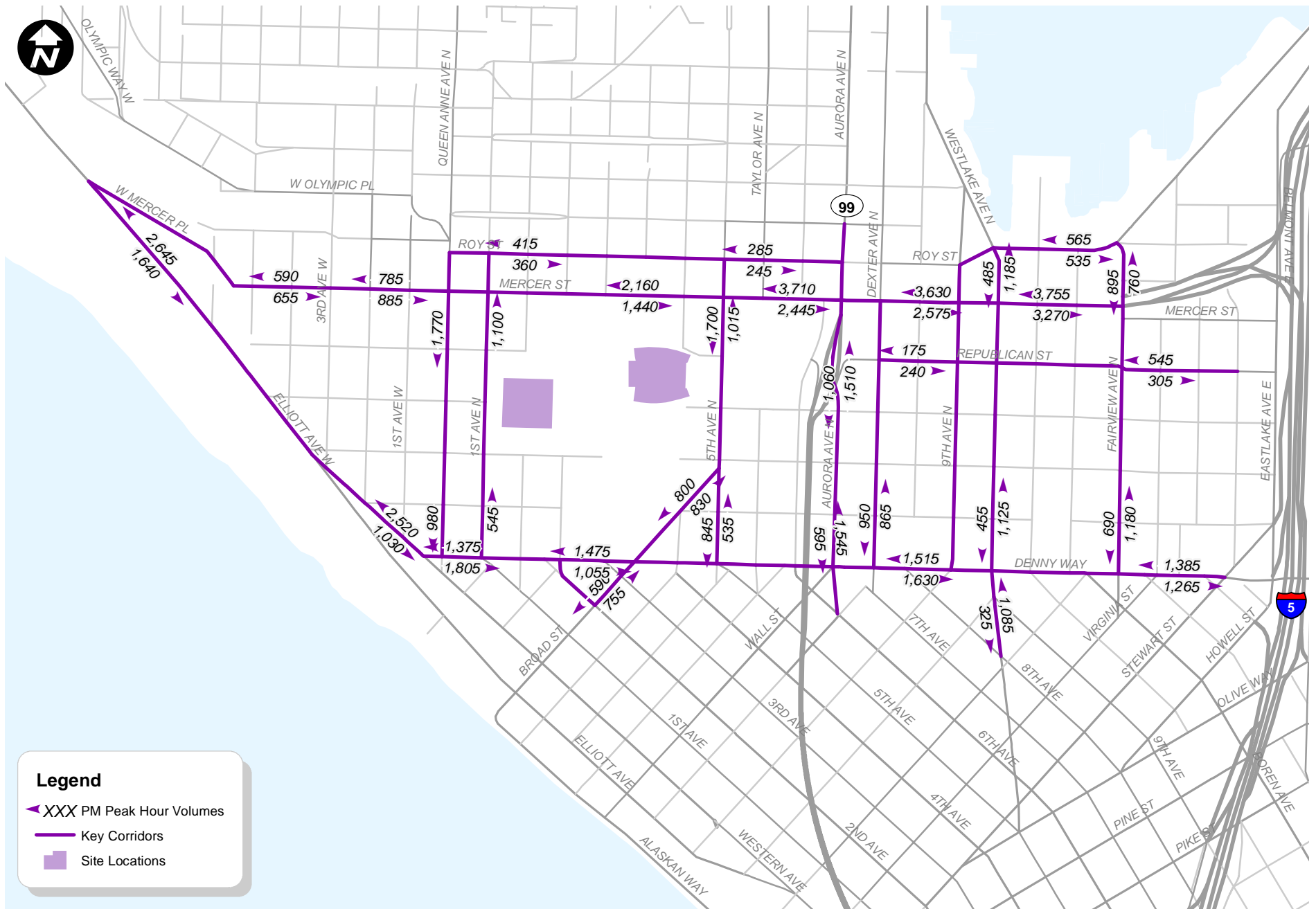
As explained for 2018 Alternative 5 traffic volumes, growth under Alternative 5 is greater than growth identified for Alternative 4. This proportional increase is due to the increased growth in attendees with an arena event at either site.



Seattle Center Area 2030 Alternative 5 Case M1
 Weekday PM Peak Hour Traffic Volumes

Seattle Arena

FIGURE
 3-43



Seattle Center Area 2030 Alternative 5 Case M2
 Weekday PM Peak Hour Traffic Volumes

Seattle Arena

FIGURE
 3-44

3.5.5.3 Transportation Concurrency

The City of Seattle has implemented a Transportation Concurrency system to comply with one of the requirements of the Washington State Growth Management Act (GMA). The system, described in the DPD Director’s Rule5-2009 and the City’s Land Use and Zoning Code, is designed to provide a mechanism that determines whether adequate transportation facilities would be available “concurrent” with proposed development projects.

The screenlines closest to the project site were chosen for review. The screenlines that were analyzed are shown in Table 2-13 and include:

- Magnolia (Screenline 2)
- Ship Canal (Freemont Bridge, Screenline 5.12),
- Ship Canal (Aurora Bridge, Screenline 5.13), and
- South of Lake Union (Screenline 8).

As a conservative estimate, it was assumed that all project-generated traffic traveling in the direction of the screenlines would extend across the screenlines included in this analysis.

**Table 3-10
Alternative 5 Transportation Concurrency Analysis**

SL# ¹	Location	Dir ²	Capacity	2008 Volume	Alternative 5 Traffic ³	V/C Ratio with Project	LOS Standard
2	Magnolia	EB	4,300	611	39	0.15	1.00
		WB	4,300	1,141	3	0.27	1.00
5.12	Ship Canal (Freemont Bridge)	NB	1,600	1,757	3	1.10	1.20
		SB	1,600	1,229	40	0.79	1.20
5.13	Ship Canal (Aurora Bridge)	NB	5,100	4,472	3	0.88	1.20
		SB	5,100	3,756	40	0.74	1.20
8	South Lake Union	EB	6,000	4,509	55	0.76	1.20
		WB	3,600	3,020	195	0.89	1.20

1. SL# = Screenline Number
2. Direction: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound
3. 2018 trip generation and assignment

The transportation concurrency analysis indicates that with traffic generated by the project, the screenlines would have v/c ratios that are less than the City level of service threshold and thus, the conditions would meet concurrency requirements.

3.5.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This

summary includes identification of both programmatic measures and physical improvements. The following identifies those potential mitigation measures considered to have a high influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 4 and Alternative 5.

- Event schedule protocol and management
- Public information coordinator
- Directional event signage
- Variable message and parking guidance signage
- Construction management plan

3.5.7 Secondary & Cumulative Impacts

The effective implementation of transportation demand reduction strategies through a Transportation Management Program would result in increases in demands on other transportation modes and systems, including pedestrians, transit, and bicycles.

3.5.8 Significant Unavoidable Adverse Impacts

Peak hour traffic volumes would increase substantially over current levels under No Action conditions and the order of magnitude of change in traffic volumes associated with an arena for any event case falls within the range of current event experience. There would be an increase in traffic volumes during peak conditions on event days, which would occur more frequently with an arena. A number of measures have been identified to reduce the level of increase in traffic volumes, including demand reduction, and management of vehicles to orient them to the most appropriate route.

3.6 Traffic Operations

This section evaluates the impacts of the project with respect to traffic operations within the defined Seattle Center study area. The traffic operations analysis included a review of three primary areas. This includes an analysis of the intersection levels of service, corridor performance measured through an assessment of travel times, and regional impacts as identified through a review of mainline I-5 and I-90 travel speeds and ramp terminal LOS. The following section provides further detail regarding the methodology applied to each of the three analyses.

3.6.1 Methodology

Intersection Level of Service: The operational performance of an intersection was determined by calculating the intersection LOS based on the procedures presented in HCM 2000 rather than the most recent HCM 2010. The use of HCM 2000 is due to limitations related to the HCM 2010 methodology for some conditions, analysis software coding bugs, a desire to apply a

consistent methodology throughout the study area, and long-term acceptance of the previous HCM results. Specific limitations of the HCM 2010 methodology include the inability to model five-legged intersections as well as restrictions related to signal phasing that result in the inability to model some of the study area signalized locations. As a consistent approach to measuring intersection and corridor performance, the LOS analysis was completed using the HCM 2000 methodologies as implemented in the Synchro version 8 software program.

At signalized and all-way stop-controlled intersections, LOS is measured in average delay per vehicle for all vehicles at the intersection. At two-way stop-sign-controlled intersections, LOS is reported for the worst operating approach of the intersection. Traffic operations for an intersection can be described alphabetically with a range of LOS values (LOS A through F), with LOS A indicating free-flowing traffic and LOS F indicating extreme congestion and long vehicle delays. Intersection levels of service incorporate several intersection characteristics including signal timing, signal phasing, intersection channelization, traffic volumes, and pedestrian volumes. Table 3-11 summarizes the LOS criteria for signalized and unsignalized intersections.

The City of Seattle’s Comprehensive Plan does not define a LOS standard for individual intersections; however, the City generally recognizes LOS E and F as poor operations for signalized locations and LOS F for unsignalized locations. As noted above, given the event-related nature of this analysis, and variant frequencies and intensities, traditional intersection LOS standards would not be appropriate as the sole measure of impacts on traffic operations.

**Table 3-11
Level of Service Criteria**

LOS ¹	Average Signalized Delay ²	Average Unsignalized Delay ²	General Description ²
A	< 10 seconds	< 10 seconds	Free Flow
B	10 - 20 seconds	10 - 15 seconds	Stable Flow (slight delays)
C	20 - 35 seconds	15 - 25 seconds	Stable flow (acceptable delays)
D	35 - 55 seconds	25 - 35 seconds	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	55 - 80 seconds	35 - 50 seconds	Unstable flow (intolerable delay)
F	> 80 seconds	> 50 seconds	Forced flow (jammed)

1. LOS = level of service

2. *Highway Capacity Manual*, Transportation Research Board, Special Report 209, 2000.

Corridor Performance: Route performance along key corridors was calculated within the study area to provide an additional level of analysis regarding the overall operations of the roadway system. This type of analysis adds context to the results of the intersection LOS described earlier, because it takes into account general travel times between intersections as

well as additional delay anticipated at intersections for the specific movements relevant to the identified route.

Travel times were evaluated for three routes and were chosen based on a review of existing travel patterns in the area including key travel routes for commuters and the movement of freight and goods. These routes are generally representative of local circulation or regional travel. Figure 3–45 highlights the travel time routes identified for this analysis. The four routes are described as follows:

- **Route 1** focuses on east-west travel along W. Mercer Street between 3rd Avenue W. and Fairview Avenue.
- **Route 2** focuses on an east-west route along Denny Way between Queen Anne Avenue and Stewart Street.
- **Route 3** includes north-south travel along 5th Avenue N. between Denny Way and W. Mercer Street.

Travel times were calculated consistent with HCM methodologies defined for the analysis of arterial systems, consistent with the analysis of Stadium District travel routes associated with the evaluation of Alternatives 2 and 3.

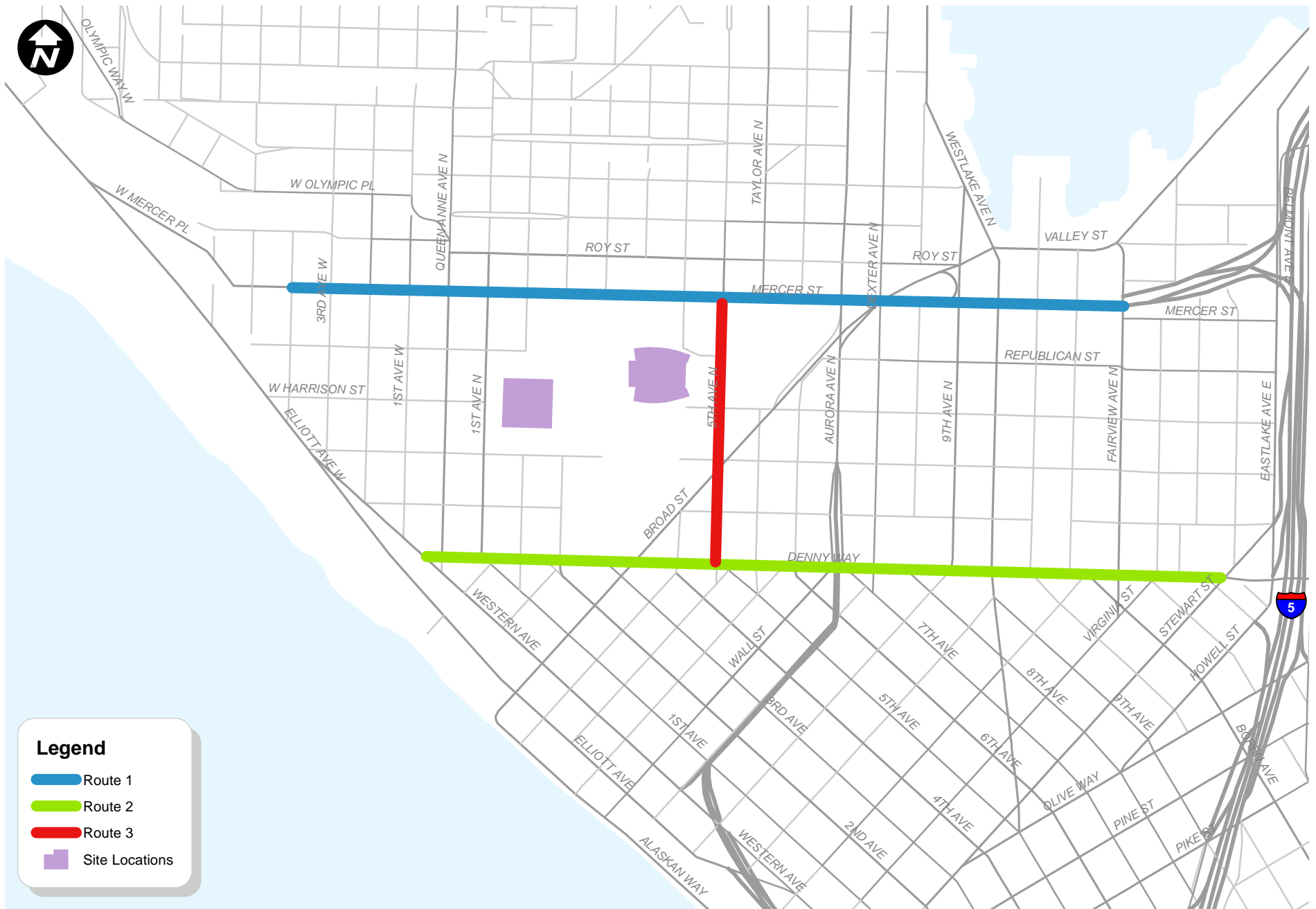
Freeway / Regional Access Analysis: The analysis of regional access to the Seattle Center study area focused on both mainline performance considering corridor travel speeds as well as the LOS at the ramp intersections with the surface arterials. The analysis included a review of southbound I-5 between NE 145th and SR 520 and westbound I-90 between Rainier Avenue and I-5. Information prepared by the King County expert review panel in 2012 for the potential Arena was included in this analysis. This information highlights historical congestion patterns along the I-5 and I-90 corridors under event conditions. Ramp intersections also evaluated as part of the intersection LOS are highlighted in this section. The analysis of the ramp intersections is consistent with the LOS methodology previously described.

3.6.2 Affected Environment

The following sections summarize existing traffic operations within the Seattle Center study area.

3.6.2.1 Intersection Operations

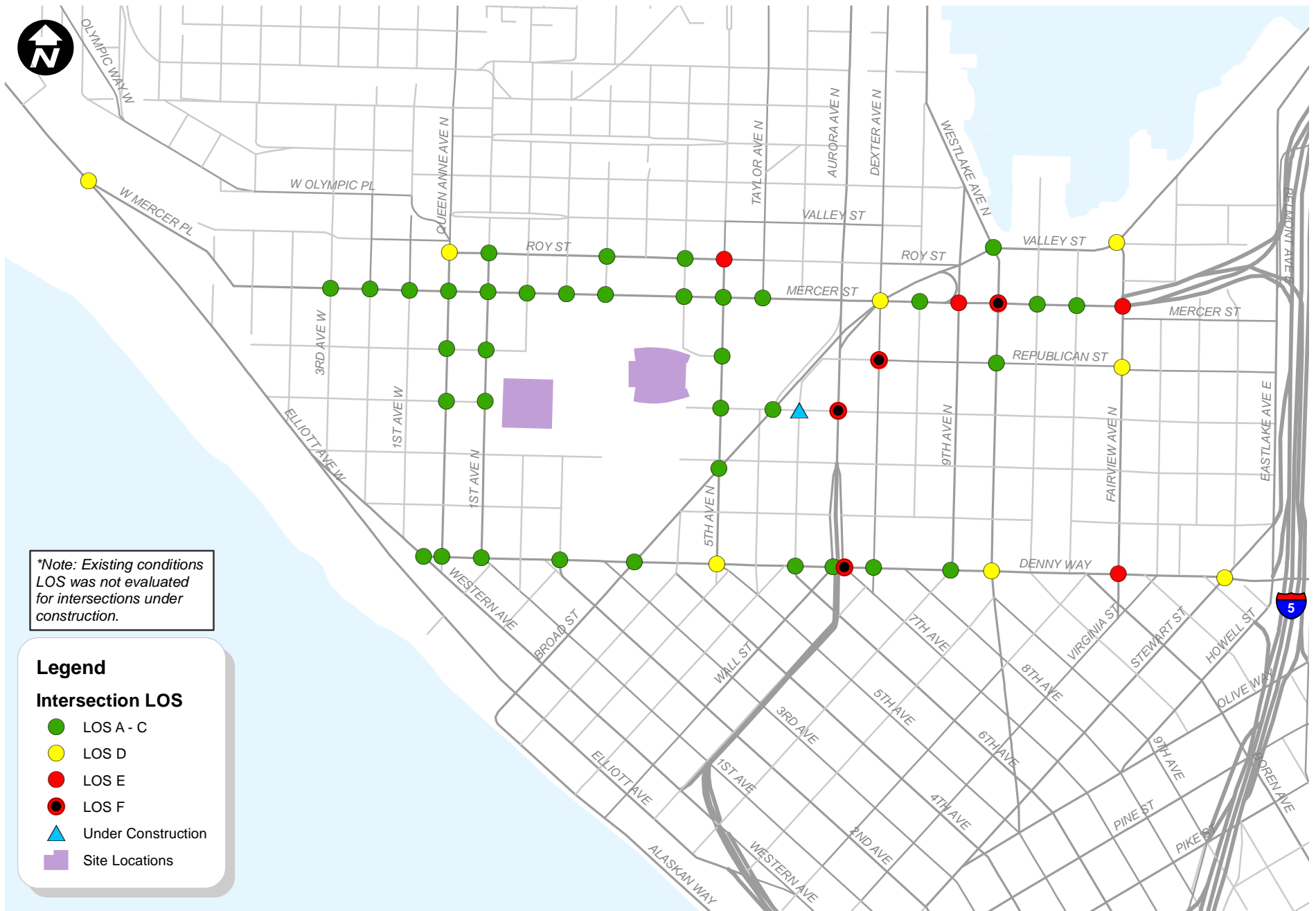
As part of the intersection operations analysis, signal timing and phasing information was obtained from either the SDOT or collected in the field. Lane geometrics and traffic control was confirmed in the field and are summarized for each study area intersection in Attachment E-2, which is available from DPD upon request. LOS results for existing weekday PM peak hour conditions are summarized on Figure 3–46.



Seattle Center Area Corridor Travel Time Routes

Seattle Arena

FIGURE
3-45

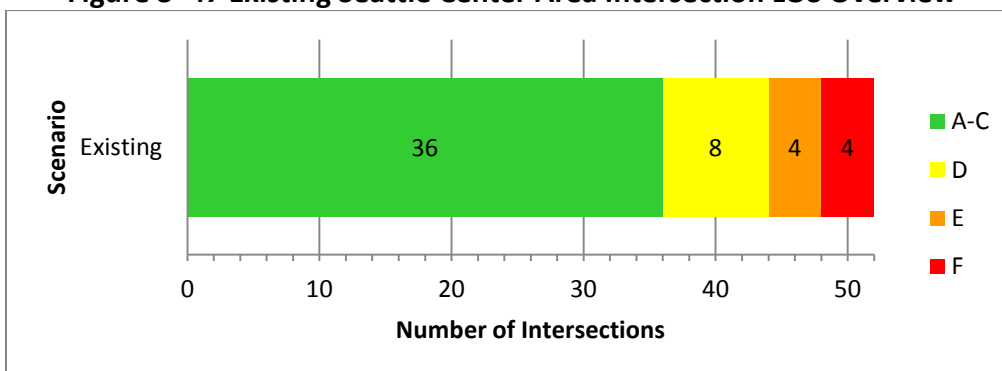


Seattle Center Area Existing Weekday PM Peak Hour Level of Service

FIGURE 3-46

The number of intersections operating at LOS C or better, LOS D, LOS E, and LOS F, are summarized on Figure 3–47. Detailed LOS summary tables and worksheets for each scenario are included in Attachment E-3, which is available from DPD upon request. As shown on Figure 3–46 and Figure 3–47, all study intersections operate at LOS D or better under existing conditions with the exception of the nine intersections that operate at LOS E or LOS F.

Figure 3–47 Existing Seattle Center Area Intersection LOS Overview



3.6.2.2 Corridor Travel Times

Table 3-12 summarizes the estimated existing travel times on the various routes for weekday PM peak hour conditions.

**Table 3-12
Seattle Center Area Existing Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Without Event (m:ss) ¹
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	8:59
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	8:32
2	Denny Way from Queen Anne Avenue to Stewart Street	EB	6:18
	Denny Way from Stewart Street to Queen Anne Avenue	WB	6:54
3	5th Avenue N. from Denny Way to W. Mercer Street	NB	2:55
	5th Avenue N. from W. Mercer Street to Denny Way	SB	2:40

1. m:ss = minutes:seconds

As shown in Table 3-12, travel times in both travel directions on each route are similar in each direction. Several intersections along the travel time routes are shown to have left-turn queue lengths that exceed allowable storage, but occur along arterials that have multiple through lanes. As a result, vehicles potentially blocked by these queues are anticipated to utilize the other through lanes, minimizing the impact on the overall intersection capacity.

3.6.2.3 Regional Access Analysis

Primary freeway corridors that provide regional access to the Seattle Center area include I-5, I-90, SR 520, and SR 99. The PM peak commute period for these corridors occurs between 3:00 and 7:00 PM.

I-5 is a north-south corridor with 8 to 10 lanes of capacity through the downtown Seattle area. The corridor serves 7,000 to 7,500 vph in each direction through downtown during the evening commute. The I-5 corridor also includes a set of reversible lanes between Downtown Seattle and Northgate. This four-lane facility operates in the northbound direction during the PM peak period with a volume of 4,500 vph.

I-90 is an east-west corridor connecting cities east of the Lake Washington (such as Bellevue, Issaquah, Redmond, Mercer Island) and terminates in the SoDo area of Seattle. Approaching I-5 from the east, I-90 serves up to 9,300 vph during the PM peak period, with higher eastbound volumes leaving Seattle.

The I-5 and I-90 corridors experience congestion today during the PM peak commute (4:00 to 7:00 PM). I-5 southbound is congested with speeds less than 30 mph from 145th Street NE through downtown Seattle (north of I-90). I-90 westbound operates with speeds less than 30 mph from I-405 to the approach to I-5. Figure 3–48 depicts typical daily congestion that occurs today on I-5 southbound and I-90 westbound.

When events occur at existing downtown stadiums, peak travel times through the city increase (see Figure 3–49). PM peak travel times (on days with events in 2012) increased by up to eight minutes on southbound I-5 between NE 145th and I-90 and up to four minutes on westbound I-90 between I-405 and Rainer Avenue S.

Figure 3–48 I-5 and I-90 Existing Weekday Congestion

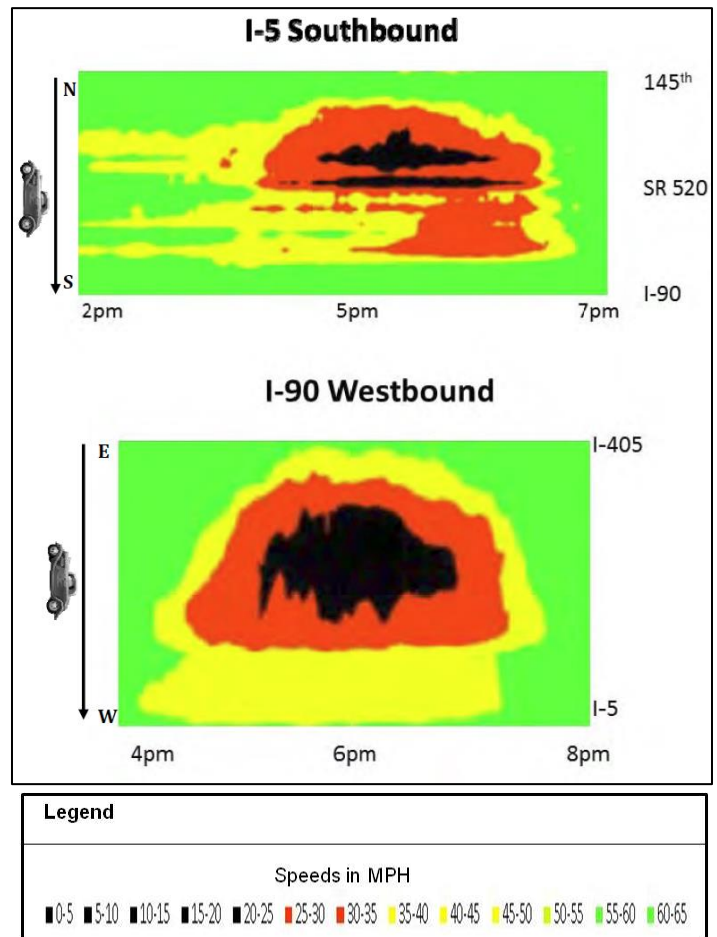
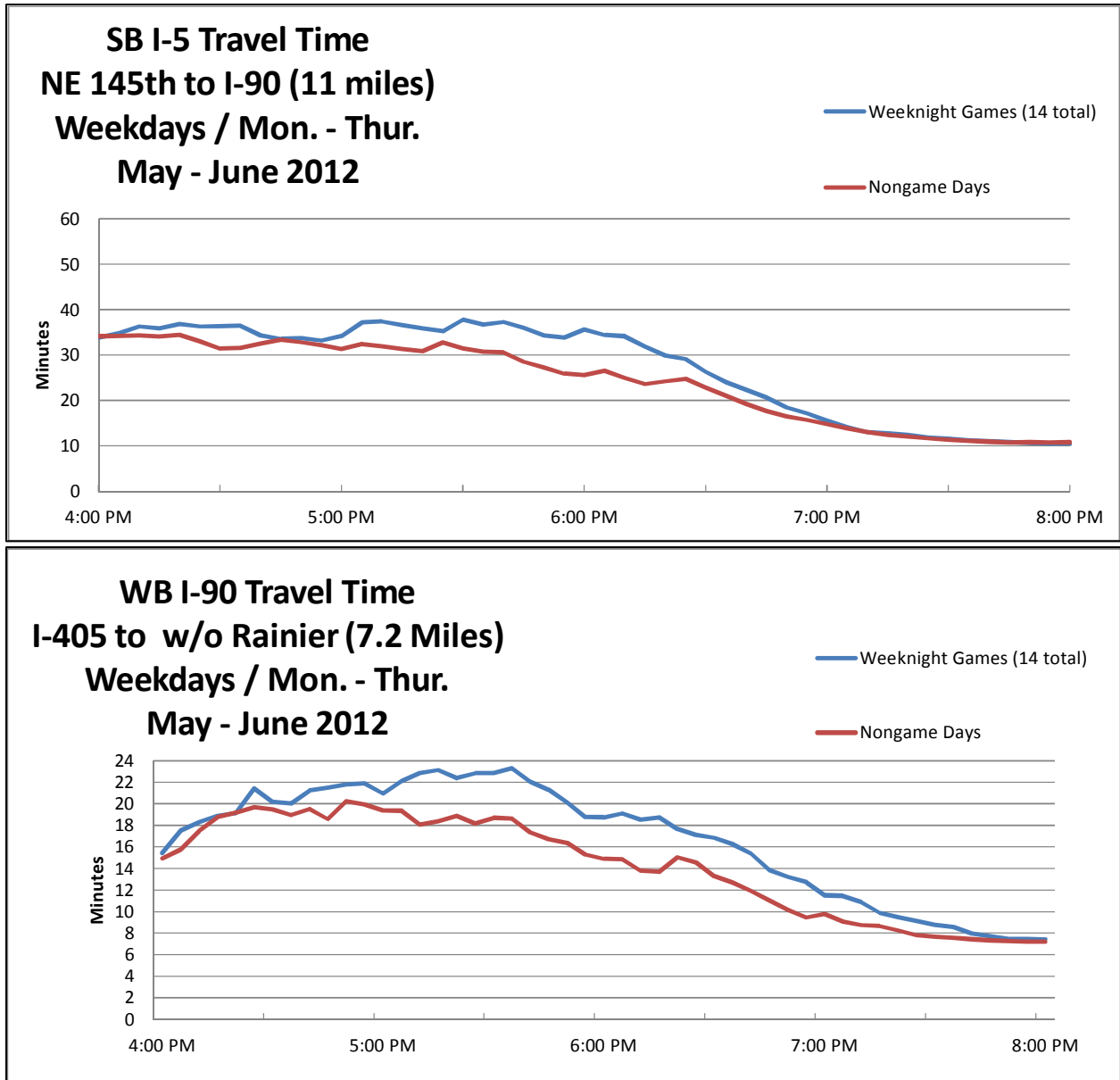


Figure 3-49 I-5 and I-90 Existing Weekday Travel Times with and without an Event



SR 520 is a second east-west cross-lake corridor operating between Redmond and Seattle. SR 520 is currently a four-lane tolled corridor and serves up to 4,800 vph during the PM peak period. Ultimately, the corridor will be six lanes (two general purpose lanes and an HOV lane in each direction). Portions of the project are funded and under construction.

SR 99 is a north-south corridor along the Seattle waterfront. SR 99 is also currently under construction. Today, the corridor provides six lanes through the downtown Seattle area and will be replaced by a four-lane tunnel and expanded Alaskan Way surface street when the project is complete. The tunnel is scheduled to open in 2015-2016, and the new surface street will follow in 2018.

The traffic signals or intersections at the ramp terminals operate as a constraint as traffic exits the freeway to access the Seattle Center area. The overall capacity of the intersection and off-ramp approach of two arterial intersections at the I-5 ramp terminals were reviewed to determine existing off-ramp constraints. This analysis focuses on the off-ramps only as it is most impacted by the inbound regional flows to the arena. On-ramp capacity is discussed in the intersection operations section. The analysis was completed for existing conditions. The study intersections include Mercer Street / Fairview Avenue and Denny Way / Stewart Street. Although Denny Way / Stewart Street does not operate as the actual southbound I-5 off-ramp at Eastlake Avenue / Stewart Street, southwest-bound traffic at Denny Way / Stewart Street has been observed to back up into the Eastlake Avenue / Stewart Street and is the source of off-ramp congestions.

Both intersections operate with a LOS E or better during normal peak operations and during an event. LOS and delay per vehicle is shown in Table 3-13.

**Table 3-13
Seattle Center Area Existing Weekday PM Peak Hour Ramp Termini Intersection Operations**

Ramp Terminal Intersection	Overall LOS / Delay	Off-Ramp LOS / Delay
Mercer Street / Fairview Avenue	E / 67	E / 61
Denny Way / Stewart Street	C / 28	D / 36

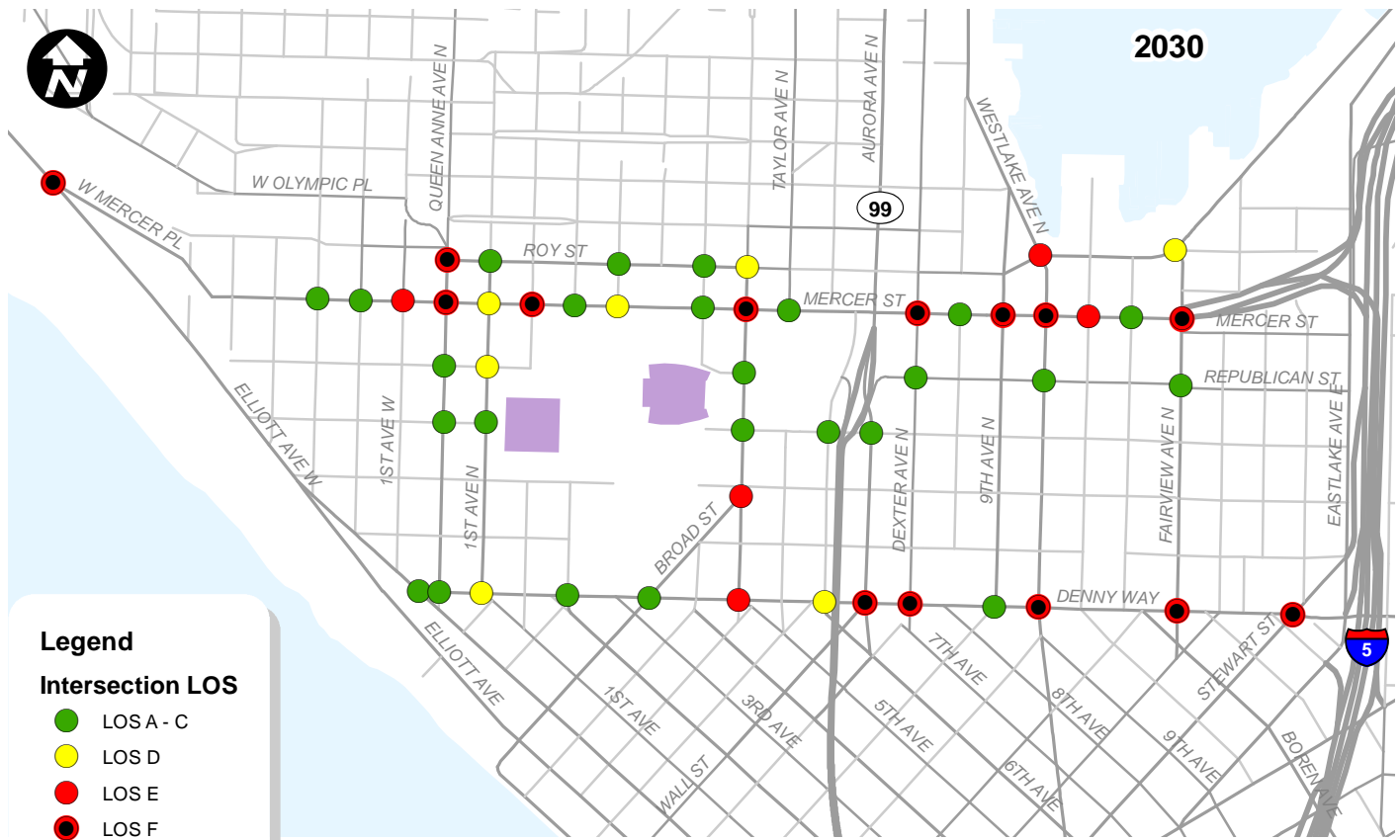
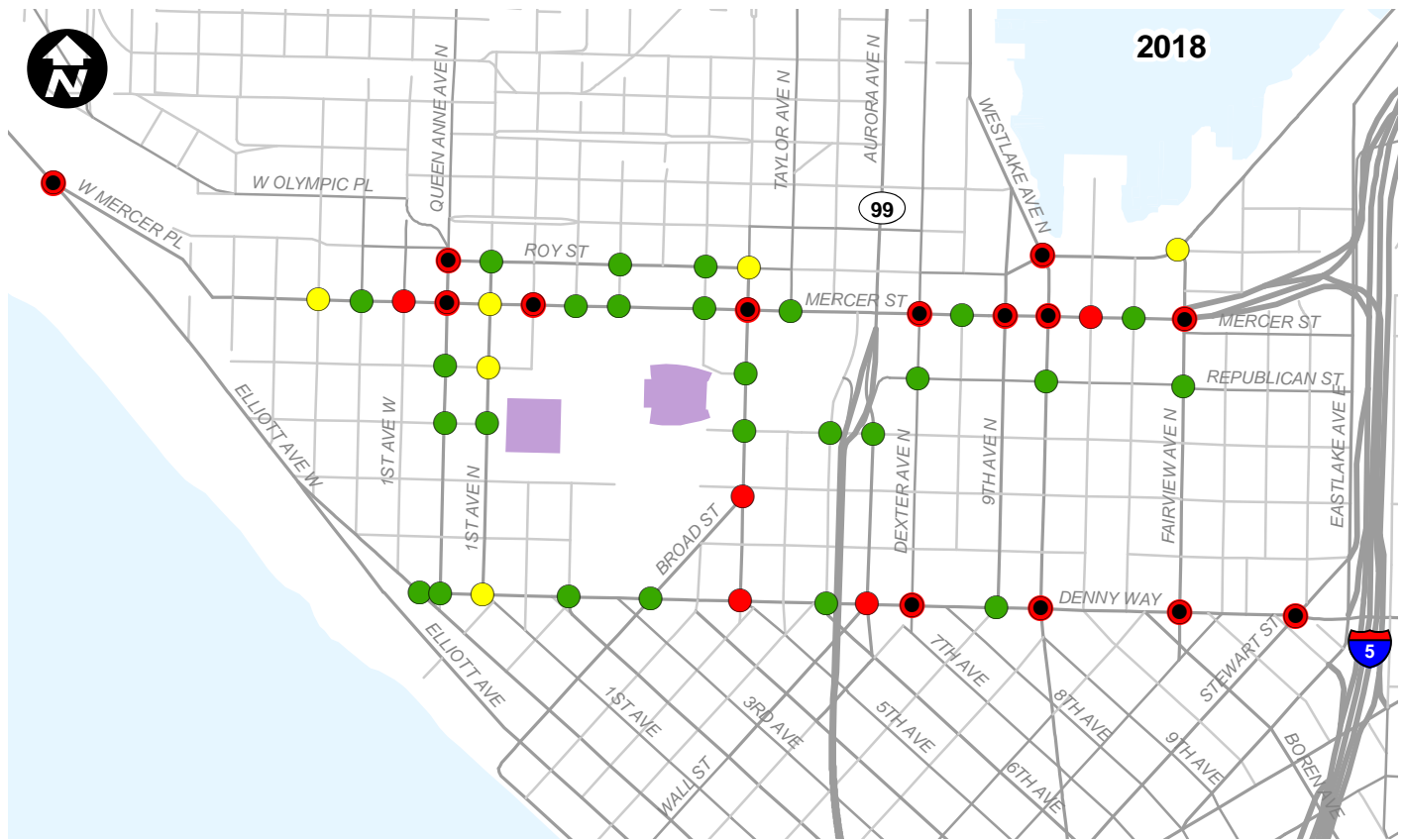
The peak flow of traffic occurs as event patrons arrive for (5:00 to 7:00 PM) and leave (9:00 to 11:00 PM) an event. The peak or worst operating time period occurs during the evening commute when trips not related to events are also operating at their peak. The weekday PM peak hour represents the combined peak activity associated with the arena and peak activity related to the PM peak commute. When traffic exits the Seattle Center in the later evening (9:00 to 11:00 PM), other traffic volumes on the system have decreased.

3.6.3 Impacts of No Action Alternative

The following sections summarize the results of the traffic operations analysis conducted for the No Action alternative for the Seattle Center study area. This analysis reflects the forecast traffic volumes and roadway improvements anticipated to be completed by the 2018 and 2030 horizon years. Consistent with the analysis of the Affected Environment, this section presents the results of the intersection LOS analysis, corridor performance, and an analysis of regional access to the Seattle Center area.

3.6.3.1 Intersection Operations

LOS results for 2018 and 2030 non-event peak hour conditions, with a 12,000 attendee event at KeyArena (Case K1), a 5,000 attendee event at Memorial Stadium (Case M1), and both events concurrently (Case K2/M2), are summarized on Figure 3–50 through Figure 3–52. Detailed LOS summary tables and worksheets for each of these scenarios are included in Attachment E-3, which is available from DPD upon request.



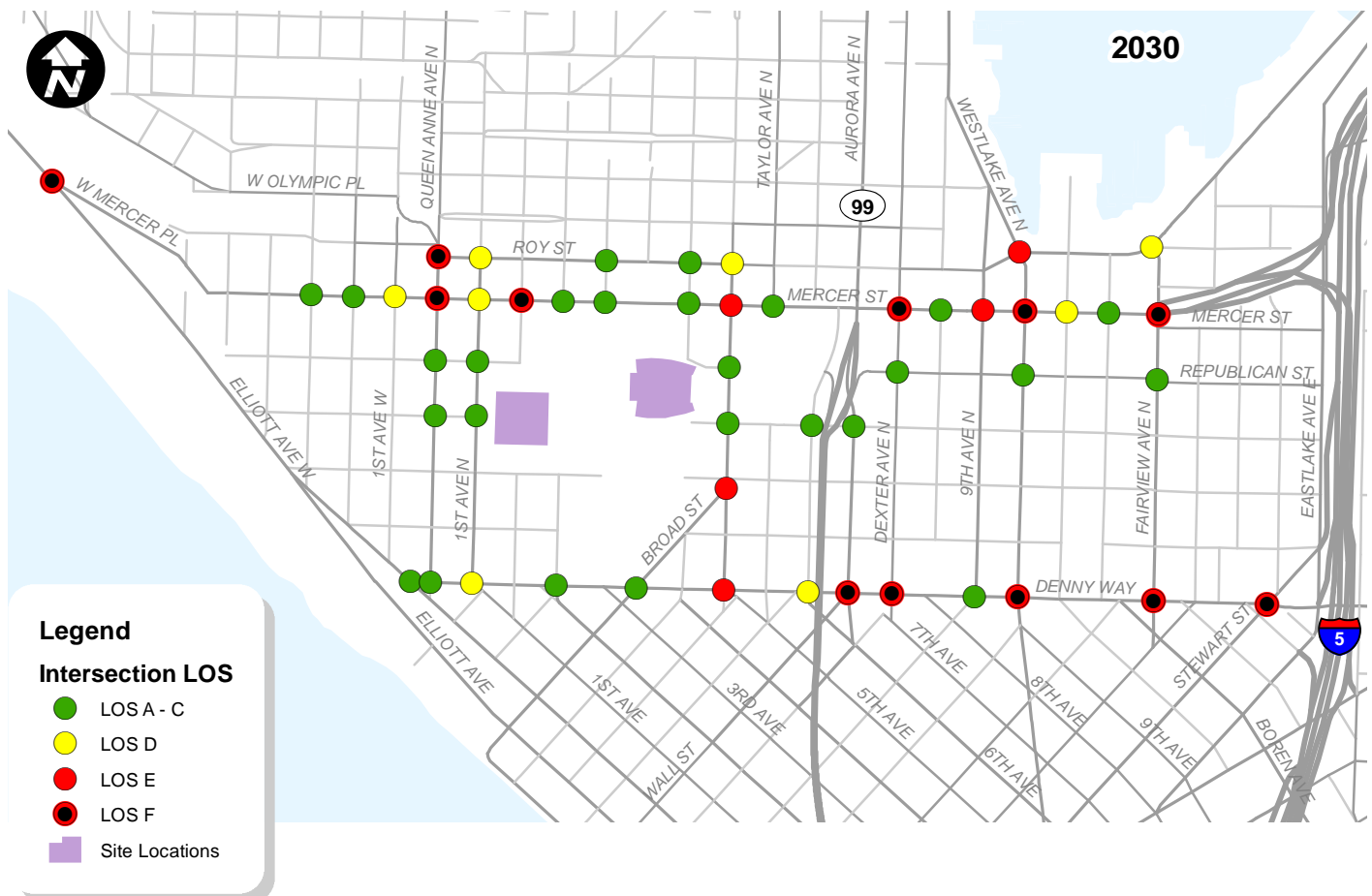
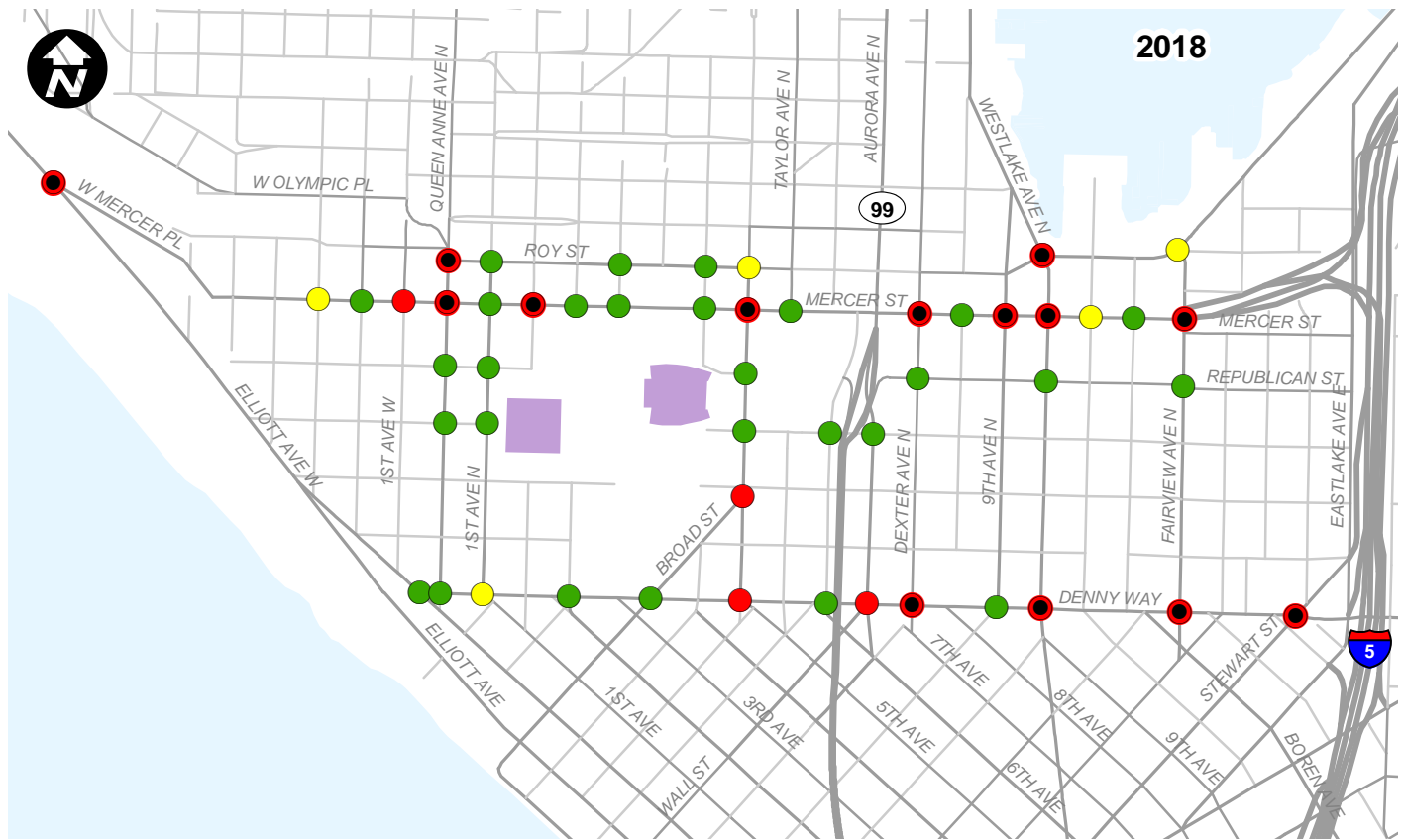
Legend

Intersection LOS

- LOS A - C
- LOS D
- LOS E
- LOS F
- Site Locations

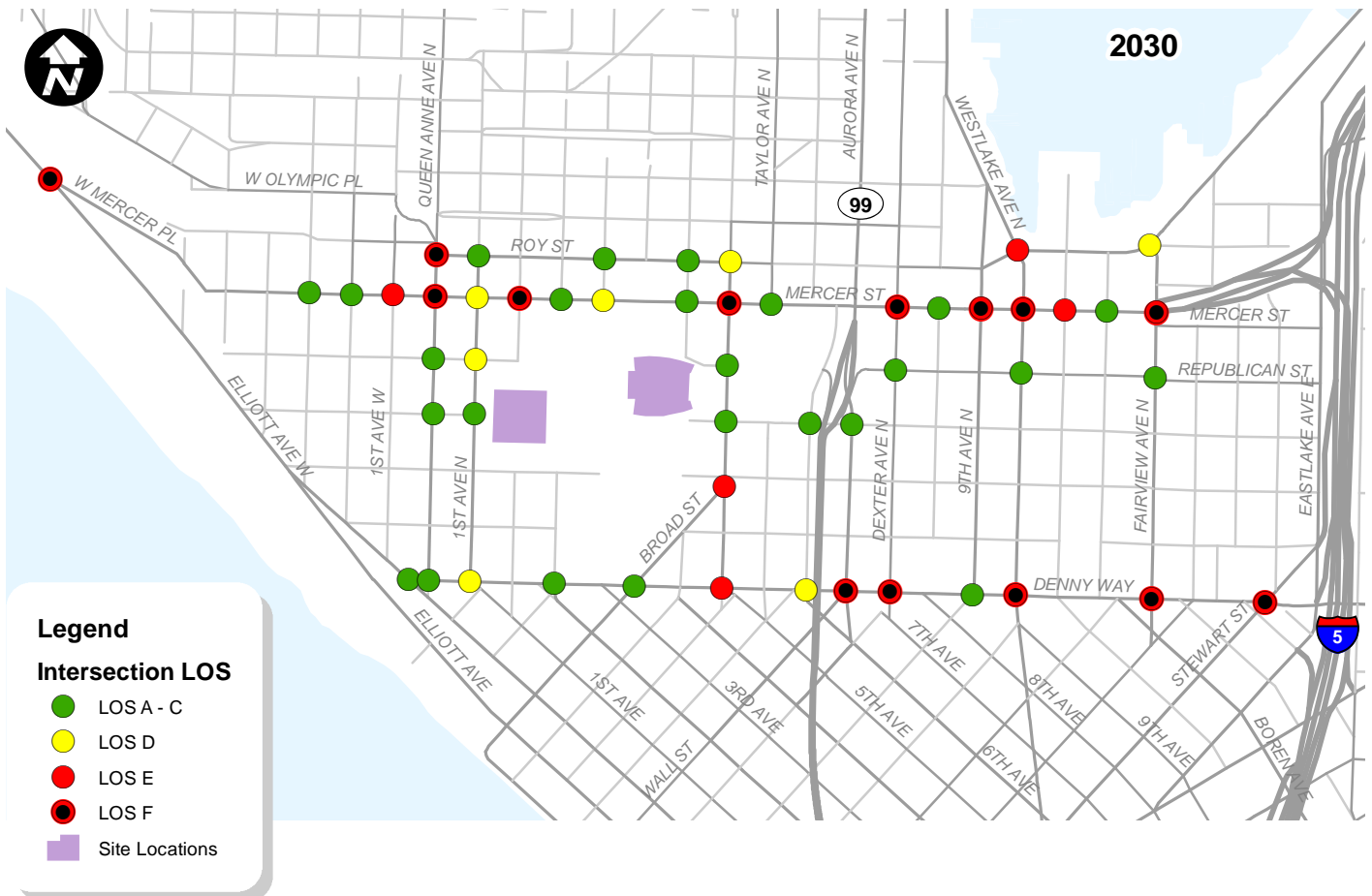
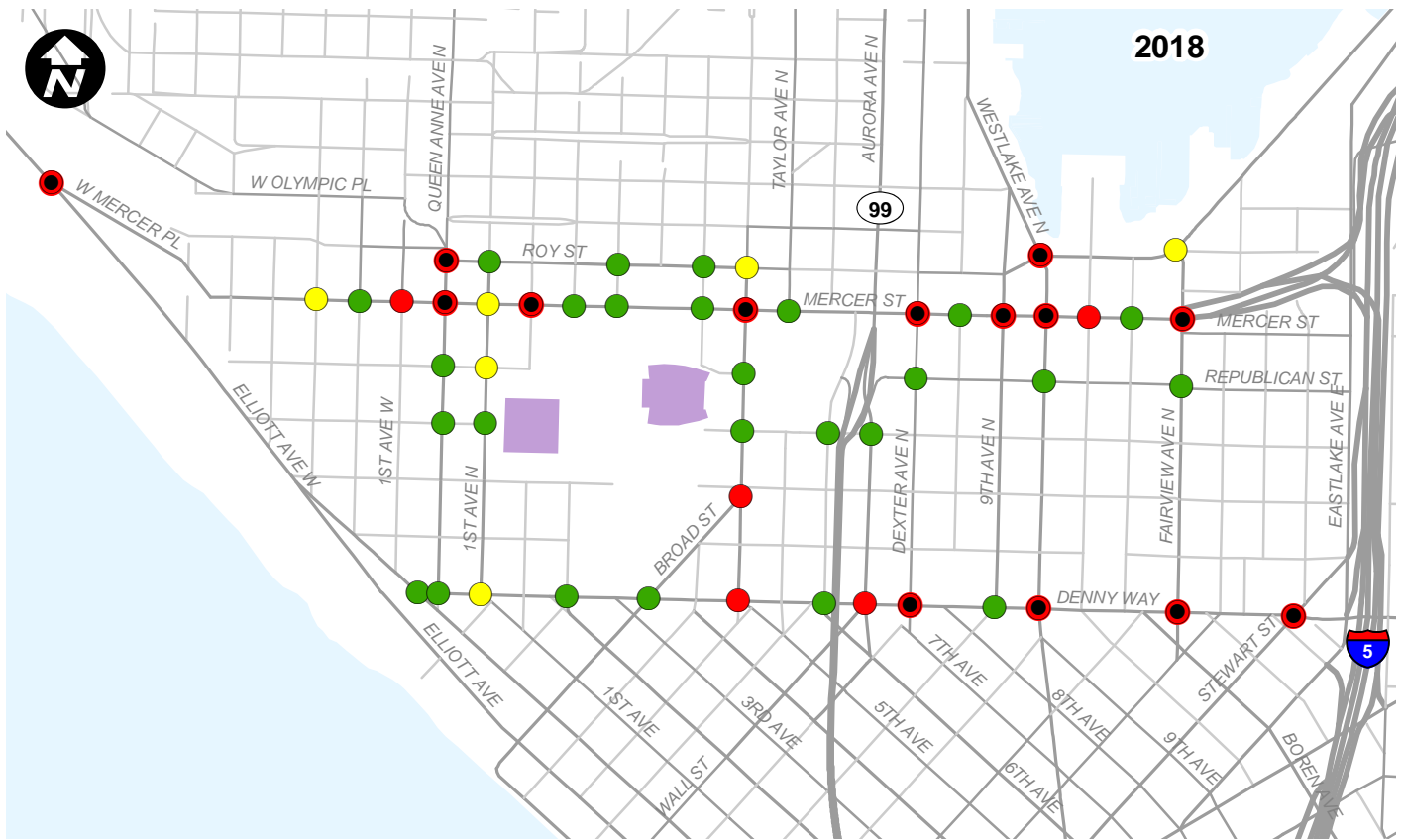
Seattle Center Area No Action Case K1
 Weekday PM Peak Hour Level of Service

FIGURE
 3-50



Seattle Center Area No Action Case M1
 Weekday PM Peak Hour Level of Service

FIGURE
 3-51

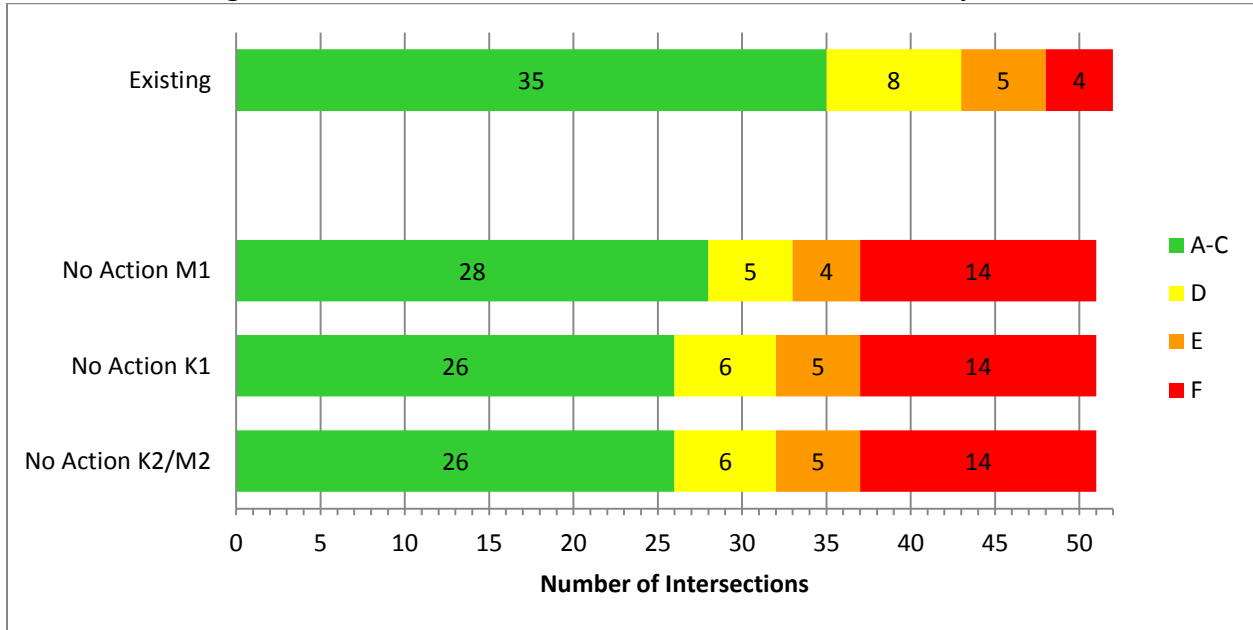


Seattle Center Area No Action Case K2/M2
 Weekday PM Peak Hour Level of Service

FIGURE
 3-52

A summary of the No Action LOS for all study area intersections was prepared and compared to existing conditions as summarized on Figure 3–53 for 2018 conditions, and Figure 3–54 for 2030 conditions.

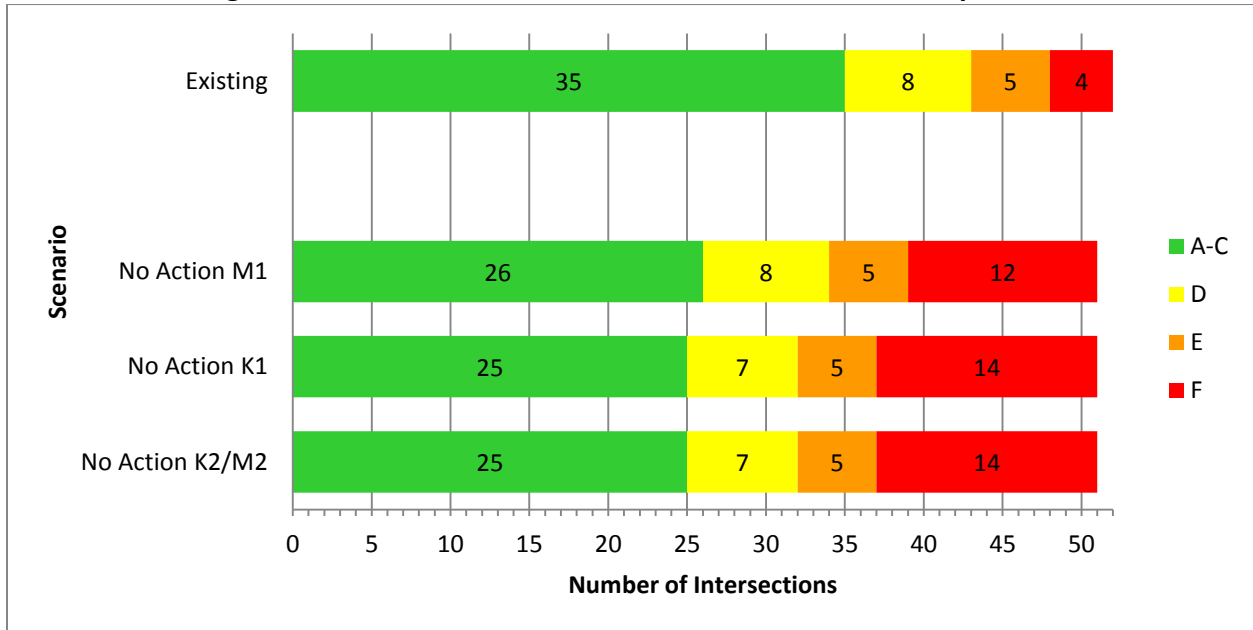
Figure 3–53 Seattle Center Area 2018 No Action LOS Comparison



As summarized in these figures:

- Increased traffic volumes and changes in travel patterns result in a greater number of intersections operating at LOS E/F under both 2018 and 2030 conditions.
- The greater attendance level of an event under Case K1 and K2/M2 results in one additional intersection operating at LOS E under 2018 conditions as compared to Case M1 and two additional operating at LOS F for 2030 conditions.

Figure 3–54 Seattle Center Area 2030 No Action LOS Comparison



Of the intersections shown to operate at LOS E or LOS F under 2018 No Action conditions (Cases K1, M1, and K2/M2), three are located within the vicinity of the Seattle Center area:

- Warren Avenue N. / Mercer Street
- 5th Avenue N. / Mercer Street
- 5th Avenue N. / Denny Way

All three of these intersections would operate at the same LOS regardless of event case.

Under 2030 No Action conditions (Cases K1, M1, and K2/M2), up to four intersections would operate at LOS E or LOS F within the vicinity of the Seattle Center area:

- Warren Avenue N. / Mercer Street
- 5th Avenue N. / Mercer Street
- 5th Avenue N. / Denny Way
- 1st Avenue N. / Denny Way

Four of these intersections would operate at the same LOS regardless of event case under 2030 conditions, with the 5th Avenue N. / Mercer Street intersection degrading from LOS E for Case K1 and M1 to LOS F under Case K2/M2.

As discussed for the Stadium District alternatives, the methodology adds event traffic to non-event PM peak hour conditions with no regard for capacity constraints; congestion often results

in modified travel behavior for non-event traffic. As a result, the cumulative conditions with an event in all cases likely overstate future congestion levels during the PM peak hour.

3.6.3.2 Corridor Travel Times

Table 3-14 summarizes the calculated travel times under 2018 conditions on the various routes for weekday PM peak hour under non-event and with event conditions. Table 3-15 summarizes the estimated travel times under 2030 conditions. Existing non-event conditions are also provided for comparison purposes.

Table 3-14
Seattle Center Area 2018 No Action Weekday PM Peak Hour Corridor Travel Times

Route	Extents	Direction	Case M1 (m:ss ¹)	Case K1 (m:ss)	Case M2/K2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	17:40 (8:59) ²	19:30	21:09
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	10:01 (8:32)	12:37	14:47
2	Denny Way from Queen Anne Avenue to Stewart Street	EB	15:14 (6:18)	16:48	17:30
	Denny Way from Stewart Street to Queen Anne Avenue	WB	12:04 (6:54)	12:42	13:06
3	5th Avenue N. from Denny Way to W. Mercer Street	NB	5:04 (2:55)	5:16	5:25
	5th Avenue N. from W. Mercer Street to Denny Way	SB	3:00 (2:40)	3:02	3:04

1. m:ss = minutes:seconds

2. Existing non-event travel times provided for comparison.

As shown in Table 3-14:

- Calculated travel times under 2018 conditions increase from existing conditions and further increase with the addition of event traffic, under some cases approximately tripling.
- Travel times under 2018 conditions along routes #1 and #2 which are calculated to exceed 10 minutes with the addition of event traffic, with the addition of event traffic resulting in travel times of approximately 20 minutes or greater for eastbound route #1.
- Travel times along route #3 are calculated to increase to a lesser degree than the other routes. This route is along a north-south roadway that does not provide any direct connect to regional facilities under future conditions and as a result would serve less event traffic than route #1 and #2 corridors.

**Table 3-15
Seattle Center Area 2030 No Action Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case M1 (m:ss ¹)	Case K1 (m:ss)	Case M2/K2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	18:37 (8:59) ²	21:04	22:38
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	8:28 (8:32)	10:58	13:06
2	Denny Way from Queen Anne Avenue to Stewart Street	EB	19:46 (6:18)	21:37	22:24
	Denny Way from Stewart Street to Queen Anne Avenue	WB	13:00 (6:54)	13:58	14:36
3	5th Avenue N. from Denny Way to W. Mercer Street	NB	5:18 (2:55)	5:26	5:35
	5th Avenue N. from W. Mercer Street to Denny Way	SB	3:09 (2:40)	3:11	3:14

1. m:ss = minutes:seconds
2. Existing non-event travel times provided for comparison.

As shown in Table 3-15:

- Under 2030 conditions travel times are generally similar to 2018 conditions. Some travel time routes increase while others decrease under 2030 conditions.
- Travel time changes result from small differences in forecast volumes at some study intersections.
- Similar to 2018 conditions, travel times along route #3 are calculated to only slightly increase since this route does not provide any direct connect to regional facilities under future conditions and would serve less event traffic than route #1 and #2 corridors.

As previously discussed, the event case methodology likely overstates future travel times and congestion due to events.

3.6.3.3 Regional Access Analysis

The primary corridors serving the downtown area are I-5 and I-90. Today during the late afternoon commute, these freeways are congested for approximately two to three hours. As traffic demand increases by 2018 and 2030, the hours of congestion or “peak spreading” would lengthen or transit ridership may increase. However because the corridors are “at capacity” today, traffic volumes served would not increase during the peak period of 4:00 to 6:00 PM.

The analysis was conducted for the PM peak hour for the Year 2018 and the Year 2030, with and without an event at the existing stadiums. The expected operations of the study intersections are shown in Table 3-16.

**Table 3-16
Seattle Center Area No Action Weekday PM Peak Hour Ramp Terminal Intersection
Operations**

Ramp Terminal Intersection	Scenario	2018		2030	
		Overall LOS / Delay	Off-Ramp LOS / Delay	Overall LOS / Delay	Off-Ramp LOS / Delay
Mercer Street / Fairview Avenue	Case K1	F / >180	E / >76	F / >180	F / 100
	Case M1	F / >180	F / >79	F / >180	F / 106
	Case M2/K2	F / >180	F / >75	F / >180	F / 97
Denny Way / Stewart Street	Case K1	F / 158	F / >180	F / 164	F / 167
	Case M1	F / 153	F / >180	F / 160	F / 167
	Case M2/K2	F / 162	F / >180	F / 168	F / 169

Under both 2018 and 2030 conditions during the PM peak hour off-ramp intersections are calculated to operate at LOS F at both Denny Way and Mercer Street. I-5 off-ramp approaches operate at LOS F for all cases and analysis years. Long overall intersection delays encountered by drivers are calculated for 2030 conditions at both intersections, and also would occur for the intersection approach from I-5.

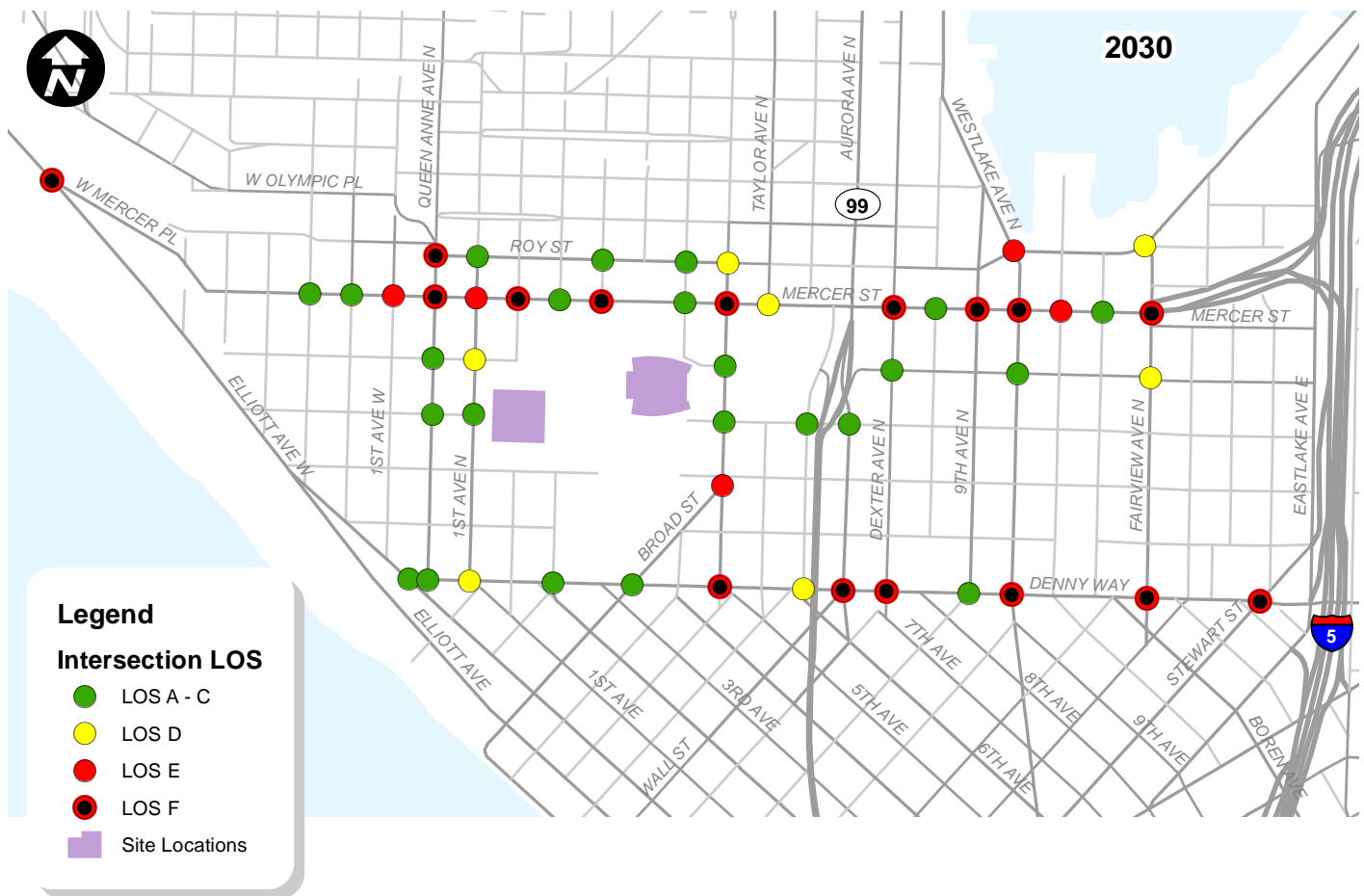
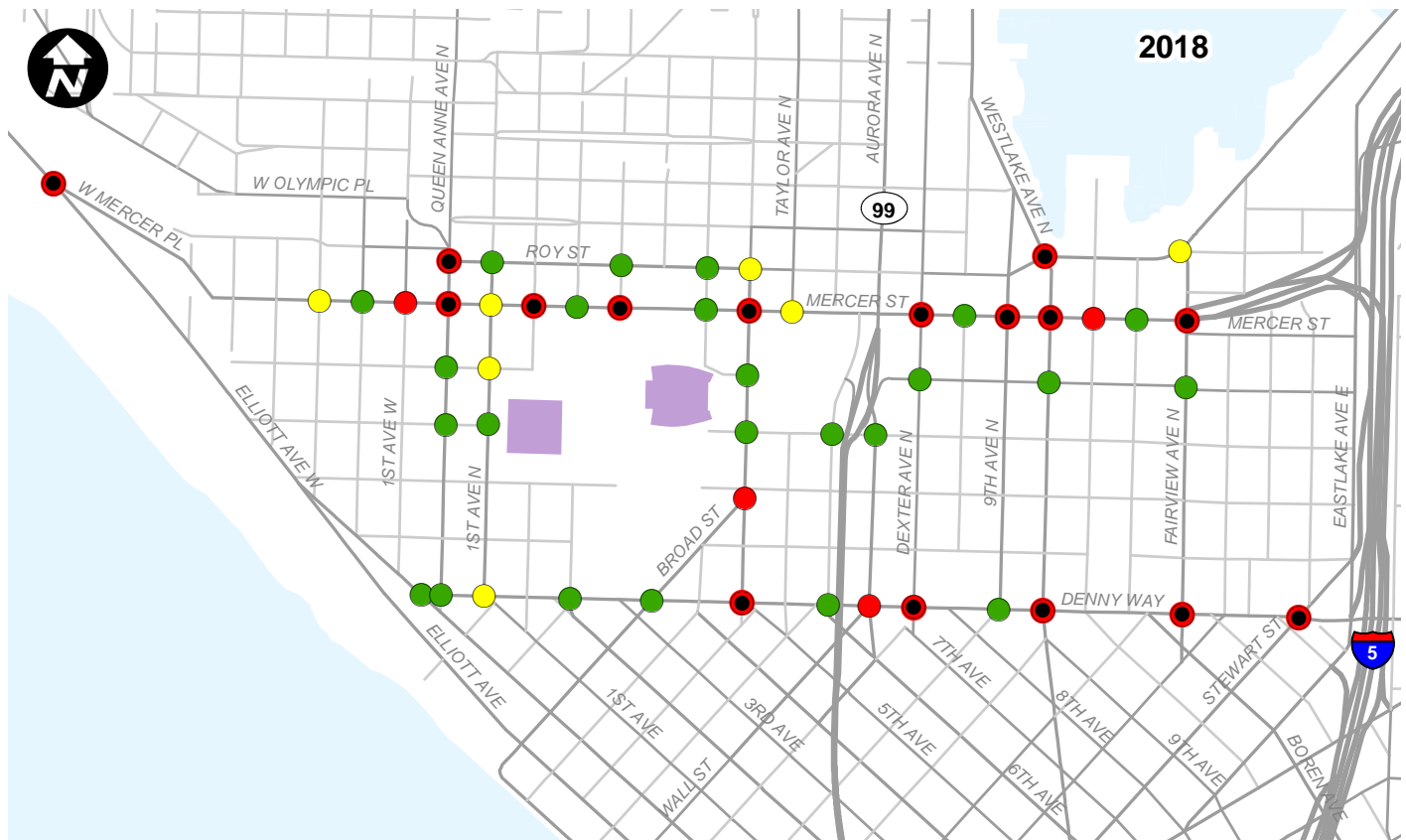
3.6.4 Impacts of Alternative 4

As described for traffic volumes, construction impacts related to traffic operations would occur as a result of increased traffic levels. To minimize impacts to operations, a construction management plan would be developed and could include scheduling the most intensive construction activities such that they are spread out over time and prohibiting material deliveries from leaving or entering the area during AM and PM peak hours when feasible.

The following sections summarize the results of the traffic operation analysis conducted for Alternative 4. This analysis reflects the addition of traffic with a 20,000 attendee event at KeyArena (Case K1), and the further addition of a 5,000 attendee event at Memorial Stadium (Case K2). Consistent with the analysis of the Affected Environment, this section presents the results of the intersection LOS analysis, corridor performance, and an analysis of regional access to the Seattle Center area. Methodologies used in the evaluation of the Proposed Action conditions are consistent with those described previously in this chapter.

3.6.4.1 Intersection Operations

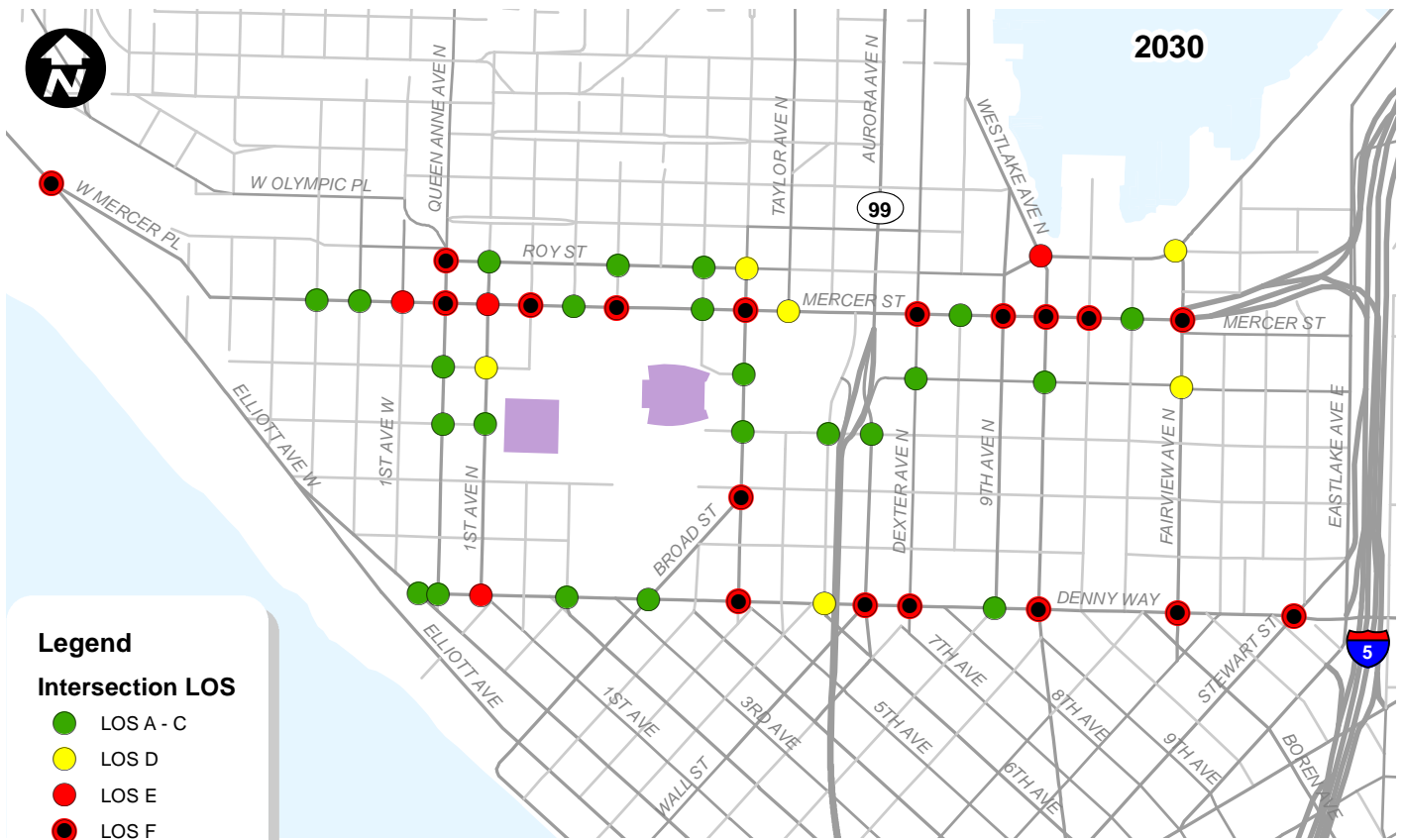
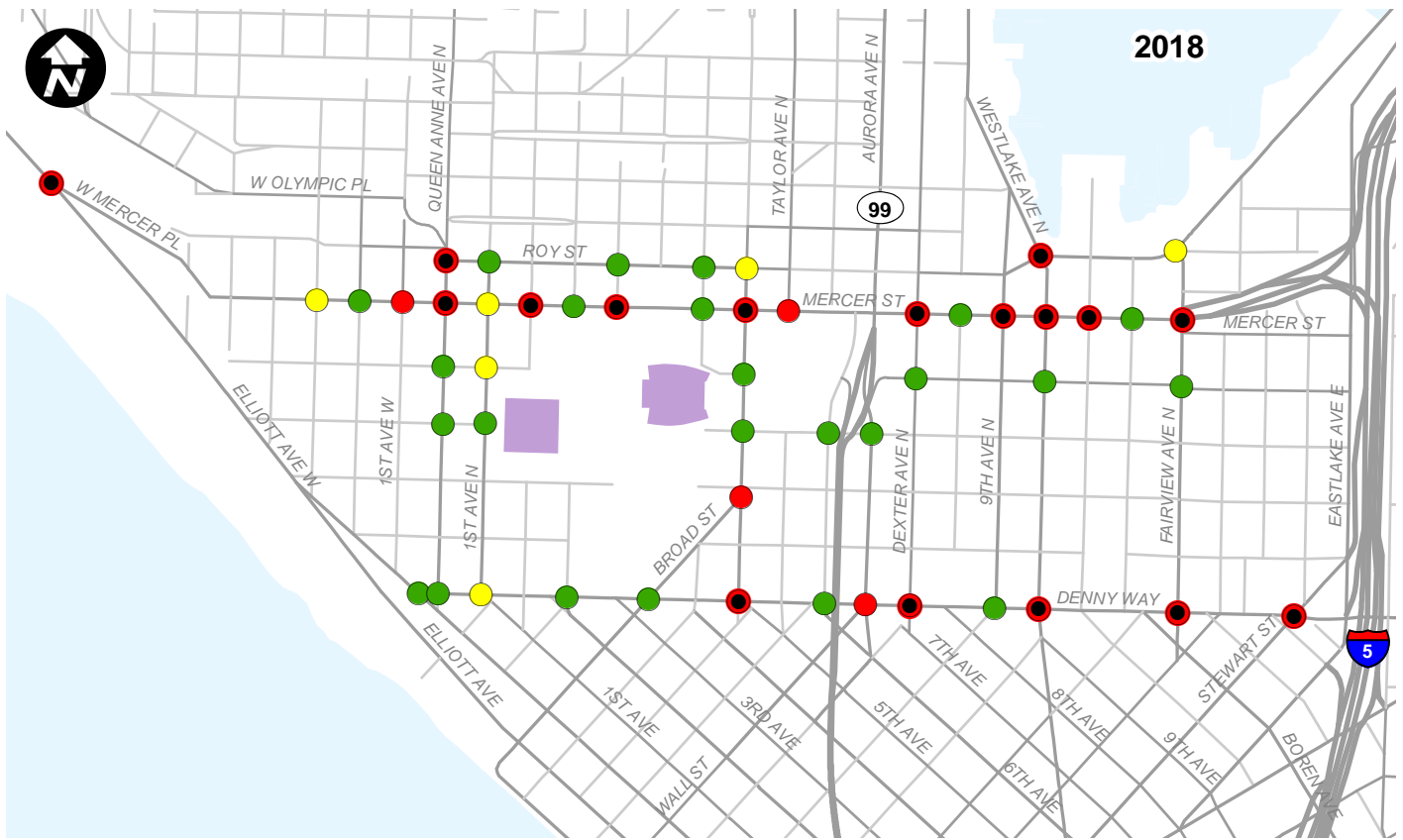
LOS results for 2018 and 2030 peak hour conditions with the arena event at KeyArena (Case K1) and with the addition of a 5,000-person event at Memorial Stadium (Case K2) are summarized on Figure 3-55 and Figure 3-56. Detailed LOS summary tables and worksheets for each of these scenarios are included in Attachment E-3, which is available from DPD upon request.



Seattle Center Area Alternative 4 Case K1
Weekday PM Peak Hour Level of Service

Seattle Arena

FIGURE
3-55



Seattle Center Area Alternative 4 Case K2
 Weekday PM Peak Hour Level of Service

Seattle Arena

FIGURE
 3-56

A summary of the Alternative 4 LOS for all study area intersections was prepared and compared to No Action conditions as summarized on Figure 3-57 for 2018 conditions, and Figure 3-58 for 2030 conditions.

Figure 3-57 Seattle Center Area 2018 Alternative 4 Intersection LOS Comparison

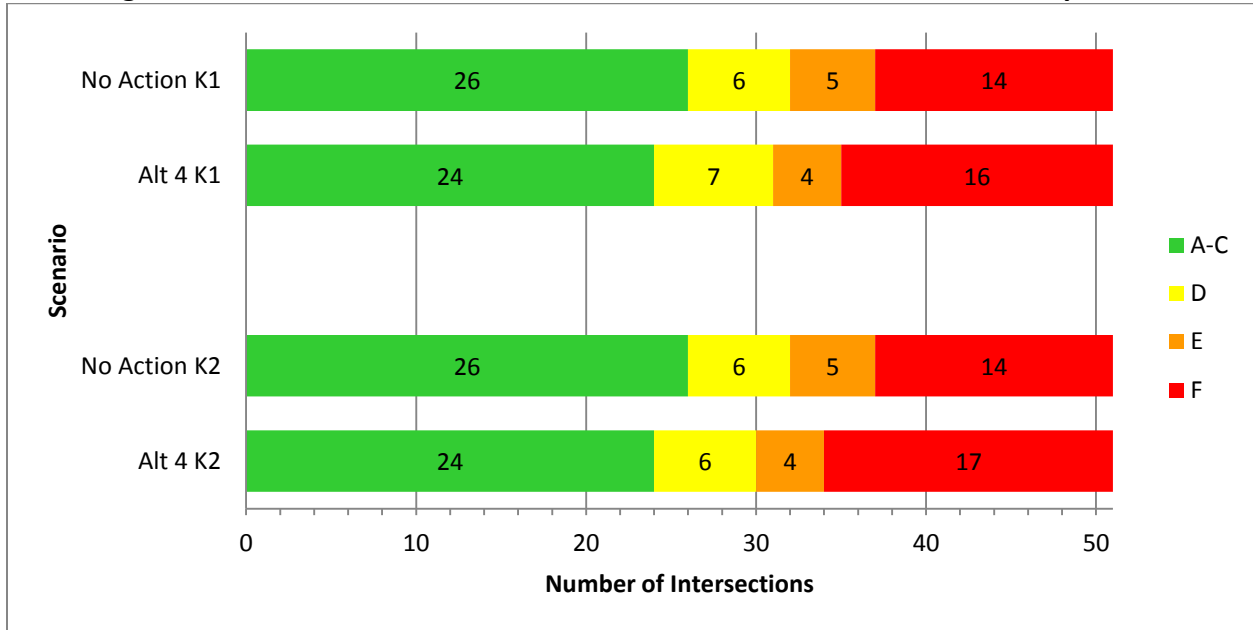
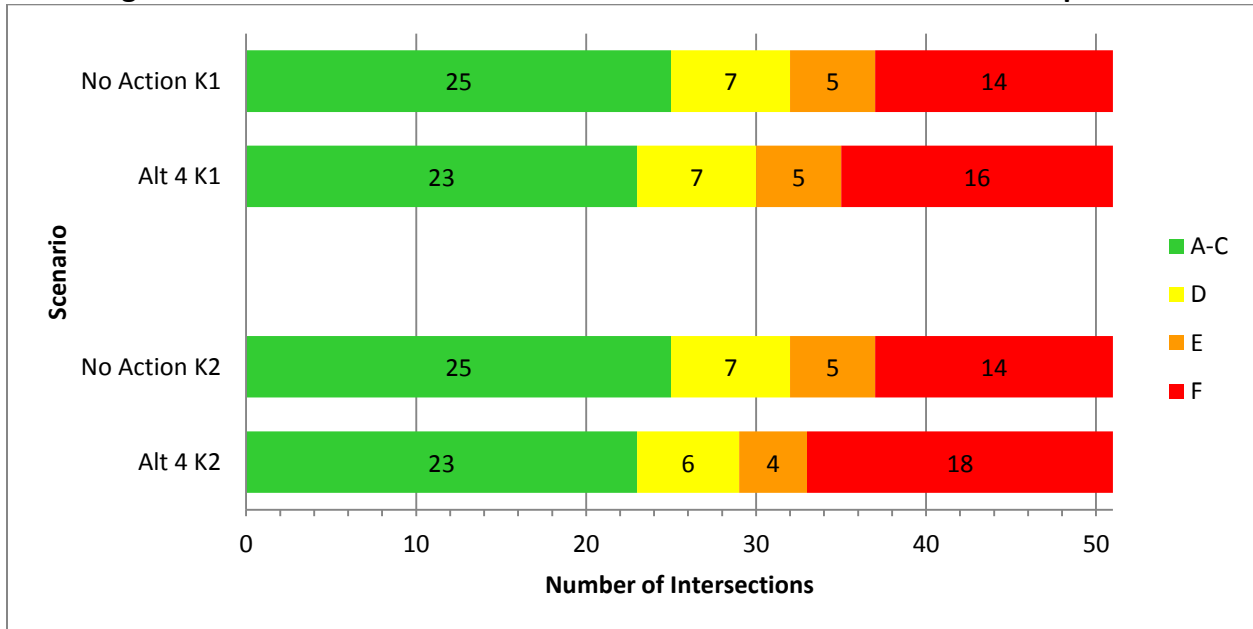


Figure 3-58 Seattle Center Area 2030 Alternative 4 Intersection LOS Comparison



As shown on Figure 3–55 and Figure 3–58:

- Throughout the wider study area, the addition of arena event trips would result in one additional intersection operating at a calculated LOS E/F under 2018 Case K1 and two additional intersections under Case K2.
- Under 2030 conditions two additional intersections would operate at LOS E/F under Alternative 4 Case K1 and three additional intersections would operate at LOS E/F under the multiple event case (Alternative 4 Case K2).

Table 3-17 summarizes the intersections that operate at LOS E or LOS F with the addition of arena event traffic under 2018 conditions and forecast results for 2030 conditions are summarized in Table 3-18. Note that some intersections would only operate at LOS E or LOS F under the multiple event scenario (Case K2).

**Table 3-17
2018 Alternative 4 Weekday PM Peak Hour Intersections at LOS E or LOS F**

Roadway	Case K1		Case K2	
	No Action	Alternative 4	No Action	Alternative 4
Elliott Avenue W. / W. Mercer Pl	F	F	F	F
Queen Anne Avenue N. / Roy Street	F	F	F	F
Broad Street / Valley Street	F	F	F	F
1st Avenue W. / W. Mercer Street	E	E	E	E
Mercer Street / Queen Anne Avenue N.	F	F	F	F
Mercer Street / Warren Avenue N.	F	F	F	F
3rd Avenue N. / Mercer Street	C	F	C	F
5th Avenue N. / Mercer Street	F	F	F	F
Mercer Street / Taylor Avenue N.	C	D	C	E
Dexter Avenue N. / Mercer Street	F	F	F	F
9th Avenue N. / Mercer Street	F	F	F	F
Mercer Street / Westlake Avenue N.	F	F	F	F
Mercer Street / Terry Avenue N.	E	E	E	F
Fairview Avenue N. / Mercer Street	F	F	F	F
5th Avenue N. / Broad Street	E	E	E	E
5th Avenue / Denny Way	E	F	E	F
Aurora Avenue N. / Denny Way	E	E	E	E
Denny Way / Dexter Avenue	F	F	F	F
Denny Way / Westlake Avenue	F	F	F	F
Denny Way / Fairview Avenue	F	F	F	F
Denny Way / Stewart Street	F	F	F	F

Table 3-18
2030 Alternative 4 Weekday PM Peak Hour Intersections at LOS E or LOS F

Roadway	Case K1		Case K2	
	No Action	Alternative 4	No Action	Alternative 4
Elliott Avenue W. / W. Mercer Pl	F	F	F	F
Queen Anne Avenue N. / Roy Street	F	F	F	F
Broad Street / Valley Street	E	E	E	E
1st Avenue W. / W. Mercer Street	E	E	E	E
Mercer Street / Queen Anne Avenue N.	F	F	F	F
1st Avenue N. / Mercer Street	D	E	D	E
Mercer Street / Warren Avenue N.	F	F	F	F
3rd Avenue N. / Mercer Street	D	F	D	F
5th Avenue N. / Mercer Street	F	F	F	F
Dexter Avenue N. / Mercer Street	F	F	F	F
9th Avenue N. / Mercer Street	F	F	F	F
Mercer Street / Westlake Avenue N.	F	F	F	F
Mercer Street / Terry Avenue N.	E	E	E	F
Fairview Avenue N. / Mercer Street	F	F	F	F
5th Avenue N. / Broad Street	E	E	E	F
1st Avenue S. / Denny Way	D	D	D	E
5th Avenue / Denny Way	E	F	E	F
Aurora Avenue N. / Denny Way	F	F	F	F
Denny Way / Dexter Avenue	F	F	F	F
Denny Way / Westlake Avenue	F	F	F	F
Denny Way / Fairview Avenue	F	F	F	F
Denny Way / Stewart Street	F	F	F	F

3.6.4.2 Corridor Travel Times

Table 3-19 summarizes the calculated weekday PM peak hour travel times under 2018 conditions on the defined routes. Table 3-20 summarizes the calculated travel times under 2030 conditions. No Action results conditions are shown in parentheses and provided for comparison purposes.

**Table 3-19
2018 Alternative 4 Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case K1 (m:ss)¹	Case K2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	23:14 (19:30) ²	24:31 (21:09)
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	27:02 (12:37)	31:05 (14:47)
2	Denny Way from Queen Anne Avenue to Stewart Street	EB	17:23 (16:48)	17:44 (17:30)
	Denny Way from Stewart Street to Queen Anne Avenue	WB	15:24 (12:42)	16:00 (13:06)
3	5th Avenue N. from Denny Way to W. Mercer Street	NB	6:13 (5:16)	6:24 (5:25)
	5th Avenue N. from W. Mercer Street to Denny Way	SB	3:40 (3:02)	4:02 (3:04)

1. m:ss = minutes:seconds
2. No Action travel times provided for comparison.

As shown in Table 3-19 and Table 3-20:

- Travel times under both 2018 and 2030 conditions are calculated to increase with the addition of arena event traffic. In particular, westbound Mercer Street increases substantially to over 30 minutes with the addition of arena traffic due to the majority of traffic (approximately 70 percent) travelling to the Seattle Center area utilizing the Mercer Street corridor.
- It is noted that No Action and all future estimates of event traffic volumes are simply additive to No Action conditions. This additive approach likely overestimates future traffic and congestion related to events. However, it does provide a consistent basis for comparing alternatives. There is no reliable way to assess the amount of diverted non-event traffic likely to occur for any given event.

**Table 3-20
2030 Alternative 4 Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case K1 (m:ss ¹)	Case K2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	24:11 (21:04) ²	25:29 (22:38)
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	25:20 (10:58)	29:09 (13:06)
2	Denny Way from Queen Anne Avenue to Stewart Street	EB	22:24 (21:37)	23:10 (22:24)
	Denny Way from Stewart Street to Queen Anne Avenue	WB	17:55 (13:58)	18:48 (14:36)
3	5th Avenue N. from Denny Way to W. Mercer Street	NB	6:19 (5:26)	6:27 (5:35)
	5th Avenue N. from W. Mercer Street to Denny Way	SB	3:46 (3:11)	4:07 (3:14)

1. m:ss = minutes:seconds
2. No Action travel times provided for comparison.

3.6.4.3 Regional Access Analysis

Traffic would access the new arena in the Seattle Center area via I-5, SR 99, and local arterials. It is estimated up to 20 percent of the trips that would access the arena would come from the north via I-5 and 55 percent via I-5 from the south. The other 25 percent of the trips would access the area via local arterials and SR 99.

For an event only at the new arena, up to an additional 1,500 vph would enter the city via I-5 to reach the arena. This is a 6-16 percent increase in trips compared to a typical evening commute on any one of those corridors. Table 3-21 shows the typical traffic volumes for a weekday and the anticipated increase in traffic, with the arena, for each of the event cases.

The typical weekday traffic flow values shown in Table 3-21 are existing volumes but represent anticipated traffic volumes in year 2018. Traffic demand (or volume of vehicles that want to use these corridors) typically increase as redevelopment occurs over time. However because the corridors are at or near capacity, additional traffic is not served during the peak hour of congestion. Therefore today's traffic volume served through these areas during the peak of congestion would be similar in future years unless capacity was increased for I-5.

Table 3-21 also focuses on the directions and locations of I-5 that would experience the greatest increase in trips from an arena event. During the PM peak hour, the majority of the trips (about 94 percent) associated with the arena are inbound trips (or trips heading to the arena).

**Table 3-21
2018 Alternative 4 Increase in Weekday PM Peak Hour Traffic on Freeway Corridors**

Location	Typical Weekday PM Peak Hour Traffic (vph)	Increase in traffic with Arena (vph / % compared to typical weekday traffic)	
		Case K1	Case K2
I-5 Southbound (north of Mercer)	6,700 vph	400 vph / 6%	450 vph / 7%
I-5 Northbound (south of Olive)	6,800 vph	1,100 vph / 16%	1,250 vph / 18%

The I-5 and I-90 corridors experience congestion today during the PM peak commute. Today, events at the downtown arenas results in an increase in travel time approaching the city center. The PM peak travel times (on days with events in 2012) increased by up to eight minutes on southbound I-5 between NE 145th and I-90 and up to four minutes on I-90 between I-405 and Rainer Avenue S. It is anticipated with the arena with capacity for 20,000 spectators, PM peak travel times would be similarly affected for a typical event day.

For an event only at the new arena, up to an additional 1,400 vph would enter the city via I-5 to reach the new arena in the year 2030. This is slightly less than the year 2018 condition as it's assumed more people would use transit to access this area. This is a result of Link light rail extensions and other transit improvements that will provide event attendees more options. Increases in traffic and effect to regional travel times on the I-5 and I-90 freeways would be similar in the year 2030 as experienced in the year 2018.

Regional or freeway access to the Seattle Center area is constrained by signals at the terminal of the off-ramps. Overall intersection and off-ramp approach operations of two arterial intersections at the I-5 ramp termini were reviewed. The analysis was conducted for the weekday PM peak hour for 2018 and 2030 horizon years, under Case K1 and K2 and summarized in Table 3-22 and Table 3-23, respectively.

Table 3-22
2018 Alternative 4 Weekday PM Peak Hour Ramp Terminal Intersection Operations

Intersection	Scenario	2018 No Action		2018 Alternative 4	
		Overall LOS / Delay	Off-Ramp LOS / Delay	Overall LOS / Delay	Off-Ramp LOS / Delay
Mercer Street / Fairview Avenue	Case K1	F / >180	E / >76	F / >180	F / 103
	Case K2	F / >180	F / >75	F / >180	F / 122
Denny Way / Stewart Street	Case K1	F / 158	F / >180	F / 160	F / >180
	Case K2	F / 162	F / >180	F / 163	F / >180

Table 3-23
2030 Alternative 4 Weekday PM Peak Hour Ramp Terminal Intersection Operations

Intersection	Scenario	2030 No Action		2030 Alternative 4	
		Overall LOS / Delay	Off-Ramp LOS / Delay	Overall LOS / Delay	Off-Ramp LOS / Delay
Mercer Street / Fairview Avenue	Case K1	F / >180	F / 100	F / >180	F / 102
	Case K2	F / >180	F / 97	F / >180	F / 113
Denny Way / Stewart Street	Case K1	F / 164	F / 167	F / 166	F / 169
	Case K2	F / 168	F / 169	F / 169	F / 169

Under both 2018 and 2030 conditions during the PM peak hour off-ramp conditions operate at LOS E/F at both Denny Way and Mercer Street and are similar to No Action conditions. The further addition of event traffic would add to the already poor off-ramp terminal operations that are forecast to occur under No Action conditions.

In addition to the traffic operations impacts outlined above, the increases in event traffic volumes related to an arena would have an impact on emergency vehicle access and circulation to the KeyArena site as well as through the area. This may require emergency response vehicles to use on-board flashing lights and sirens to navigate through the congestion and reduce delays. In addition, during periods of heavy congestion, manual traffic control may be necessary to facilitate the passage of emergency vehicles.

3.6.4.4 Post-Event Traffic Operations

At the end of a sporting event at the Seattle Center attendees typically depart the venue in a highly concentrated flow that can affect traffic operations within the vicinity of the venue. Post-event traffic counts for sporting event in the SoDo area³³ indicate that the peak 15 minutes near the end of an event can range between 30 to 40 percent of the total hourly flow that includes this peak with traffic volumes greatest travelling away from the venue.

³³ Seattle Mariners, April 11, 2013

As a result of this surge, professional sporting events in Seattle typically implement a Traffic Control Plan (TCP) to aid in the dispersion of event attendees to the transportation network. A TCP helps to alleviate this outbound surge in event attendees. However, post-event surge traffic volumes are usually less than the peak 15-minute period during a non-event peak evening commute period. As a result, the analysis of the peak evening commute period represents a worst-case condition.

3.6.5 Impacts of Alternative 5

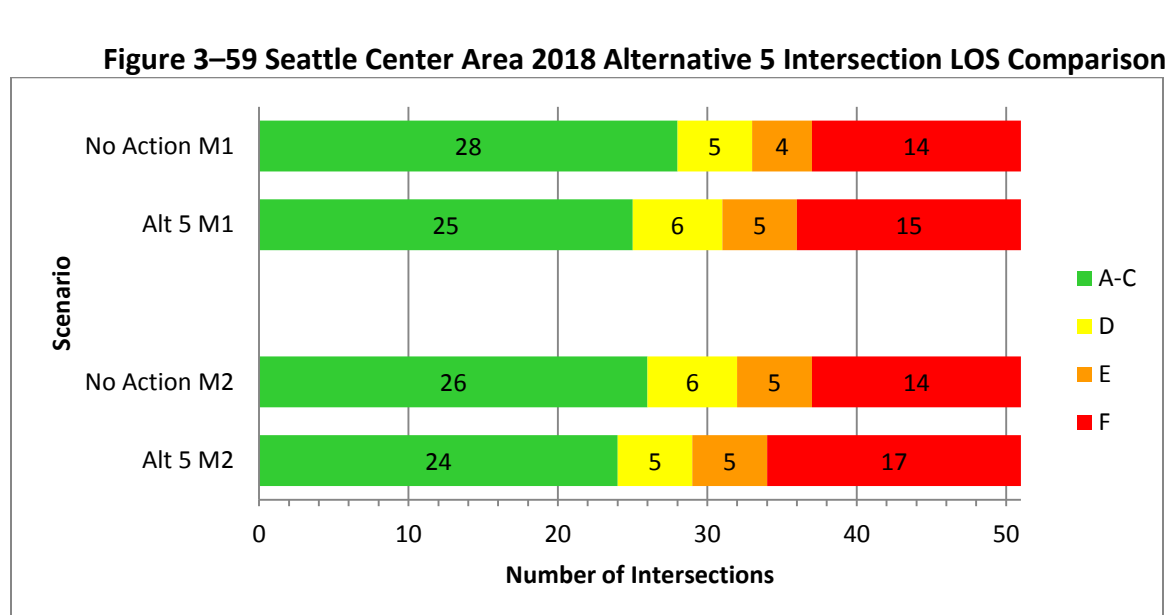
As described for traffic volumes, construction impacts related to traffic operations would occur as a result of increased traffic levels. To minimize impacts to operations, a construction management plan would be developed and could include scheduling the most intensive construction activities such that they are spread out over time and prohibiting material deliveries from leaving or entering the area during AM and PM peak hours when feasible.

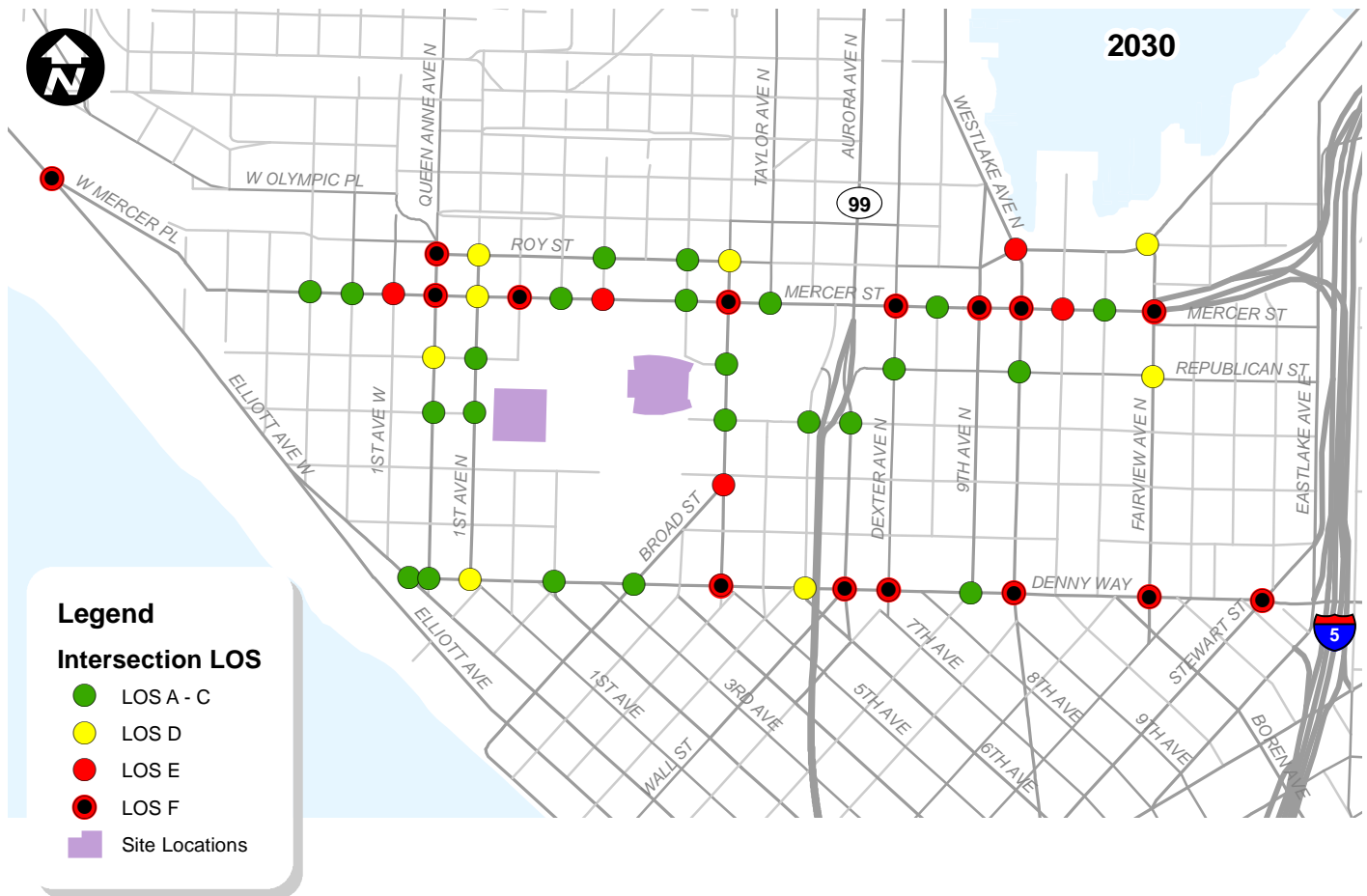
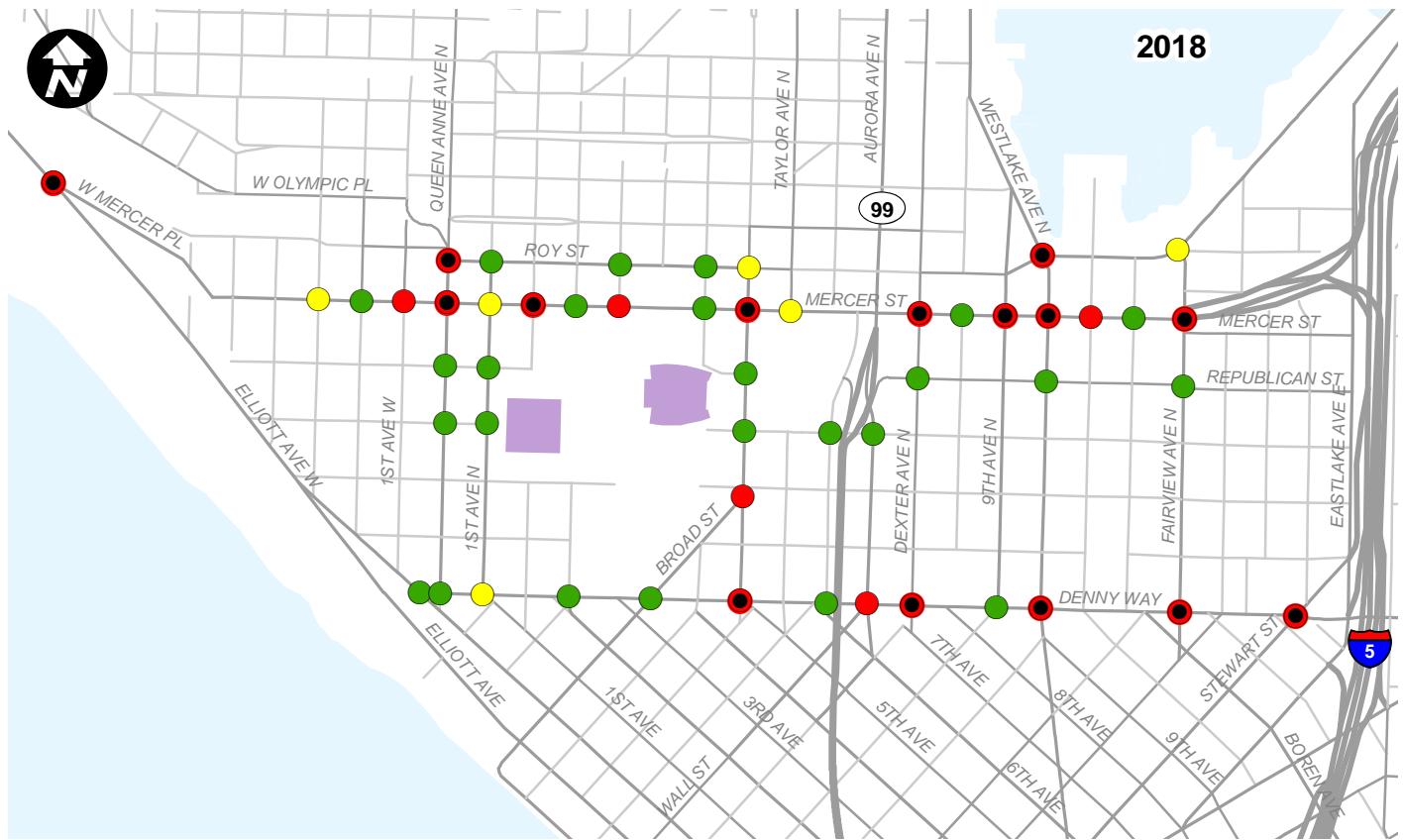
The following sections summarize the results of the traffic operation analysis conducted for Alternative 5. This analysis reflects the addition of traffic with a 20,000 attendee event at Memorial Stadium (Case M1), and the addition of a 12,000 attendee event at KeyArena (Case M2).

3.6.5.1 Intersection Operations

LOS results for 2018 and 2030 peak hour conditions for Alternative 5 Cases M1 and M2 are presented on Figure 3–60 and Figure 3–61. Detailed LOS summary tables and worksheets for each of these scenarios are included in Attachment E-3, which is available from DPD upon request.

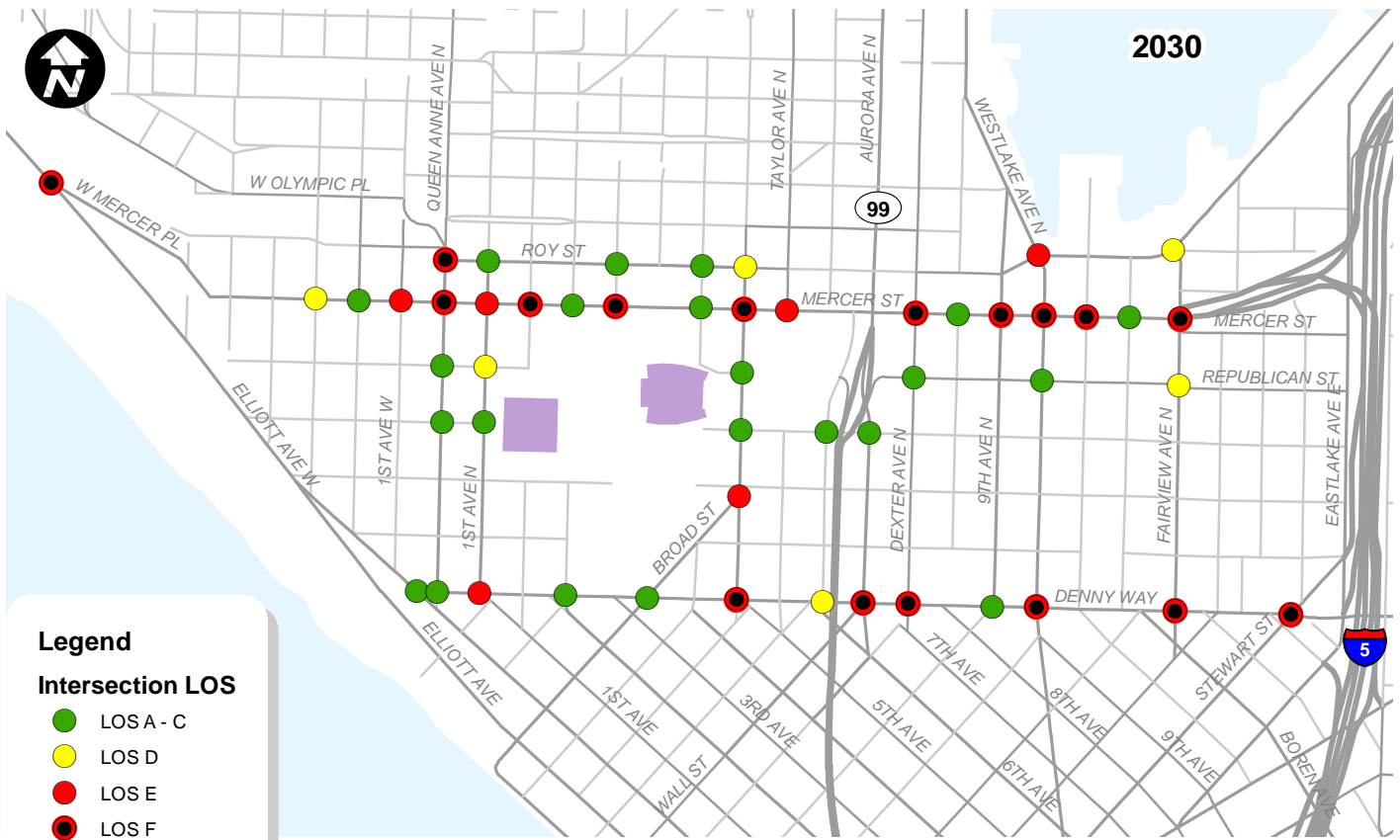
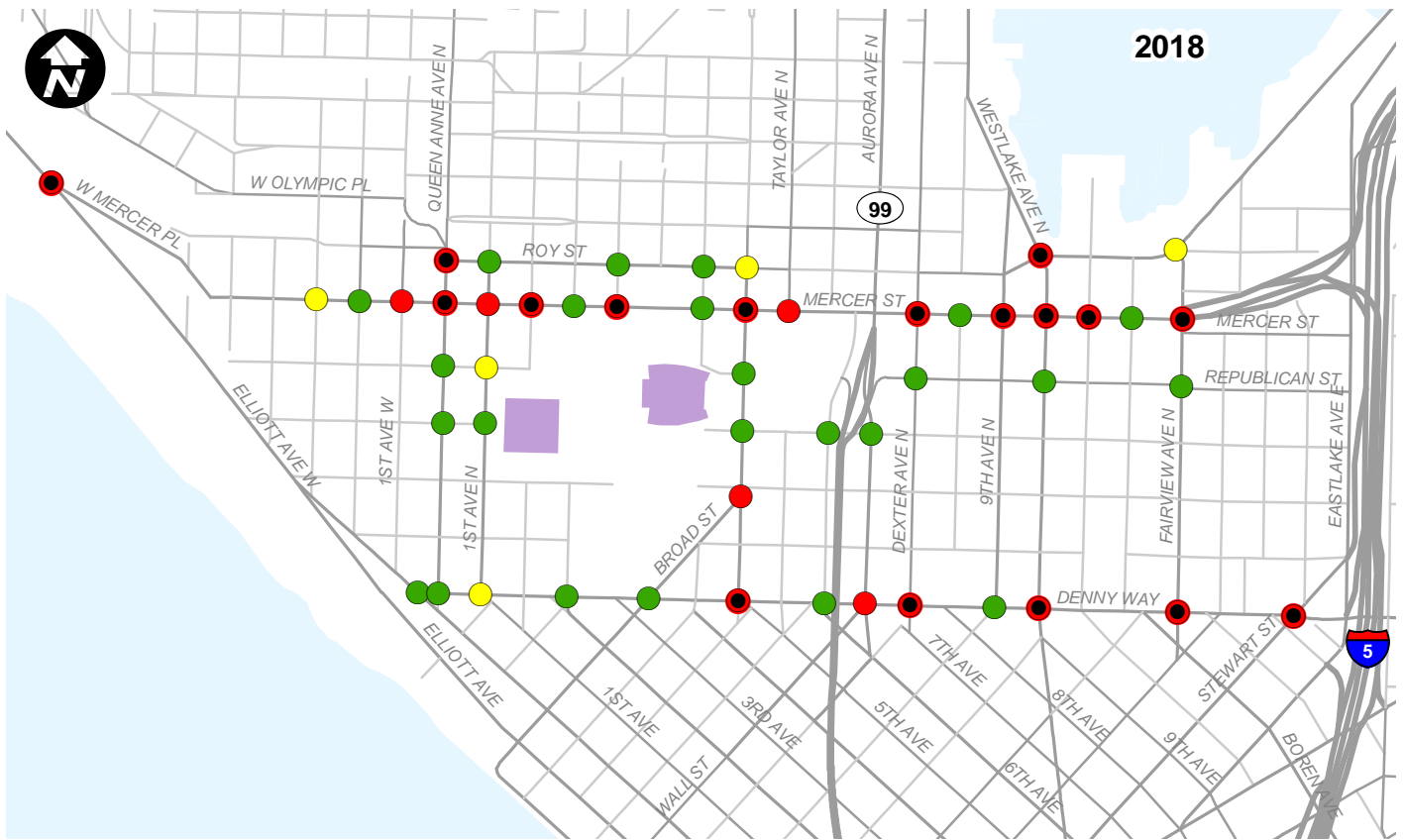
A summary of the Alternative 5 LOS for all study area intersections was prepared and compared No Action conditions as summarized on Figure 3–59 for 2018 conditions, and Figure 3–62 for 2030 conditions.





Seattle Center Area Alternative 5 Case M1
Weekday PM Peak Hour Level of Service

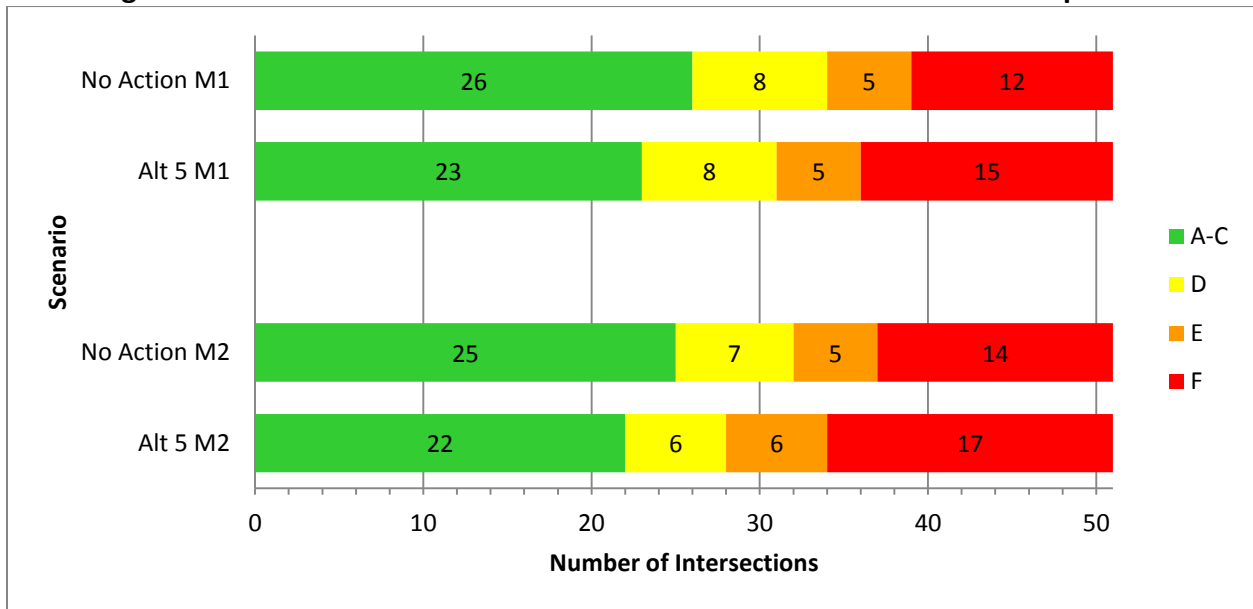
FIGURE
3-60



Seattle Center Area Alternative 5 Case M2
 Weekday PM Peak Hour Level of Service

FIGURE
 3-61

Figure 3–62 Seattle Center Area 2030 Alternative 5 Intersection LOS Comparison



As shown:

- Throughout the wider study area, the addition of arena event trips would result in two additional intersections operating at a calculated LOS E/F under 2018 Case M1 and three additional intersections under Case M2.
- Under 2030 conditions, three additional intersections would operate at LOS F for Alternative 5 Case M1 and four additional intersections would operate at LOS E/F for Alternative 5 Case M2.

Table 3-24 summarizes the intersections that operate at LOS E or LOS F with the addition of arena event traffic under 2018 conditions and forecast results for 2030 conditions are summarized in Table 3-25. Note that some intersections would only operate at LOS E or LOS F under the multiple event scenario (Case M2).

**Table 3-24
2018 Alternative 5 Weekday PM Peak Hour Intersections at LOS E or LOS F**

Roadway	Case M1		Case M2	
	No Action	Alternative 5	No Action	Alternative 5
Elliott Avenue W. / W. Mercer Pl	F	F	F	F
Queen Anne Avenue N. / Roy Street	F	F	F	F
Broad Street / Valley Street	F	F	F	F
1st Avenue W. / W. Mercer Street	E	E	E	E
Mercer Street / Queen Anne Avenue N.	F	F	F	F
1st Avenue N. / Mercer Street	C	D	D	E
Mercer Street / Warren Avenue N.	F	F	F	F
3rd Avenue N. / Mercer Street	B	E	C	F
5th Avenue N. / Mercer Street	F	F	F	F
Mercer Street / Taylor Avenue N.	C	D	C	E
Dexter Avenue N. / Mercer Street	F	F	F	F
9th Avenue N. / Mercer Street	F	F	F	F
Mercer Street / Westlake Avenue N.	F	F	F	F
Mercer Street / Terry Avenue N.	D	E	E	F
Fairview Avenue N. / Mercer Street	F	F	F	F
5th Avenue N. / Broad Street	E	E	E	E
5th Avenue / Denny Way	E	F	E	F
Aurora Avenue N. / Denny Way	E	E	E	E
Denny Way / Dexter Avenue	F	F	F	F
Denny Way / Westlake Avenue	F	F	F	F
Denny Way / Fairview Avenue	F	F	F	F
Denny Way / Stewart Street	F	F	F	F

**Table 3-25
2030 Alternative 5 Weekday PM Peak Hour Intersections at LOS E or LOS F**

Roadway	Case M1		Case M2	
	No Action	Alternative 5	No Action	Alternative 5
Elliott Avenue W. / W. Mercer Pl	F	F	F	F
Queen Anne Avenue N. / Roy Street	F	F	F	F
Broad Street / Valley Street	E	E	E	E
1st Avenue W. / W. Mercer Street	D	E	E	E
Mercer Street / Queen Anne Avenue N.	F	F	F	F
1st Avenue N. / Mercer Street	D	D	D	E
Mercer Street / Warren Avenue N.	F	F	F	F
3rd Avenue N. / Mercer Street	C	E	D	F
5th Avenue N. / Mercer Street	E	F	F	F
Mercer Street / Taylor Avenue N.	C	C	C	E
Dexter Avenue N. / Mercer Street	F	F	F	F
9th Avenue N. / Mercer Street	E	F	F	F
Mercer Street / Westlake Avenue N.	F	F	F	F
Mercer Street / Terry Avenue N.	D	E	E	F
Fairview Avenue N. / Mercer Street	F	F	F	F
5th Avenue N. / Broad Street	E	E	E	E
1st Avenue S. / Denny Way	D	D	D	E
5th Avenue / Denny Way	E	F	E	F
Aurora Avenue N. / Denny Way	F	F	F	F
Denny Way / Dexter Avenue	F	F	F	F
Denny Way / Westlake Avenue	F	F	F	F
Denny Way / Fairview Avenue	F	F	F	F
Denny Way / Stewart Street	F	F	F	F

3.6.5.2 Corridor Travel Times

Table 3-26 summarizes the calculated weekday PM peak hour travel times under 2018 conditions on the defined routes. Table 3-27 summarizes the calculated travel times under 2030 conditions. No Action results conditions are shown in parentheses and provided for comparison purposes.

**Table 3-26
2018 Alternative 5 Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case M1 (m:ss)¹	Case M2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	22:47 (17:40) ²	26:37 (21:09)
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	25:40 (10:01)	37:33 (14:47)
2	Denny Way from Queen Anne Avenue to Stewart Street	EB	16:57 (15:14)	19:17 (17:30)
	Denny Way from Stewart Street to Queen Anne Avenue	WB	15:21 (12:04)	17:00 (13:06)
3	5th Avenue N. from Denny Way to W. Mercer Street	NB	6:20 (5:04)	6:44 (5:25)
	5th Avenue N. from W. Mercer Street to Denny Way	SB	3:22 (3:00)	3:51 (3:04)

1. m:ss = minutes:seconds

2. No Action travel times provided for comparison.

As shown in Table 3-26 and Table 3-27:

- Travel times under both 2018 and 2030 conditions are calculated to increase with the addition of arena event traffic. In particular, westbound Mercer Street increases substantially to over 30 minutes with the addition of arena traffic due to the majority of traffic (approximately 70 percent) travelling to the Seattle Center area utilizing the Mercer Street corridor.
- It is noted that No Action and all future estimates of event traffic volumes are simply additive to No Action conditions. While existing counts and analysis show modest impacts to traffic volumes and operations on event days, this additive approach likely overestimates future traffic and congestion related to events. However, it does provide a consistent basis for comparing alternatives. There is no reliable way to assess the amount of diverted non-event traffic likely to occur for any given event.

**Table 3-27
2030 Alternative 5 Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case M1 (m:ss ¹)	Case M2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	23:21 (18:37) ²	27:11 (22:38)
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	22:26 (8:28)	33:18 (13:06)
2	Denny Way from Queen Anne Avenue to Stewart Street	EB	21:55 (19:46)	24:26 (22:24)
	Denny Way from Stewart Street to Queen Anne Avenue	WB	17:29 (13:00)	19:40 (14:36)
3	5th Avenue N. from Denny Way to W. Mercer Street	NB	6:19 (5:18)	6:38 (5:35)
	5th Avenue N. from W. Mercer Street to Denny Way	SB	3:28 (3:09)	3:52 (3:14)

1. m:ss = minutes:seconds
2. No Action travel times provided for comparison.

3.6.5.3 Regional Access Analysis

Traffic would access the new arena in the Seattle Center area via I-5, SR 99, and local arterials. It is estimated up to 20 percent of the trips that would access the arena would come from the north via I-5 and 55 percent via I-5 from the south. The other 25 percent of the trips would access the area via local arterials and SR 99.

For an event only at the new arena, up to an additional 1,500 vph would enter the city via I-5 to reach the Seattle Center area. This is a 6-15 percent increase in trips compared to a typical evening commute on any one of those corridors. Table 3-28 shows the typical traffic volumes for a weekday and the anticipated increase in traffic with the arena, and also with the combined with other events.

The typical weekday traffic flow values shown in Table 3-28 are existing volumes but represent anticipated traffic volumes in year 2018. Traffic demand (or volume of vehicles that want to use these corridors) increase as land use changes. However because the corridors are at or near capacity, additional traffic is not served during the peak hour of congestion. Therefore today's traffic volume served through these areas during the peak of congestion would be similar in future years unless capacity was increased for I-5.

Table 3-28 also focuses on the directions and locations of I-5 that would experience the greatest increase in trips from an arena event. During the PM peak hour, the majority of the trips (about 94 percent) associated with the arena are inbound trips (or trips heading to the arena).

**Table 3-28
2018 Alternative 5 Weekday PM Peak Hour Increase in Traffic on Freeway Corridors**

Location	Typical Weekday PM Peak Hour Traffic (vph)	Increase in traffic with Arena (vph / % compared to typical weekday traffic)	
		Case M1	Case M2
I-5 Southbound (north of Mercer)	6,700 vph	400 vph / 6%	550 vph / 8%
I-5 Northbound (south of Olive)	6,800 vph	1,100 vph / 15%	1,450 vph / 21%

The I-5 and I-90 corridors experience congestion today during the PM peak commute. Today, events at the downtown arenas results in an increase in travel time approaching the city center. The PM peak travel times (on days with events in 2012) increased by up to eight minutes on southbound I-5 between NE 145th and I-90 and up to four minutes on I-90 between I-405 and Rainer Avenue S. It is anticipated with the arena with capacity for 20,000 spectators, PM peak travel times would be similarly affected for a typical event day with an event only at the new arena (Case M1).

For an event only at the new arena, up to an additional 1,400 vph would enter the city via I-5 to reach the new arena in the year 2030. This is slightly less than the year 2018 condition as it's assumed more people would use transit to access this area. This is a result of Link light rail extensions and other transit improvements that will provide event attendees more options. Increases in traffic and effect to regional travel times on the I-5 and I-90 freeways would be similar in the year 2030 as experienced in the year 2018.

Regional or freeway access to the Seattle Center area is constrained by signals at the terminal of the off-ramps. Overall intersection and off-ramp approach operations of two arterial intersections at the I-5 ramp termini were reviewed. The analysis was conducted for the weekday PM peak hour for 2018 and 2030 horizon years, under Case M1 and M2 and summarized in Table 3-29 and Table 3-30, respectively.

**Table 3-29
2018 Alternative 5 Weekday PM Peak Hour Ramp Terminal Intersection Operations**

Intersection	Scenario	No Action		Alternative 5	
		Overall LOS / Delay	Off-Ramp LOS / Delay	Overall LOS / Delay	Off-Ramp LOS / Delay
Mercer Street / Fairview Avenue	Case M1	F / >180	E / >79	F / >180	F / 97
	Case M2	F / >180	E / 75	F / >180	F / 148
Denny Way / Stewart Street	Case M1	F / 153	F / >180	F / 160	F / >180
	Case M2	F / 162	F / >180	F / 168	F / >180

**Table 3-30
2030 Alternative 5 Weekday PM Peak Hour Ramp Terminal Intersection Operations**

Intersection	Scenario	No Action		Alternative 5	
		Overall LOS / Delay	Off-Ramp LOS / Delay	Overall LOS / Delay	Off-Ramp LOS / Delay
Mercer Street / Fairview Avenue	Case M1	F / >180	F / 106	F / >180	F / 96
	Case M2	F / >180	F / 97	F / >180	F / 126
Denny Way / Stewart Street	Case M1	F / 159	F / 167	F / 166	F / 169
	Case M2	F / 168	F / 169	F / 174	F / 170

Under both 2018 and 2030 conditions during the PM peak hour off-ramp conditions operate at LOS E/F at both Denny Way and Mercer Street and are similar to No Action conditions. The further addition of event traffic would add to the already poor off-ramp terminal operations that are forecast to occur under No Action conditions.

In addition to the traffic operations impacts outlined above, the increases in event traffic volumes related to an arena would have an impact on emergency vehicle access and circulation to the Memorial Stadium site as well as through the area. This may require emergency response vehicles to use on-board flashing lights and sirens to navigate through the congestion and reduce delays. In addition, during periods of heavy congestion, manual traffic control may be necessary to facilitate the passage of emergency vehicles.

3.6.5.4 Post-Event Traffic Operations

At the end of a sporting event at the Seattle Center attendees typically depart the venue in a highly concentrated flow that can affect traffic operations within the vicinity of the venue. Post-event traffic counts for sporting event in the SoDo area³⁴ indicate that the peak 15 minutes near the end of an event can range between 30 to 40 percent of the total hourly flow that includes this peak with traffic volumes greatest travelling away from the venue.

³⁴ Seattle Mariners, April 11, 2013

As a result of this surge, professional sporting events in Seattle typically implement a Traffic Control Plan (TCP) to aid in the dispersion of event attendees to the transportation network. A TCP helps to alleviate this outbound surge in event attendees. However, post-event surge traffic volumes are usually less than the peak 15-minute period during a non-event peak evening commute period. As a result, the analysis of the peak evening commute period represents a worst-case condition.

3.6.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements. The following identifies those potential mitigation measures considered to have a high influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 4 and Alternative 5.

- Event schedule protocol and management
- Public information coordinator
- Directional event signage
- Variable message and parking guidance signage
- SDOT traffic control center improvements
- Traffic signal control / improvements
- Event ingress / egress plan
- Construction management plan

3.6.7 Secondary and Cumulative Impacts

There would be direct impacts to general vehicular traffic caused by an increase in traffic volumes and congestion for the No Action Alternative by 2018 and 2030. These impacts would be increased on game days. Secondary and cumulative impacts to other motorists could occur by drivers choosing to reroute to avoid congestion at specific intersections.

3.6.8 Significant Unavoidable Adverse Impacts

Several additional intersections are forecast to operate at LOS E or LOS F, in No Action and with additional traffic due to events at an arena at the site of KeyArena or Memorial Stadium. On event days, delays would be expected to increase as a result of arena event traffic. Some of these increases may be significant.

3.7 Freight and Goods Movement

This section describes the existing, No Action, and magnitude of future impacts associated with Alternatives 4 and 5 on the movement of freight and goods within the Seattle Center area.

3.7.1 Methodology

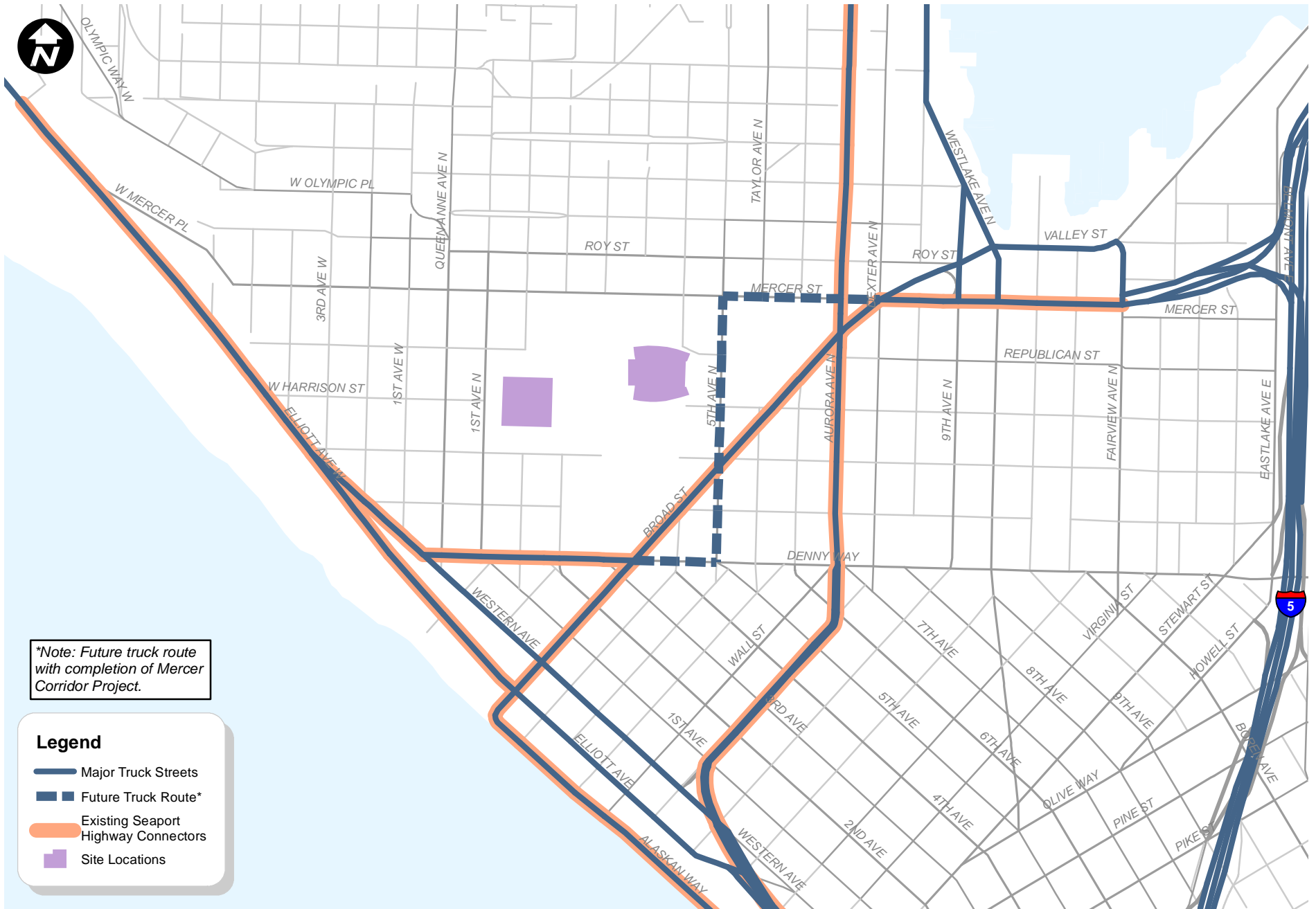
The impacts of the alternatives on freight and goods movements are evaluated based on the effect of the added magnitude and frequency of additional event traffic on freight activity. Thus, changes in specific intersection and arterial performance at locations along identified truck routes are evaluated. Technical data presented in this section is consistent with data presented in the traffic operations section of this report.

3.7.2 Affected Environment

3.7.2.1 Transportation Network

Within the Seattle Center area, local and federal agencies have designated several roadways in the study area as Major Truck Routes and Seaport Highway Connectors. Figure 3–63 identifies these truck facilities within the study area. Two classes of truck facility are identified:

- Major Truck Routes and Seaport Highway Connector
 - Elliott Avenue W., north of Broad Street
 - Broad Street south of Mercer Street
 - Aurora Avenue N.
 - Western Avenue from Elliott Avenue W. to Denny Way
 - Denny Way from Western Avenue to Broad Street
 - Mercer Street from Dexter Avenue N. and Broad Street to Fairview Avenue N.
- Major Truck Routes only
 - Western Avenue south of Denny Way
 - Broad Street north of Mercer Street
 - 9th Avenue N., north of Mercer Street
 - Westlake Avenue N., north of Mercer Street
 - Fairview Avenue N., north of Mercer Street
 - Valley Street between Westlake Avenue N. and Fairview Avenue N
 - Elliott Avenue south of Broad Street



Seattle Center Area Freight Facilities

Seattle Arena

FIGURE
3-63

Trucks with over-legal loads utilize Mercer Street and Broad Street to access the waterfront and the CBD. These routes maintain a 20' by 20' design envelope.

3.7.2.2 Traffic Volumes

Due to ongoing construction along the Mercer Street corridor, current traffic counts were not conducted, as the data would not be indicative of stable conditions. Historical traffic counts³⁵ along the corridor showed that truck volumes over a 16-hour period totaled 450 semi-trucks utilized the I-5 ramps, 100 semi-trucks along Broad Street and 50 trucks were noted to use Westlake Avenue. The Synchro traffic models obtained from the City included heavy vehicles percentages of two percent. Future analyses conducted for this evaluation utilized the same assumptions.

3.7.2.3 Traffic Operations

Individual intersection and corridor operations have a significant impact on the efficiency and cost associated with the movement of freight and goods. This section highlights the traffic operations along the key corridors utilized by freight, as designated by the City of Seattle. This analysis focuses mainly on the Mercer Street corridor as that is the primary connection to the area from the regional system.

The analysis of existing conditions reflects the completion of the east section of the Mercer Street corridor. The results of the intersection analysis identified three of the seven intersections east of and including the Dexter Avenue N. intersection that are “currently”³⁶ operating at LOS E/F during the weekday PM peak hour. Truck traffic utilizing Mercer Street to access Elliot Avenue or Western will incur delay at these intersections commensurate with the delay experienced by all traffic. Likewise, corridor level impacts would experience similar delay and travel time impacts. It is noted that large trucks may experience additional delays during periods of extreme congestion as trucks require more clear space to enter and clear an intersection.

The travel time corridors identified for this review included Mercer Street from 3rd Avenue W. to Fairview Avenue N. This corridor was identified based on its designation as a Major Truck Street as well as its functionality with respect to access to the Seattle Center Area alternative sites. Existing travel times for this section of Mercer Street were calculated at approximately 9 minutes in the eastbound direction and 8.5 minutes in the westbound direction.

3.7.3 Impacts of No Action Alternative

Forecast conditions under the No Action alternative for freight and goods movement within the Seattle Center area are described in the following sections. With the changes in roadway infrastructure future discussions focus primarily on the Mercer Street corridor, due to its

³⁵ Mercer Corridor Improvements Project Transportation Discipline Report, November 2006.

³⁶ Assumes completion of the east portion of the West Mercer Improvement Project

regional access and future east-west linkages and future impacts of the development alternatives.

3.7.3.1 Transportation Network

Several planned projects were identified that will affect truck travel within the study area. These include:

- **Alaskan Way Viaduct Replacement – North Portal:** This portion of the project provides connections to the transportation system in the Seattle Center area. This includes the following connections:
 - **Tunnel Access at Republican Street and 6th Avenue N.:** Access to SR 99 will be provided via new ramps at Republican Street. The northbound off-ramp traffic will exit to the east toward Dexter Avenue N. and the southbound traffic will merge onto SR 99 via a reconfigured 6th Avenue N. between Harrison Street and Mercer Street west of SR 99. The new 6th Avenue N. roadway will have one to two lanes in each direction and a traffic signal at the SR 99 ramp intersection.
 - **New Street Connections to Aurora Avenue N. (SR 99):** John Street, Thomas Street, and Harrison Street will connect to Aurora Avenue N. Thomas Street will have bike lanes between Dexter Avenue N. and 5th Avenue N. Aurora Avenue N. will have two travel lanes in each direction, an additional transit-only lane, and turn pockets between Denny Way and Harrison Street. The Denny Way intersections with John Street, Thomas Street, and Harrison Street will be signalized.
- **Mercer Corridor:** This project includes the conversion of two-way traffic flows along Mercer Street between I-5 and Elliott Avenue W. The main purpose is to improve the east-west connection in the area by turning Mercer Street into a two-way corridor and improving access for pedestrians and bicyclists. The project is separated into two phases: Mercer East and Mercer West. The impact to the study area of each phase is:
 - **Mercer East:** This portion of the project is located between Fairview Avenue N. and Dexter Avenue N. It provides two-way operations along both Mercer Street and Valley Street. The portion along Mercer Street is complete and has three travel lanes in each direction and sidewalks on both sides. Two new traffic signals are provided along Mercer Street at the Terry Avenue NE and Boren Avenue N. intersections. Valley Street is currently under construction and will have one lane in each direction with bicycle and pedestrian improvements. The project is scheduled to be completed by summer of 2013.
 - **Mercer West:** The portion stretches from Dexter Avenue N. to 5th Avenue W. Mercer Street will have three travel lanes in each direction between Dexter Avenue N. and Aurora Avenue N., two lanes in each direction between 5th Avenue N. and 2nd Avenue N., and one lane in each direction between 2nd

Avenue N. and 5th Avenue W. Roy Street will also be converted to have two-way operations with one lane of travel lane in each direction. Pedestrian and bicycle improvements will be provided along both Mercer Street and Roy Street, including bike lanes in both directions along Roy Street between 5th Avenue N. and Queen Anne Avenue N., a bike path on the north side of Mercer Street near the Aurora Avenue underpass, and new and / or improved sidewalks along the project corridor. In addition, with completion of the project Broad Street will be removed and the major truck street / seaport highway connector will shift to 5th Avenue N. between Denny Way and Mercer Street and Mercer Street from 5th Avenue N. to I-5. This project is scheduled to be complete by mid-2015 and will connect to improvements made in the area related to the Alaskan Way Viaduct Replacement Project.

3.7.3.2 Traffic Volumes

2018 traffic volumes along the Mercer Street corridor are forecast to nominally increase over the existing estimates by less than one percent during the weekday PM peak hour conditions. Traffic forecasts for the year 2030 are approximately two percent greater than the 2018 forecasts. Truck percentages assumed in the future No Action analyses were two percent for all approaches to each intersection. Based on the application of a 2 percent truck factor, traffic volumes along Mercer Street would total 100 trucks per weekday PM peak hour. Given the estimates of 450 trucks counted at the I-5 off-ramp in a 16-hour period, the assumption of 2 percent should be considered conservative as it totals approximately 25 percent of the total truck volume. It is unlikely that 25 percent of the observed truck volumes would occur during the 1-hour PM peak hour time period. In fact, many truck drivers specifically avoid travel during these periods given the difficulty of travel.

Along Broad Street the 2018 and 2030 forecasts reflect negligible growth over the existing traffic volumes. This is due primarily due to the reconfiguration of Broad Street and the elimination of the direct connection to W. Mercer Street. Trucks exiting I-5 at W. Mercer Street will still be able to access Broad Street, but utilize the 5th Avenue N. connection to do so.

3.7.3.3 Traffic Operations

Since the 2030 analysis presented in the Traffic Operations section represents the worst operating condition, this analysis reports operations for 2030 conditions only. The analysis indicates that in the future (2030) five of the seven intersections are forecast to operate at LOS E/F along W. Mercer Street from Dexter Avenue N. to I-5. Truck traffic utilizing Mercer Street to access Elliot Avenue or Western Avenue will incur delay at key intersections increasing travel times through the corridor overall.

The travel time analysis conducted for the W. Mercer Street corridor showed 2030 travel times of 18.5 minutes in the westbound direction and 8.5 in the eastbound direction. This represents no noticeable change in the eastbound direction and increase of approximately 9.5 minutes in the westbound direction as compared to the “existing” conditions. This change is likely due to several factors including development within the SLU neighborhood, planned changes to the

roadway including the two-way Mercer Street improvement projects and Alaskan Way North Portal improvements, changes in travel patterns, and varying growth in traffic volumes along the length of the corridor.

3.7.4 Impacts of Alternative 4

Major truck routes surrounding the site could be intermittently impacted by construction. A construction management plan would be developed to minimize any street closures or other impacts as a result of the arena construction. This management plan would use of manual flaggers and signs to provide vehicle circulation. In addition, key stakeholders would be notified of any major roadway closures.

Forecast conditions in the Seattle Center area were evaluated for Alternative 4.

3.7.4.1 Transportation Network

No modifications to the transportation system that would impact freight and goods movements are identified as part of this Alternative.

3.7.4.2 Traffic Volumes

Traffic volume forecasts were developed for Alternative 4 for both K1 and K2. A comparison of the future volumes for the No Action Alternative and Alternative 4 are summarized in Table 3-31. As shown in this table, along W. Mercer Street, east of Terry Avenue, weekday PM peak hour traffic volumes are anticipated to increase by approximately 14 to 15 percent under either event case. This increase in traffic is representative of the incremental impact assuming an existing (12,000 attendance) event at the KeyArena. The No Action Case K1 includes the 12,000 attendance event and No Action Case K2 includes 12,000 attendance at the KeyArena and 5,000 at Memorial Stadium.

**Table 3-31
2030 Alternative 4 Weekday PM Peak Hour Traffic Volumes Comparison**

Location	Case K1		Case K2	
	No Action	Alternative 4	No Action	Alternative 4
Mercer Street east of Terry Avenue N.	5,785	6,645 (+15%) ¹	5,990	6,835 (+14%)

3.7.4.3 Traffic Operations

Intersections along the W. Mercer Street corridor as well as the performance of the corridor itself were reviewed to determine the potential impact on the movement of freight and goods through the corridor. As previously summarized and discussed in the traffic operations section, by 2030 five of the seven intersections along Mercer Street are projected to operate at LOS E/F

under Alternative 4. This is compared to five intersections forecasted to operate at LOS E/F in either of the No Action event cases.

2030 PM peak hour travel times for the W. Mercer Street corridor were reviewed for the Alternative 4 event cases. The results of the analyses are summarized in Table 3-32.

**Table 3-32
2030 Alternative 4 Weekday PM Peak Hour Corridor Travel Times**

Route	Extents	Direction	Case K1 (m:ss ¹)	Case K2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	24:11 (21:04) ²	25:29 (22:38)
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	25:20 (10:58)	29:09 (13:06)

3. m:ss = minutes:seconds

4. No Action travel times provided for comparison.

It is noted that No Action and all future estimates of event traffic volumes are simply additive to No Action conditions. While existing counts and analyses show modest impacts to traffic volumes and operations on event days, this additive approach likely overestimates future traffic and congestion related to events. However, it does provide a consistent basis for comparing alternatives.

3.7.5 Impacts of Alternative 5

Major truck routes surrounding the site could be intermittently impacted by construction. A construction management plan would be developed to minimize any street closures or other impacts as a result of the arena construction. This management plan would use of manual flaggers and signs to provide vehicle circulation. In addition, key stakeholders would be notified of any major roadway closures.

Forecast conditions in the Seattle Center area were evaluated for Alternative 5.

3.7.5.1 Transportation Network

No modifications to the transportation system that would impact freight and goods movements are identified as part of this Alternative.

3.7.5.2 Traffic Volumes

Traffic volume forecasts were developed for Alternative 5 for both M1 and M2. A comparison of the future volumes for the No Action and Alternative 5 are summarized in Table 3-33. As shown in this table, along Mercer Street, east of Terry Avenue, weekday PM peak hour traffic volumes are anticipated to increase by approximately 17 to 19 percent during under either event case. This increase in traffic is representative of the incremental impact assuming an existing (5,000 attendance) event at Memorial Stadium. The No Action Case M1 includes the

5,000 attendance event and No Action Case M2 includes 5,000 attendance at the Memorial Stadium and 12,000 at KeyArena.

Table 3-33
2030 Alternative 5 Weekday PM Peak Hour Traffic Volumes Comparison

Location	Case M1		Case M2	
	No Action	Alternative 5	No Action	Alternative 5
Mercer Street east of Terry Avenue N.	5,460	6,495 (+19%) ¹	5,990	7,025 (+17%)

3.7.5.3 Traffic Operations

Intersections along the Mercer Street corridor as well as the performance of the corridor itself were reviewed to determine the potential impact on the movement of freight and goods through the corridor. As previously summarized and discussed in the traffic operations section, by 2030 five of the seven intersections along Mercer Street are projected to operate at LOS E/F under Alternative 5. This is compared to five intersections forecasted to operate at LOS E/F in either of the No Action event cases.

2030 PM peak hour travel times for the Mercer Street corridor were reviewed for the Alternative 5 event cases. The results of the analyses are summarized in Table 3-34.

Table 3-34
2030 Alternative 5 Weekday PM Peak Hour Corridor Travel Times

Route	Extents	Direction	Case M1 (m:ss ¹)	Case M2 (m:ss)
1	W. Mercer Street from 3rd Avenue W. to Fairview Avenue N.	EB	24:11 (21:04) ²	25:29 (22:38)
	W. Mercer Street from Fairview Avenue N. to 3rd Avenue W.	WB	25:20 (10:58)	29:09 (13:06)

1. m:ss = minutes:seconds

2. No Action travel times provided for comparison.

3.7.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements. The following identifies those potential mitigation measures considered to have a high influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 4 and Alternative 5.

- Public information coordinator
- Construction management plan

3.7.7 Secondary and Cumulative Impacts

As described previously, there would be direct impacts to the movement of freight and goods caused by an increase in traffic volumes and congestion for the No Action Alternative by 2018 and 2030. These impacts would be increased on game days. Secondary and cumulative impacts to other motorists could occur by truck drivers choosing to reroute to avoid congestion at specific intersections.

3.7.8 Significant Unavoidable Adverse Impacts

Several additional intersections are forecast to operate at LOS E or LOS F, in No Action and with additional traffic due to events at the Arena. On event days, delays would be expected to increase as a result of Arena event traffic. These conditions would impact freight activity to the extent identified in the impact analysis.

3.8 Parking

SMC parking requirements would be reviewed as part of the Master Use Permit application. This analysis assumes that no new parking would be built as part of Alternatives 4 and 5. The remainder of this discussion focusses on the impact of arena parking demand on the existing and future parking supply in the study area.

3.8.1 Methodology

The following describes the general approach to the parking analysis:

- Establish the study area and appropriate time period for the evaluation
- Document existing parking conditions to provide an understanding of the underlying parking demands
- Examine effect of future “pipeline” development on parking supply and demand under the No Action Alternative
- Evaluate No Action conditions associated with the existing large event venues (KeyArena and Memorial Stadium) to provide a basis for understanding the impact of the arena on multiple large event conditions
- Add parking demand for the arena to each of the defined No Action baseline event cases and compare arena parking demand to the No Action condition to identify impacts of Alternatives 4 and 5
- Identify mitigation strategies, where appropriate, to reduce the effect of the identified Alternative 4 and 5 impacts

The balance of this methodology section describes the study area for the parking analysis, how the Seattle Center area parking patterns were used to determine the analysis time periods, and parking supply assumptions. Parking demand assumptions specific to existing and future conditions are described in the individual Affected Environment, No Action, and Alternatives 4 and 5 sections.

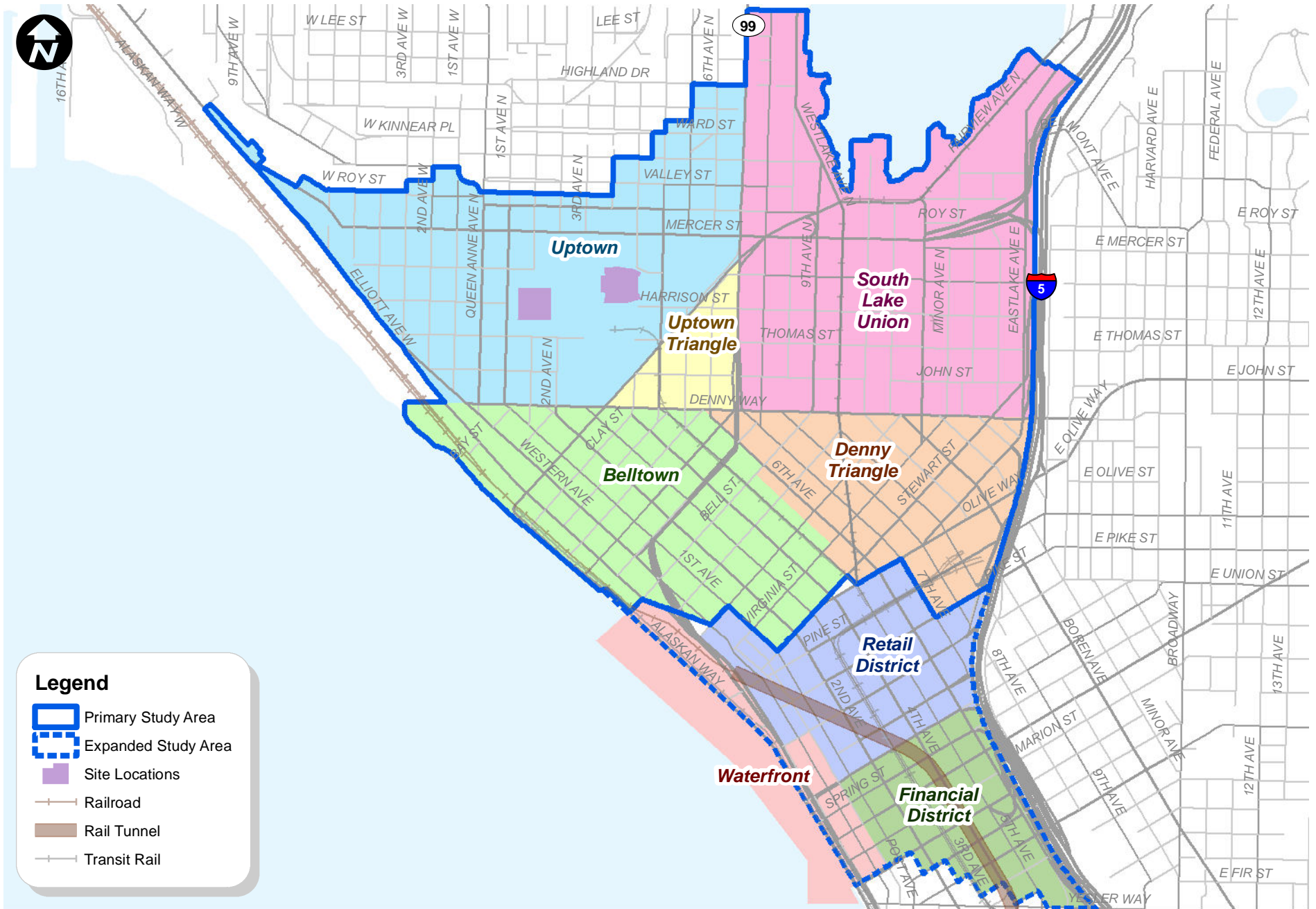
3.8.1.1 Study Area

The study area evaluated for parking is shown on Figure 3–64. Similar to the Stadium District sites, a primary and expanded study area were evaluated, with the expanded study area reflecting potential parking supply opportunities in the case of larger attendance events. The Seattle Center primary study area is reflective of approximately the same walking distance as assumed for the Stadium District primary study area.

SR 99 currently creates a barrier in the study area, effectively separating SLU from the Seattle Center area for pedestrians. Future improvements in the study area will provide connections across SR 99 allowing for better access between the Seattle Center area and SLU, which will increase the available parking supply. North of the Seattle Center, steep uphill grades north of Roy Street make parking and accessing the Seattle Center area more difficult; the area is generally restricted to those with residential permits.

The primary study area considers parking between I-5, Elliott Avenue W., Roy Street/Valley Street, and Downtown. It includes the neighborhoods of Uptown, Uptown Triangle, Belltown, SLU, and Denny Triangle.

An expanded study area was also evaluated considering the CBD consistent with the Stadium District study area. The evaluation of the expanded study area provides a basis for understanding how parking for larger events may be accommodated by parking available at greater distances from the venues.



Seattle Center Area Parking Study Area

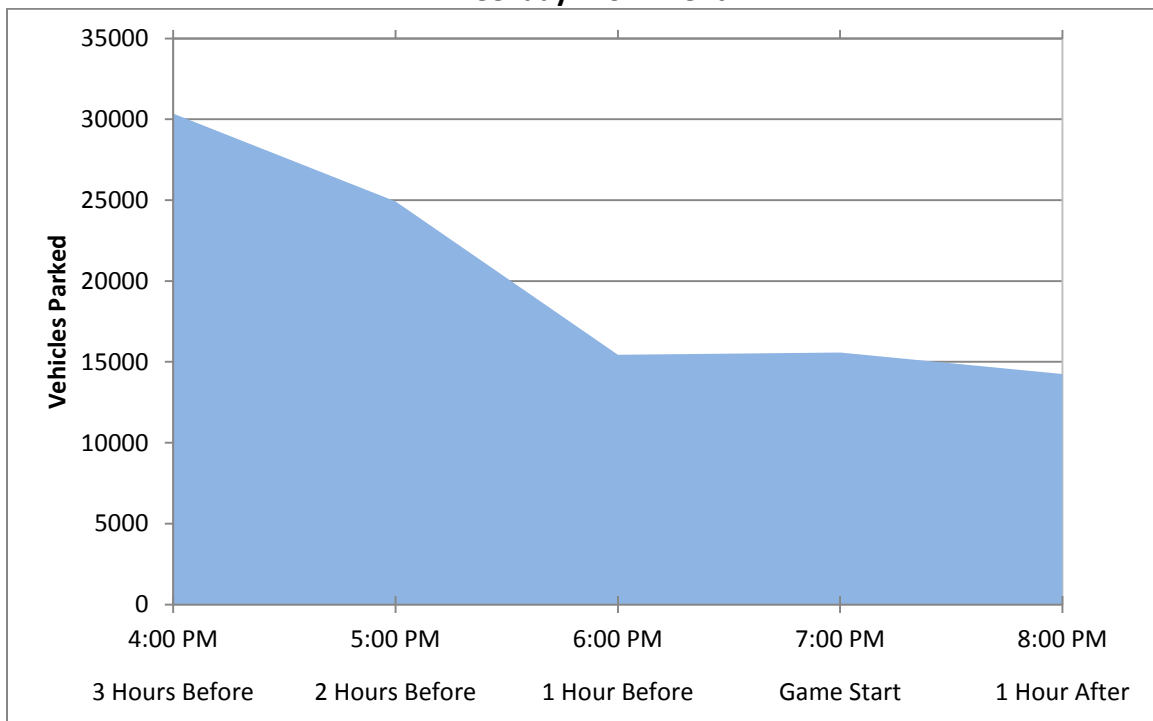
3.8.1.2 Analysis Time Periods

The parking analysis period was determined in the same manner as the Stadium District evaluation. Existing non-event and arena hourly parking demands for weekday and weekend conditions between 4:00 and 8:00 PM were examined assuming a 7:00 PM game start.

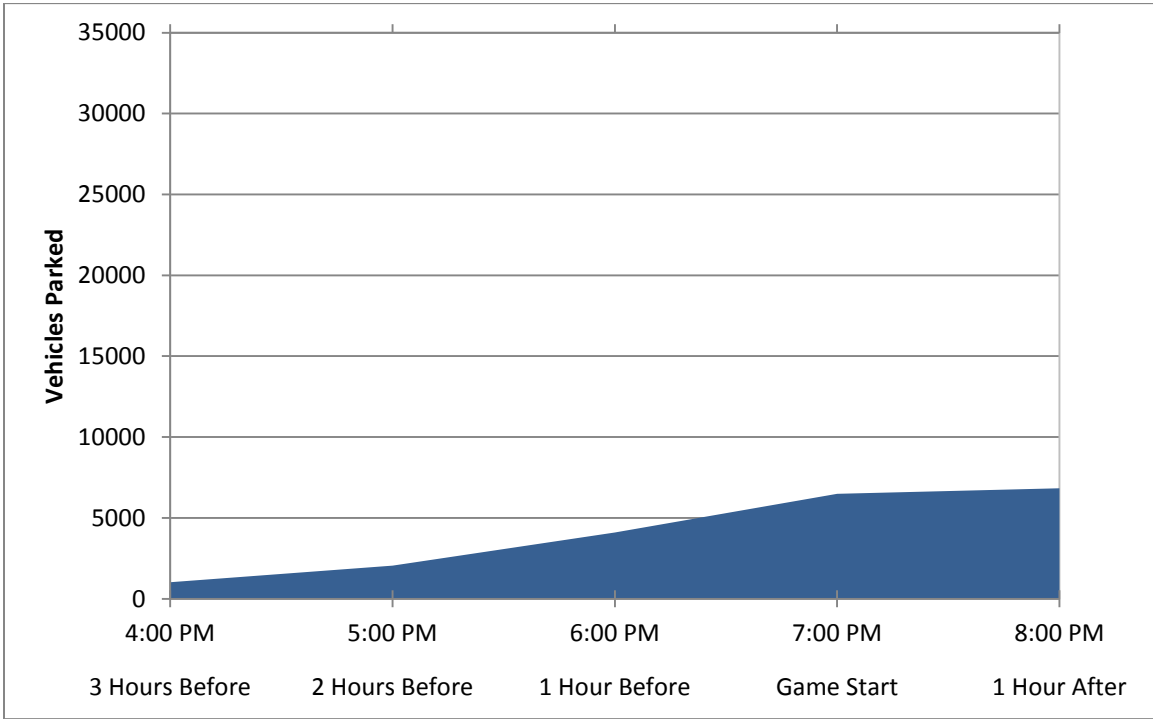
Weekday

The following figures illustrate the hourly parking demand for the existing weekday non-event, arena-only, and combined non-event and arena conditions. Figure 3–65 illustrates the weekday hourly demand in the study area and shows that parking demand decreases sharply until about 6:00 PM. Between 6:00 and 7:00 PM a slight increase in parking was observed, coinciding with arrivals for evening activities in some neighborhoods. Figure 3–66 shows arena-only hourly parking demand for a 7:00 PM start time. A majority of vehicles associated with the arena would be parked by 7:00 PM with approximately five percent of the vehicles arriving after the game start. Figure 3–67 illustrates the total (non-event plus arena) hourly parking demand and shows that on weekdays the peak occurs at 7:00 PM (start time).

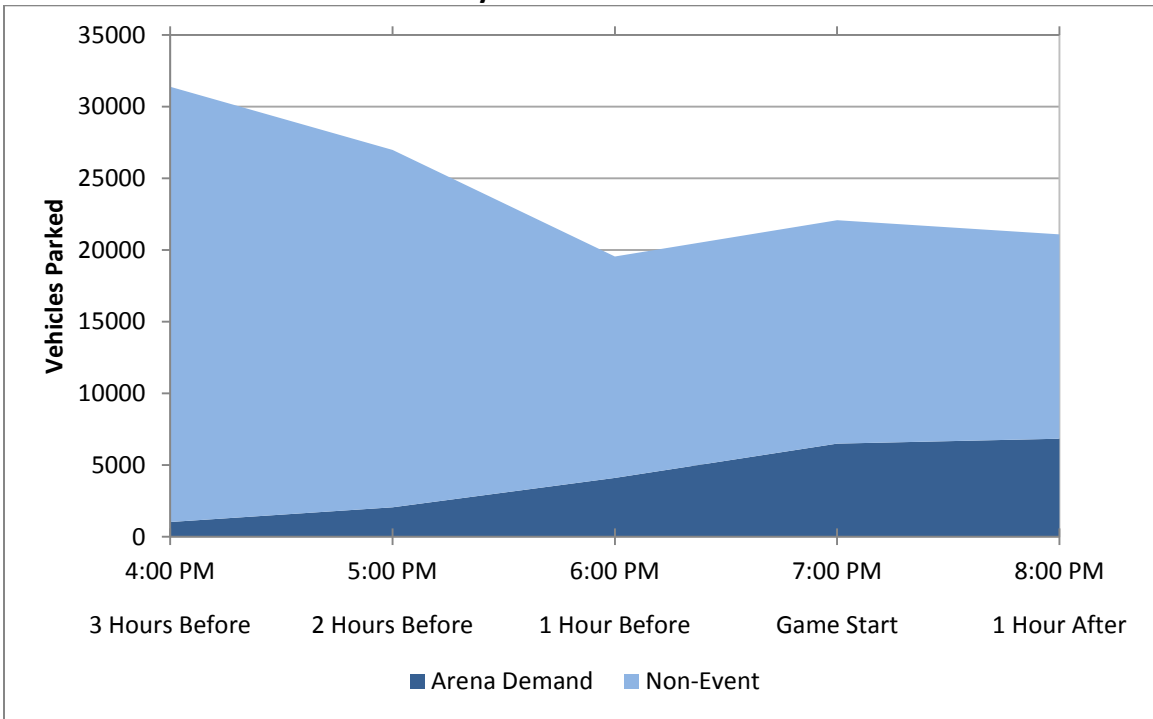
**Figure 3–65 Seattle Center Area Hourly Parking Demand –
Weekday: Non-Event**



**Figure 3–66 Seattle Center Area Hourly Parking Demand –
Weekday: Arena Only**



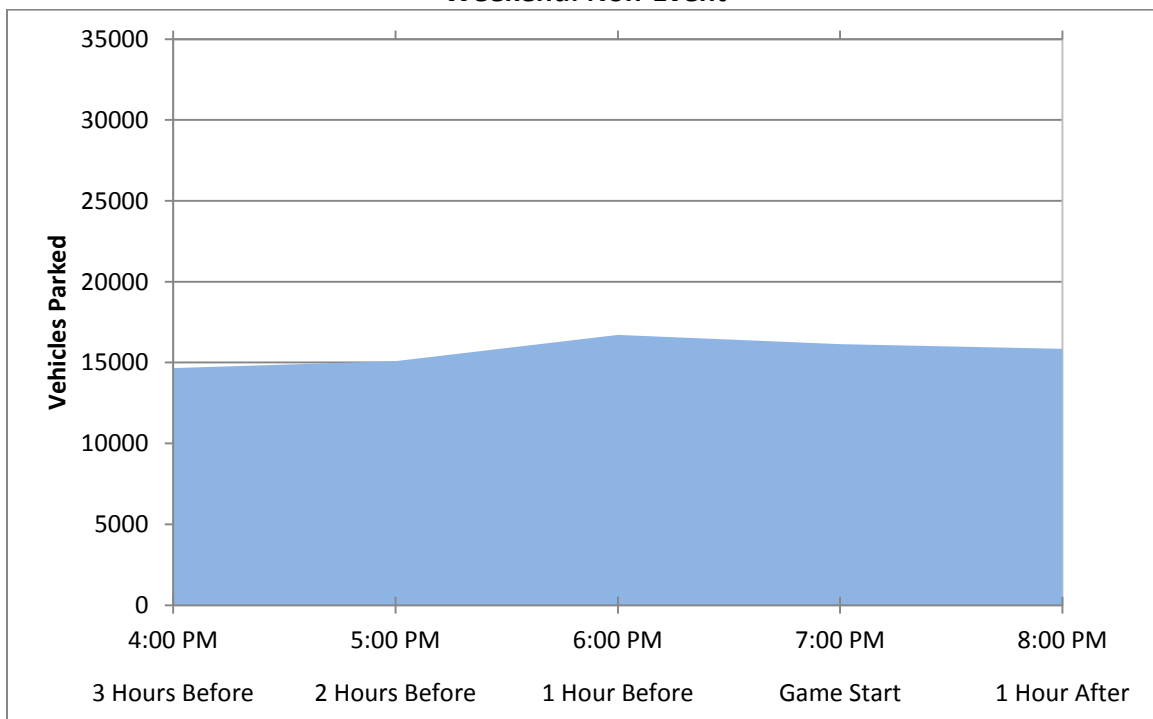
**Figure 3–67 Seattle Center Area Hourly Parking Demand –
Weekday: Non-Event Plus Arena**



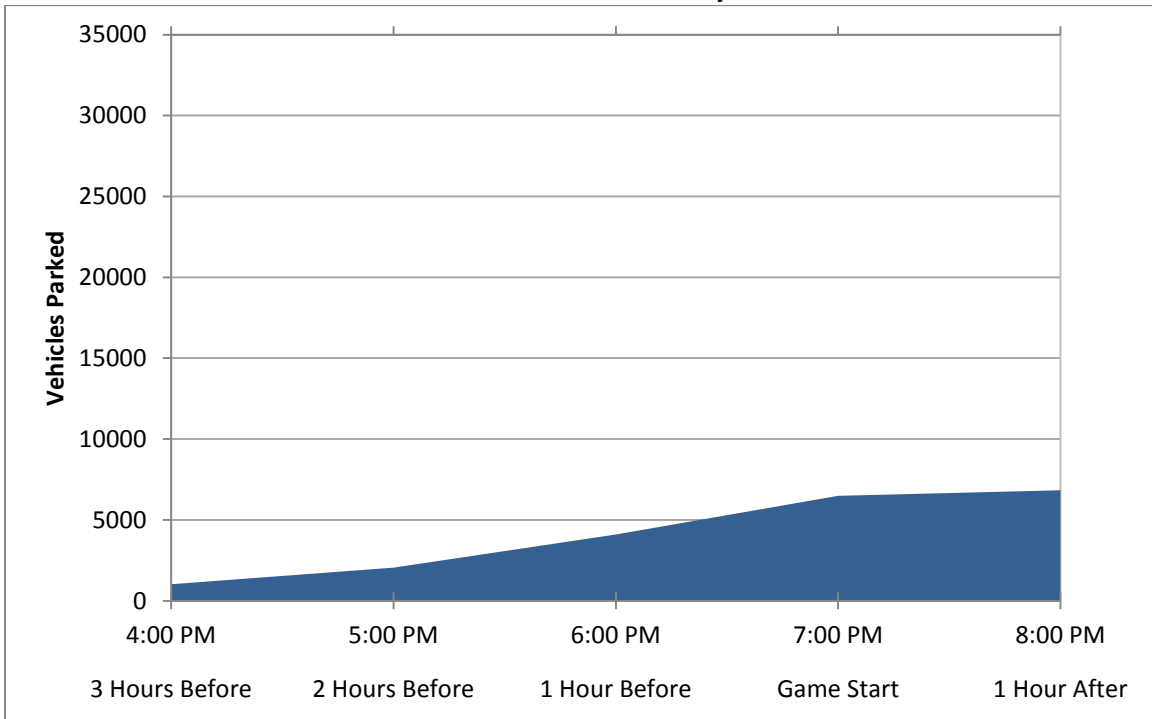
Weekend

This same approach was taken for the weekend conditions. Conditions are documented for a Saturday evening, which typically has higher non-event parking demand than occurs on a Sunday. In addition, Saturday evening parking demand is higher than weekday evening conditions. Figure 3–68 illustrates the existing non-event Saturday hourly demand in the study area and shows that parking demand steadily increases between 4:00 and 6:00 PM with arrivals related to evening activities in the study area. Figure 3–69 shows the arena hourly parking demand for a 7:00 PM event start time. As discussed for the weekday, a majority of vehicles associated with the arena would be parked by 7:00 PM (start time) with approximately five percent of the vehicles arriving after the game start. Figure 3–70 illustrates the total (non-event plus arena) hourly parking demand and shows that on weekends the peak occurs at 8:00 PM for a 7:00 PM game.

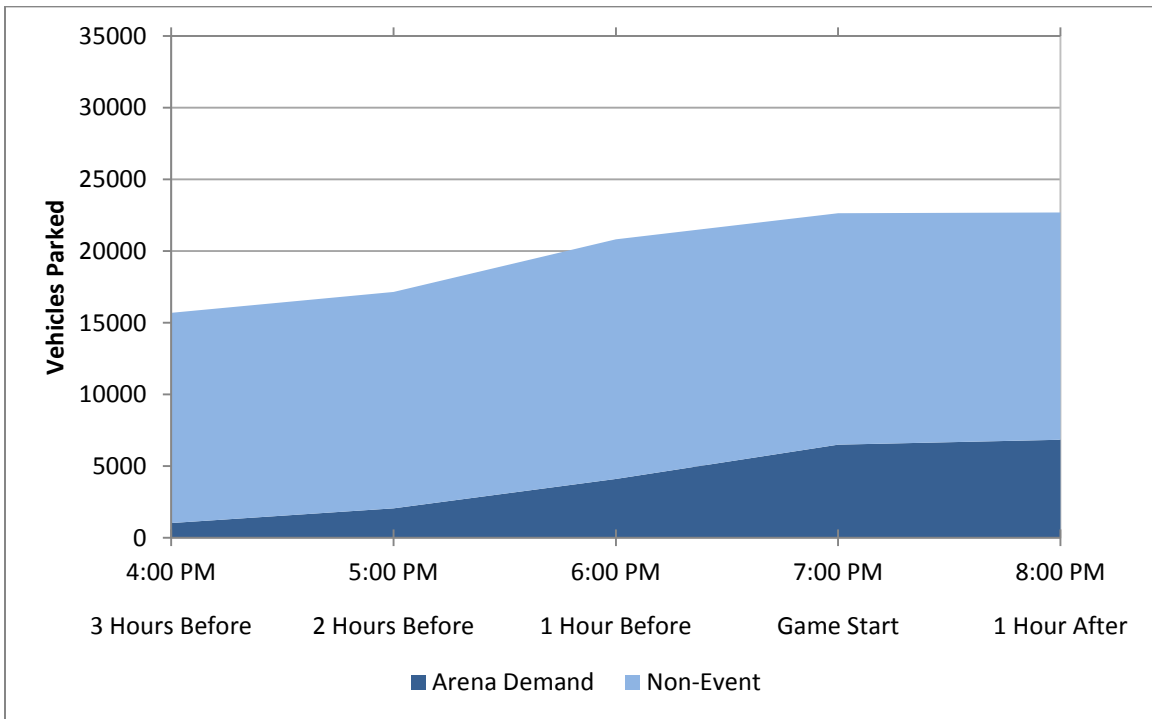
**Figure 3–68 Seattle Center Area Hourly Parking Demand –
Weekend: Non-Event**



**Figure 3–69 Seattle Center Area Hourly Parking Demand –
Weekend: Arena Only**



**Figure 3–70 Seattle Center Area Hourly Parking Demand –
Weekend: Non-Event Plus Arena**



Based on the information presented above, the quantified parking impact illustrations focus on:

- Weekday: 7:00 PM (Game Start) conditions
- Weekend: 8:00 PM (One-Hour After Game Start) conditions

3.8.1.3 Parking Supply Assumptions

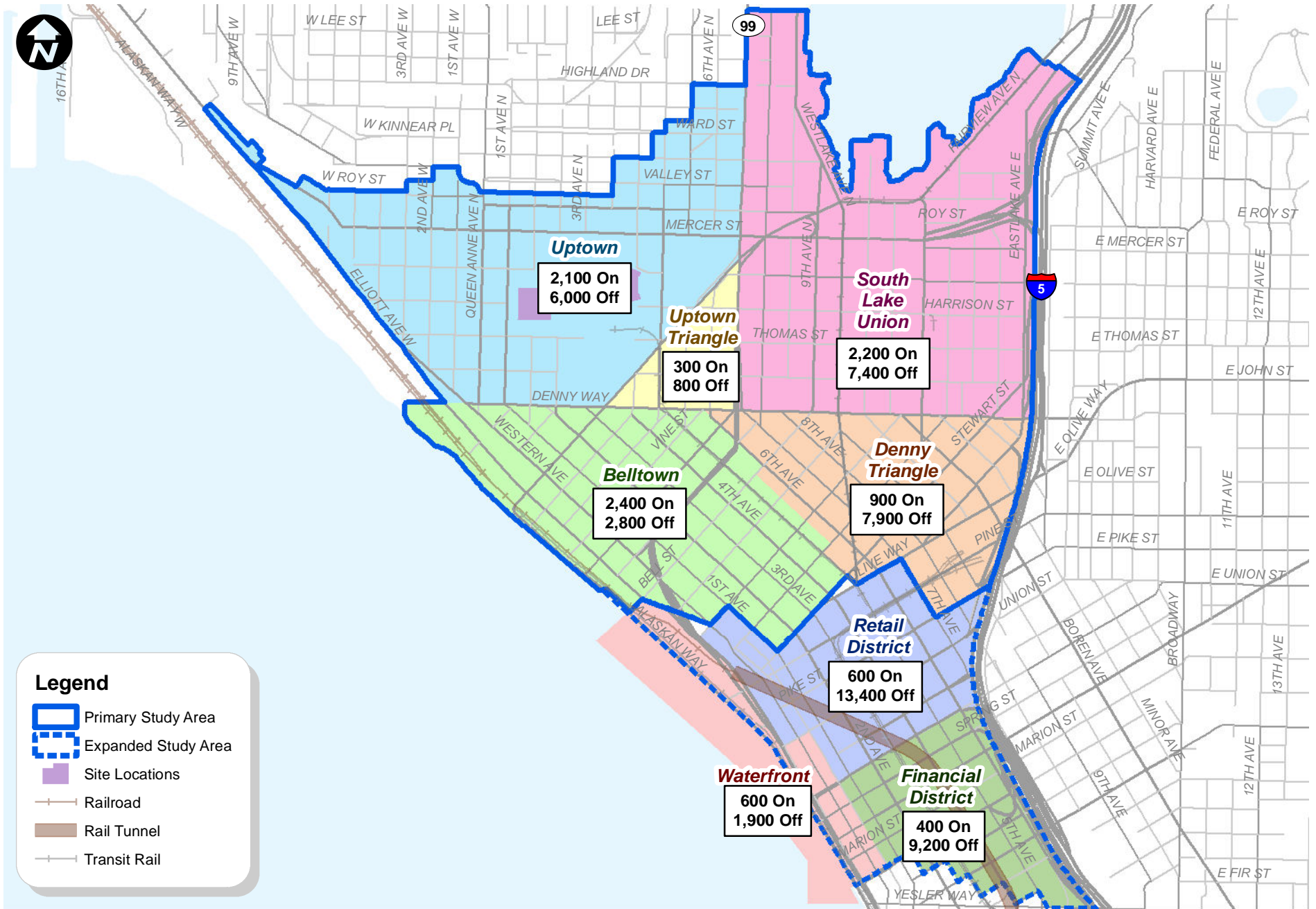
For the purposes of this analysis, a single parking supply for both weekday and weekend conditions is used to represent physical availability of parking that is generally open to or that could be made available to the public. These include on-street and off-street parking spaces that are available to the general public and would be available for arena event parking. Different from the Stadium District, the Seattle Center study areas generally do not have private customer, employee, or residential parking that would be available for arena events so there appears to be little practical potential that additional private parking spaces would become available.

Like the Stadium District, parking supply varies by time of day and day of the week. On-street parking supply is impacted by time and loading zone restrictions. There are wide variety of time restrictions that apply Monday through Saturday and a mix of both paid and unpaid on-street parking spaces within the study area. For example, Uptown and Belltown have on-street paid parking until 8:00 PM with a four-hour time limit. Uptown Triangle has a 10-hour time limit until 6:00 PM for paid parking areas and a two-hour time limit until 6:00 PM outside the paid areas.

Existing Supply: Parking supply is based on data collected by Transpo Group supplemented by data from the SDOT, and PSRC. Figure 3–71 illustrates the on-and off-street parking within the primary study area.

As describe for the Stadium District study area, drivers utilize on- and off-street parking supply differently and these supplies are managed in different ways. On-street parking supply is often more desirable than off-street parking because there is an opportunity to be in close proximity or even adjacent to a driver’s destination. In addition, on-street hourly parking rates are often less expensive than off-street parking and within the study area on-street parking is free after 6:00 or 8:00 PM (as well as all day Sunday). From 8:00 AM to 6:00 / 8:00 PM when on-street parking has time restrictions (e.g., one- to two-hour time limits), it is used for short-term parking; however, lifting time limits at event start times causes long-term use by event attendees. Given the convenient location and limited cost, on-street parking typically fills first during Seattle Center events, which results in limited short-term parking for adjacent businesses.

Off-street parking is generally provided for long-term use. Off-street parking in the Seattle Center area is typically easier to locate during an event given that there is more than double the supply.



Seattle Center Area Existing On- and Off-Street Event Parking Supply

There are approximately 32,800 parking spaces located within the primary study area and an additional 26,100 spaces within the expanded study area for a total of 58,900 spaces. The primary study area has approximately 7,900 on-street and 24,900 off-street spaces while the expanded study area has approximately 1,600 on-street and 24,500 off-street spaces.

No Action Supply: The City provided information on future pipeline development that would likely be constructed and occupied by 2018. There are over seven million square-feet (7,000,000 square-feet) of redevelopment planned in association with nearly 20 development projects within the study area. The majority are located within the SLU and Denny Triangle neighborhoods. A substantial proportion of the planned development is office use.

Developments most proximate to the Seattle Center would be a hotel / residential development along John Street near 5th Avenue N. and the Experience Music Project warehouse / metal shop; none of which would likely provide event parking. Based on a review of pipeline projects, over 8,000 additional parking spaces will be developed with over 65 percent of these spaces located in the SLU neighborhood. Even if all residential and retail parking were reserved, a substantial portion of the office parking would likely be available. However, to be conservative and consistent with the Stadium District assumptions, no additional parking supply was assumed under the No Action Alternative.

Action Alternative Supply: Development of Alternatives 4 and 5 would not result in loss of parking within the Seattle Center study area. Parking supply was assumed to be consistent with existing conditions with a total of 32,800 parking spaces within the study area.

The following sections (Affected Environment, Impacts of No Action Alternative, and Impacts of Alternatives 4 and 5) describe the existing and 2018 parking demand for the primary and expanded study areas. No additional analysis is provided for the 2030 parking conditions as overall analysis and conclusions regarding parking would be consistent with 2018. Accurately forecasting long-term parking demand is difficult given the uncertainty of area wide development and economic drivers. In addition, changes to parking policies relate to TDM may continue to evolve.

With the continued investments in transit (i.e., light rail, streetcar, etc.) by 2030, it is anticipated that there would be continued mode shift from auto to transit. This would result in lower overall parking demand rates associated with existing and future development. Given this, overall parking impacts for Cases K1, K2, M1, and M2 may be less than described herein for 2018 depending on the amount and type of redevelopment that occurs.

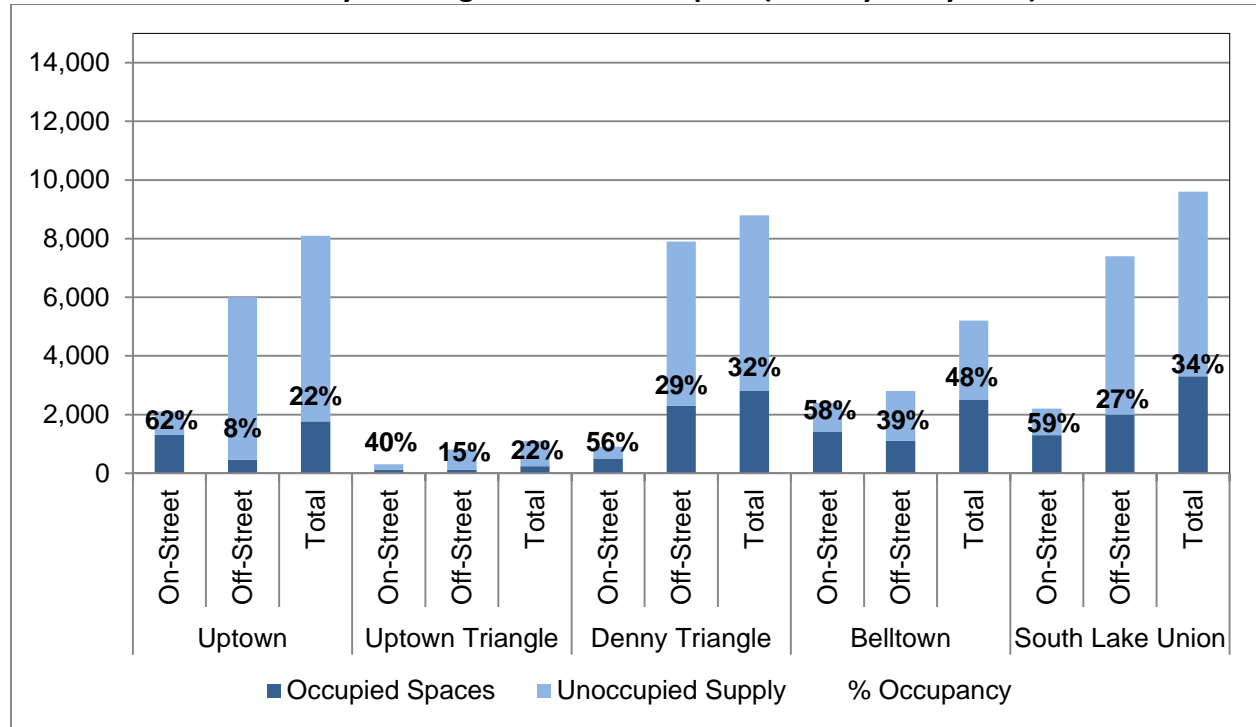
3.8.2 Affected Environment

Parking demand is based on data collected by Transpo Group supplemented by data from the SDOT and PSRC. Different from the Stadium District, no specific event-day parking demand was collected since events (i.e., performance, recreational sports, etc.) occur at the Seattle Center area on a daily basis. The following describes the existing weekday and weekend parking demand within the primary and expanded study areas.

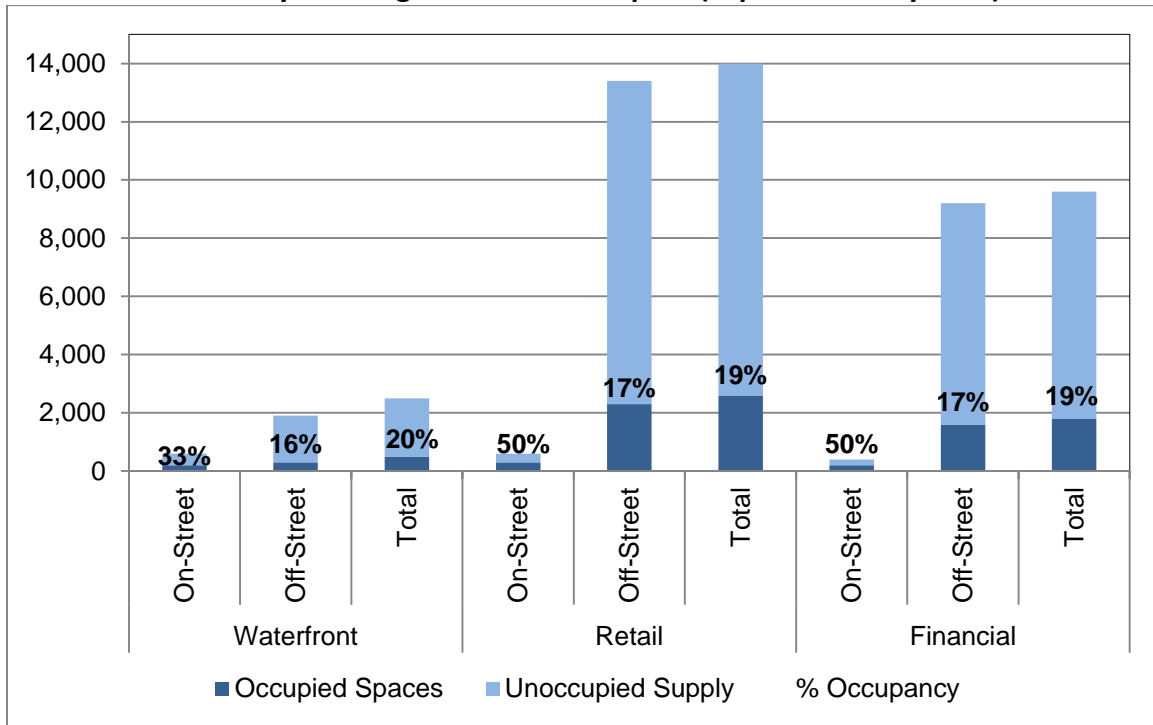
3.8.2.1 Weekday Occupancy

Figure 3–72 and Figure 3–73 illustrate weekday parking occupancy within the primary and expanded study areas.

**Figure 3–72 Seattle Center Area Parking Occupancy –
Weekday: Existing Non-Event 7:00 p.m. (Primary Study Area)**



**Figure 3–73 Seattle Center Area Parking Occupancy –
Weekday: Existing Non-Event 7:00 p.m. (Expanded Study Area)**



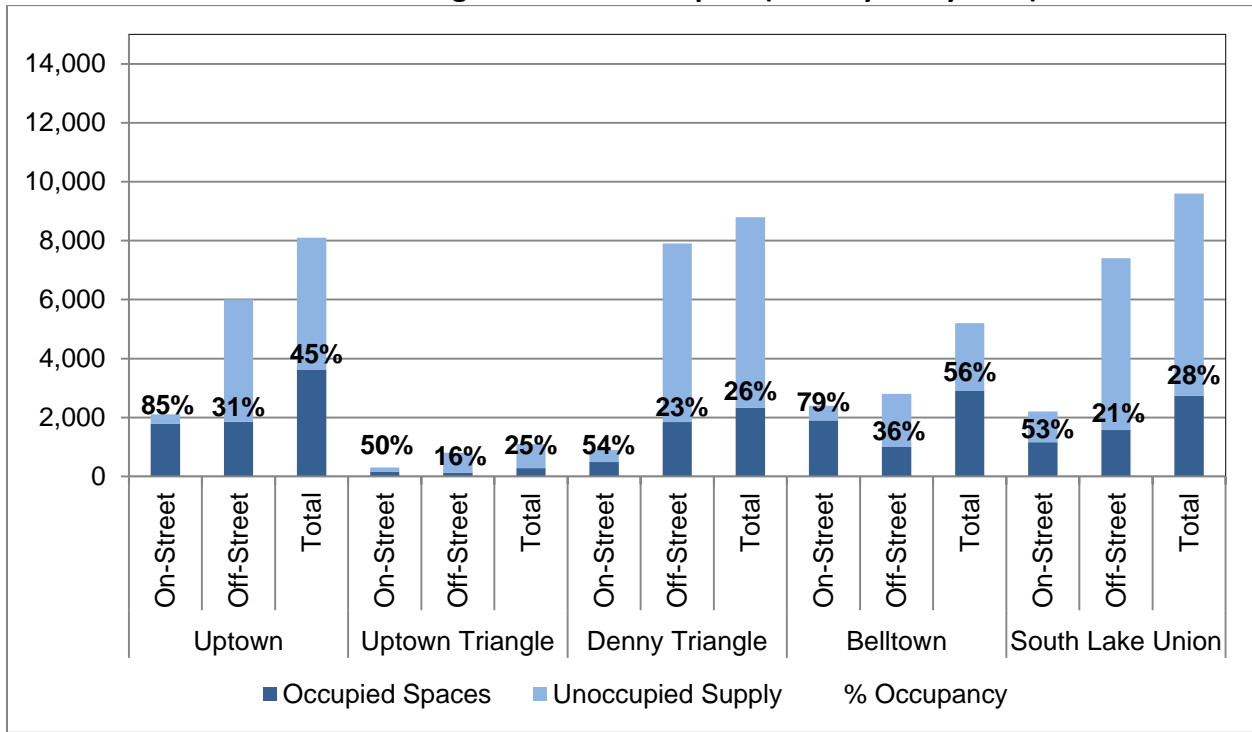
It becomes difficult to locate parking spaces within an area when occupancies are 85 to 90 percent and generally areas with occupancies at that level are considered “full.” As shown in the figures above:

- Within the primary study area, on-street parking is more utilized than off-street parking; however, at these occupancy levels, parking utilization would not be considered full for either location.
- The expanded study area parking utilization is similar to the primary study area with on-street parking more utilization than off-street, but with availability both on-and off-street.
- Field observations showed that immediately proximate to restaurant and retail uses within both the primary and expanded study area on-street parking is difficult to locate.

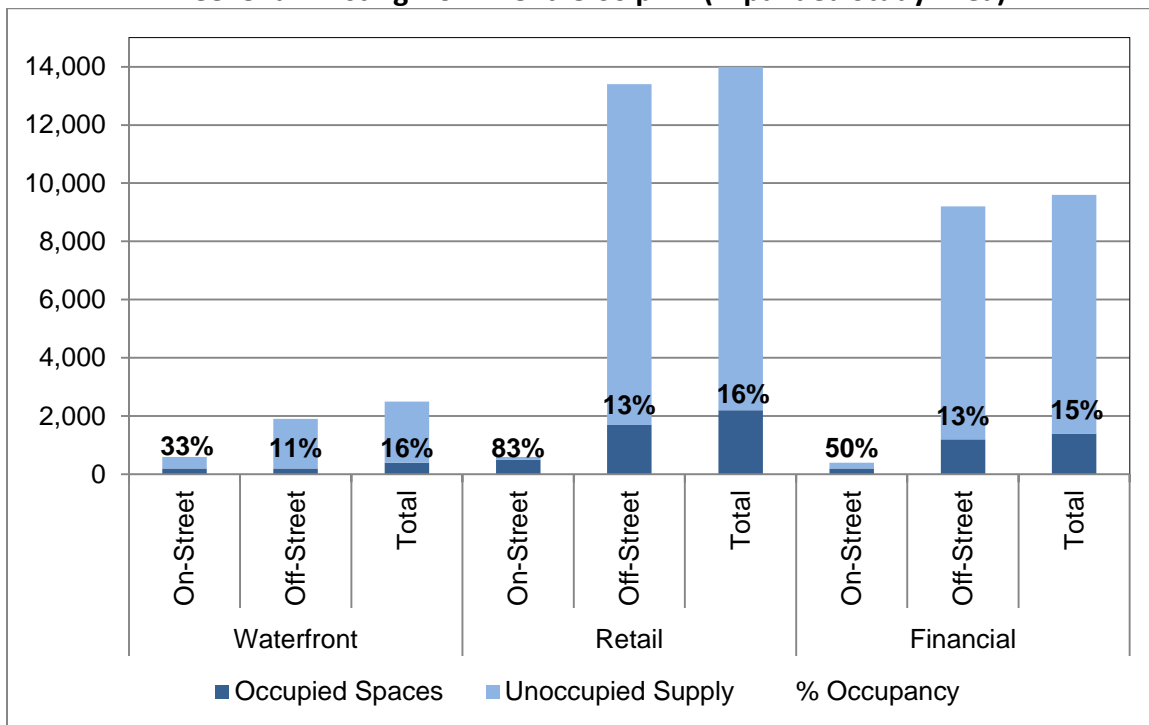
3.8.2.2 Weekend Occupancy

Figure 3–74 and Figure 3–75 illustrate weekend (Saturday) parking occupancy within the primary and expanded study areas.

**Figure 3–74 Seattle Center Area Parking Occupancy –
Weekend: Existing Non-Event 8:00 p.m. (Primary Study Area)**



**Figure 3–75 Seattle Center Area Parking Occupancy –
Weekend: Existing Non-Event 8:00 p.m. (Expanded Study Area)**



As shown in the figures above:

- Weekend evening activity within the primary study area is considerably higher than weekday evenings especially in the Uptown neighborhood, which is most proximate to restaurants and the Mercer Street arts corridor, and Belltown, which has many restaurants and bars located within the neighborhood.
- On-street parking utilization within Uptown is 85 percent, which is an indicator that drivers have difficulty locating this type of parking without excess circulation.
- Consistent with weekday conditions, field observations showed that immediately proximate to restaurant and retail uses within both the primary and expanded study area on-street parking is more difficult to locate.

3.8.3 Impacts of No Action Alternative

The No Action conditions provides for a basis for comparing impacts of the proposal related to on- and off-street parking supply. However, projecting specifically where someone would park is difficult because the location depends on a variety of factors such as duration of stay, proximity to use, cost of parking, etc. Given this, the review of future conditions considers the parking supply as a whole rather than separate consideration of on- and off-street parking.

3.8.3.1 Demand Forecasts

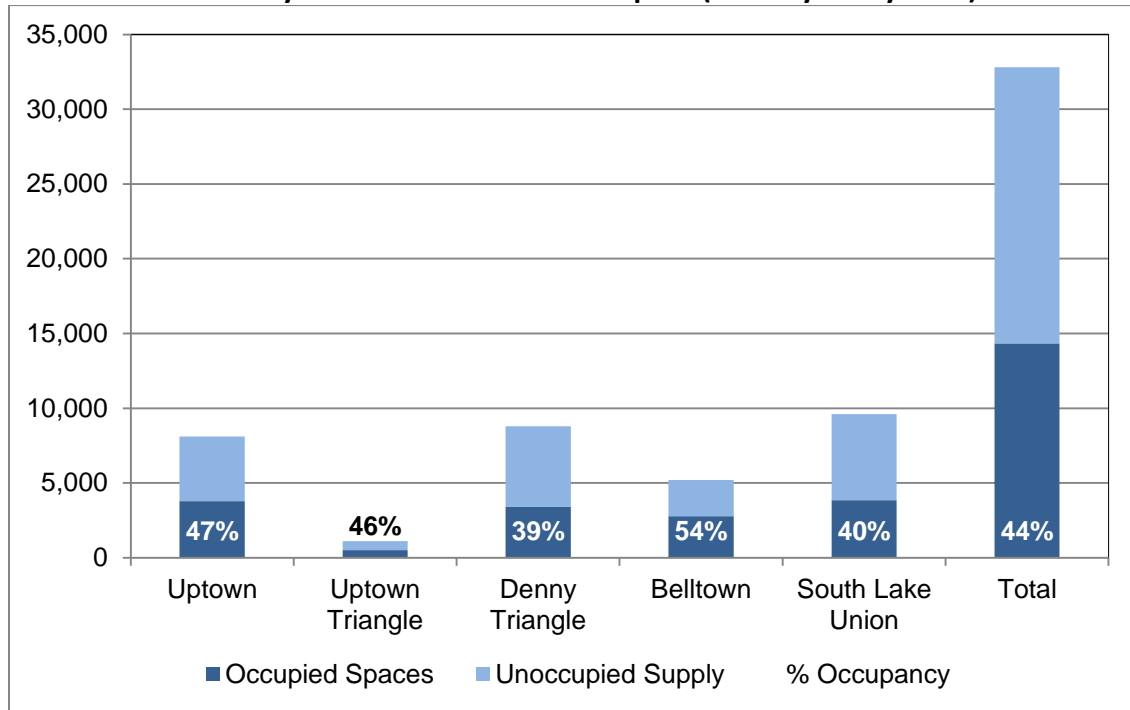
As described in the methodology portion of this section, the City provided information on future pipeline development that would likely be constructed and occupied by 2018. Based on the pipeline developments identified in the study area, evening parking demand increases are anticipated to be small compared to the added supply. As a conservative estimate of background parking and consistent with the Stadium District evaluation, the existing parking demand was increased by 10 percent on the weekday and 5 percent on the weekend for the overall study area. Parking demand in specific neighborhoods within the primary and expanded study areas reflect higher increases for Denny Triangle and SLU where most of the pipeline development would occur.

For the No Action Case K1, K2, M1, and M2, parking demand for the KeyArena and Memorial Stadium was added to the background conditions. It was assumed that there was a 7:00 PM start time for events at these venues and that the arrival curve would be consistent with that described on Figure 1–5, Event Traffic Arrival Patterns (see Introduction), with 95 percent arrival by 7:00 PM and 100 percent by 8:00 PM. The distribution of parking among neighborhoods assumed 80 percent within the primary study area, which is closest to the venues and the remaining 20 percent within the expanded study area. The No Action event case parking demand was determined by adding the KeyArena and Memorial Stadium parking demand to the background parking demand with no adjustments or reductions in non-event demand. As described in relation to traffic operations this likely results in an overestimate of actual future demands, but reflects a conservative approach.

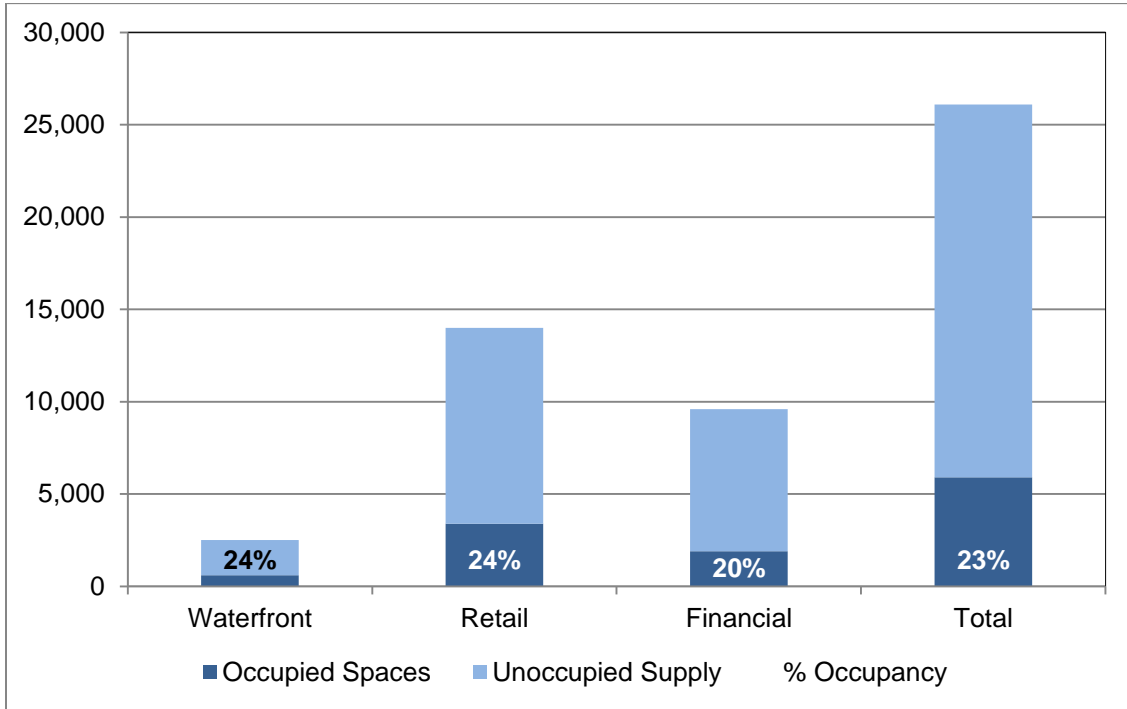
Weekday Occupancy

Figure 3–76 through Figure 3–81 illustrate weekday No Action Cases K1, M1, and K2/M2 parking occupancy within the primary and expanded study areas. Case K2 and M2 are the same relative to the No Action; therefore, these are presented together using the same bar charts.

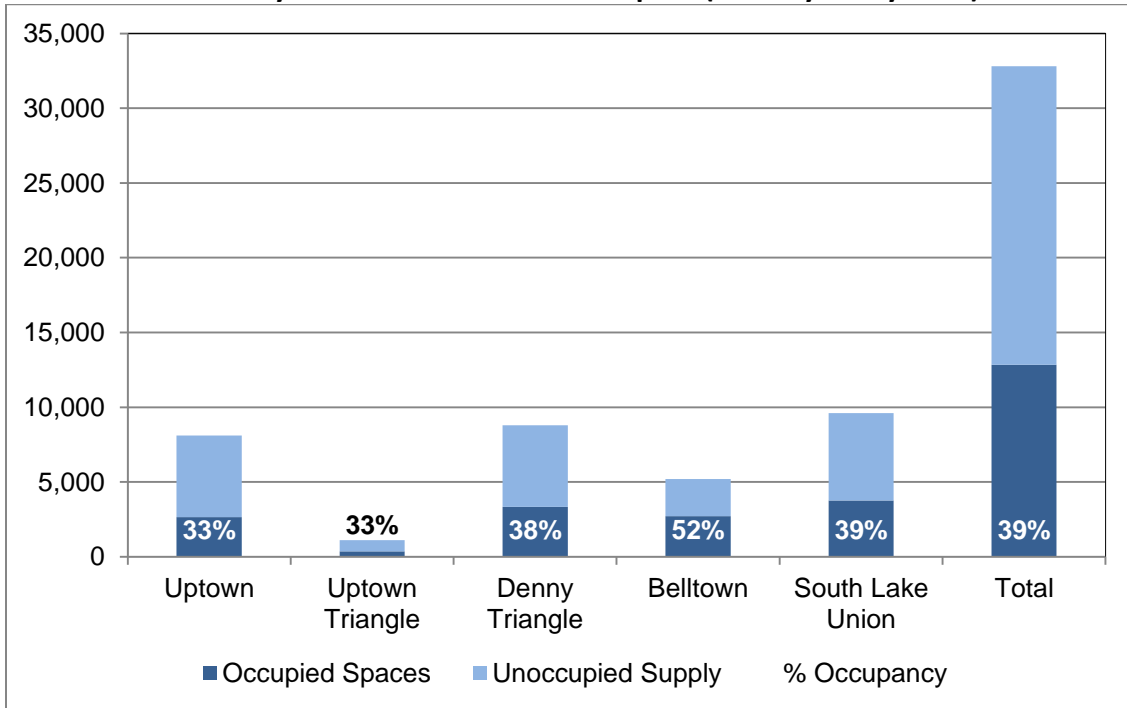
**Figure 3–76 Seattle Center Area Parking Occupancy –
Weekday: No Action Case K1 7:00 p.m. (Primary Study Area)**



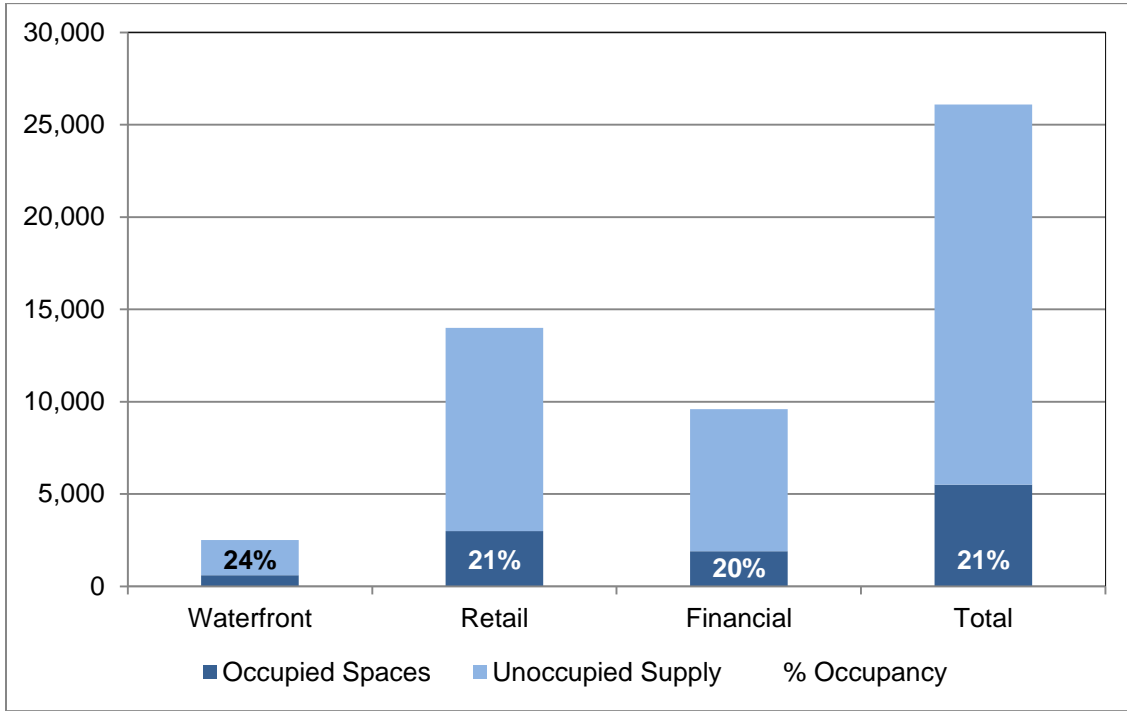
**Figure 3–77 Seattle Center Area Parking Occupancy –
Weekday: No Action Case K1 7:00 p.m. (Expanded Study Area)**



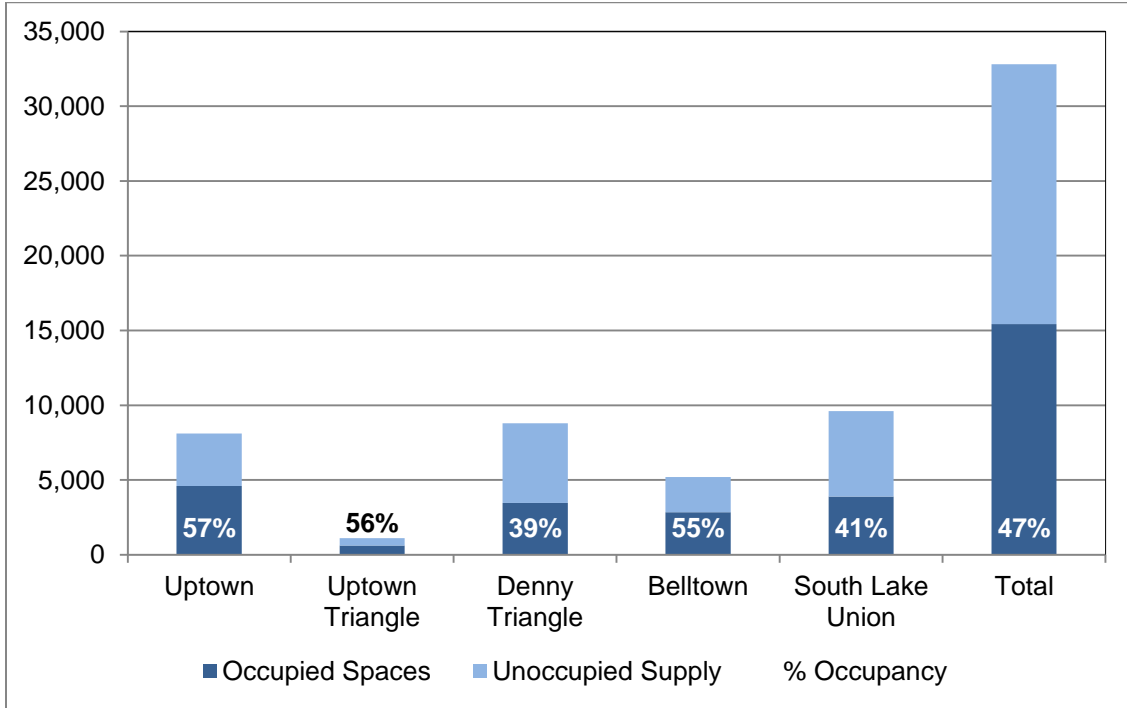
**Figure 3–78 Seattle Center Area Parking Occupancy –
Weekday: No Action Case M1 7:00 p.m. (Primary Study Area)**



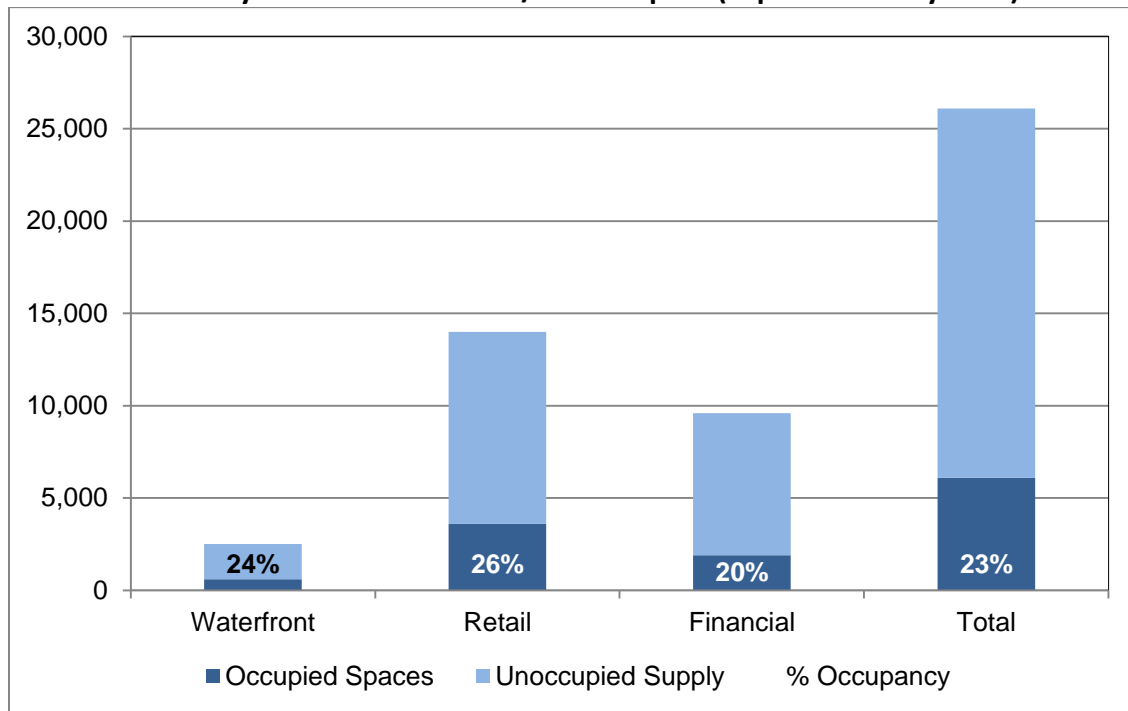
**Figure 3–79 Seattle Center Area Parking Occupancy –
Weekday: No Action Case M1 7:00 p.m. (Expanded Study Area)**



**Figure 3–80 Seattle Center Area Parking Occupancy –
Weekday: No Action Case M2/K2 7:00 p.m. (Primary Study Area)**



**Figure 3–81 Seattle Center Area Parking Occupancy –
Weekday: No Action Case M2/K2 7:00 p.m. (Expanded Study Area)**



As shown in the figures above:

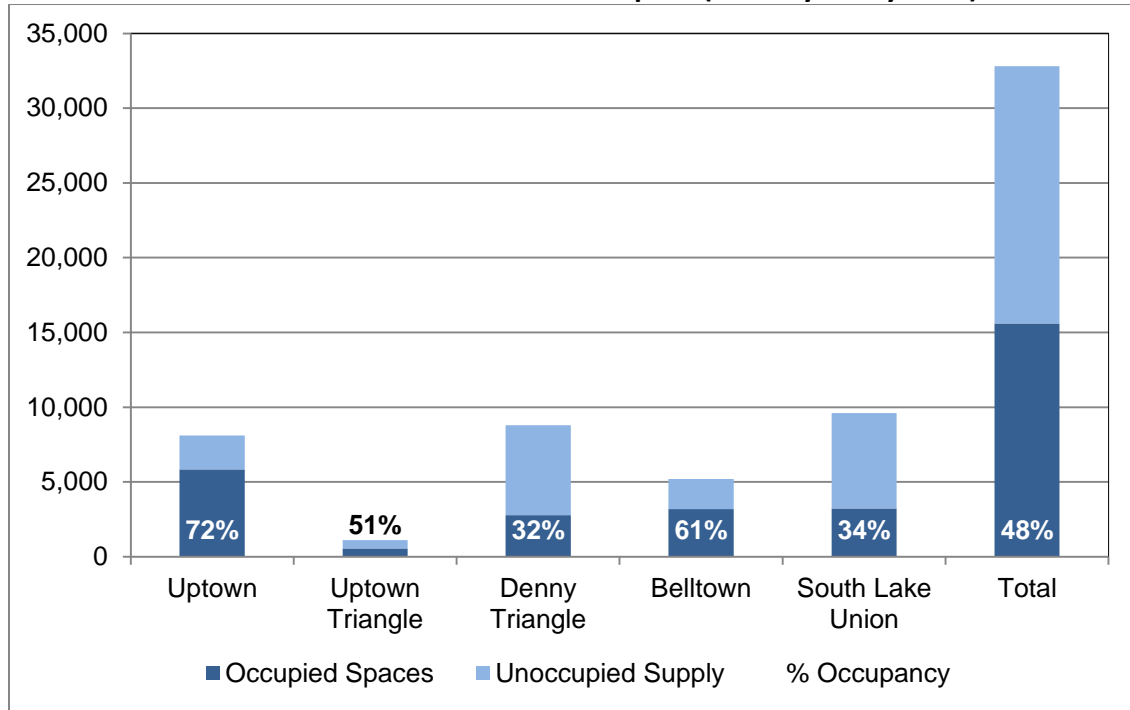
- The No Action occupancy for each of the cases are higher than existing conditions both in the primary and expanded studies areas due to the assumed increases in parking demand caused by anticipated development as well as demand associated with events at KeyArena and Memorial Stadium.
- A comparison of case K1 and M1 shows that utilization is about 13 to 14 percent less in neighborhoods nearest the two sites (Uptown and Uptown Triangle) with No Action Case M1 given the smaller event (i.e., 5,000 attendees) at Memorial Stadium as compared to KeyArena (i.e., 12,000 attendees).
- For single and dual events, Case K1, M1, or M2/K2, all of the anticipated parking demand could be fully accommodated within the primary study area.
- Overall the total primary study area occupancies are calculated to be approximately 39 to 47 percent for the No Action event cases, which would allow for some additional parking.

It is likely that attendees of events at KeyArena or Memorial Stadium would desire to park close to the venues. Based on the review of existing conditions, on-street parking would likely be difficult to find close to the venues; however, off-street parking is more readily accessible and the Seattle Center area has several large garages in close proximity of both venues.

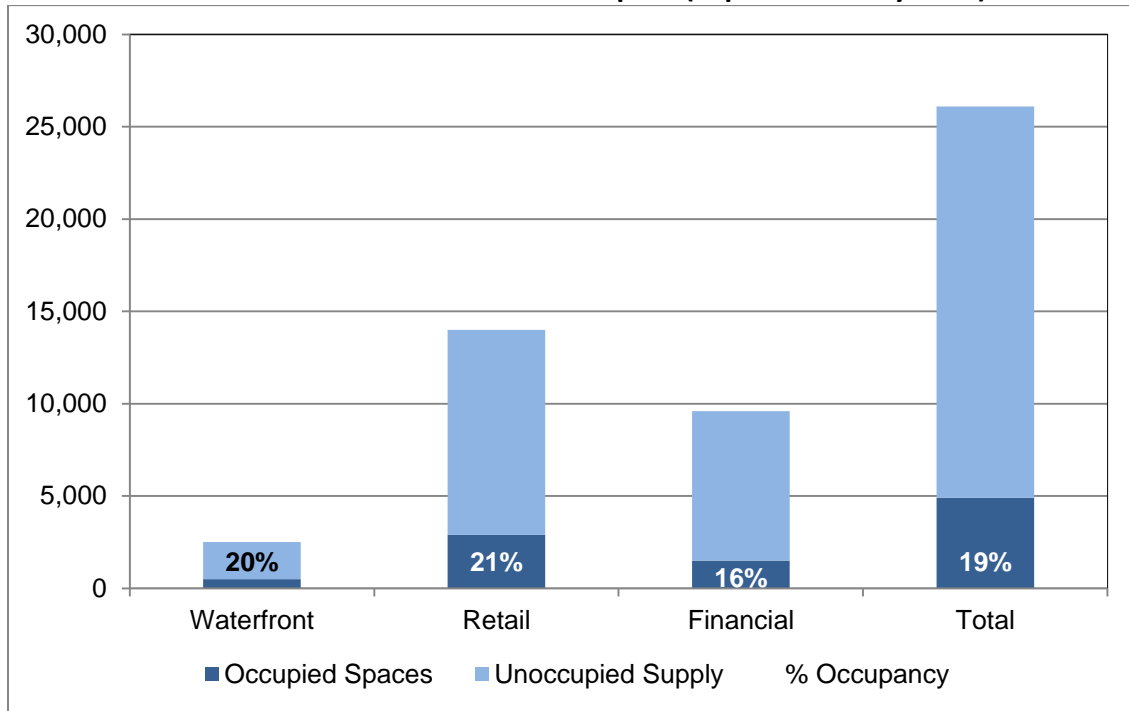
3.8.3.2 Weekend Occupancy

Figure 3–82 through Figure 3–87 illustrate weekend No Action Cases K1, M1, and K2/M2 parking occupancy within the primary and expanded study areas.

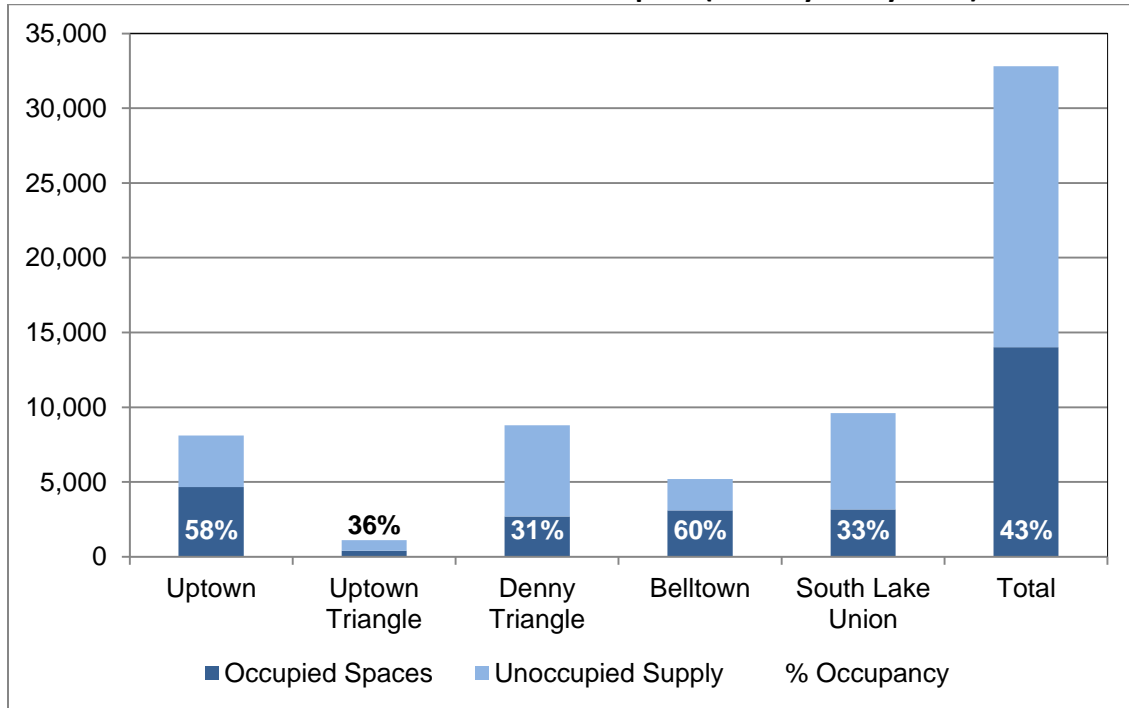
**Figure 3–82 Seattle Center Area Parking Occupancy –
Weekend: No Action Case K1 8:00 p.m. (Primary Study Area)**



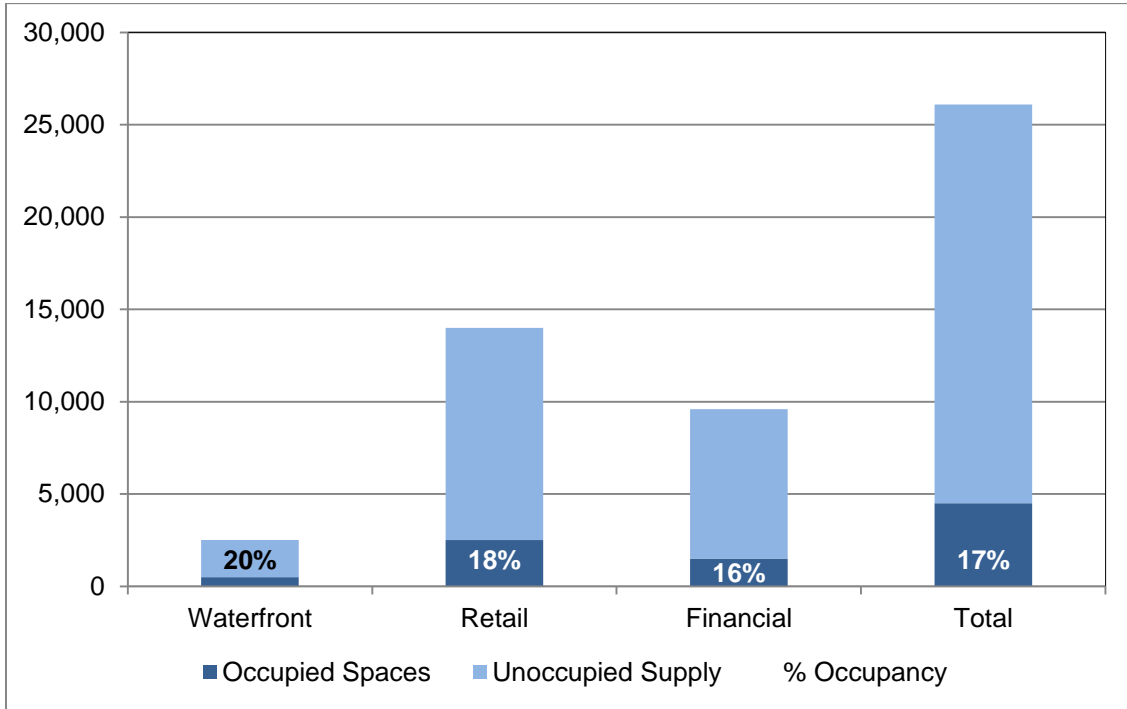
**Figure 3–83 Seattle Center Area Parking Occupancy –
Weekend: No Action Case K1 8:00 p.m. (Expanded Study Area)**



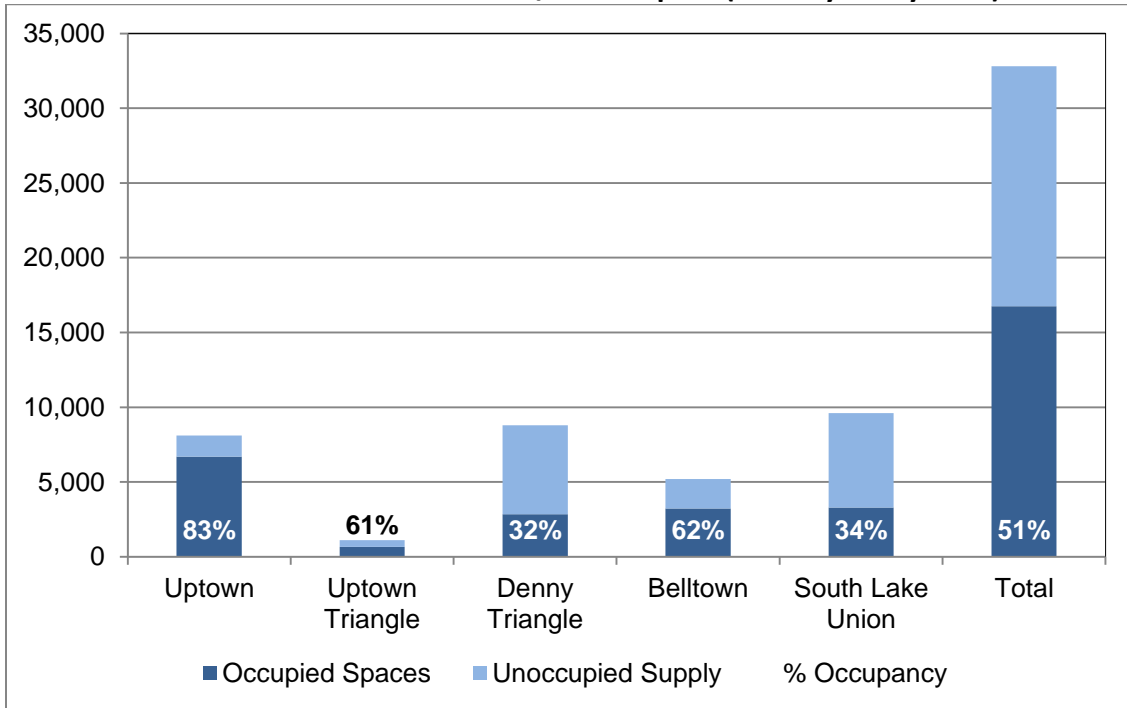
**Figure 3–84 Seattle Center Area Parking Occupancy –
Weekend: No Action Case M1 8:00 p.m. (Primary Study Area)**



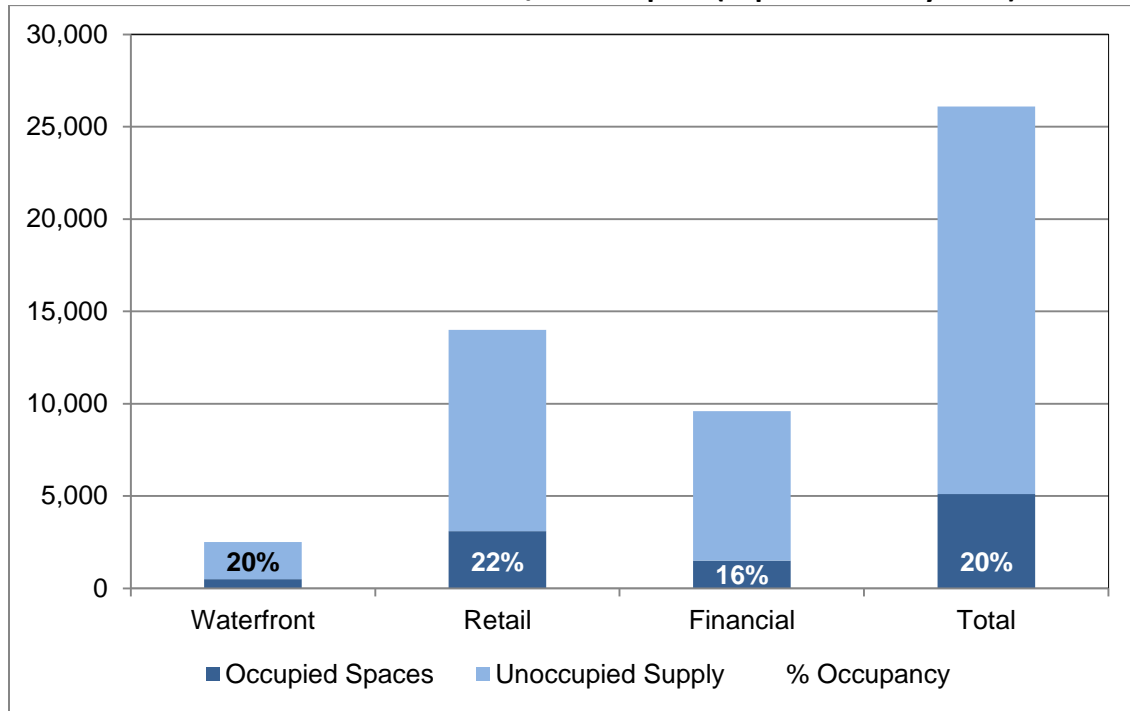
**Figure 3–85 Seattle Center Area Parking Occupancy –
Weekend: No Action Case M1 8:00 p.m. (Expanded Study Area)**



**Figure 3–86 Seattle Center Area Parking Occupancy –
Weekend: No Action Case M2/K2 8:00 p.m. (Primary Study Area)**



**Figure 3–87 Seattle Center Area Parking Occupancy –
Weekend: No Action Case M2/K2 8:00 p.m. (Expanded Study Area)**



As shown in the figures above:

- As described in existing conditions, in neighborhoods closest to the venues weekend utilization is generally higher in the primary study area as compared to weekday. Given the higher baseline, the No Action event cases have occupancies up to approximately 85 percent in the Uptown neighborhood.
- For single and dual events, Case K1, M1, or M2/K2, all of the anticipated parking demand could be fully accommodated within the primary study area.
- The primary study area total occupancy would be approximately 43 to 51 percent for No Action event cases indicating approximately 49 to 57 percent of the spaces would be available for arena use.
- The results indicate that there would be limited reliance on the expanded study area to accommodate parking even in multi-event cases.

As discussed previously, attendees of events at KeyArena or Memorial Stadium would likely desire to parking close to the venues. Based on the review of existing conditions, on-street parking would likely be difficult to find close to the venues; however, off-street parking is more readily accessible and the Seattle Center area has several large garages in close proximity of both venues.

3.8.4 Impacts of Alternative 4

Parking impacts related to construction would be minimized by providing off-street parking, securing parking in near-by garages, as well as encouraging use of alternative modes. It is anticipated that parking impacts related to construction would be less than the 20,000-seat arena. In addition, construction activities could result in the need to close on-street parking adjacent to the site. These closures would be coordinated with SDOT and appropriate notice and signs would be provided.

Alternative 4 is compared to the No Action Alternative to identify parking impacts of an arena development on the KeyArena site. No additional parking supply is proposed as part of the development of an arena at this location. Should an arena go forward at this location, code-required parking would have to be satisfied either through added supply or parking agreements.

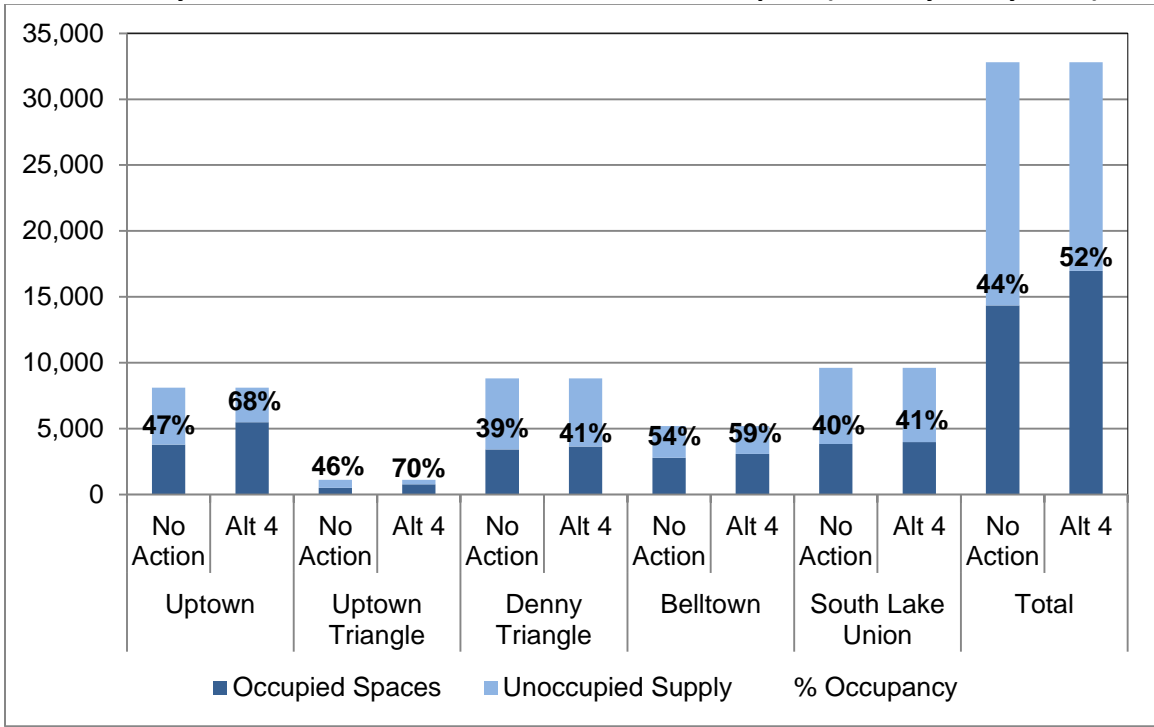
3.8.4.1 Arena Demand Forecasts

Alternative 4 parking demand represents an arena event with an attendance of 20,000 people, which represents a net increase of 8,000 attendees as it relates to the KeyArena site (see Table 1-12 in the event transportation demands section of this report). The arrivals patterns are consistent with the Stadium District site and the event arrival curve presented earlier. With a 7:00 PM game start, 95 percent of the attendee arrivals occur by 7:00 PM and 100 percent by 8:00 PM. Similar to the No Action, 80 percent of the parking was assumed within the primary study area, which is closest to the venues and the remaining 20 percent within the expanded study area or CBD. The total Alternative 4 parking demand for each event case is determined by adding the arena parking demand to the No Action Case K1 and K2. A simple layering process was used with no adjustments or reductions in non-event demand, as described earlier.

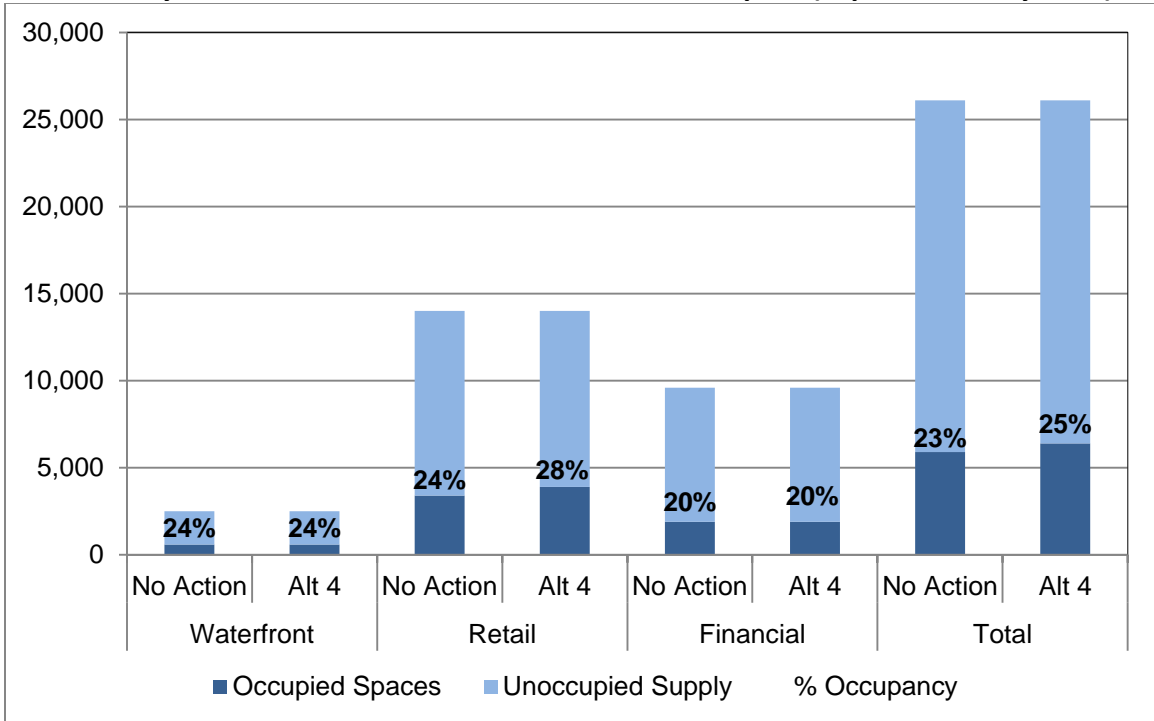
3.8.4.2 Weekday Occupancy

Figure 3–88 through Figure 3–91 provide a comparison between the No Action and Alternative 4 event cases within the primary and expanded study areas.

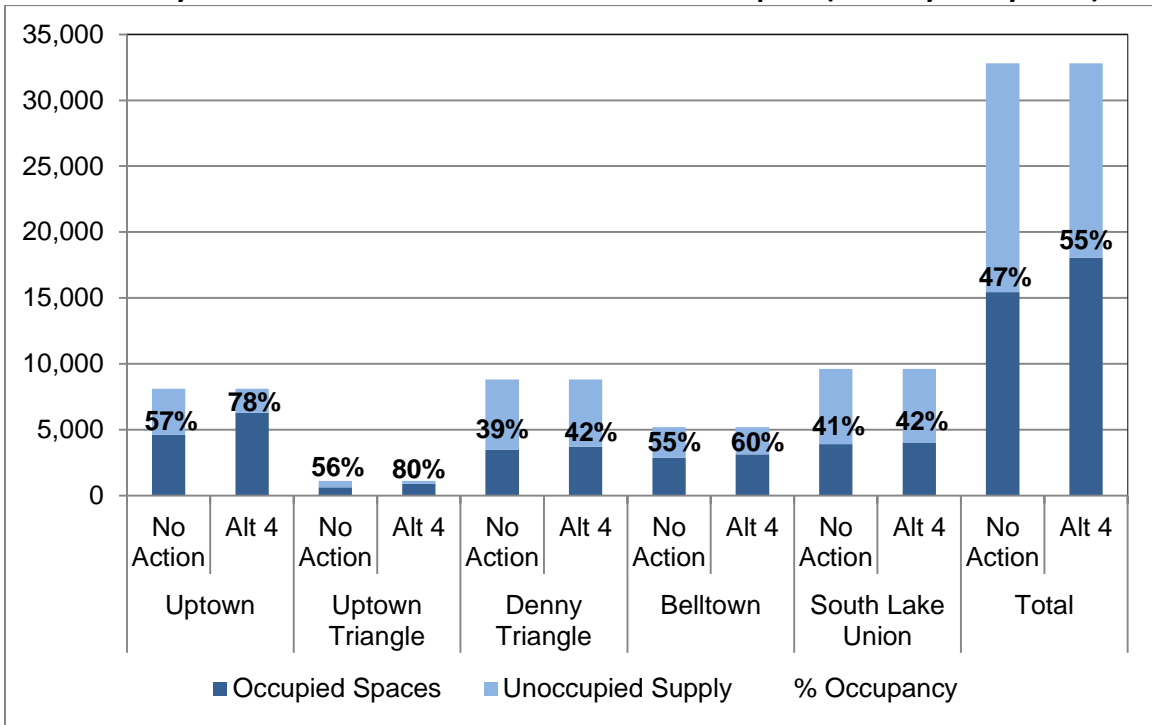
**Figure 3–88 Seattle Center Area Parking Occupancy –
Weekday: No Action and Alternative 4 Case K1 7:00 p.m. (Primary Study Area)**



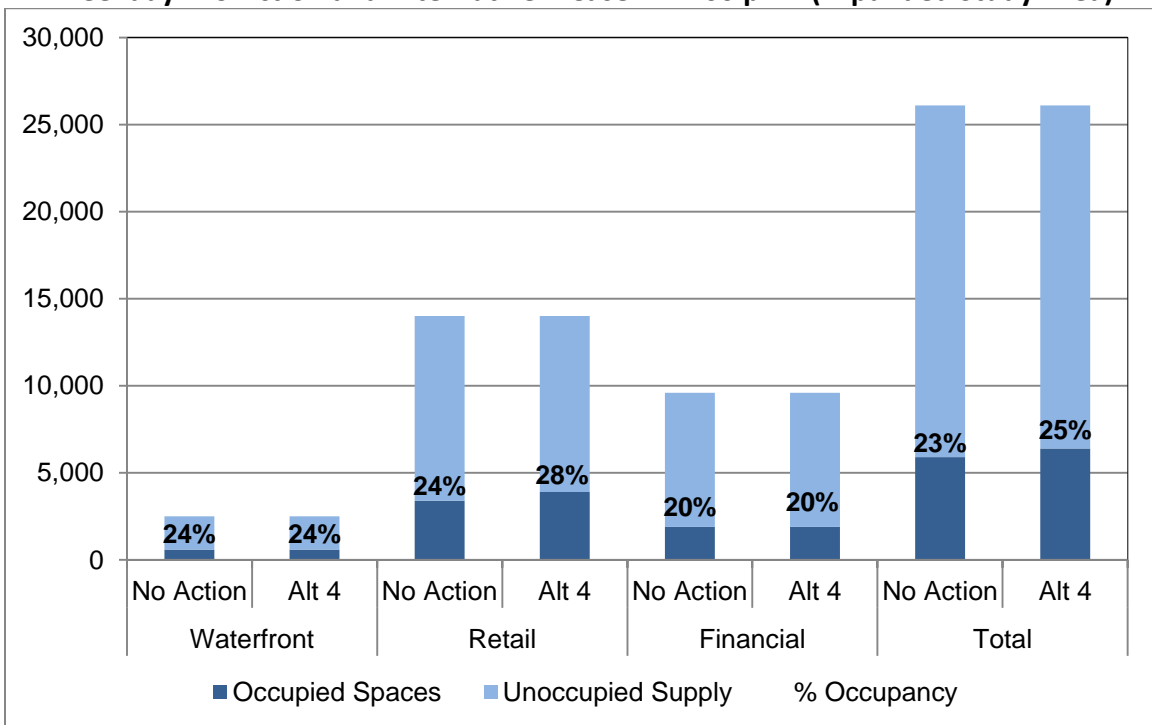
**Figure 3–89 Seattle Center Area Parking Occupancy –
Weekday: No Action and Alternative 4 Case K1 7:00 p.m. (Expanded Study Area)**



**Figure 3–90 Seattle Center Area Parking Occupancy –
Weekday: No Action and Alternative 4 Case K2 7:00 p.m. (Primary Study Area)**



**Figure 3–91 Seattle Center Area Parking Occupancy –
Weekday: No Action and Alternative 4 Case K2 7:00 p.m. (Expanded Study Area)**



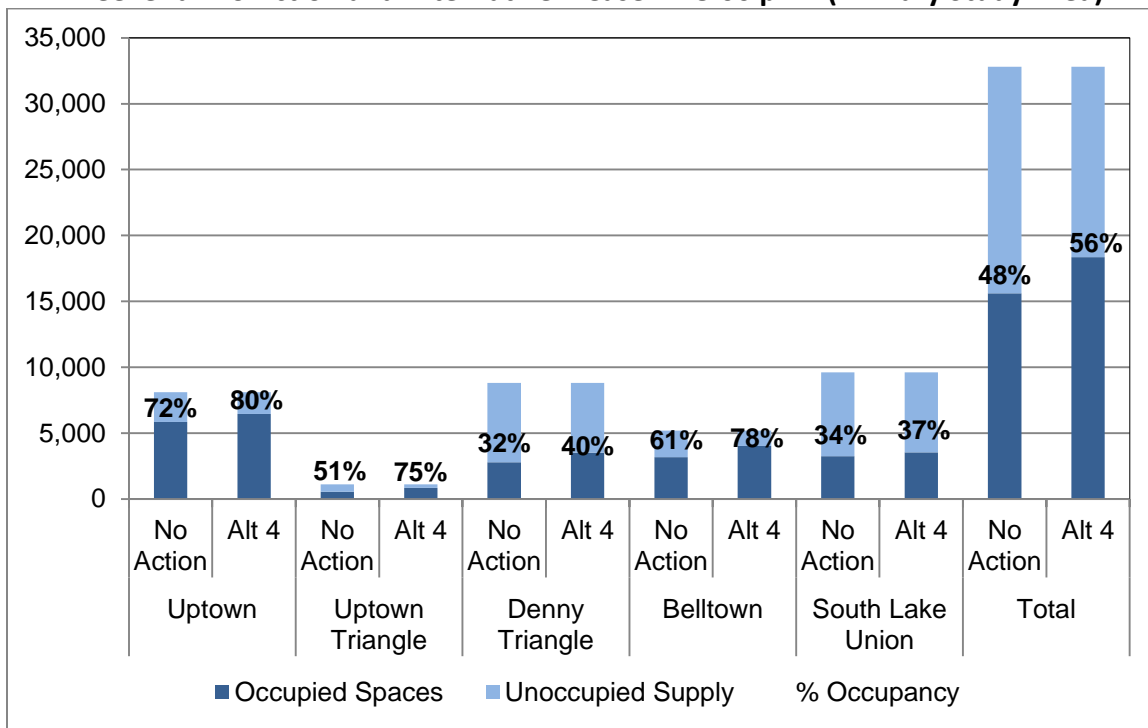
As shown on the figures above:

- Alternative 4 Case K1, with the arena only, would result in an almost 10 percent increase in parking occupancy within the primary study area.
- For a multi-event scenario, Alternative 4 Case K2, the primary study area would reach 55 percent occupancy, an increase of almost 10 percent in parking occupancy compared to No Action.
- Although the overall primary study area would be 55 percent for Alternative 4 Case K2, the Uptown neighborhoods closest to the venue would begin to fill up with occupancies of approximately 80 percent. SLU and Denny Triangle within the primary study area would have ample parking to accommodate arena parking.

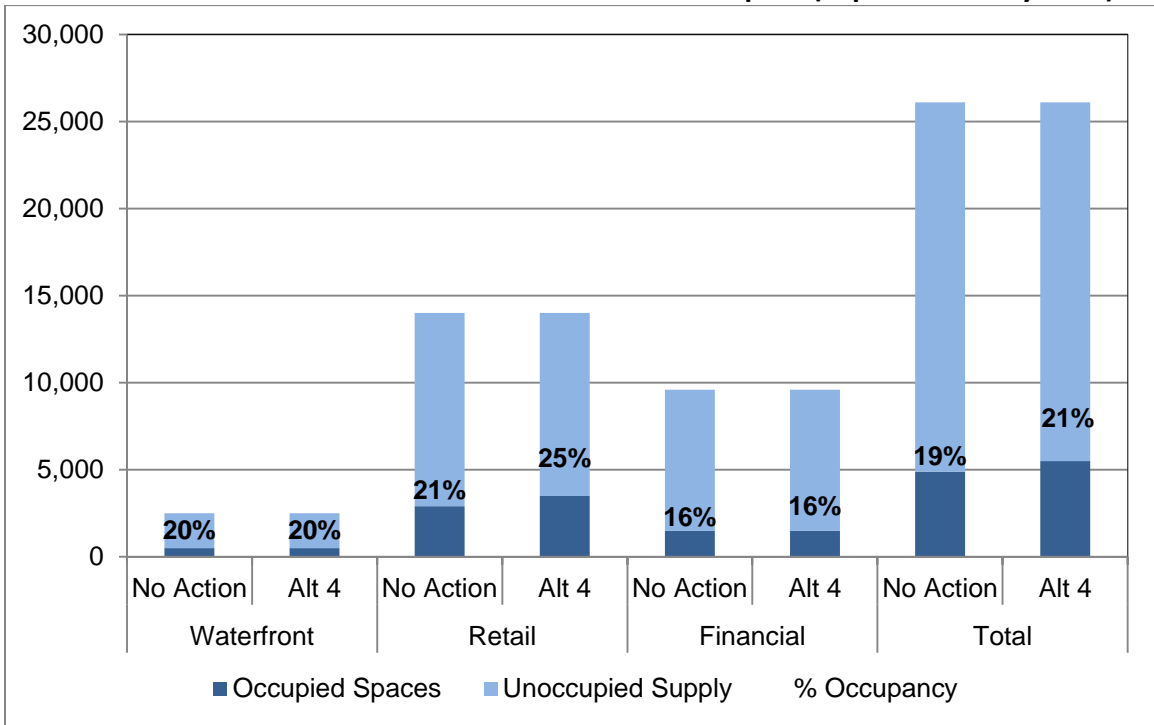
3.8.4.3 Weekend Occupancy

Figure 3–92 through Figure 3–95 illustrate weekend Case K1 and K2 parking occupancy within the primary and expanded study areas.

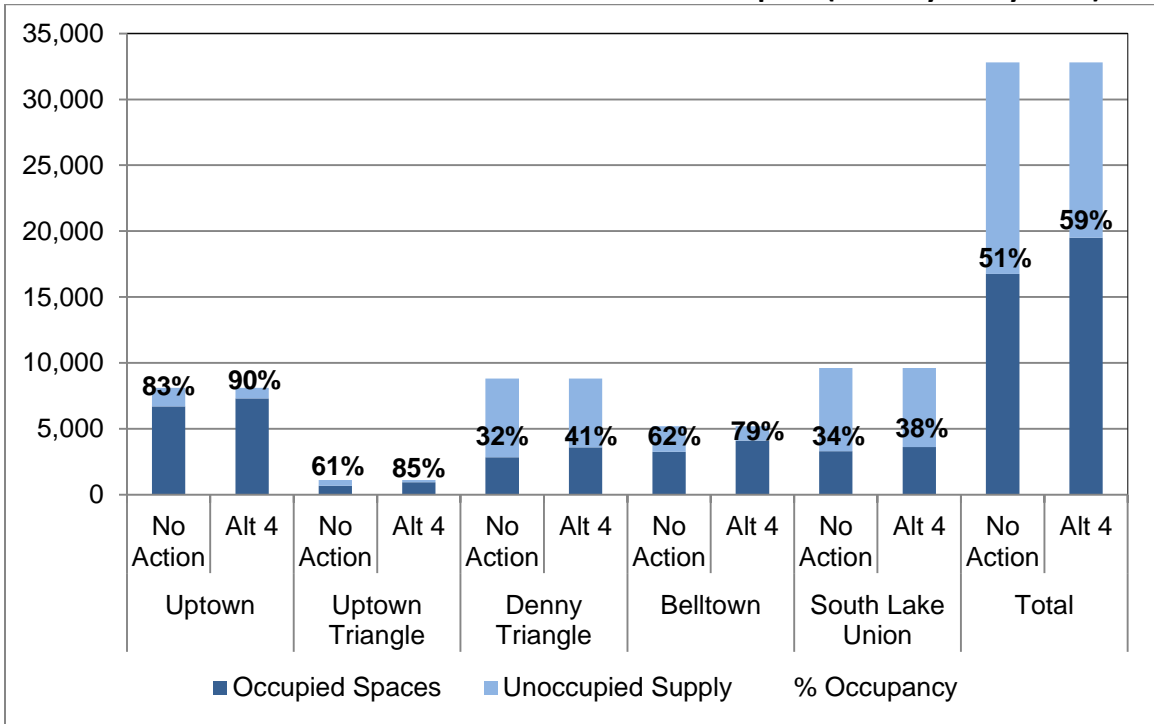
**Figure 3–92 Seattle Center Area Parking Occupancy –
Weekend: No Action and Alternative 4 Case K1 8:00 p.m. (Primary Study Area)**



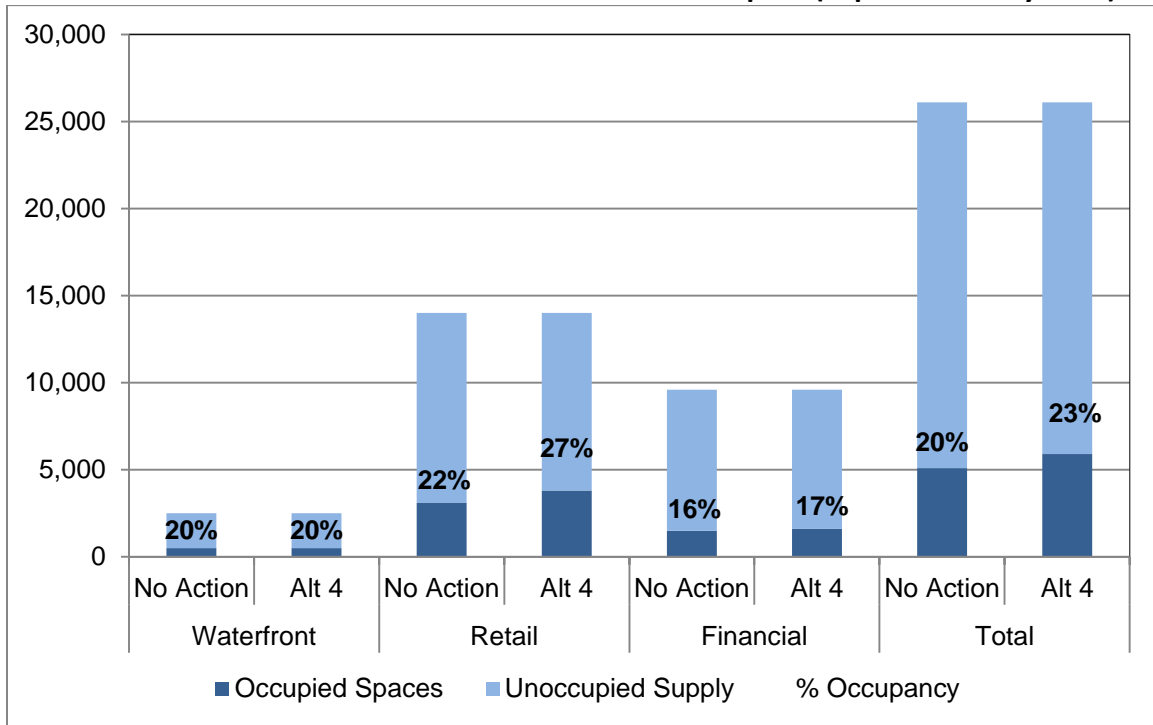
**Figure 3–93 Seattle Center Area Parking Occupancy –
Weekend: No Action and Alternative 4 Case K1 8:00 p.m. (Expanded Study Area)**



**Figure 3–94 Seattle Center Area Parking Occupancy –
Weekend: No Action and Alternative 4 Case K2 8:00 p.m. (Primary Study Area)**



**Figure 3–95 Seattle Center Area Parking Occupancy –
Weekend: No Action and Alternative 4 Case K2 8:00 p.m. (Expanded Study Area)**



As shown on the figures above:

- The primary study area parking occupancy would reach approximately 55 percent occupancy with Alternative 4 Case K1 and 60 percent with Alternative 4 Case K2, an increase of almost 10 percent in parking occupancy compared to No Action on the weekend.
- Although the overall primary study area would be 55 to 60 percent, the Uptown neighborhoods closest to the venue would be highly utilized and for Alternative 4 Case K2 this area would become full with occupancies of 85 to 90 percent. Finding parking would become more difficult in these areas. SLU and Denny Triangle within the primary study area would have ample parking to accommodate arena parking.

3.8.5 Impacts of Alternative 5

Parking impacts related to construction would be minimized by providing off-street parking, securing parking in near-by garages, as well as encouraging use of alternative modes. It is anticipated that parking impacts related to construction would be less than the 20,000-seat arena. In addition, construction activities could result in the need to close on-street parking adjacent to the site. These closures would be coordinated with SDOT and appropriate notice and signs would be provided.

Alternative 5 is compared to the No Action Alternative to identify parking impacts of an arena development on the Memorial Stadium site. Similar to Alternative 4, no additional parking supply is proposed as part of the defined alternative. It is noted that the adopted Seattle Center Master Plan calls for 1,300 spaces to be developed under a new transportation center at the Memorial Stadium site. The compatibility of a new arena with underground parking and transportation would require further analysis. For purposes of this review, no new parking is assumed.

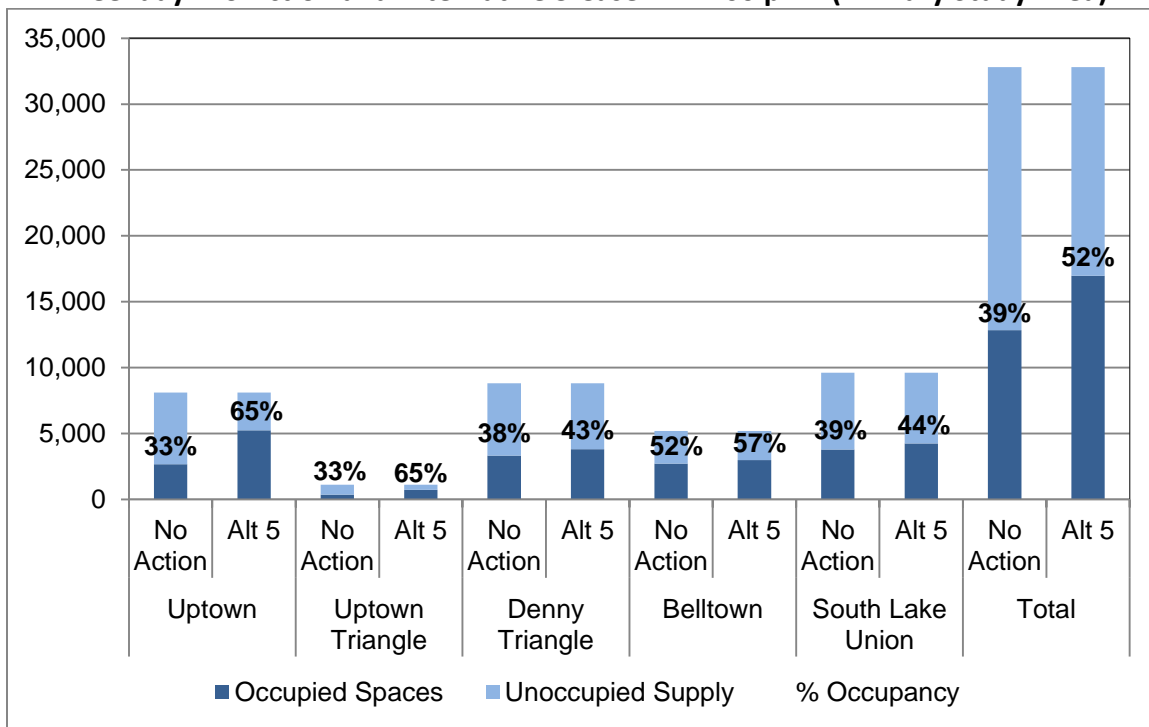
3.8.5.1 Arena Demand Forecasts

Parking demand forecasts for the arena are consistent with Alternative 4. Alternative 5 parking demand represents a net increase of 15,000 attendees as it relates to the Memorial Stadium site (see Table 1-14 in the event transportation demands section of this report).

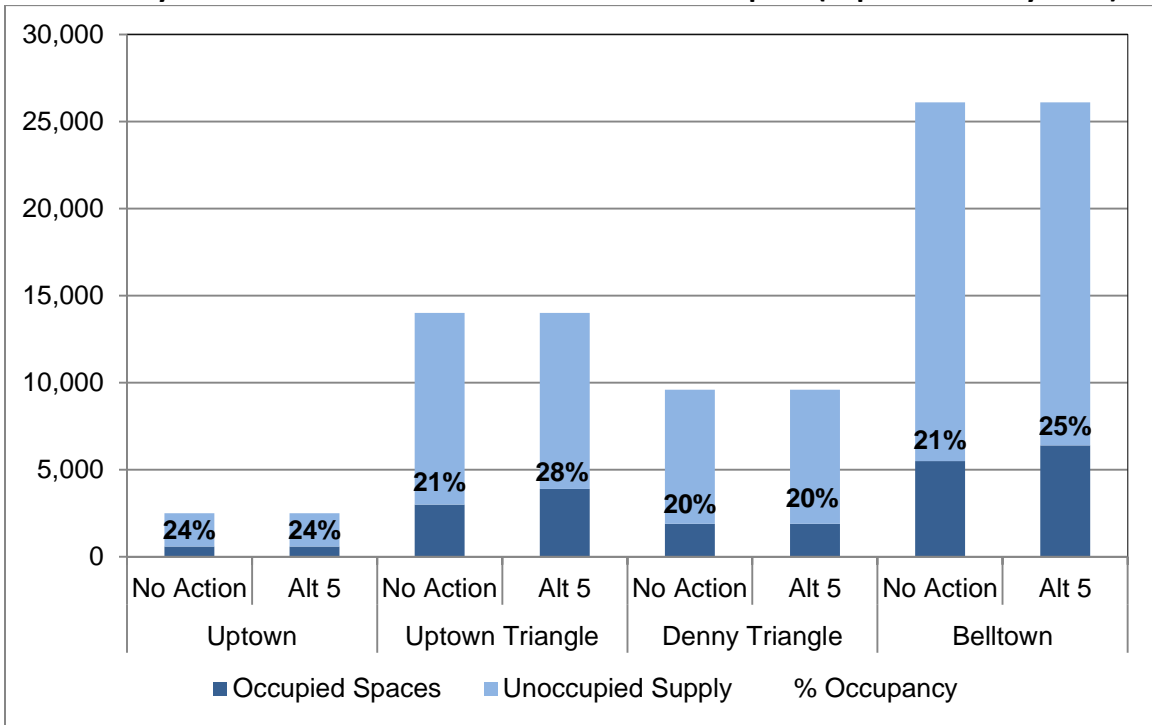
3.8.5.2 Weekday Occupancy

Figure 3–96 through Figure 3–99 provide a comparison between the No Action and Alternative 5 event cases within the primary and expanded study areas.

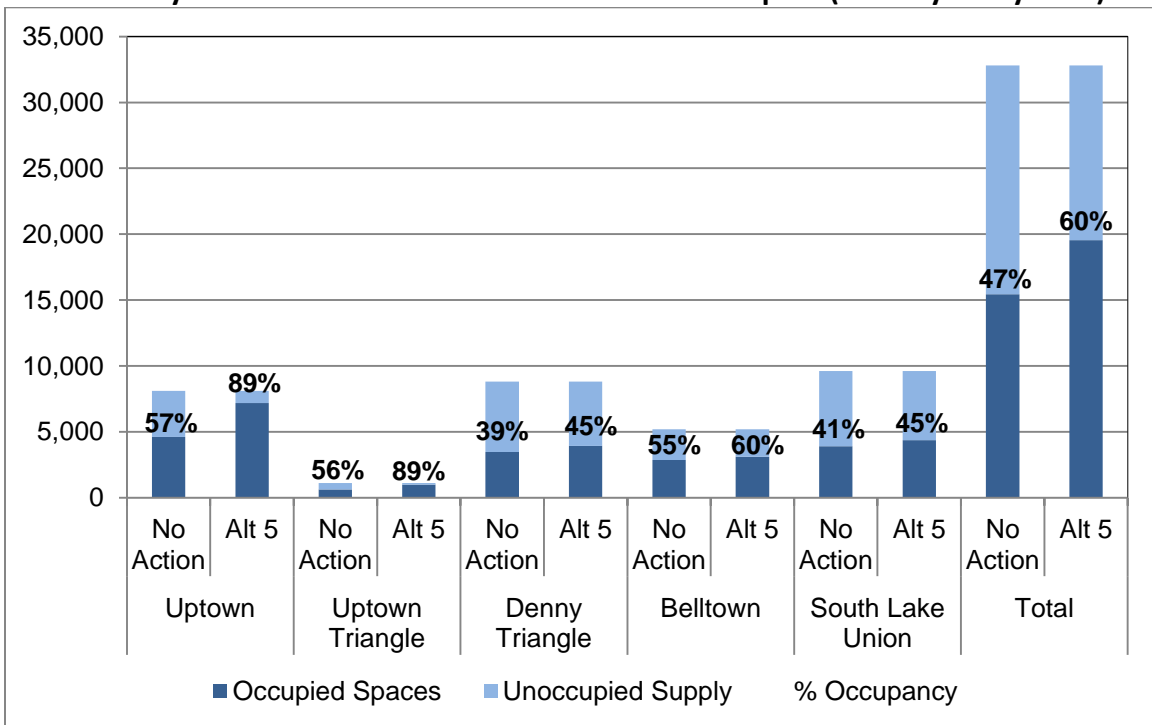
Figure 3–96 Seattle Center Area Parking Occupancy – Weekday: No Action and Alternative 5 Case M1 7:00 p.m. (Primary Study Area)



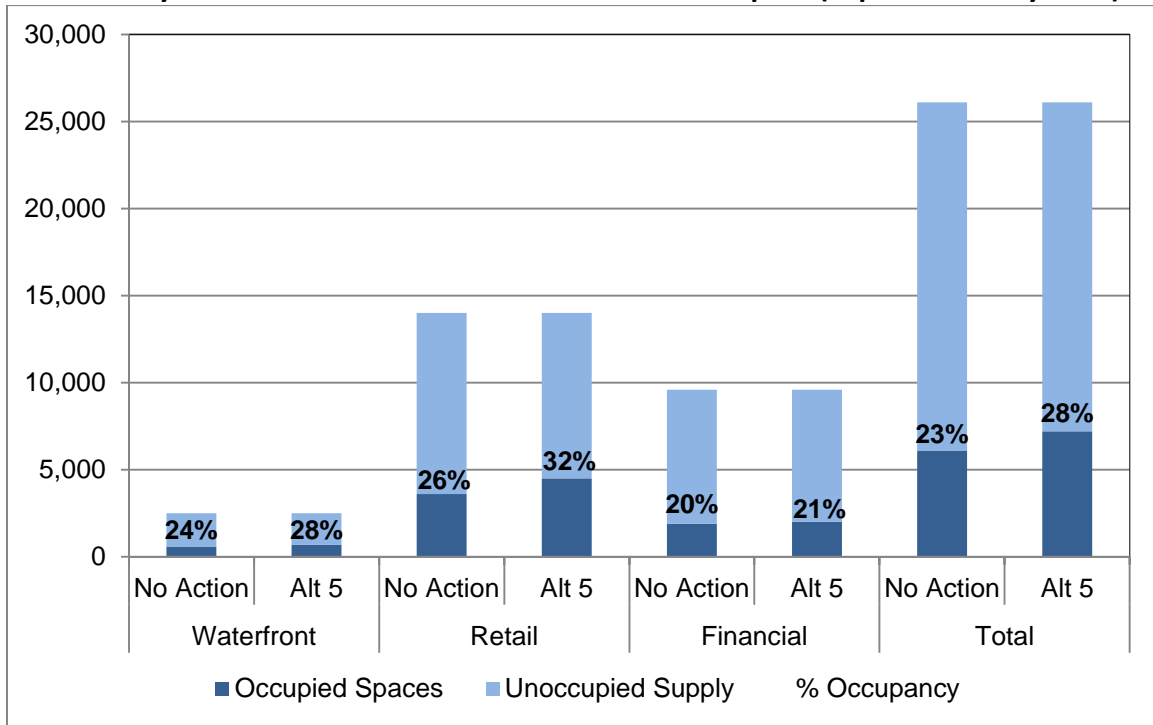
**Figure 3–97 Seattle Center Area Parking Occupancy –
Weekday: No Action and Alternative 5 Case M1 7:00 p.m. (Expanded Study Area)**



**Figure 3–98 Seattle Center Area Parking Occupancy –
Weekday: No Action and Alternative 5 Case M2 7:00 p.m. (Primary Study Area)**



**Figure 3–99 Seattle Center Area Parking Occupancy –
Weekday: No Action and Alternative 5 Case M2 7:00 p.m. (Expanded Study Area)**



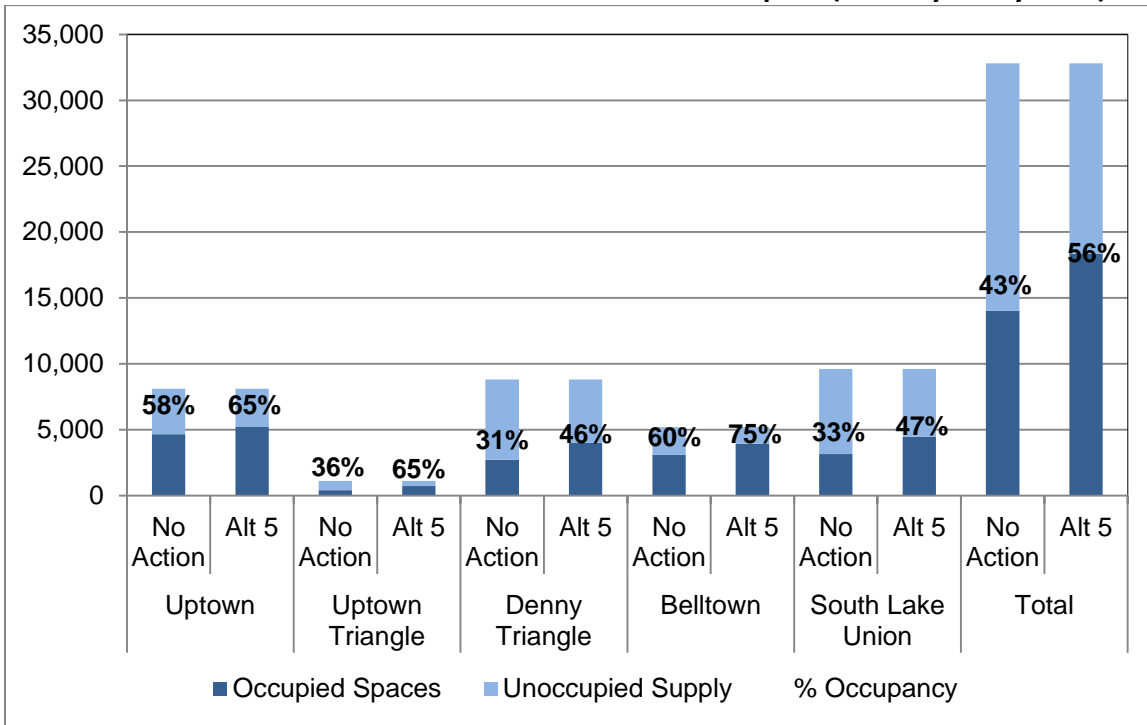
As shown in the figures above:

- For a multi-event scenario, Alternative 5 Case M2, the primary study area would reach 60 percent occupancy, an increase of almost 15 percent in parking occupancy compared to No Action.
- Although the overall primary study area would be 60 percent for Alternative 5 Case M2, the Uptown neighborhoods closest to the venue would be more highly utilized and would become full with an 89 percent occupancy. Finding parking would become more difficult in these areas. SLU and Denny Triangle within the primary study area would have ample parking to accommodate arena parking.

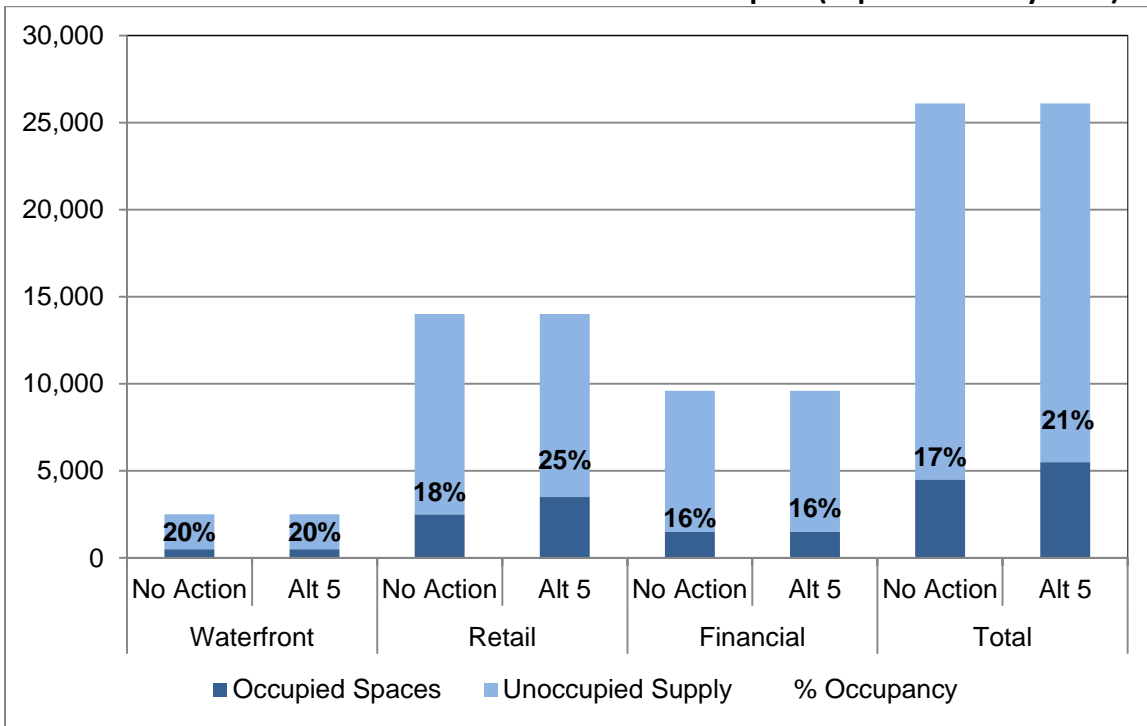
3.8.5.3 Weekend Occupancy

Figure 3–100 through Figure 3–103 illustrate weekend Case M1 and M2 parking occupancy within the primary and expanded study areas.

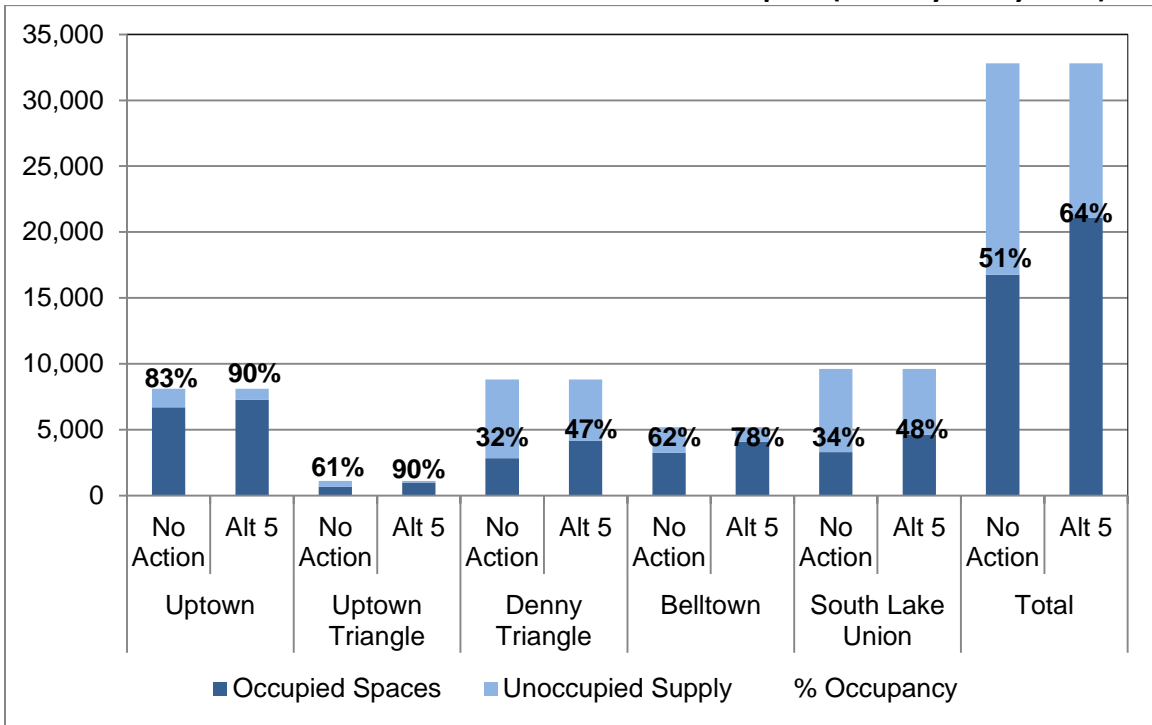
**Figure 3–100 Seattle Center Area Parking Occupancy –
Weekend: No Action and Alternative 5 Case M1 8:00 p.m. (Primary Study Area)**



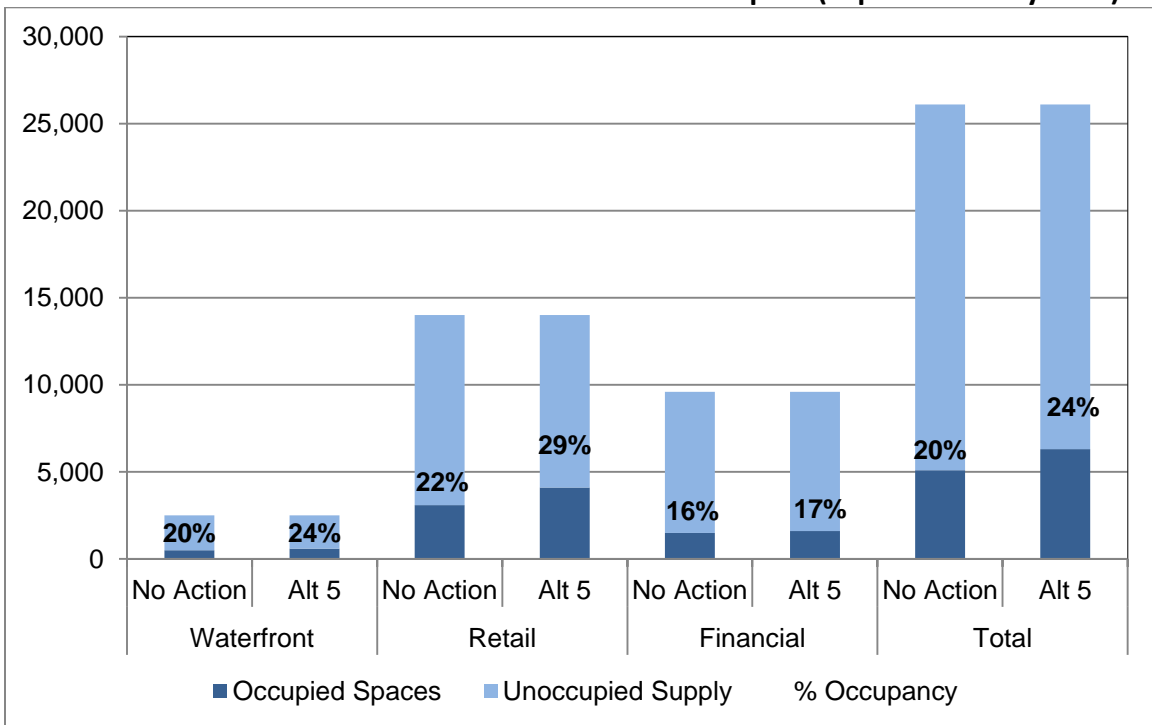
**Figure 3–101 Seattle Center Area Parking Occupancy –
Weekend: No Action and Alternative 5 Case M1 8:00 p.m. (Expanded Study Area)**



**Figure 3–102 Seattle Center Area Parking Occupancy –
Weekend: No Action and Alternative 5 Case M2 8:00 p.m. (Primary Study Area)**



**Figure 3–103 Seattle Center Area Parking Occupancy –
Weekend: No Action and Alternative 5 Case M2 8:00 p.m. (Expanded Study Area)**



As shown on the figures above:

- With the arena only on weekends, the primary study area would reach 56 percent occupancy for Alternative 5 Case M1 and 64 percent for Alternative 5 Case M2, an increase of almost 15 percent in parking occupancy compared to No Action.
- During the multi-event scenario on the weekend, the closest parking within the primary study area would reach 90 percent; however, SLU and Denny Triangle have ample parking to accommodate arena parking demand and it is anticipated parking supply would increase in the future with development.

3.8.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements. The following identifies those potential mitigation measures considered to have a high influence on this transportation element. These potential mitigation measures are appropriate for both Alternative 4 and Alternative 5.

- Event schedule protocol and management
- Expand on-street parking controls
- Establish covenant parking agreements
- Parking for event staff
- Pre-sell reserved arena covenant parking

3.8.7 Secondary and Cumulative Impacts

Short term parking restrictions may be implemented to support event related activities as a result of traffic control plans, or other efforts to balance traffic, transit, freight and goods movement, and parking demands.

3.8.8 Significant Unavoidable Adverse Impacts

As described in the impact analysis, the increase in event days anticipated with an arena would result in increased frequency of parking impacts resulting in competition for parking throughout the primary, and, on occasion, the extended study area.

3.9 Safety

3.9.1 Methodology

Collisions were reviewed at the study area intersections. Records of reported collisions were obtained from SDOT for the five-year period between January 1, 2007, and December 31, 2011.

A summary of the total and average annual reported accidents at each study intersection is provided in Attachment E-4, which is available from DPD upon request. The City of Seattle has adopted criteria for assigning high accident location status to signalized intersections with 10 or more reported collisions per year and unsignalized intersections with five or more reported collisions per year. Intersections designated as high accident locations are targeted for future safety improvements in an effort to reduce the occurrence of accidents.

3.9.2 Affected Environment

Fewer than 10 collisions per year were reported at each signalized study intersections and for the unsignalized locations only the Mercer Street / Taylor Avenue intersection had an average of more than five collisions per year. No fatalities were identified in the study area for the five-year period.

A review of the collisions at the Mercer Street / Taylor Avenue intersection shows that roughly one-third of the collisions involved left-turning vehicles and in most of those cases, vehicles were improperly turning. There were four collisions with pedestrians, all of which involved the vehicle not granting right-of-way to the pedestrian. The Mercer West project would signalize this location in the future, which would likely minimize left-turning collisions and improve the overall safety for pedestrian and vehicular traffic at the intersection.

The data was reviewed for locations with collisions involving pedestrians or bicyclists. Of the 52 study intersections reviewed, 35 locations had collisions involving pedestrians and bicyclists over the 5-year study period. All locations with pedestrian or bicycle accidents experience less than two accidents per year. The corridors within the study area are undergoing significant pedestrian and bicycle safety improvements as part of the major transportation infrastructure projects. Elements related to pedestrian and bicyclists include signalized crossings, wider path / sidewalk, new bicycle facilities, etc. along Mercer Street and other nearby corridors. It is anticipated with these improvements conflicts between vehicular and pedestrian / bicycle traffic would be reduced and overall non-motorized safety could improve.

3.9.3 Impacts of No Action Alternative

As traffic volumes increase, the potential for traffic safety issues increases proportionately. The overall vehicular and non-motorized traffic in the area under 2018 and 2030 conditions are anticipated to be higher than occur under existing conditions; however, there are changes in transportation infrastructure underway and the impact of these changes on transportation safety is unknown. The projects are all designed to current standards of practice.

3.9.4 Impacts of Alternative 4

Alternative 4 construction would increase vehicular traffic within the study area, which could result in increased conflicts between vehicular, pedestrian, and bicycle traffic. It is anticipated that safety impacts related to construction would be less than the 20,000-seat arena.

As noted above, as traffic volumes increase, the potential for traffic safety issues increases proportionately. Alternative 4 would increase both vehicular and non-motorized traffic within

the study area, which could potentially increase conflicts between vehicular and non-motorized traffic resulting in the potential for increase safety issues.

3.9.5 Impacts of Alternative 5

Alternative 5 construction would increase vehicular traffic within the study area, which could result in increased conflicts between vehicular, pedestrian, and bicycle traffic. It is anticipated that safety impacts related to construction would be less than the 20,000-seat arena.

Safety impacts associated with Alternative 5 would be similar to those described for Alternative 4.

3.9.6 Mitigation Measures

A complete summary of potential mitigation measures to be considered across all the Transportation Elements evaluated in this report is included in Chapter 4.0 of Appendix E. This summary includes identification of both programmatic measures and physical improvements.

A series of mitigation measures have been developed, but none have been identified as having a high influence on this transportation element and the remaining measures are included in Chapter 4.0 of Appendix E.

3.9.7 Secondary and Cumulative Impacts

No secondary or cumulative impacts have been identified.

3.9.8 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts are expected.

4.0 SUMMARY OF MITIGATION MEASURES

The analysis preceding this section identified transportation impacts associated with the development of an 18,000 to 20,000 seat multi-purpose arena at either the Stadium District in SoDo or in the Seattle Center area. Potential mitigation measures to address the transportation impacts have been briefly discussed for each element of the transportation environment (traffic volumes, traffic operations, parking, pedestrians, etc.) in the preceding sections of this report. This section consolidates those mitigation measures and strategically groups them by type of mitigation.

Mitigation measures have been identified for both construction and operation. There are generally two types of mitigation measures discussed: (1) physical improvements; and (2) programmatic improvements to be identified as part of the Transportation Management Plan (TMP).

4.1 Construction Management Plan (CMP)

To mitigate potential construction-related impacts, ArenaCo shall develop a CMP in conjunction with site-specific development. This plan would be coordinated with the DPD Noise Abatement Officer and SDOT, and must be submitted and approved prior to issuance of a building permit. The plan would include, but not be limited to, the following elements:

- **Central Construction Coordination Office.** During construction, the construction manager shall maintain coordination with the existing venues and the Port of Seattle to advise them of major phases of construction that may create constraints or disruption along roads and sidewalks in the immediate vicinity of the Arena.
- **Construction Hours and Sensitive Receivers** – Identify demolition and construction activities within permissible construction hours.
- **Construction Noise Requirements** – Include the requirement that all demolition and construction activities shall conform to the Noise Ordinance, except as approved through the variance process.
- **Construction Milestones** – Include a description of the various phases of demolition and construction, including a description of noise and traffic generators, and anticipated construction hours for each phase.
- **Construction Noise Management** – Identify and list techniques and measures to minimize or prevent demolition and construction noise including: timing restrictions, noise reduction construction technologies, process modifications.
- **Construction Parking Management** – Identify areas for construction worker parking. As part of the agreement with the Arena, the general contractor would develop a construction worker parking program, so available public off-street and on-street parking is not adversely impacted by the influx of this large temporary population of workers. This would involve remote parking with a shuttle service, use of parking and

loading areas in vacant buildings, or other means of providing construction worker parking without impacting existing on- and off-street public parking.

- **Construction Traffic/Street and Sidewalk Closures** – As part of the Arena construction, the construction manager would be required to identify anticipated street closures, the timing for street closures, and the detour routes and signing plan to guide drivers, bicyclists, and pedestrians around these restrictions. The CMP shall identify potential sidewalk, transit stop, and bicycle lane closures or rerouting, and shall consider the need for construction truck traffic to avoid peak traffic periods (e.g., 6-9 AM, 3-6 PM). This proposal would be reviewed and coordinated with SDOT, the Port of Seattle, and others nearby venues through the Maintenance of Traffic Task Force (MOTTF).
- **Off-site Construction Coordination.** The Transportation Coordinator would regularly attend and / or be informed by the Maintenance of Traffic Task Force (MOTTF) relating to utility and road projects that would potentially impact Arena and other event access in the immediate area as well as more regional transportation projects like the SR 520 and Mercer Corridor projects that shift traffic patterns and may impact access to the Arena.
- **Priority Truck Routing and Loading.** Develop demolition, earthwork excavating, concrete and other truck routing plans and submit those plans for approval through SDOT for site-specific development. The Arena general contractor would specify priority truck routes and loading areas as part of a coordinated Construction Traffic Control Plan. This plan would be reviewed by SDOT and coordinated with other venue transportation managers and the Port of Seattle to ensure that there would be minimal conflicts with existing and scheduled operations.

The following elements shall be included in the CMP if applicable:

- Schedule the most intensive construction activities such that they are spread out over time and prohibit material deliveries from leaving or entering the area during AM and PM peak hours when feasible.
- Schedule street closures and other disruptions to the street system during off-peak periods, unless approved for other hours by SDOT to minimize impacts to the system.
- Provide safe pedestrian and bicycle circulation adjacent to the construction site through the use of temporary facilities, detours, and signs.
- If construction activities cause the need to close on-street parking adjacent to the site, coordinate such closures with SDOT and obtain appropriate street use permits.

4.2 Operation

4.2.1 Physical Capacity and Safety Improvements

Physical improvements are specific elements that have been identified to enhance the transportation infrastructure in a manner that directly or indirectly reduces the impact of the

Arena, or reduces the negative consequences of project or cumulative conditions associated with the Arena.

4.2.1.1 Required Mitigation or Mitigation Included in Project Proposal (Alternatives 2) and 3

The following mitigation measures have been proposed by the applicant or have been identified to be required of the applicant as a condition of MUP approval:

S Massachusetts Street Realignment. As part of the Proposed Action, S. Massachusetts Street between Occidental and 1st Avenues S. would be realigned to the north to improve the direct alignment of the street with the section immediately east of Occidental Avenue S. This would enhance accessibility to the Safeco Field garage and service road. In addition, it would allow the pedestrian plaza at the north side of the Arena to be generous in size and limit the potential for pedestrian spillover onto S. Massachusetts Street, avoiding the potential for conflict with S. Massachusetts Street traffic. This realignment would also improve the alignment of this section of S. Massachusetts Street with the segment west of 1st Avenue S.

North-South On-Site Connection. As part of the Proposed Action, a north-south connection parallel to the proposed vacated Occidental Avenue S. would link S. Holgate Street with the extension of S. Massachusetts Street, along the east side of the property. This link could serve as direct ingress and egress to the Safeco Field garage, as well as replace the connection to the south for emergency and service vehicles to the Safeco Field garage, surface parking, and service and emergency road.

Signal System Upgrades. ArenaCo would be required to make a pro-rata contribution to projects such as the ITS Next Generation project list. The results of the transportation analysis suggest that there is an underlying need for area-wide improvements focusing on achieving a higher efficiency from the existing signal system as well as providing additional east/west connectivity in light of the increase in future rail activity.

Traffic Control Equipment Upgrades. ArenaCo would work with SDOT to upgrade the traffic control equipment at signalized intersections in the Stadium District to increase its reliability through improving communications with the SDOT traffic control center and by utilizing current Adaptive Traffic Control technology. These improvements are more than simply optimizing traffic signals but give signals the flexibility to respond to unanticipated surges, interruptions, and / or shift in traffic flows due to collisions, road construction projects and / or variation in tenant access patterns.

Lander Street Pro-rata Contributions. ArenaCo would be required to make a pro-rata contribution to the future grade separation of Lander Street. This has been identified based on existing and future deficiencies noted in the analysis. Further pressure would be put on the east/west capacity of the system and increases potential for vehicle/rail safety conflicts due to increases in the north/south rail activity and resulting decrease in capacity of the at-grade street crossings.

Pedestrian Improvements. Implementation of the following pedestrian improvements would contribute to increased safety and / or improved connectivity between the Arena and pedestrian connections to transit and / or offsite parking areas.

- The north-south crossing of S. Atlantic Street at Occidental Avenue S. would be improved by either:
 - Providing manual traffic control at the north-south crossing, and / or,
 - Developing a more-permanent improvement such as adding a staircase to the south side of S. Atlantic Street connecting to 3rd Avenue S.
- To improve the connectivity and safety of the east-west pedestrian connection between the Arena site and 4th Avenue S., ArenaCo would be required to develop or implement one of the following:
 - Construction of a pedestrian bridge from the Arena along S. Holgate Street to the east spanning such that it clears the easternmost railroad tracks. This would reduce the need for surface management pedestrian traffic control measures before or after events. The pedestrian bridge should directly connect to the Arena with a pathway wide enough to assure free flow of pedestrians during ingress and egress conditions.
 - Alternatively, the applicant may provide operating shuttles or jitneys that follow a fixed route on a fixed headway that link the Washington State Ferry terminal, Link Light Rail and Transit Stations to / from the Arena. The intent of these jitneys and / or shuttles would be to provide an incentive for walk-on ferry passengers, transit users and persons parking in more remote offsite parking spaces. A specific shuttle plan would be developed as part of the TMP. The shuttle option would be coupled with pedestrian lighting and sidewalk improvements along 1st Avenue S. from S. Holgate Street to S. Lander Street, and along S. Lander Street from 1st Avenue S. to 4th Avenue S.

At-Grade Way-Finding System. In coordination with other Stadium District stakeholders, ArenaCo could be required to contribute to development of a way-finding system to guide pedestrians and cyclists to the various venues in the Stadium District. To the extent possible this system will link with and through the Pioneer Square, International District, and SoDo.

4.2.1.2 Required Mitigation Measures for Alternative 4 and 5

There are no proposals to construct an arena at either site of Alternative 4 or 5. The following measure has been identified as a condition of MUP approval if an application is submitted for Alternative 4 or 5.

Traffic Control Equipment Upgrade. The applicant would work with SDOT to upgrade traffic control equipment at signalized intersections in the Seattle Center Area to increase its reliability through improving communications with the SDOT traffic control center and by utilizing current Adaptive Traffic Control technology.

4.2.1.3 Potential Mitigation Measures for Proposed Action (Alternative 2) and 3

These mitigation measures have been identified for consideration by DPD and SDOT:

Directional (Dynamic/Static) Event Signage. Directional signage between the freeway and other limited access facilities could be revised to incorporate the Arena. For Alternatives 2 and 3, this would complement the existing signage that currently exists for CenturyLink Field and Safeco Field.

Parking Guidance Signage. The Arena could participate with the City of Seattle in implementing a parking guidance system that provides direction and information regarding parking availability to those drivers who do not pre-purchase parking. This system could notify drivers as to the location and number of spaces available in public and event garages in the Stadium District area, reducing excess and erroneous circulation. This system will be similar to the downtown parking guidance system.

SDOT Traffic Control Center Improvements. The Arena could contribute to improvements to the SDOT Traffic Control Center. The improved Center would serve not only the Arena, but the other event venues and the surrounding neighborhood. The Traffic Control Center will have the ability to provide video feeds of information from WSDOT and SDOT traffic cameras and allow for posting of current conditions relating to congestion, parking, and traffic incidents that could help drivers' decision-making as they travel to an event at the Arena, Safeco Field, and/or CenturyLink Field, for Alternatives 2 and 3. For maximum effectiveness, this Center should be staffed during major events and the staff should be involved in coordinating the on-ground activities of event traffic control personnel. Additional intelligent transportation system (ITS) equipment such as CCTV cameras could be installed in coordination with the Arena at key locations in the Stadium District or Seattle Center area to better inform traffic management center (TMC) staff on current conditions to effectively manage traffic flows.

Pedestrian Scale Street Lighting. Consider upgrading street lighting to enhance safety for pedestrians in several areas where there are preexisting low light levels. The following locations have been identified as needing improvement or upgrades:

- 1st Avenue S. from S. Royal Brougham Way to S. Massachusetts (west side)
- 1st Avenue S. from S. Holgate Street to S. Walker Street (west side)
- 1st Avenue S. from S. Holgate Street to S. Stacy Street (east side)
- 1st Avenue S. from S. Holgate Street to S. Lander Street (both sides)
- S. Lander Street from 4th Avenue S. to the SoDo Busway (both sides)
- Edgar Martinez Drive S. from S. Occidental Street to 3rd Avenue S. (south side)
- 3rd Avenue S. from Edgar Martinez Drive S. to S. Royal Brougham Way (east side)
- 3rd Avenue S. from S. Atlantic Street to S. Holgate Street (both sides)
- 4th Avenue S. from S. Royal Brougham Way to S. Holgate Street (both sides)

- S. Royal Brougham Way from 3rd Avenue S. to the SoDo Busway (both sides)

Bicycle Route Improvements. The Arena could participate in marketing and upgrading the bike route system and prioritize bike lanes in the immediate vicinity of the site.

4.2.1.4 Potential Mitigation Measures for Alternatives 4 and 5

These mitigation measures have been identified for consideration by DPD and SDOT if an arena were built at the site of Alternatives 4 and 5:

Directional (Dynamic/Static) Event Signage. Directional signage between the freeway and other limited access facilities could be revised to incorporate the Arena. For Alternatives 4 and 5, it would further integrate with the Seattle Center signage.

Parking Guidance Signage. The Arena could participate with the City of Seattle in implementing a parking guidance system that provides direction and information regarding parking availability to those drivers who do not pre-purchase parking. This system could notify drivers as to the location and number of spaces available in public and event garages in the Seattle Center area, reducing excess and erroneous circulation. This system will be similar to the downtown parking guidance system.

SDOT Traffic Control Center Improvements. The Arena could contribute to improvements to the SDOT Traffic Control Center. The improved Center would serve not only the Arena, but the other event venues and the surrounding neighborhood. The Traffic Control Center will have the ability to provide video feeds of information from WSDOT and SDOT traffic cameras and allow for posting of current conditions relating to congestion, parking, and traffic incidents that could help drivers' decision-making as they travel to an event at the Seattle Center area attractions for Alternatives 4 and 5. For maximum effectiveness, this Center should be staffed during major events and the staff should be involved in coordinating the on-ground activities of event traffic control personnel. Additional intelligent transportation system (ITS) equipment such as CCTV cameras could be installed in coordination with the Arena at key locations in the Stadium District or Seattle Center area to better inform traffic management center (TMC) staff on current conditions to effectively manage traffic flows.

4.2.2 Programmatic Measures/Transportation Management Plan Applicable to All Action Alternatives

Programmatic measures would be delivered in the form of a comprehensive plan, referred to as a Transportation Management Plan (TMP). A TMP would be required as a condition of approval of a new arena at any location and would be developed in concert with SDOT and other stakeholders. The TMP would include a range of programmatic strategies and actions, summarized within this section.

The finalized TMP would provide greater detail regarding how each measure is tailored to influence the travel and parking habits of each major tenant. For Alternatives 2 and 3, like other

Stadium District TMPs, the Arena TMP would be reviewed annually by the City of Seattle Parking and Access Review Committee (PARC) and modified to respond to changed conditions.

To ensure the effectiveness of the mitigation including the TMP, performance measures or goals are proposed as a measure of compliance and achievement. SDOT has suggested that these goals should be more consistent with TMP goals for other more traditional land use projects in the city by focusing on SOV reduction and transit mode split. In the case of a special event facility, the primary goal is to reduce the number of vehicles. Private vehicle reduction (reduction in traffic volume and parking demand) can be accomplished by encouraging all forms of public and private high occupancy transportation including regular service transit, park-and-ride transit, light link rail, charter bus, and ferry service as well as walking and cycling. While SOV reduction is important, it is equally important to encourage HOVs. Thus, a goal addressing average vehicle occupancy (AVO) addresses both SOV reduction and HOV increases.

The traffic forecast was based on non-automobile mode split and average vehicle occupancy that are reflective of the performance of the special event venues in the Stadium District and Seattle Center.

To ensure consistency with other existing venues, an initial goal consistent with 2018 assumptions is appropriate with progressive increase in non-automobile mode split and Average Vehicle Occupancy (AVO). Thus, goals for measuring the effectiveness of the TMP could include the following:

**Table 4-1
Transportation Management Program Goals**

	Years 1-4 after Opening	Year 5-9 after Opening	Year 10 after Opening
Non-Automobile Mode Split	18%	20%	22%
Average Vehicle Occupancy	2.4 persons per vehicle	2.4 persons per vehicle	2.5 persons per vehicle

The six primary categories of the TMP include the following:

- Event Management
- Public Information and Marketing
- Traffic and Parking Demand Reduction
- Management of Vehicle and Parking Demand
- Traffic Management Plan
- Implementation and Monitoring

4.2.2.1 Event Management

This program group concentrates on event and facility management measures to: 1) eliminate and/or reduce event conflicts by ensuring coordination with other event facilities and neighbors; 2) ensure consistent and responsive implementation of the Transportation Program; and 3) provide the public and attendees with information on choices to avoid conflicts, take advantage of transportation and parking opportunities to reduce delay and frustration, and take advantage of opportunities that complement the event experience and minimize impact on the surrounding neighborhoods and business operations.

The most effective strategy for reducing the magnitude of traffic and parking impacts is to minimize the frequency of simultaneous or closely schedule time specific events.

- **Event Transportation Coordinator (ETC).** The Arena Manager would identify a staff person to coordinate and manage the Transportation Management Program (TMP) and Arena scheduling such that multiple event days with attendance in excess of an identified threshold are minimized or eliminated. This could be done in the context of an updated Event Scheduling Agreement with the Arena as an added party to the existing group (see Event Scheduling Protocol and Management described below). The ETC would represent the Arena on the Parking and Access Review Committee (PARC) and will coordinate with the City of Seattle, Port of Seattle, King County Metro Transit and other affected public and private transportation operators in the area on event schedules and implementation of the TMP. On an event day, implementation and monitoring of the TMP would be one of their primary functions prior to and following the event.
- **Event Access Guide.** ArenaCo would develop an event access guide to list alternatives to driving, preferred parking areas and other designated Arena parking areas that offer carpool incentives, neighborhood dinner/parking promotions, and other programs and resources to assist ticket purchasers with options for traveling to and from the area. This event guide will be integrated on the Arena webpage and on the webpages of the primary seasonal tenants.
- **Event Scheduling Protocol and Management.** Considering the existing and proposed event venues, their potential effect on each other and cumulative traffic and parking, and the effect of event traffic on localized freight movements, the City could work with the venues to establish a protocol for scheduling to minimize the conflict with events among the three major Stadium District venues. This protocol would strive to work with major tenants and franchises to minimize the occurrence of simultaneous and closely scheduled major events. When two or more time specific events with the combined forecasted attendance (not ticket sales) of over 58,000 persons appears to be scheduled, the protocol would identify a basic approach for resolving apparent conflicts. The separation of event start and end times could vary dependent on projected attendance levels, time of day, and the host facilities.

The Port of Seattle could be a part of this protocol or a parallel process to work with

Stadium District event facilities to advise them when container ship loading/unloading requires double shifting, so events and TMP activities can be adjusted to accommodate priority truck routes and/or time windows.

- **Port of Seattle Protocols.** The Port of Seattle has expressed concern around increased levels of interference with freight access to and from the Port on days with events, especially when event days coincide with extended gate operations. Consistent with the event scheduling agreement or as part of MOTTf, ArenaCo, the City, the Port and other event stakeholders could work to identify protocols that can be implemented when notice of extended gate operations is provided. Such protocols could involve schedule adjustments, freight routing designations, event traffic routing, or other measures specifically tailored to support minimizing event traffic impacts on Port operations. Effective implementation of such a measure will require consistent engagement by all parties, including the Port of Seattle, in the event scheduling/management discussions.

4.2.2.2 Public Information and Marketing

The single most effective suite of strategies for managing traffic and parking impacts for special events involves effectively communicating expectations and alternative transportation opportunities so event attendees have realistic expectations and make rational choices to avoid anticipated conflicts.

- **Public Information Coordinator.** The Public Relations coordinator for the Arena or their representative would include in their job responsibilities the development, coordination and distribution of transportation and parking information and advisory services. Information regarding events and community activities could be exchanged and incorporated in these media notices. The webpage may be an effective medium for ensuring timely and accurate updates.

A major role of this staff person would be to ensure that non-event attendees are aware of an upcoming event. While not reflected in the traffic forecast (to ensure a worst case analysis condition for disclosure of potential impacts), experience at existing event venues have found that background volumes decline when there is a major weekday evening event. The decline in background traffic volumes reflect drivers who make a slight shift in their work or daily commute pattern or schedule, use another mode of travel, or telecommute for all or a portion of the day. These shifts can reduce the background traffic volume by 10 to 20 percent, which results in smaller delays and/or reduced duration of congesting at forced flow intersections.

In addition, joint marketing programs targeted at event attendees could be pursued with transportation service providers like Washington State Ferries, Sound Transit, Link Light Rail and King County Metro Transit. This could include broadcast and print promotions by both the Arena and the service providers.

- **Survey and Market Research.** In order to better understand travel behavior of arena visitors, six months to 1-year after opening, ArenaCo would be required to conduct

market research of the greater Seattle area to identify statistically reliable information on likely event goers (Basketball and NHL game attenders, concerts, family shows, etc.) in order to determine trip origin, how attenders plan to travel to and from the stadium, and how this decision might differ by event type and for weekday vs weekend events. The survey should also include questions that help to understand which factors and incentives might be effective in encouraging public transportation or other travel options. This information should be used to update the TMP document to ensure that TMP elements directly address the impacts of this facility. The information would also be used to inform the types of strategies that should be required for dual/triple events.

- **Static Electronic Media.** ArenaCo would develop a webpage incorporating a transportation access guide as well as significant partnerships with community businesses and associations so the surrounding neighbors gain, to the degree desired, some of the benefits of additional Arena attendee activity. This transportation guide would be coordinated with the primary franchises and tenants.
- **Dynamic Electronic Media.** ArenaCo could use social media such as Twitter, Facebook and mass email broadcasts to alert guests of travel options and more particularly of incidents and real-time congestion and/or safety issues. This could include information about event day traffic conditions and regional traffic constraints (e.g. Alaska Way/Viaduct construction closures and significant incidents).
- **Arena Call Center.** ArenaCo could establish a call center with a central phone number specifically for transportation and parking information and referral.
- **Broadcast Advisory.** ArenaCo could coordinate with the broadcast team for each major franchise to actively promote alternative modes of travel in advance of games and major events and to provide real-time information within four-hours prior to an event. Real-time information could be coordinated with the ETC and video feeds from WSDOT and SDOT traffic control centers. Such advisory services could be coupled with other advertising and promotion through broadcasting contracts.
- **Event Access App (Application).** ArenaCo could develop a cellular phone application that provides event goers with a menu of features ranging from information and links to alternate transportation modes to real-time information regarding congested routes and alternative access. In addition, it would be desirable to link this application with a parking guidance system so those who drive can make more strategic decisions about the route they take before arriving in the immediate vicinity of the Arena. Information regarding parking pricing, comparisons against alternate modes, notification of street closures or restrictions, and other traffic related real-time features could be incorporated in this application.
- **Cross-Marketing with Area Businesses:** In order to spread the arrival and departure rates of fans traveling to and from the arena, ArenaCo could explore opportunities to cross-market events with local businesses (restaurants, bars) to encourage event

attendees to arrive in the area before an event and/or stay in the area longer following an event.

4.2.2.3 Traffic and Parking Demand Reduction.

The programs in this group encourage non-automobile modes of travel including Sound Transit and King County Metro Transit, charter bus, rail (Sounder Commuter Rail, Link Light Rail and Amtrak), waterborne, and non-motorized modes or where possible increase average vehicle occupancy. These programs are intended to reduce the size and intensity of the arrival and departure experience.

The following programs are intended to reduce reliance on use of SOVs.

Transit

- **Premium Transit Service.** ArenaCo would coordinate with King County Metro Transit and Sound Transit (ST) to identify express bus service that connects Park-and-Ride lots in Northgate, South Kirkland, Eastgate and Federal Way with off-loading in the vicinity of the Arena. The intent would be to use under-capacity return routes at the end of the commuter peak. ArenaCo would work with King County Metro Transit on staging return coaches after events similar to the operation that currently exists after Sounders FC matches. Coaches can be staged on Occidental Avenue north of the Arena or south of Holgate Street.
- **Shuttles.** ArenaCo could consider operating shuttles or jitneys that follow a fixed route on a fixed headway that link the Washington State Ferry terminal, Link Light Rail and Transit Stations to/from the Arena. The intent of these jitneys and/or shuttles would be to provide an incentive for walk-on ferry passengers, transit users and persons parking in more remote offsite parking spaces. It is recommended that one stop be at the King Street Station Multimodal Hub. The King Street Station Multimodal Hub was designated in the 2003 Center City Access Study along with Westlake and Colman Dock. The three hubs are key elements of the Center City transportation system that function as both destinations and transfer points for a variety of transportation users. The King Street Station Multimodal Hub includes Historic King Street Station serving both inner-city rail, intra-city bus and commuter rail; the International District Station serving light rail and local bus service; major surface transit stops; and the future terminus of the First Hill Streetcar. The area is also heavily used by pedestrians, cyclists, general traffic and freight.
- **Subsidize Transit Fares.** ArenaCo could work with King County Metro Transit, Sound Transit, and Washington State Ferries, to offer attendees a discount to regular fares to encourage use of these travel modes.
- **Charter Bus/Meal/Ticket Packages.** ArenaCo could work with preformed groups and restaurants to develop packages that involve meals, event admission, and bus transportation for events at the Arena.

- **Add Cars to Link Light Rail Trains.** To increase the capacity of regularly scheduled Link Light Rail prior to and following Arena events, the train's capacity could be expanded from two to four cars. This would reduce crowding on the cars and make light rail a more attractive option for event attendees. As Link Light Rail extends north and east, this service could reduce/supplement park and ride buses.
- **Additional Link Light Rail Trains on Pocket Track.** For larger events, to the extent that multiple events cannot be avoided, or if the demand for Link Light Rail appears to exceed current forecasts, additional capacity could be provided by staging an additional train on a pocket track to provide the extra capacity.

Rail, Waterborne, and Bicycle

- **Rail/Lodging/Ticket Packages.** Similar to the charter bus packages, ArenaCo could work with out-of-town travel companies and businesses to develop rail/lodging/meal packages with tickets to events.
- **Facilitate Washington State Ferry Use.** ArenaCo could work with Washington State Ferries to promote use of ferries from Bremerton and Bainbridge. The Arena could explore the feasibility of operating a shuttle between the ferry terminal and the Arena during winter months and could coordinate with pedicab operators.
- **Facilitate Passenger Ferry Service.** ArenaCo could work with King County to extend passenger service to and from West Seattle on major event days to provide return service after events.
- **Bicycle Racks.** The design for the Arena incorporates bicycle racks as part of the site design, and includes a provision of a bicycle valet. If warranted by need, portable bike racks could be added for events where the attendee demographic warrants additional bike storage similar to the way CenturyLink Field operates during Sounders matches.

Average Vehicle Occupancy

- **Priority Disabled/Taxi/Limousine Loading.** ArenaCo would identify location(s) for limousine/taxi/passenger drop-off and pick-up. The location would be coordinated with SDOT to ensure adequate loading and queuing space while minimizing on-street congestion.
- **Higher Vehicle Occupancy Incentives.** ArenaCo could coordinate with private and public parking operators to develop rates to encourage the use of high occupancy vehicles.
- **HOV Incentives:** The Public Information and Marketing section would state that broadcast, printed materials and electronic media are intended to discourage driving to events, except for carpools/vanpools and would emphasize the ease of arriving and leaving the Arena by transit for the different types of events. High occupancy vehicle (3+) promotions could be offered, such as reserved parking at reduced rates in parking facilities located close to the arena.

4.2.2.4 Management of Vehicle and Parking Demand.

Programs included in this group focus on parking and traffic management options to direct and control the traffic flows for those who drive to the Arena. These measures are intended to manage local vehicle and non-motorized traffic congestion to enhance safety and minimize delay on event days by efficiently directing drivers to available transportation and parking facilities.

Off-Street Parking

- **Participation in the e-Park Program.** If the new garage is built, it would be included in the City's e-Park program.
- **Establish Parking Agreements.** ArenaCo could establish shared use agreements for available parking. In addition, the reservoirs of shared parking could be distributed around the Arena as widely as possible in order to dilute traffic flows and minimize the concentration of traffic volume entering and leaving before and after events.
- **Parking for Event Staff.** ArenaCo could identify parking opportunities for event staff in areas that do not compete with event attendee parking.
- **Off-street parking reservation.** The TMP could include a centrally coordinated event parking program that would allow fans to reserve and pre-purchase parking passes at facilities convenient to their origin point to minimize driver circulation on the surrounding area of those who make a choice to drive.
- **Pre-Sell Reserved Arena Parking.** Parking could be presold and incorporated as part of ticket packages. The purpose in pre-selling parking is to be clear to attendees that Arena parking, particularly parking that is directly adjacent to the Arena, is sold out so non-season ticket holders do not attempt to drive in the immediate vicinity of the Arena to find parking. This coupled with assigned offsite parking, a parking guidance system, and other dynamic electronic media tools could guide attendees away from streets directly adjacent to the Arena and thus contribute to a net reduction in congestion.

4.2.2.5 Traffic Management Plan

- **Traffic Control Plan:** To supplement the traffic signal and control upgrades, such as ITS and adaptive signal control, additional staffing at key locations is anticipated. ArenaCo would work with SDOT and SPD to develop an event day traffic control plan that will include a temporary signing plan and a police post plan for pre and post event conditions. Traffic control would be provided for pedestrians, private vehicles and charter/shuttle transit. These plans would be similar to those already employed by Safeco and Century Link Fields in the SoDo area. The plan would correspond to graduated attendance levels. Table 4-2 provides a general framework for the estimated number of police/traffic control personnel associated with each level. These are generally the same number of officers and traffic control personnel used for Safeco Field for similar attendance levels but actual location of personnel would shift south with a

higher staffing levels along Holgate Street.

**Table 4-2
General Traffic Control Plan Levels**

Attendance Level	Police Personnel
<10,000	20
10,000 – 15,000	25
>15,000	32

The temporary traffic control plan would involve selected intersections in the area generally bounded by Royal Brougham Way to Walker Street and Utah to 4th Avenues. The temporary traffic control plan would involve temporary signs, cones and other portable traffic control devices at selected intersections in the area generally bounded by Royal Brougham Way to Walker Street and Utah to 4th Avenues. This temporary traffic control plan would likely be implemented for all Arena events, regardless the attendance. ArenaCo, like other event managers, would fund temporary traffic control.

The traffic control plan for Alternate 4 or 5 would be much more limited and would correspond to similarly sized events at the existing facilities.

- **Post-Opening Traffic Study:** In addition to the Survey and Market Research described above, ArenaCo would conduct a post-opening traffic study six-months to 1 year after opening in order to evaluate traffic conditions, assess the effects of arena-generated traffic on area intersections, and adjust the required TMP elements.
- **Vehicle Wayfinding:** To limit unnecessary circulation around the arena prior to and after events, ArenaCo could work with the City of Seattle and WSDOT to install vehicular wayfinding signage at key locations, including freeway and freeway ramps. The signage will likely be located along major routes to the arena to direct drivers to preferred pathways to available parking areas.

4.2.2.6 Implementation and Monitoring.

These programs are targeted to achieve 1) continuous improvement of the operational management of the Transportation Management Program (TMP), 2) development of metrics to measure and report the effectiveness of TMP implementation, and 3) exchange of information with neighboring event centers and business operations to avoid conflict

- **Parking and Access Review Committee (PARC).** The Arena Transportation Manager would become actively engaged as a member of PARC to help integrate the Arena as part of existing Stadium District activity and event management. The annual TMP would be reviewed by PARC as are the TMPs associated with other Stadium District venues.
- **Traffic Operations Group.** During the initial years of operation and as major tenants/franchises become tenants in the Arena, the Transportation Manager could periodically assemble Seattle Police Department (SPD), SDOT, parking managers, King County Metro Transit, and any others involved in event day traffic control and parking

to debrief on the effectiveness and problems associated with event related traffic management. This group would then make adjustments in a coordinated fashion to ensure that signing, signalization and timing, electronic media, and manual traffic control were all coordinated.

- **Periodic Program Review and Survey.** To evaluate the performance of the Arena Traffic Management Program, a set of metrics could be established to evaluate the performance of major single and multiple event traffic conditions. Surveys during these periods measuring the effectiveness of the traffic control plans could be recorded and reported to PARC annually.

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Seattle Arena



Addendum to Final Environmental Impact Statement

Date Published: October 29, 2015

City of Seattle
Department of Planning and Development

The intent and purpose of this Final Environmental Impact Statement is to satisfy the procedural requirements of the State Environmental Policy Act (RCW 43.21c) and City Ordinance 114057. This document is not an authorization for an action, nor does it constitute a decision or a recommendation for an action; in its final form it will accompany the final decision on the proposal.

**Addendum to Final Environmental Impact Statement
for
Seattle Arena**

City of Seattle
Department of Planning and Development

Prepared in Compliance with the
State Environmental Policy Act of 1971
Chapter 43.21c, Revised Code of Washington

SEPA Rules, Effective April 4, 1984
Chapter 191-11, Washington Administrative Code

City of Seattle SEPA Ordinance 114057 Seattle Municipal Code Chapter 25.05

Date of Issue: October 29, 2015

Introductory Memo

This document is an Addendum to the Final Environmental Impact Statement (FEIS), prepared under the direction of DPD. Its purpose is to provide site-specific information for the pedestrian facilities surrounding the proposed Seattle Arena site in the Stadium District, south of downtown Seattle (SoDo).

This EIS Addendum adds information to the Draft and Final EISs that were prepared for the Seattle Arena. This Addendum is not an authorization for action, nor does it constitute a decision or recommendation for action. This EIS Addendum will accompany the Draft and Final EIS through the City's review processes of the Proposed Seattle Arena project. It will be considered by City officials in making the necessary permitting or approval decisions, including: (1) whether the City and County will participate in development of ArenaCo's proposed Seattle Arena; (2) whether the City will issue land use approvals and the nature of impact mitigation that may be required; and (3) whether to approve a street vacation.

Key environmental issues and options that were analyzed in the Draft and Final EISs for the Seattle Arena were primarily potential impacts to traffic and transportation and, to a lesser extent, construction and operational impacts on the other elements of the environment including geology/soils, air quality, climate, water, conservation and renewable resources, scenic resources, land use, recreation, historic resources, public services and utilities.

By agreement between the City of Seattle and King County, the City is serving as the SEPA lead agency for this proposal. The Draft and Final EISs for the Seattle Arena are adopted for the purposes of this environmental review.

This EIS Addendum provides additional site-specific information concerning the pedestrian facilities surrounding the proposed Seattle Arena SoDo site. The EIS Addendum is organized into three major sections. The Fact Sheet starting on page ii provides an overview of the proposed action and location, permits required, and points of contact. Section 1 provides a summary of the additional information and a summary comparison of the additional information as compared to the information contained in the FEIS. Section 2 provides both the relevant information on pedestrian facilities that was contained in the May 2015 Final EIS and the additional information on pedestrian facilities.

Fact Sheet

Project Title

Seattle Arena

Proponent

WSA Properties III, LLC

Location

The proposal is located in the Stadium District south of the existing Safeco Field. The site address is 1700 First Avenue S., Seattle, Washington

Proposed Action

The Proposed Action is the future construction of an approximately 750,000 square foot, 20,000-seat spectator sports facility (Seattle Arena) to be located at 1700 First Avenue South, Seattle. The Project would include the demolition of eight existing structures of approximately 128,087 square feet, and grading would occur for construction. The Project includes a proposed street vacation of the portion of Occidental Avenue South between South Holgate and South Massachusetts Streets, and a realignment of S. Massachusetts Street between Occidental Avenue S and 1st Avenue S. Parking for the facility is proposed to be provided by use either of existing off-site parking or the construction of new off-site parking on a lot south of Holgate Street (referred to in this document as the “South Warehouse site”). The Proposed Action includes all regulatory, transactional and other decisions necessary to accomplish the project.

The principal on-site alternative is an 18,000-seat arena at the SoDo site. This EIS Addendum contains information only applicable to the SoDo site and does not change information previously disclosed for the alternative at the KeyArena and Memorial Stadium locations in the vicinity of Seattle Center. As with the Final EIS, no proposal exists to locate an arena at either of those Seattle-Center vicinity locations.

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Master Use Permit No.: 3014195

Addendum; SEPA Documents Adopted This EIS Addendum adds information to the Draft and Final EISs for the Seattle Arena.

Required Approvals

Preliminary investigation indicates that the following permits and/or approvals could be required for the proposal. Additional permits/approvals may be identified during the review process.

State of Washington

Labor & Industries

- Elevator Permits

Puget Sound Clean Air Agency

- Asbestos Survey
- Demolition Permit

King County

- Transaction Documents with City of Seattle and ArenaCo

City of Seattle

City Council

- Transaction Documents with King County and ArenaCo
- Street Vacation (vacation of portion of Occidental Avenue South)

Department of Planning and Development

- Draft and Final EIS Approval
- Master Use Permit
- Grading Permit/Shoring Permit
- Demolition Permit
- Building Permit
- Mechanical Permits
- Electrical Permits
- Structural Permit
- Certification of Occupancy
- Energy Code Approval
- Drainage Control Plan Review and Approval

Seattle Public Utilities

- Water connection
- Sewer connection

Seattle Fire Department

- Fire Code Inspections

Seattle-King County Department of Health

- Plumbing Permits

Date of Issue of the Draft EIS

August 15, 2013

Date of Issue of the Final EIS

May 7, 2015

Date of Issue of the EIS Addendum

October 29, 2015

Approximate Date of Final Actions

Final actions will include DPD's issuance of a Master Use Permit (MUP), Seattle City Council approval of the street vacation, and City and King County approval of transaction documents. These actions will follow the issuance of the EIS Addendum and are expected to occur in 2015 and 2016.

Document Availability and Cost

Copies of this EIS Addendum have been distributed to agencies and organizations noted in Section 5, Distribution List of this document.

Copies of this document are also available for review at the City of Seattle Department of Planning and Development Public Resource Center, located in Suite 2000 of Seattle Municipal Tower in Downtown Seattle (700 Fifth Avenue) and at the following branch of the Seattle Public Library:

- Central Library (1000 – 4th Avenue)

A limited number of complimentary copies of this EIS Addendum may be obtained from the Department of Planning and Development Public Resource Center while the supply lasts. Additional copies may be purchased for the cost of reproduction.

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Location of Background Data

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Acronyms

ADA	Americans with Disabilities Act
AVO	average vehicle occupancy
BNSF	Burlington Northern Santa Fe
CBD	Central Business District
C&D	construction and demolition
CIP	Capital Improvement Program
CMP	construction management plan
CO	carbon monoxide
CO ₂	carbon dioxide
CONCACF	Confederation of North, Central American and Caribbean Association Football
CMP	Construction Management Plan
CPTED	Crime Prevention Through Environmental Design
CSMP	Comprehensive Safety and Mobility Plan
CSO	combined sewer overflow
CTMP	Construction Transportation Management Plan
CTS	Comprehensive Transportation Strategy
cu yds	cubic yards
DAHP	Department of Archaeology and Historic Preservation
dB	decibels
dba	A-weighted decibels
DEIS	Draft Environmental Impact Statement
DPD	Department of Planning and Development
DPM	diesel particulate matter
DRB	Design Review Board
EBI	Eliot Bay Interceptor
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FEIS	Final EIS
FRA	Federal Railroad Administration
GHG	greenhouse gas
GMA	Growth Management Act
gpm	gallons per minute
GRH	Guaranteed Ride Home
gsf	gross square feet
HCM	highway capacity manual
HOV	high occupancy vehicle
I-5	Interstate (Highway) 5
I-90	Interstate (Highway) 90

I&M	inspection and maintenance
ITS	intelligent transportation system
KCWTD	King County Wastewater Treatment Division
kVA	kilovolt amperes
kW	kilowatt
lbs/day	pounds per day
LEED	Leadership in Energy and Environmental Design
L_{eq}	equivalent sound level
L_{max}	maximum sound level
LOS	level of service
LTCP	Long Term Control Plan
MBH	million BTU/hour
MCER	maximum considered earthquake
MIC	Manufacturing and Industrial District
MLB	Major League Baseball
MLS	Major League Soccer
MOTTF	Maintenance of Traffic Task Force
mph	miles per hour
msl	mean sea level
MTCO _{2e}	Metric tons CO ₂ equivalent
MUP	Master Use Permit
MUTCD	Manual on Uniform Traffic Control Devices
NAAQS	National Ambient Air Quality Standards
NBA	National Basketball Association
NC3	Neighborhood Commercial 3
NFL	National Football League
NHL	National Hockey League
NHPA	National Historic Preservation Act
NO _x	nitrogen oxide
OSE	Office of Sustainability and Environment
p/min/ft	pedestrians per minute per foot
PM ₁₀	particulate matter less than 10 micrometers in diameter
PM _{2.5}	particulate matter less than 2.5 micrometers in diameter
ppm	parts per million
PSCAA	Puget Sound Clean Air Agency
psi	pounds per square inch
PSRC	Puget Sound Regional Council
SDC	Seattle Design Commission
SDOT	Seattle Department of Transportation
SEPA	State Environmental Policy Act
sf	square feet

SFD	Seattle Fire Department
SIFF	Seattle International Film Festival
SIG	State Intermodal Gateway
SLU	South Lake Union
SMC	Seattle Municipal Code
SoDo	South Downtown
Sounders FC	Sounders Football Club
SOV	single occupancy vehicle
SPD	Seattle Police Department
SPU	Seattle Public Utilities
SR	State Route
SRI	solar reflectance index
ST	Sound Transit
SUAI	Significant unavoidable adverse impact
TCP	traffic control plan
tcy	total cubic yards
TDM	transportation demand management
TEAM	Techniques for Effective Alcohol Management
TEU	twenty-foot equivalent units
TMP	Transportation Management Plan
TOD	transit oriented development
U-link	University Link Light Rail
UP	Union Pacific
UW	University of Washington
v/c	volume to capacity
VMS	variable message signs
VOC	volatile organic compound
VPH	vehicles per hour
WAC	Washington Administrative Code
WAMU Theatre	Washington Mutual Theatre
WNBA	Women's National Basketball Association
WSDOT	Washington State Department of Transportation
WSF	Washington State Ferries

Table of Contents

Section 1 - Summary	1-1
1.1 Project	1-1
1.2 Site and Site Vicinity	1-1
1.3 Summary of Changes Made to Information Contained in May 2015 Final EIS.....	1-3
1.3.1 Summary of Additional Pedestrian Facility Information	1-3
1.3.2 Updated Pedestrian Forecasts	1-4
1.3.3 Summary of Potential Impacts and Major Conclusions.....	1-5
Section 2 - Additional Information About Environmental Impacts and Mitigation Measures.....	2-1
2.1 Site Plan Components for Pedestrians	2-1
2.1.1 Summary of Site Plan Components Identified in May 2015 FEIS	2-1
2.1.2 Summary of Updated Site Plan Components for Pedestrian Facilities.....	2-1
2.2 Event Analysis Cases.....	2-2
2.2.1 Event Analysis Cases Used in May 2015 FEIS	2-2
2.2.2 Event Analysis Cases Based on Updated Environmental Information.....	2-6
2.3 Pedestrian Impact Methodology.....	2-8
2.3.1 Methodology Used in May 2015 FEIS	2-8
2.3.2 Methodology Used Based on Updated Environmental Information.....	2-10
2.4 Affected Environment	2-10
2.4.1 Affected Environment for Pedestrians Described in May 2015 FEIS	2-10
2.4.2 Affected Environment for Pedestrians Based on Updated Environmental Information.....	2-13
2.5 Impacts	2-13
2.5.1 Pedestrian Forecasts	2-13
2.5.2 Operation Impacts of the No Action Alternative at Alternative 2 and 3 Site.....	2-19
2.5.3 Impacts of the Proposed Project (Alternative 2) – Stadium District 20,000-Seat Arena	2-19
2.5.4 Operation Impacts of Alternative 3 – Stadium District 18,000-Seat Arena	2-26

2.6 Occidental Avenue South Street Vacation (As It Relates to Pedestrians).....	2-26
2.6.1 Occidental Avenue South Street Vacation Impacts Described in May 2015 FEIS.	2-26
2.6.2 Occidental Avenue South Street Vacation Impacts Based on Updated Environmental Information	2-29
2.7 Mitigation Measures	2-30
2.7.1 Mitigation Measures for Pedestrian Impacts Identified in May 2015 FEIS.....	2-30
2.7.2 Updated Mitigation Measures for Pedestrian Impacts Based on Additional Environmental Information	2-31
2.8 Secondary and Cumulative Impacts	2-32
2.8.1 Secondary and Cumulative Impacts Identified in May 2015 FEIS	2-32
2.8.2 Updated Secondary and Cumulative Impacts Based on Additional Environmental Information	2-32
2.9 Significant Unavoidable Adverse Impacts.....	2-32
2.9.1 Significant Unavoidable Adverse Impacts Identified in May 2015 FEIS.....	2-32
2.9.2 Updated Significant Unavoidable Adverse Impacts Based on Additional Environmental Information	2-33
Section 3 - References	4-1
Section 4 - Glossary	5-1
Section 5 - Final EIS Distribution List	6-1
5.1 State Agencies.....	6-1
5.2 Regional Agencies.....	6-1
5.3 Local Agencies	6-1
5.4 Libraries	6-1
5.5 Newspapers	6-1

List of Figures

Figure 1-1 Site Location Alternative 2 and Alternative 3	1-2
Figure 2-1 Stadium District Key Pedestrian Routes	2-9
Figure 2-2 Stadium District Pedestrian Facilities	2-11
Figure 2-3 Stadium District No Action and Alternative 2 Case S1 Post-Event Pedestrian Volumes	2-15
Figure 2-4 Stadium District No Action and Alternative 2 Case S2 Post-Event Pedestrian Volumes	2-16

Figure 2-5 Stadium District No Action and Alternative 2 Case S3 Post-Event Pedestrian Volumes 2-17

List of Tables

Table 1 1 Summary of Potential Impacts and Major Conclusions 1-8

Table 1 2 Summary of Potential Mitigation Measures 1-12

Table 1 3 Summary of Secondary and Cumulative Impacts 1-14

Table 1 4 Summary of Significant Unavoidable Adverse Impacts 1-14

Table 2-1 Arena Event Attendance Ranges 2-4

Table 2-2 Stadium District Event Cases for Analysis 2-5

Table 2-3 Comparison of Post-Event Hourly Pedestrian Volumes 2-18

Table 2-4 Pedestrian Flow Assessments – Comparison of No Action and Alternative 2 2-23

Table 2-5 Occidental Avenue S Street Vacation Comparative Analysis 2-28

Table 2-6 Occidental Avenue S Street Vacation Comparative Analysis (Updated) 2-29

Section 1 - Summary

1.1 Project

WSA Properties III, LLC (ArenaCo) has applied to the City of Seattle for the future construction of an approximately 750,000 sf, 20,000-seat spectator sports facility (Seattle Arena). ArenaCo's objective is to build and operate a 20,000-seat Seattle Arena for NBA and NHL home teams on a site located at 1700 – 1st Avenue S., Seattle, Washington.

The ArenaCo Project would include the demolition of eight existing structures of approximately 128,087 sf, and grading would occur for construction. The Project includes a proposed street vacation of the portion of Occidental Avenue S. between S. Holgate and S. Massachusetts Streets, and a realignment of S. Massachusetts Street between Occidental Avenue S and 1st Avenue S. Parking for the facility is proposed to be provided by use of either existing off-site parking or the construction of new off-site parking on a lot south of Holgate Street (referred to in this document as the "South Warehouse site"). The Proposed Action includes all regulatory, transactional and other decisions necessary to accomplish the Project.

The City and County's objective is to determine whether to participate in ArenaCo's private proposal to build and operate the Seattle Arena for NBA and NHL home teams. While the City and County could decide to pursue participation in a project to build and operate such an arena at a location different than the ArenaCo site, including the Memorial Stadium or KeyArena sites considered in this Environmental Impact Statement (EIS), no proposal for the City and County to participate in such a project currently exists other than ArenaCo's proposal to build and operate the Arena on its South Downtown (SoDo) property.

1.2 Site and Site Vicinity

The site of the Proposed Project (Alternative 2) and Alternative 3, is located within South Downtown (SoDo) in the Stadium Transition Area, south of Safeco Field and CenturyLink Field. SoDo includes the areas of Pioneer Square, the International District, the Stadium Transition Area (Overlay District) and the North Duwamish neighborhood. Warehouses, small businesses, and parking now occupy the site. The site is surrounded by similar uses. Newer development has occurred in parcels to the west of 1st Avenue S. Newer uses include midrise office and mixed commercial uses with street-front retail and restaurants. To the north of the site is the Safeco Field parking garage. Recently, land uses in the immediate vicinity are trending away from warehouse to office, light manufacturing with storefront retail, and other small businesses associated with Safeco Field, and CenturyLink Field and Exhibition Center. See Figure 1-1 Site Location, Alternatives 2 and 3.

BNSF Railroad and Amtrak facilities are located to the east of the existing stadiums and the site of the Proposed Project (Alternative 2) and Alternative 3. Facilities include passenger and freight rail lines as well as several structures that support those activities. BNSF's loading yard is located one block to the west. Port of Seattle container shipping facilities are located west of the loading yard.



Source: Google Earth Pro

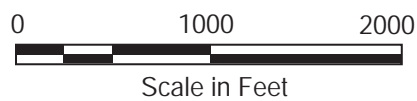


Figure 1-1
Site Location
Alternative 2 and Alternative 3

1.3 Summary of Changes Made to Information Contained in May 2015 Final EIS

This EIS Addendum provides additional information concerning the pedestrian facilities surrounding the proposed Seattle Arena SoDo site.

Separately from the proposed Seattle Arena project, the City's Seattle Department of Transportation (SDOT) is considering design changes to Holgate Street between 1st Avenue S and 3rd Avenue S. The traffic analysis contained in the Draft and Final EIS was based on the existing lane configuration for this portion of Holgate. The existing lane configuration includes five lanes; two east bound, and three westbound (one right-turn only, one through, and one left-turn only) between 1st Avenue S and Occidental Avenue S. It transitions to four lanes (two eastbound and two westbound) where it crosses the railroad tracks. Draft design drawings show various potential realignments, including a design that would reduce the number of lanes to three lanes. At the time of preparation of this Addendum, no decision has been made by SDOT as to the future design or alignment of Holgate Street. Any changes to Holgate Street will be made independently of the Seattle Arena project, and SDOT's decision-making process will include an analysis of potential changes to traffic capacity and flow that could result from alternative alignments and lane configurations.

1.3.1 Summary of Additional Pedestrian Facility Information

A summary of the additional information on pedestrian facilities contained in Section 2 of this Addendum is as follows:

The FEIS analysis was based on a pedestrian zone (contiguous unobstructed walking surface) width on the east side of 1st Avenue S. between S. Massachusetts Street and S. Holgate Street of approximately 19.5 feet (without tables and seating) during peak event flow periods. The updated analysis of pedestrian capacity on this segment of 1st Avenue S. assumes a pedestrian zone with a physical width of 23 feet. Both the FEIS analysis and the updated analysis include provision for "shy" distances of 1.5 feet from building edge and 2 feet from vertical landscaping (such as tree trunks) or permanently installed street furniture, effectively reducing the area in which pedestrians would walk by 3.5 feet.

The proposal has been updated based on guidance from SDOT to provide pedestrian capacity along the 1st Avenue S. frontage as follows:

- **1st Avenue S. Street Frontage** - the pedestrian zone necessary to accommodate pedestrian flows on the east side of 1st Avenue S. between S. Massachusetts Street and S. Holgate Street shall be comprised of:
 - 23 feet of contiguous unobstructed (no permanent intrusion) walking surface between the building façade and any landscaped/tree/permanent street furniture zone
 - The 23-foot unobstructed space may be located within the public right-of-way (public sidewalk), or on a combination of public sidewalk and private property

- **Events in excess of 15,000 attendees (inclusive of the proposed Arena and all stadia and exhibition halls to the north)** – the 23-foot pedestrian zone shall be kept free of all temporary obstacles (such as chairs, tables, etc.) to allow for unimpeded pedestrian flow
- **On low attendance event days (equal to or less than 15,000 attendees)** - the required unobstructed pedestrian zone shall be a minimum of 18.5 feet. Any use of public sidewalk area for outside dining (tables, chairs, railings, etc.) must be approved through a street use permit issued by SDOT and will not be allowed to encroach upon the required minimum 18.5-foot pedestrian zone.
- **On non-event days (inclusive of all stadia and exhibition halls)** - the required unobstructed pedestrian zone shall be a minimum of 10 feet. In addition to providing a widened pedestrian zone, the Proponent is working with the City to include a pedestrian bridge over the railroad tracks on S. Holgate St. As a result, no specific updating of analysis or discussion of crossing conditions is included in this update.

1.3.2 Updated Pedestrian Forecasts

The No Action Case S2 and S3 pedestrian forecasts were updated to reflect the higher pedestrian demands. The methodology reflected in this analysis includes:

- Pedestrian volume from June 2015 Occidental Avenue S. pedestrian count (i.e., 2,800 pedestrian per hour, source: Heffron Transportation, Inc., 2015 – *Technical Memorandum – New Seattle Arena*) was proportioned to reflect the Case S2 and S3 attendance levels.
- Pedestrian volume on the remaining study segments was estimated by applying the factor identified in the updated Occidental Avenue S. pedestrian volumes to all applicable sidewalk sections
- Consistent with the FEIS, Alternative 2 Cases S2 and S3 forecasts were determined by adding Arena pedestrian demands associated with travel demand / mode split estimates to the No Action Case S2 and S3 forecasts.
- For Alternative 2, the Occidental Avenue S. pedestrian demands between S. Massachusetts and S. Holgate Streets were shifted to 1st Avenue S. between S. Massachusetts and S. Holgate Streets as a result of the project and associated street vacation. It was assumed that 75 percent of the pedestrians would utilize the east sidewalk of 1st Avenue S. and the remaining 25 percent the west sidewalk of 1st Avenue S.
- For analysis purposes, all hourly pedestrian volumes were broken down to the highest 15-minute increment, consistent with the prescribed methodology. The updated count data had a peaking factor of 65 percent that was applied to the analysis; the FEIS count data was lower.

1.3.3 Summary of Potential Impacts and Major Conclusions

The FEIS considered the dual event cases S2 (Arena plus either a Mariners or Sounders game to have a 40,500 person attendance at Safeco Field) and the triple event case S3 (Arena plus Mariners or Sounders plus small event at CenturyLink Field) to have a 47,500 person attendance at Safeco plus 5,000 person attendance at CenturyLink. During the study for the FEIS, pedestrian counts were conducted and factored up to a design day attendance level condition. However, for the higher attendance game recently counted, a higher concentration of parking was located to the south than captured in the data from the FEIS. As a result, pedestrian volumes on the sidewalk sections in the FEIS under-estimated the pedestrian levels expected for events of the sizes identified for analysis.

Analysis contained in Section 2 of this Addendum identifies the changes in the analysis associated with the revised pedestrian forecasts and the revised sidewalk width adjacent to the Arena along 1st Avenue S. The analysis also updates the pedestrian forecasts and related analysis along all of the sidewalk sections disclosed in the FEIS, including those along 4th Avenue S. Pedestrian flow rates are measured relative to the capacity to provide a “level of crowding”. Sidewalk conditions are characterized as free flow (<10 p/ft/min), restricted (11-23 p/ft/min), or severely restricted (>23 p/ft/min). The City of Seattle does not have an adopted standard.

The May 2015 FEIS identified only one sidewalk segment that was predicted to operate under severely restricted conditions, the east side of 1st Avenue S. between S. Massachusetts Street and S. Atlantic Street. Flows along the east side of 1st Avenue S between S. Massachusetts Street and S. Holgate Street were found to be slightly restricted based on the estimated pedestrian zone of 16 feet.

The revised pedestrian forecasts performed for this Addendum show that without the Arena, severely restricted flow rates would occur at four SoDo sidewalk segments caused by events at Safeco or Century Link Fields (see No Action under Case S2 and Case S3 on Table 2-4 in Section 2 and discussion below). With the Arena, severely restricted flow rates are forecast within six sidewalk segments, including the pedestrian zone immediately in front of the Arena on the east side of 1st Avenue S.:

- **1st Avenue S. between S. Holgate Street and S. Massachusetts Street (East Side).** Cases S2 and S3 would create a calculated drop in pedestrian performance from free flow to severely restricted due to simultaneously exiting events at the Arena and one or more of the other stadia or exhibition halls to the north. Given seasonal schedules for the primary tenants, together with the typical start and ending times of events, this condition would not typically occur.
- **1st Avenue S. between S. Massachusetts Street and S. Atlantic Street (East Side).** Case S1: with Arena Only; Case S2: No Action (with Mariners) and with-project; Case S3: No Action and with-project. The level of pedestrian congestion associated with a Case S1 Arena-only event would be less than the NoAction condition

associated with a Mariner game of 40,500 persons. Occidental Avenue S. between S. Massachusetts St. and S. Atlantic St. provides a parallel route option.

- **1st Avenue S. between S. Massachusetts Street and S. Atlantic Street (West Side).** Case S2 and S3 result in severely restricted flow ratings under either No Action or with project conditions. The sidewalks in this segment are generally 15-17 feet wide, however the effective width is limited by occasional planters and abutting buildings along portions of the sidewalk segment. As in the east side of the street, the No Action condition associated with an event at Safeco in Case S2 results in a worse pedestrian flow than that associated with a capacity event at the proposed Arena, Case S1.
- **4th Avenue S. between S. Atlantic Street and S. Holgate Street (West Side). Similar to the section of 1st Avenue S. between S. Holgate Street and S. Massachusetts Street,** Cases S2 and S3 would create a calculated drop in pedestrian performance from restricted to severely restricted due to simultaneously exiting events at the Arena and Safeco. Given typical schedules, this condition is not expected to occur, both from the perspective of seasonal overlap as well as the hours that events in each venue would start and stop.
- **4th Avenue S. between S. Atlantic Street and S. Holgate Street (East Side).** Severely restricted pedestrian conditions are calculated for this sidewalk segment under both No Action and with-project condition's for Cases S2 and S3. In both cases, the No Action condition associated with the multiple events at CenturyLink and Safeco Fields would exceed the congestion level identified for the with-project condition for Case S1.
- **4th Avenue S. between S. Walker Street and S. Holgate Street (West Side).** Severely restricted pedestrian conditions are calculated for this sidewalk segment under both No Action and with-project condition's for Cases S2 and S3. In both cases, the No Action condition associated with the multiple events at CenturyLink and Safeco Fields would exceed the congestion level identified for the with-project condition for Case S1.

The August 2015 Heffron memorandum draws conclusions that the increased pedestrian congestion (characterized as pedestrian levels of service in the Severely Restricted range) represented by these higher peak pedestrian flows would create an unsafe pedestrian condition adjacent to the proposed Arena. This would suggest that pedestrian flows would exceed the sidewalk width and result in pedestrians walking in the street. While the analysis summarized above identifies sections of sidewalks that would be severely restricted immediately following the ending of one or more events, it does not reach a conclusion that impacts of the Arena would result in an unsafe condition for pedestrians. As summarized above and shown on Table 2-4 in Section 2, severely restricted pedestrian connections occur today on both sides of 1st Avenue S. between S. Atlantic Street and S. Massachusetts Street, on the east

side of 4th Avenue S. between S. Atlantic Street and S. Holgate Street, and on the west side of 4th Avenue S. between S. Holgate Street and S. Walker Street from pedestrians leaving Safeco and/or CenturyLink Fields at the end of events. These severely restricted pedestrian conditions resulting in substantially slowed progress occur multiple times per year , and are not necessarily a hazardous condition. Impacts of the Arena would be controlled through an Event Management Plan, similar to those used by the existing stadia, and would not create unsafe conditions for pedestrians.

**Table 1-1
Summary of Potential Impacts and Major Conclusions**

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Information Contained in May 2015 FEIS		Additional Pedestrian Facility Information	
			Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena
Transportation - Operations	Operation – Pedestrians	<p>Stadium District Connectivity between Stadium Station, SoDo Station, and International District routes to and from the 1st Avenue S./S. Holgate Street area would be consistent with existing conditions. Planned improvements impacting pedestrian routes in the area include multiuse paths as part of the Alaskan Way Viaduct, the First Hill Streetcar, and the railing crossing improvements along S. Holgate Street.</p> <p>Overall, pedestrian connectivity along the five key travel routes would remain good with improvements along 1st Avenue S., Railroad Way, and Alaskan Way creating a more pedestrian-friendly environment.</p> <p>With No Action, there would continue to be a poor connection across S. Atlantic Street when coming to and from the northeast, missing and narrow sidewalks along 3rd and 4th Avenues S., and</p>	<p>Sidewalks along the site frontage would be widened as part of Alternative 2 development.</p> <p>1st and 4th Avenues S.: The calculation of pedestrian flow rates suggests that during the peak 15 minutes associated with a capacity event egress sidewalk, capacities may be exceeded. This could be mitigated via sidewalk widening, rerouting more pedestrians to Occidental Avenue immediately north of the site, or providing more onsite attractions and amenities to reduce peaking characteristics of post-event egress.</p> <ul style="list-style-type: none"> Given the location of the doors to the Arena (northwest and southwest corners of the building) and the 24-foot wide sidewalk or 16-foot wide pedestrian zone proposed along the frontage, flows along 1st Avenue S. between S. Massachusetts and S. Holgate Streets would be slightly restricted. Flow rates on 1st Avenue S. 	<p>With 10 percent less seats, this would result in a 10 percent reduction in the overall pedestrian demand as compared to the Alternative 2. Overall transportation impacts for Alternative 3 would be slightly less than those described for Alternative 2 and the analysis of Alternative 2 fully encompasses any transportation impacts that would occur as a result of developing Alternative 3.</p>	<p>The pedestrian zone along the site frontage on the east side of 1st Avneue S. would be widened to 23 feet, an effective width of 19.5 feet.</p> <ul style="list-style-type: none"> Given the location of the doors to the Arena (northwest and southwest corners of the building) and the 23-foot wide pedestrian zone proposed along the frontage, flows along 1st Avenue S. between S. Massachusetts and S. Holgate Streets would be severely restricted. <p>With the revised pedestrian forecasts, severely restricted flow rates are forecast within the following sidewalk segments and analysis cases:</p> <ul style="list-style-type: none"> 1st Avenue S between S. Holgate Street and S. Massachusetts Street (East Side)– Cases S2 and S3 would create a calculated drop in pedestrian performance from free flow to severely restricted due to simultaneously exiting events at the Arena 	<p>Impacts associated with Alternative 3 would be similar to those described for Alternative 2 above for all event cases. The incremental impact of Alternative 3 would be approximately 10 percent less than that associate with Alternative 2, as a simple ratio of the reduced capacity of an Arena under Alternative 3 compared to Alternative 2. No change in substantive analysis or conclusions would occur as a result of Alternative 3 compared to those described for Alternative 2.</p>

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Information Contained in May 2015 FEIS		Additional Pedestrian Facility Information	
			Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena
		<p>south of S. Atlantic Street. Planned industrial projects north and south of Seattle would result in additional at-grade train crossings on S. Holgate Street with no improvements to pedestrian facilities or provision of pedestrian crossing controls.</p> <p>There is an existing pedestrian access issue along S. Holgate Street related to the lack of storage and pedestrian control at the train crossings.</p> <p>An analysis of No Action Cases S1, S2, and S3 shows This analysis indicates that the sidewalks along 1st and 4th Avenues S. are adequate to accommodate pedestrian demand.</p> <p>Pedestrian queuing analysis at the S. Holgate Street train crossing shows that with higher event demands related to No Action Case S3, queues would be greater than could be accommodated between the railroad tracks and 1st Avenue S.</p>	<p>between S. Atlantic and S. Massachusetts Streets would exceed acceptable levels on the east side for all Alternative 2 scenarios and on the west side under Cases S2 and S3 multi-event scenarios, but this segment would be acceptable under Case S1 or an Arena-only event.</p> <ul style="list-style-type: none"> • Pedestrian flows along 4th Avenue S. between S. Atlantic and S. Walker Streets would generally experience free flow except on the west side of 4th Avenue S between S. Atlantic and S. Holgate Streets where the addition of the Arena would result in some crowding due to a constrained sidewalk section. There is capacity on the east side, so pedestrians wanting to avoid crowds could use these facilities. <p>S. Holgate Street: Alternative 2 would result in substantially more pedestrians along S. Holgate Street than characterized for the No Action conditions during both event ingress and</p>		<p>and one or more of the other stadia or exhibition halls to the north. Given seasonal schedules for the primary tenants, together with the typical start and ending times, this condition would not typically occur.</p> <ul style="list-style-type: none"> • 1st Avenue S. between S. Massachusetts St. and S. Atlantic St. (East Side). – Case S1: with Arena Only; Case S2: No Action (with Mariners) and with-project; Case S3: No Action and with-project. . • 1st Avenue S. between S. Massachusetts St. and S. Atlantic St. (West Side). Case S2 and S3 result in severely restricted flow ratings under either NoAction or with project conditions. As in the east side of the street, the No Action condition associated with an event at Safeco in Case S2 results in a worse pedestrian flow than that associated with a capacity event at the proposed Arena, Case S1. • 4th Avenue S. between S. Atlantic St. and S. Holgate 	

**Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions**

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Information Contained in May 2015 FEIS		Additional Pedestrian Facility Information	
			Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena
			<p>egress. Conflicts between pedestrians and trains would increase with Alternative 2. The introduction of an Arena at this location would substantially increase and concentrate demands over currently observed levels. With increases in event-related pedestrian volumes associated with Alternative 2 and planned increases in train activity, pedestrian access issues would result in the future along S. Holgate Street. Accommodating the large storage needs for pedestrians, particularly during post-event egress, would be difficult.</p> <ul style="list-style-type: none"> • Pedestrian queues and storage needs would be substantially more than characterized for the No Action conditions. • Pedestrian queues attributable to waiting for passing trains would range from approximately 900 to 8,000 pedestrians, depending on the duration of the blockage. • Sidewalk storage to accommodate queues based on current blockage 		<p>Street (West Side). Cases S2 and S3 would experience a calculated drop in pedestrian performance from restricted to severely restricted due to simultaneously exiting events at the Arena and Safeco. Given typical schedules, this condition would rarely occur.</p> <ul style="list-style-type: none"> • 4th Avenue S. between S. Atlantic St. and S. Holgate Street (East Side). Severely restricted pedestrian conditions are calculated for this sidewalk segment under both NoAction and with-project condition's for Cases S2 and S3. In both cases, the No Action condition associated with the multiple event condition exceed the congestion level identified in relation to the with-project condition for Case S1. • 4th Avenue S. between S. Walker St. and S. Holgate Street (West Side). Severely restricted pedestrian conditions are calculated for this sidewalk 	

Table 1-1 (Continued)
Summary of Potential Impacts and Major Conclusions

Environmental Element	Construction and Operation Phases	Alternative 1 – No Action	Information Contained in May 2015 FEIS		Additional Pedestrian Facility Information	
			Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena	Alternative 2 – Proposed Action – Stadium District 20,000 Seat Arena	Alternative 3 – Stadium District 18,000 Seat Arena
			<p>levels of around 10 minutes would be over 500 square-feet.</p> <ul style="list-style-type: none"> Blockages up to 45 minutes (representing increased activity) would result in the need for approximately 2,120 square-feet of storage to accommodate just an Arena event. 		<p>segment under both No Action and with-project condition's for Cases S2 and S3. In both cases, the No Action condition associated with the multiple event condition exceed the congestion level identified in relation to the with-project condition for Case S1.</p> <p>Holgate Street Railroad Crossing Considerations. The pedestrian demands associated with the Case S2 and S3 conditions would be greater than those identified in the FEIS. The Proponent has agreed to fund the construction of a pedestrian bridge to provide safe access across the railroad tracks, and impacts would remain below a level of significantly unavoidable adverse impacts.</p>	
	Operation – Occidental Street Vacation	No impact	<p>Pedestrians/Bicycles: Pedestrians and bicycles would be rerouted to 1st Avenue S. along the site frontage. Low non-event volumes would not result in a significant impact.</p>	Same as Alternative 2	Same as disclosed in the May 2015 FEIS.	Same as Alternative 2

**Table 1-2
Summary of Potential Mitigation Measures**

Environmental Element	Construction and Operation Phases	Mitigation Measures Contained in May 2015 Final EIS	Updated Mitigation Measures for Pedestrian Facilities
Transportation - Operation	Operation	<p>Alternatives 2 and 3 – Required Mitigation or Mitigation Included in Project Proposal</p> <ul style="list-style-type: none"> • Pedestrian Improvements. Implementation of the following pedestrian improvements would contribute to increased safety and / or improved connectivity between the Arena and pedestrian connections to transit and / or offsite parking areas. <ul style="list-style-type: none"> ○ The north-south crossing of S. Atlantic Street at Occidental Avenue S. would be improved by: <ul style="list-style-type: none"> ▪ Providing manual traffic control at the north-south crossing before, during, and after Arena events, and / or, ▪ Developing a more-permanent improvement such as adding a staircase to the south side of S. Atlantic Street connecting to 3rd Avenue S. ○ To improve the connectivity and safety of the east-west pedestrian connection between the Arena site and 4th Avenue S., ArenaCo would be required to develop or implement one of the following: <ul style="list-style-type: none"> ▪ Construction of a pedestrian bridge from the Arena along S. Holgate Street to the east spanning such that it clears the easternmost railroad tracks. This would reduce the need for surface management pedestrian traffic control measures before or after events. The pedestrian bridge should directly connect to the Arena with a pathway wide enough to assure free flow of pedestrians during ingress and egress conditions. ▪ Alternatively, the applicant may provide operating shuttles or jitneys that follow a fixed route on a fixed headway that link the Washington State Ferry terminal, Link 	<p>Alternatives 2 and 3 – Required Mitigation or Mitigation Included in Project Proposal</p> <ul style="list-style-type: none"> • Pedestrian Improvements. Implementation of the following pedestrian improvements would contribute to increased safety and / or improved connectivity between the Arena and pedestrian connections to transit and / or offsite parking areas. <ul style="list-style-type: none"> ○ The north-south crossing of S. Atlantic Street at Occidental Avenue S. would be improved by: <ul style="list-style-type: none"> ▪ Providing manual traffic control at the north-south crossing, and / or, ▪ Developing a more-permanent improvement such as adding a staircase to the south side of S. Atlantic Street connecting to 3rd Avenue S. ○ To improve the connectivity and safety of the east-west pedestrian connection between the Arena site and 4th Avenue S., the Proponent has agreed to to develop and implement the following: <ul style="list-style-type: none"> ▪ Construction of a pedestrian bridge from the Arena along S. Holgate Street to the east spanning such that it clears the easternmost railroad tracks. This would reduce the need for surface management pedestrian traffic control measures before or after events. The pedestrian bridge would directly connect to the Arena with a pathway wide enough to assure free flow of pedestrians during ingress and egress conditions. ▪ If the Arena construction is completed prior to the development of the pedestrian bridge, the Proponent may
	Physical Capacity and Safety Improvements		

**Table 1-2 (Continued)
Summary of Potential Mitigation Measures**

Environmental Element	Construction and Operation Phases	Mitigation Measures Contained in May 2015 Final EIS	Updated Mitigation Measures for Pedestrian Facilities
		<p>Light Rail and Transit Stations to / from the Arena. The intent of these jitneys and / or shuttles would be to provide an incentive for walk-on ferry passengers, transit users and persons parking in more remote offsite parking spaces. A specific shuttle plan would be developed as part of the TMP. The shuttle option would be coupled with pedestrian lighting and sidewalk improvements along 1st Ave S. from S. Holgate Street to S. Lander Street, and along S. Lander Street between 1st Avenue S. and 4th Avenue S.</p> <ul style="list-style-type: none"> • At-Grade Way-Finding System. In coordination with other Stadium District stakeholders, ArenaCo could be required to contribute to development of a way-finding system to guide pedestrians and cyclists to the various venues in the Stadium District. To the extent possible this system will link with and through the Pioneer Square, International District, and SoDo. <p>Potential Mitigation Measures Applicable Only to Alternatives 2 and 3</p> <ul style="list-style-type: none"> • Pedestrian Scale Street Lighting. Consider upgrading street lighting to enhance safety for pedestrians in several areas where there are preexisting low light levels. See Section 3.8 or Appendix E for potential locations. • Bicycle Route Improvements. The Arena could participate in marketing and upgrading the bike route system and prioritize bike lanes in the immediate vicinity of the site. 	<p>provide operating shuttles or jitneys that follow a fixed route on a fixed headway that link the Washington State Ferry terminal, Link Light Rail and Transit Stations to / from the Arena during Arena events. The intent of these jitneys and / or shuttles would be to provide an incentive for walk-on ferry passengers, transit users and persons parking in more remote offsite parking spaces. A specific shuttle plan would be developed as part of the TMP. The shuttle option would be coupled with pedestrian lighting and sidewalk improvements along 1st Ave S. from S. Holgate Street to S. Lander Street, and along S. Lander Street between 1st Avenue S. and 4th Avenue S.</p> <ul style="list-style-type: none"> • The other mitigation measures included in the May 2015 remain as stated in the FEIS.

**Table 1-3
Summary of Secondary and Cumulative Impacts**

Element of the Environment	Secondary or Cumulative Impact for Pedestrians Disclosed in May 2015 FEIS	Updated or Additional Secondary or Cumulative Impacts for Pedestrians
Transportation	<p>Secondary Impacts for Alternatives 2 and 3 (no secondary impacts to pedestrians were identified in the May 2015 FEIS)</p> <p>Cumulative Impacts for Alternatives 2 and 3 (no cumulative impacts to pedestrians were identified in the May 2015 FEIS)</p>	<p>There could be secondary or cumulative impacts to non-event pedestrians in the Pioneer Square and SoDo area due to additional pedestrians walking to and from the Arena. Non-event pedestrians may find sidewalks more crowded before and immediately after events at the Arena, however impacts would be similar or less than those that exist today with events at CenturyLink or Safeco Fields.</p>

**Table 1-4
Summary of Significant Unavoidable Adverse Impacts**

Element of the Environment	Significant Unavoidable Adverse Impact Disclosed in May 2015 FEIS	Updated or Additional Significant Unavoidable Impacts for Pedestrians
Transportation	<p>Significant unavoidable adverse impacts were found for the following sub-elements of transportation:</p> <p>Pedestrian Safety and Connections</p> <ul style="list-style-type: none"> • Alternatives 2 and 3 - Increased frequency of events together with the proximity of the Arena to the S. Holgate Street rail crossings would increase the potential for conflict between pedestrians and rail, east of the site. If a pedestrian overpass were constructed, this issue would be largely eliminated. With at-grade improvements together with increased manual control of pedestrians at crossings, the potential would be reduced but not eliminated. 	<p>Pedestrian Safety and Connections – No significant unavoidable adverse impacts for Alternatives 2 and 3. The increased frequency of events together with the proximity of the Arena to the S. Holgate Street rail crossings would increase the potential for conflict between pedestrians and rail, east of the site. The Proponent has agreed to fund the construction of a pedestrian overpass, and this issue would be largely eliminated. With the new pedestrian bridge, at-grade improvements together with increased manual control of pedestrians at crossings, the potential would be reduced to less than a significant unavoidable adverse impact.</p>

Section 2 - Additional Information About Environmental Impacts and Mitigation Measures

This section repeats information contained in the May 2015 FEIS on pedestrians and provides updated information concerning pedestrian facilities surrounding the proposed Seattle Arena SoDo site.

2.1 Site Plan Components for Pedestrians

2.1.1 Summary of Site Plan Components Identified in May 2015 FEIS

- **Pedestrian Access** – Primary pedestrian access to the site is proposed to be located on the northwest and southwest quadrants of the building. In addition, frontage modifications along S. Holgate Street, 1st Avenue S. and S. Massachusetts Street would include wider sidewalks, street furniture, street trees, rain gardens and understory planting and related building elements.
- **Public / Pedestrian Feature** – A large public plaza that includes seating, water features, pedestrian concrete, and incorporation of permeable pavements, trees and landscaping would be located on the north end of the site.

2.1.2 Summary of Updated Site Plan Components for Pedestrian Facilities

The FEIS analysis was based on a pedestrian zone (contiguous unobstructed walking surface) width on the east side of 1st Avenue S. between S. Massachusetts Street and S. Holgate Street of approximately 19.5 feet (without tables and seating) during peak event flow periods. The updated analysis of pedestrian capacity assumes a pedestrian zone with a physical width of 23 feet. Both the FEIS analysis and the updated analysis include provision for “shy” distances of 1.5 feet from building edge and 2 feet from vertical landscaping (such as tree trunks) or permanently installed street furniture, effectively reducing the area in which pedestrians would walk by 3.5 feet.

The proposal has been updated based on guidance from SDOT to provide pedestrian capacity along the 1st Avenue S. frontage as follows:

- **1st Avenue S. Street Frontage** - the pedestrian zone necessary to accommodate pedestrian flows on the east side of 1st Avenue S. between S. Massachusetts Street and S. Holgate Street shall be comprised of:
 - 23 feet of contiguous unobstructed (no permanent intrusion) walking surface between the building façade and any landscaped/tree/permanent street furniture zone
 - The 23-foot unobstructed space may be located within the public right-of-way (public sidewalk), or on a combination of public sidewalk and private property

- **Events in excess of 15,000 attendees (inclusive of the proposed Arena and all stadia and exhibition halls to the north)** – the 23-foot pedestrian zone shall be kept free of all temporary obstacles (such as chairs, tables, etc.) to allow for unimpeded pedestrian flow
- **On low attendance event days (equal to or less than 15,000 attendees)** - the required unobstructed pedestrian zone shall be a minimum of 18.5 feet. Any use of public sidewalk area for outside dining (tables, chairs, railings, etc.) must be approved through a street use permit issued by SDOT and will not be allowed to encroach upon the required minimum 18.5-foot pedestrian zone.
- **On non-event days (inclusive of all stadia and exhibition halls)** - the required unobstructed pedestrian zone shall be a minimum of 10 feet

In addition to providing a widened pedestrian zone, the Proponent is working with the City to include a pedestrian bridge over the railroad tracks on S. Holgate St. As a result, no specific updating of analysis or discussion of crossing condition is included in this update.

2.2 Event Analysis Cases

2.2.1 Event Analysis Cases Used in May 2015 FEIS

This section describes the basis for determining event cases for analysis of the Stadium District alternatives and the Seattle Center area alternatives, separately, as the factors influencing the determination of the event cases varied between the two site areas. Alternatives 2 and 3 would be located on the same site in the Stadium District of SoDo, and would be influenced by events at CenturyLink Field and Event Center and Safeco Field.

These cases were determined in consideration of these factors:

- **Event Venue Major Tenant Activities** – In the Stadium District alternatives, major tenant activities included both the Proposed Project (Alternative 2) or Alternative 3, as well as the activities associated with Safeco Field and CenturyLink Field and Event Center.
- **Event Calendars** – Existing and future (with arena) event calendars were reviewed as available to assist in identifying potential seasonal overlaps between venue tenants.
- **Event Attendance Frequencies** – Using the seasonal calendars as appropriate, the frequency of event attendance levels at differing thresholds was summarized.
- **Event Analysis Cases** – Using the combination of the two summaries above, analysis cases were identified that provide a basis for understanding impacts of a single event at a new arena as well as multiple event conditions.

See Appendix E of the Final EIS for a detailed description of major tenant activities, event calendars, and existing venue frequencies.

A number of the existing venues have overlapping tenant seasons. The Mariners and Sounders FC schedules overlap from April through November. The Seahawks season starts in August, resulting in a third existing overlapping schedule. Considering the potential for playoffs, there is a generally a four-month window (August to November) where all three existing sports teams could be playing regular season or playoff games.

The current Transportation Management Plan (TMP)¹ developed for Safeco Field and CenturyLink Field addresses this situation and requires that when a dual event is anticipated, and the attendance is expected to exceed 58,000 people for a weekday event and 65,000 people for a weekend event, the events must be separated by a minimum of 4 hours from the completion of one to the start of another.

2.2.1.1 Event Assumptions for New Arena

The following assumptions were made for events in the new Arena:

- NBA Basketball – 41 home games between November and mid-April; up to 16 home playoff games in April and May; and pre-season games in October.
- NHL Hockey – Similar to NBA with additional NHL games occurring in September.
- With a new Arena, the NBA and NHL seasons would generally run concurrently.
- WNBA Basketball – 17 home games from mid-May to late September, plus playoffs.
- Other Arena Events – There is also the potential for increased events unrelated to the professional sports teams. Based on discussion with the proponent a total of 60-65 additional events were assumed to occur, distributed throughout the year, with a slightly higher concentration during November and December.

The primary overlap in schedules with the existing Stadium District venues due to the Proposed Project (Alternative 2) or Alternative 3 would be associated with the WNBA season. This would occur between May and September for the WNBA regular season, extending to October with WNBA playoffs. During these months, the Sounders FC and the WNBA averaged four home games a month. During this same period, the Mariners in 2012 averaged 11-16 home games per month, typically played via 2 week-long home stands. The Mariners and NHL would overlap in September. The most significant potential overlap in schedules would occur in the event that the tenant of the Proposed Project (Alternative 2) or Alternative 3, professional basketball or soccer, is playing a home playoff game and overlapping with a well-attended baseball game in Safeco Field.

¹ 2012 Safeco Field TMP – Dual Event conditions

2.2.1.2 Frequency of Event Attendance Levels

A total of 186 events were identified as potentially occurring in the Arena. Based on typical attendance of 75 to 65 percent for NBA and NHL, respectively, the majority of the events are anticipated to have an attendance of 15,000 or less. The impacts associated with a single event occurring at the new arena would be the most common occurrence (See Table 2-1).

**Table 2-1
Arena Event Attendance Ranges**

Attendance Range (Persons)	Frequency
0 to 500	2
501 to 2,500	0
2,501 to 5,000	10
5,001 to 10,000	52
10,001 to 15,000	88
15,001 to 18,000	12
18,001 to 20,000	22
Total No. Events	186

2.2.1.3 Event Case Attendance

Table 2-2 illustrates the event cases developed for transportation and parking analysis in this document for the Stadium District alternatives.

**Table 2-2
Stadium District - Event Cases for Analysis**

Description	Attendance (Persons)		
	No Action	Action	Project Impact
Alternative 2 - 20,000 Seat Arena			
1 Case S1 – Single Event (Arena Only)			
New Arena	0	20,000	+20,000
Safeco Field	0	0	+0
CenturyLink	0	0	+0
Total Attendance	0	20,000	20,000
2 Case S2 – Dual Event (Arena + Mariners or Sounders)			
New Arena	0	20,000	+20,000
Safeco Field	40,500	40,500	+0
CenturyLink	0	0	+0
Total Attendance	40,500	60,500	20,000
3 Case S3 – Triple Event (Arena + Mariners or Sounders + CenturyLink)			
New Arena	0	20,000	+20,000
Safeco Field	47,500	47,500	+0
CenturyLink	5,000	5,000	+0
Total Attendance	52,500	72,500	20,000
Alternative 3 - 18,000 Seat Arena			
Case S1 – Single Event (Arena Only)			
New Arena	0	18,000	+18,000
Safeco Field	0	0	+0
CenturyLink	0	0	+0
Total Attendance	0	18,000	18,000
Case S2 – Dual Event (Arena + Mariners or Sounders)			
New Arena	0	18,000	+18,000
Safeco Field	40,500	40,500	+0
CenturyLink	0	0	+0
Total Attendance	40,500	58,500	18,000
Case S3 – Triple Event (Arena + Mariners or Sounders + CenturyLink)			
New Arena	0	18,000	+18,000
Safeco Field	47,500	47,500	+0
CenturyLink	5,000	5,000	+0
Total Attendance	52,500	70,500	18,000

The event cases represent the most frequent level of arena impact (Single Event), as well as an illustration of more significant potential, though comparatively rare, multiple event scenarios. Because of the complexity of the analysis, the inclusion of multiple event venues as part of baseline conditions under multiple no action comparison, the event cases have been defined (S1 – S3, reflecting Stadium District Cases 1-3) as follows:

- **Case S1 – Single Event (Arena Only)** – This designation will always describe the event case that includes the Proposed Project (Alternative 2) or Alternative 3, compared to a no action background condition that has no other event added in.
- **Case S2 – Dual Event (Arena plus Mariners or Sounders)** – A well-attended baseball or soccer game together with a capacity event in the Proposed Project (Alternative 2) or Alternative 3 would represent an infrequent, but significant dual event case to illustrate. In this case, the Mariner game would be added to the non-event baseline to provide a Case 2 No Action baseline for analysis comparison.

For purposes of this analysis, and given the proximity of Safeco Field and CenturyLink Field to the Stadium District site, the dual (and triple) event case is characterized as including a high attendance event at Safeco Field (baseball). It should be recognized that the analysis could just as easily represent a similarly sized soccer event at CenturyLink Field. The event case analysis assumes simultaneous events with uniform arrival and departure times as well as total cumulative attendance.

- **Case S3 – Triple Event (Arena + Mariners / Soccer + CenturyLink Concert)** – A triple event scenario was identified that includes activity at all three venues as described above. While even these scenarios may be addressed, limited, or prohibited as a result of a revised event scheduling agreement, the total attendance level likely from this combination was similar to that occurring in the event of a major event at CenturyLink Field, such as Monday night football. It is assumed that a triple event case that included soccer, baseball, and a major event at a new arena would not be scheduled; this would be clarified in the conditions of approval and event scheduling agreement. In this case, the Case 3 No Action baseline would include both the Mariner game and event at CenturyLink. As noted above, the analysis is constructed to reflect a total cumulative event of the attendance indicated.

2.2.2 Event Analysis Cases Based on Updated Environmental Information

2.2.2.1 Tenant Season Overlap

The overlap of tenant seasons of existing venues has been updated. The Mariners and Sounders FC regular season schedules overlap from April through October. The Seahawks season starts in August, resulting in a third existing overlapping schedule. Considering the potential for playoffs, there is a generally a three-month window (August to October) where all three existing sports teams could be playing regular season or playoff games.

2.2.2.2 Updated to Event Assumptions for New Arena

WNBA basketball games in the new Arena were assumed to be 17 home games from mid-May to late September.

2.2.2.3 Basis for Updated Analysis of Pedestrian Impacts

The updated analysis of pedestrian impacts is structured on the same event analysis cases that were presented in the FEIS for the proposed project. It is important to understand the relative impact representative of each event case as it relates to pedestrians.

As described in the FEIS the most frequent event scenario associated with the proposed Arena would be a single event occurring in the Arena, designated Case S1, which reflects a single event occurring in the Arena. Analysis Case S2, reflecting dual events, was modeled at a combined attendance of 60,500 attendees (20,000 capacity event in the Arena, plus a 40,500 Mariner or Century Link event). Analysis Case S3 reflects the potential for three events, one at each stadia venue plus the proposed Arena, totaling 72,500 attendees.

The FEIS traffic study identified the number of event days that would occur at various attendance levels associated with the combined venues, using event calendar data for the existing stadia, and market forecasts associated with the proposed Arena. It indicated that events of up to 60,500 attendees (consistent with Case S2) would increase by about 3 events days annually. The Case S3 event would increase only once annually, due to the proposed project. Recognizing the schedules and attendance levels can vary from year to year, even if the numbers were to double the FEIS impact estimates, the increased frequency of such large multi-events would still reflect a small proportion of the total number of new event days.

The design day, case-specific, analysis of pedestrians reflects the worst-case scenario associated with rare dual and triple event cases which have schedule overlaps. Actual impacts, both before and after events are likely to be somewhat less concentrated than reflected in the analysis, which assumes the simultaneous overlay of the peak pedestrian flows for these events. For example, in the case of an S2 event with baseball, the typical start time for a baseball game is 7:10 PM, and the typical length is 3 hours, which would put the end of the game at about 10:10 PM. Typical start time for an NBA basketball game is 7:00 PM on weeknights, with an average duration of 2 hours 15 minutes, which would put the typical ending time at 9:15 PM. Thus, the typical ending times of these two event venues is separated by approximately one hour. Therefore, the assumed simultaneous overlay of the pedestrian demands leaving baseball and basketball games would be a very infrequent occurrence, especially given the limited seasonal overlap of the two schedules. NHL Hockey operates on a similar schedule to the NBA, with games typically beginning at 7:00 PM, with 2 hour 20 minute average durations. Both of these events, assuming the schedule characteristics mentioned above, would not overlap and result in simultaneous event egress.

The Case S2 and S3 condition reflected in this updated pedestrian analysis reflects a worst-case condition. For this condition to occur, there would have to be out-of-ordinary event schedules with events ending simultaneously and resulting in simultaneous pedestrian outflow from more than a single venue.

2.3 Pedestrian Impact Methodology

2.3.1 Methodology Used in May 2015 FEIS

The pedestrian impact evaluation included a broad assessment of the pedestrian environment in the study area and a more specific, quantitative evaluation of important pedestrian routes during event conditions. The broad analysis provides an understanding of the study area as a whole and the pedestrian environment along specific routes to and from major transportation stations and parking within this study area. The more specific quantitative analysis focuses on the 1st Avenue S., 4th Avenue S., and S. Holgate Street pedestrian links in close proximity to the Stadium District site where concentrations of pedestrian volumes are higher. Additional context related to the broad study area and key link evaluation method is provided below.

The broad study area was identified based on the location of parking facilities and major transportation stations that would accommodate Arena demands. The key components of the study area evaluation include:

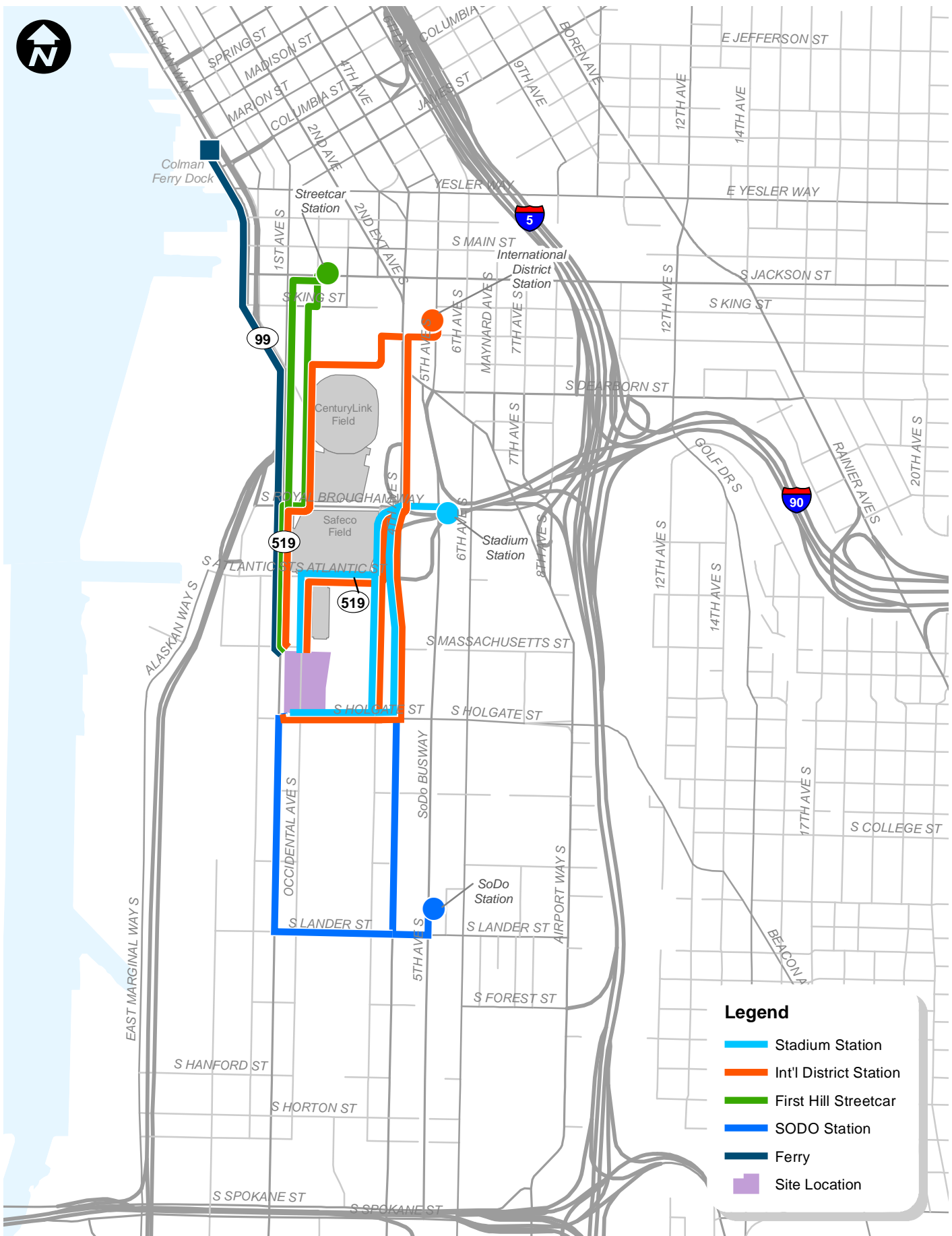
- Existing inventory of pedestrian facilities and identification of planned transportation projects that would impact the study area
- Analysis of the existing and future pedestrian event travel routes to and from major transportation stations and parking in terms of:
 - **Connectivity** or where gaps exist in the pedestrian facilities making it difficult to access the Stadium District site
 - **Quality** or the condition of the pedestrian facilities including lighting and space

Figure 2-1 illustrates the five key pedestrian routes identified for this assessment.

The pedestrian link analysis focuses on weekday post-event conditions when concentrations of pedestrian flows would be highest. Analysis is conducted for one future period representative of both 2018 and 2030 conditions due to the conservative assumptions built into the analysis as well as the fact that the level of pedestrian volumes associated with an event far outweighs non-event background volumes. Pedestrian volumes are a function of event attendance; therefore, based on the same attendance levels 2018 and 2030 volumes would be the same.

The method for the link evaluation includes:

- 1st and 4th Avenues S.: An extension of the traditional Highway Capacity Manual (HCM) methodology was used considering pedestrian flows. It was determined whether sidewalk conditions would be free flow (<10 p/ft/min), restricted (11-23 p/ft/min), or severely restricted (>23 p/ft/min). For severely restricted segments, consideration was given as to whether the conditions were temporary, alternative routes exist, and / or mitigation may be needed to improve conditions.



Stadium District Key Pedestrian Routes

Seattle Arena

FIGURE 2-1

- S. Holgate Street: The effect of potential railroad activity blocking east-west travel for pedestrians and an evaluation of pedestrian storage needs.

See Appendix E of the Final EIS for the basis of estimations of pedestrian volumes and the approach used for each key corridor.

2.3.2 Methodology Used Based on Updated Environmental Information

The methodology used for the updated environmental impact assessments is the same as used for the May 2015 FEIS.

2.4 Affected Environment

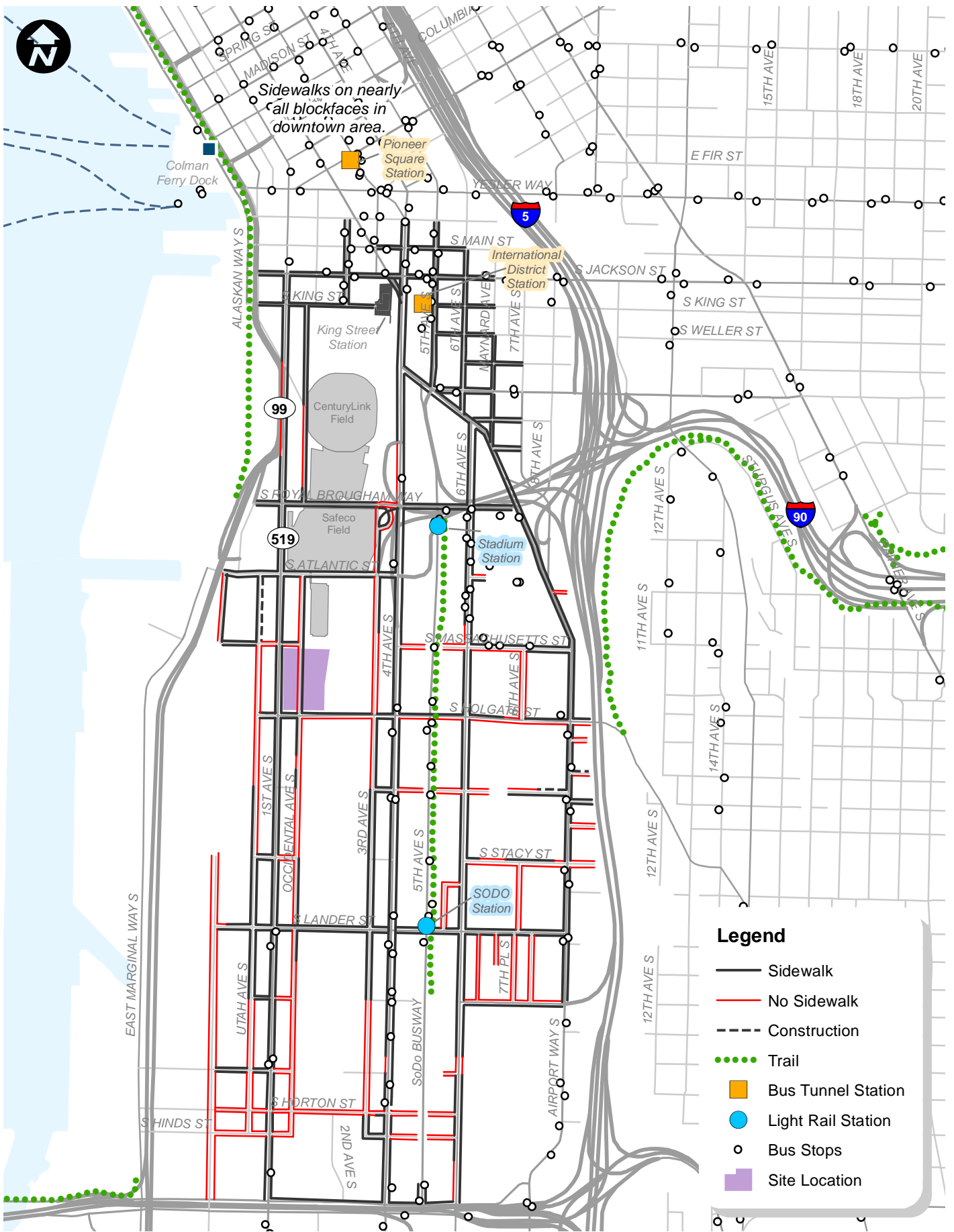
2.4.1 Affected Environment for Pedestrians Described in May 2015 FEIS

The inventory of pedestrian facilities included identification of raised sidewalks, trails, and segments that were missing any kind of facility. Figure 2-2 summarizes the study area pedestrian network and identifies the existing trails and gaps in sidewalk network.

When reviewing the inventory, there is generally a difference in the density of the sidewalk connections north of S. Holgate Street as compared to the area south of S. Holgate Street. This is likely due to the level and nature of the development that has occurred north of S. Holgate Street and its proximity to the CBD.

Most of the major north-south and east-west arterials have sidewalks on one or both sides of the streets. Impediments were identified throughout the area that included fire hydrants, signage, or power poles. These impediments reduce the useable width of the sidewalk for short distances. Sidewalks are more intermittent along minor streets such as Occidental Avenue S., Utah Avenue S., and 3rd Avenue S., south of S. Royal Brougham Way.

Weekday pedestrian flows in the study area without an event are generally to and from transit and employment centers or business employees walking to food establishments or parking. Employment centers in the study area include the King County offices located at 201 S. Jackson Street immediately north of CenturyLink Field and offices in the area of Union Station between 4th Avenue S. and 5th Avenue S. Transit facilities in the northern area that have a large pedestrian draw include King Street Station and the International District / Chinatown Station. Pedestrian activity near the Seattle Arena site and in the southern portion of the study area is generally low given the primarily industrial land uses. This low pedestrian activity also occurs along Occidental Avenue S. between S. Massachusetts and S. Holgate Streets where there are no sidewalks and the uses are industrial. Higher pedestrian activity in the southern portion of the study area occurs along corridors accessing transit (e.g., near the SoDo Busway and Link Light Rail stations) and larger employers (e.g., near the Starbucks Headquarters at 1st Avenue S. and S. Lander Street).



Stadium District Pedestrian Facilities

FIGURE 2-2

The pedestrian travel patterns in the study area change with an event conditions as the main draw becomes either CenturyLink Field or Safeco Field, with flows generally coming to and from event parking areas and transit facilities. Pedestrian volumes in the immediate vicinity of the event venues increase, particularly along 1st Avenue S., S. Jackson Street, S. Royal Brougham Way, and at the signalized pedestrian crossing of 4th Avenue S. between the Union Station Parking Garage and CenturyLink Field. 1st Avenue S. serves as a main north-south pedestrian corridor with several large parking garages in the north and parking lots and on-street parking to the south of CenturyLink Field. The pedestrian volumes along S. Jackson Street, S. Royal Brougham Way and at the 4th Avenue S. signalized crossing are generally related to transit or parking in the International District.

Based on the pedestrian travel patterns described above and the major transportation and parking, four specific routes were identified for further review and are described in the May 2015 FEIS for four major pedestrian routes

- **Stadium Station Route** - These routes are approximately 1/2-mile long and provide access to the closest transit facility (Stadium Station) to the site.
- **SoDo (Lander) Station Route** - The two routes providing access between the site and the SoDo station are both less than one mile long with facilities varying between sidewalks and little to no shoulder.
- **International District Station Route** - The routes providing access between the site and the International District are both almost one mile.
- **Ferry (Colman Dock) Route** - This route is over one mile long.

Link Evaluation

Non-event and post-event pedestrian counts were conducted in May 2013 along the key segments in the vicinity of the site. The post-event conditions represent pedestrian volumes for an attendance level of approximately 13,000. Tables 2-3 and 2-4 in Appendix E provide the link analysis.

1st and 4th Avenues S.: Based on the existing post-event pedestrian volumes along the 1st and 4th Avenues S. study segments flow rates are an acceptable two p/ft/min or less even with the Mariners game. This analysis indicates that the sidewalks on the east and west sides of both 1st and 4th Avenues S. are adequate to accommodate the existing pedestrian demand.

S. Holgate Street: Pedestrians routinely get stopped during the traverse of the span of tracks along S. Holgate Street when a train ahead causes a gate drop and in some cases, a train behind. Event pedestrian demands are particularly prone to this as the groups of pedestrians occurring after an event have limited refuge when they are stopped by a closing crossing gate. This dynamic results in a potential for conflict between pedestrians and train crossings.

The sensitivity analysis for existing non-event and post-event pedestrian demands shows:

- Pedestrian queues range from approximately 10 to 125 pedestrians, depending on the duration of the blockage.
- Length of sidewalk storage to accommodate queues based on current blockage levels of around 10 minutes range from 20 feet without an event to 40 feet with a Mariners game of approximately 13,000 attendees.
- Blockages up to 45 minutes (representing increased activity) would result in the need for approximately 140 feet of storage to accommodate existing pedestrian demands, which can be accommodated within the existing sidewalk area along S. Holgate Street on the north side.

2.4.2 Affected Environment for Pedestrians Based on Updated Environmental Information

The affected environment for pedestrians is the same as identified in the May 2015 FEIS.

2.5 Impacts

2.5.1 Pedestrian Forecasts

2.5.1.1 Pedestrian Forecasts Used for Analysis in May 2015 FEIS

The FEIS No Action Case S2 and S3 pedestrian volumes were forecast by proportionally increasing the existing post-event pedestrian volumes to reflect attendance levels consistent with the event case demands. The existing post-event pedestrian volumes were factored up to design day conditions based on a Mariners game with an attendance of approximately 13,000.

2.5.1.2 Pedestrian Forecasts Based on Updated Environmental Information

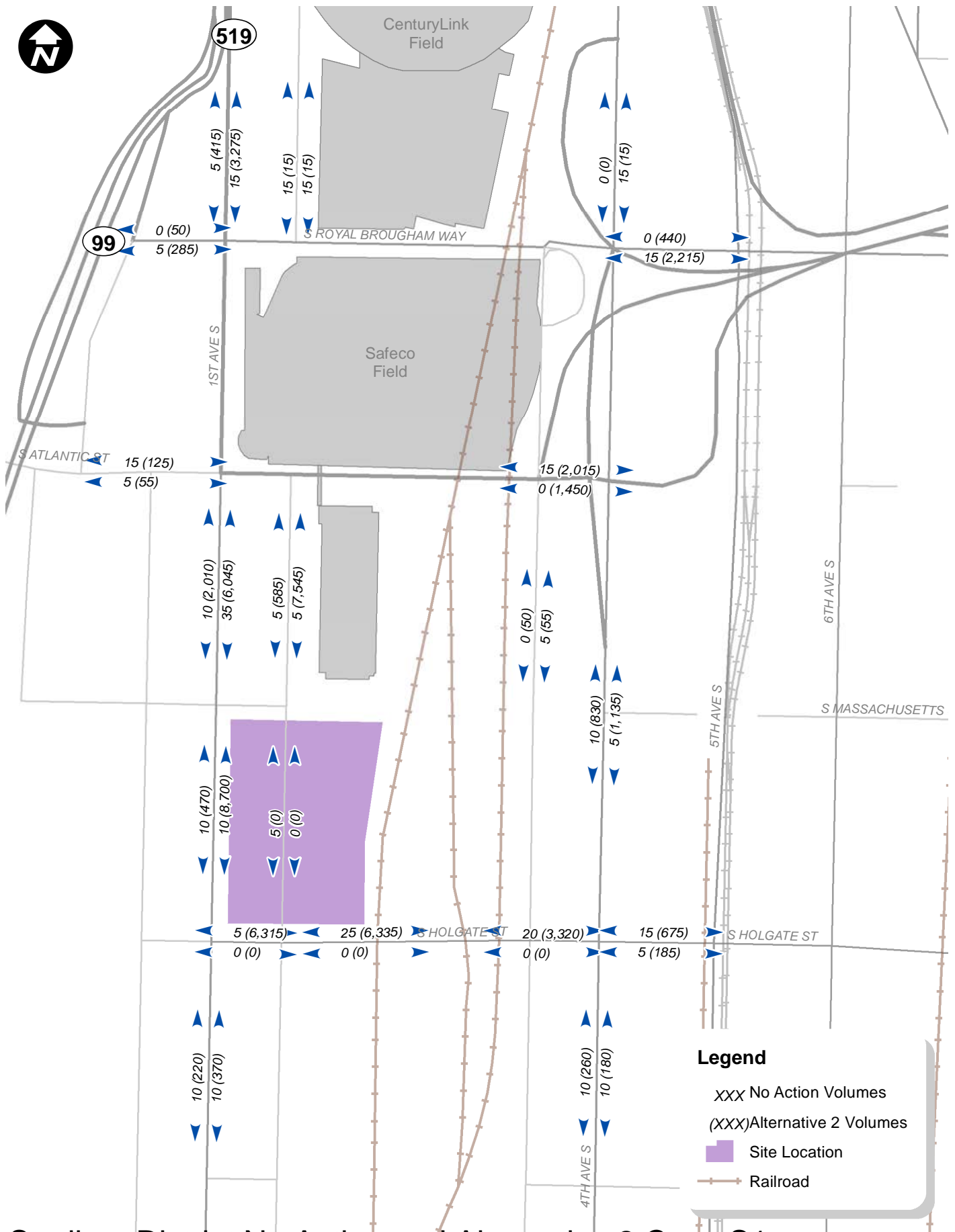
The No Action Case S2 and S3 pedestrian forecasts were updated to reflect the higher pedestrian demands. The methodology reflected in this analysis includes:

- Pedestrian volume from June 2015 Occidental Avenue S. pedestrian count (i.e., 2,800 pedestrian per hour, source: Heffron Transportation, Inc. 2015 – *Technical Memorandum – New Seattle Arena*) was proportioned to reflect the Case S2 and S3 attendance levels.
- Pedestrian volume on the remaining study segments were estimated by applying the factor identified in the updated Occidental Avenue S. pedestrian volumes to all applicable sidewalk sections
- Consistent with the FEIS, Alternative 2 Cases S2 and S3 forecasts were determined by adding Arena pedestrian demands associated with travel demand / mode split estimates to the No Action Case S2 and S3 forecasts.

- For Alternative 2, the Occidental Avenue S. pedestrian demands between S. Massachusetts and S. Holgate Streets were shifted to 1st Avenue S. between S. Massachusetts and S. Holgate Streets as a result of the project and associated street vacation. It was assumed that 75 percent of the pedestrians would utilize the east sidewalk and the remaining 25 percent the west sidewalk.
- For analysis purposes, all hourly pedestrian volumes were broken down to the highest 15-minute increment, consistent with the prescribed methodology. The updated count data had a peaking factor of 65 percent that was applied to the analysis; the FEIS count data was lower.

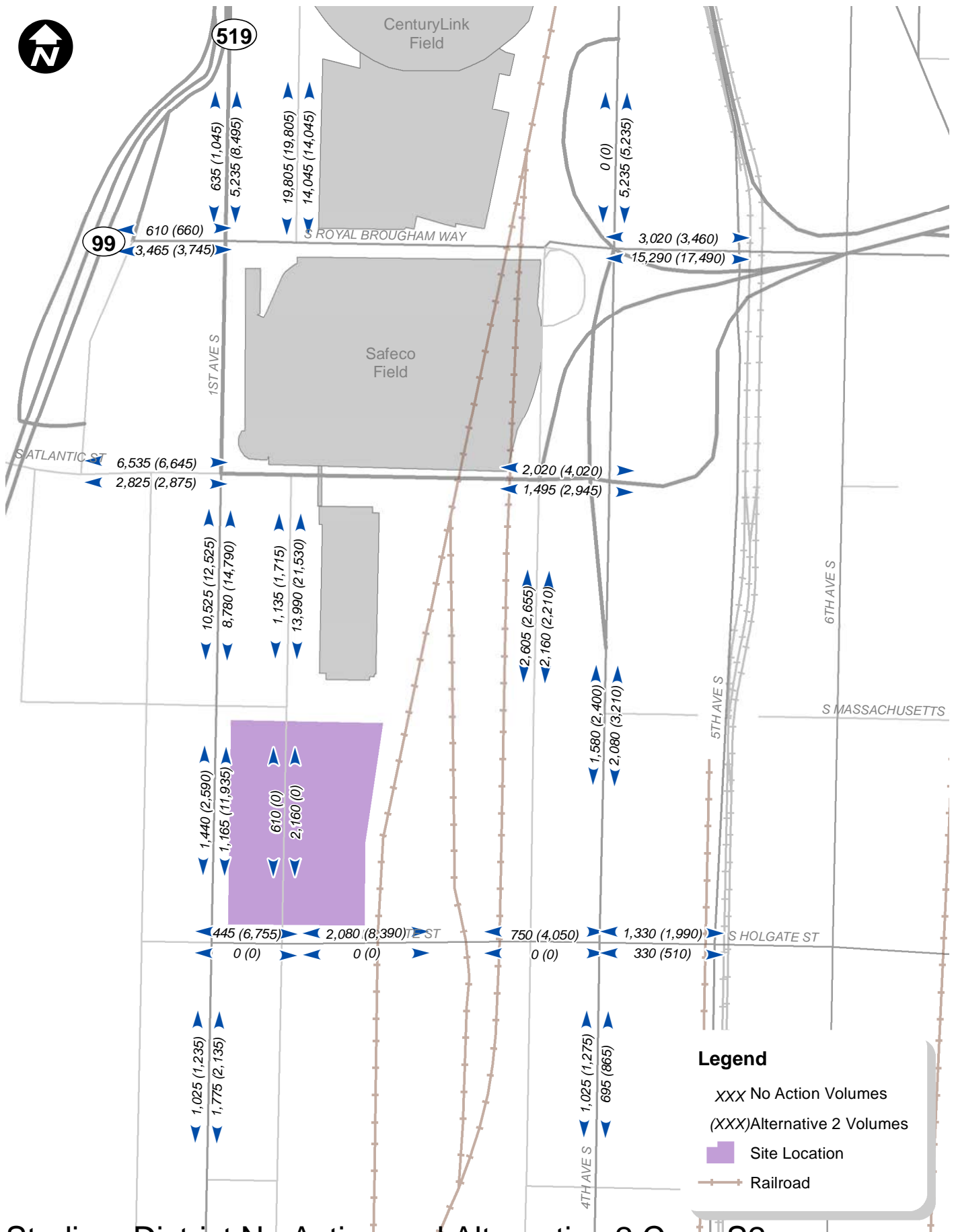
Figures 2-3, 2-4 and 2-5 reflect updated pedestrian forecasts associated with the updated 2015 counts from the 2015 Heffron memorandum. Each figure shows the respective No Action pedestrian forecasts appropriate for each analysis case. They reflect forecasts tailored to the Case S2 and S3 analysis condition, using the higher pedestrian count base provided by the June 2015 data.

Table 2-3 provides a summary of the comparison of the updated hourly pedestrian volumes forecast for the post-event analysis cases, and compares them to those in the FEIS, at the study area sidewalk segments.



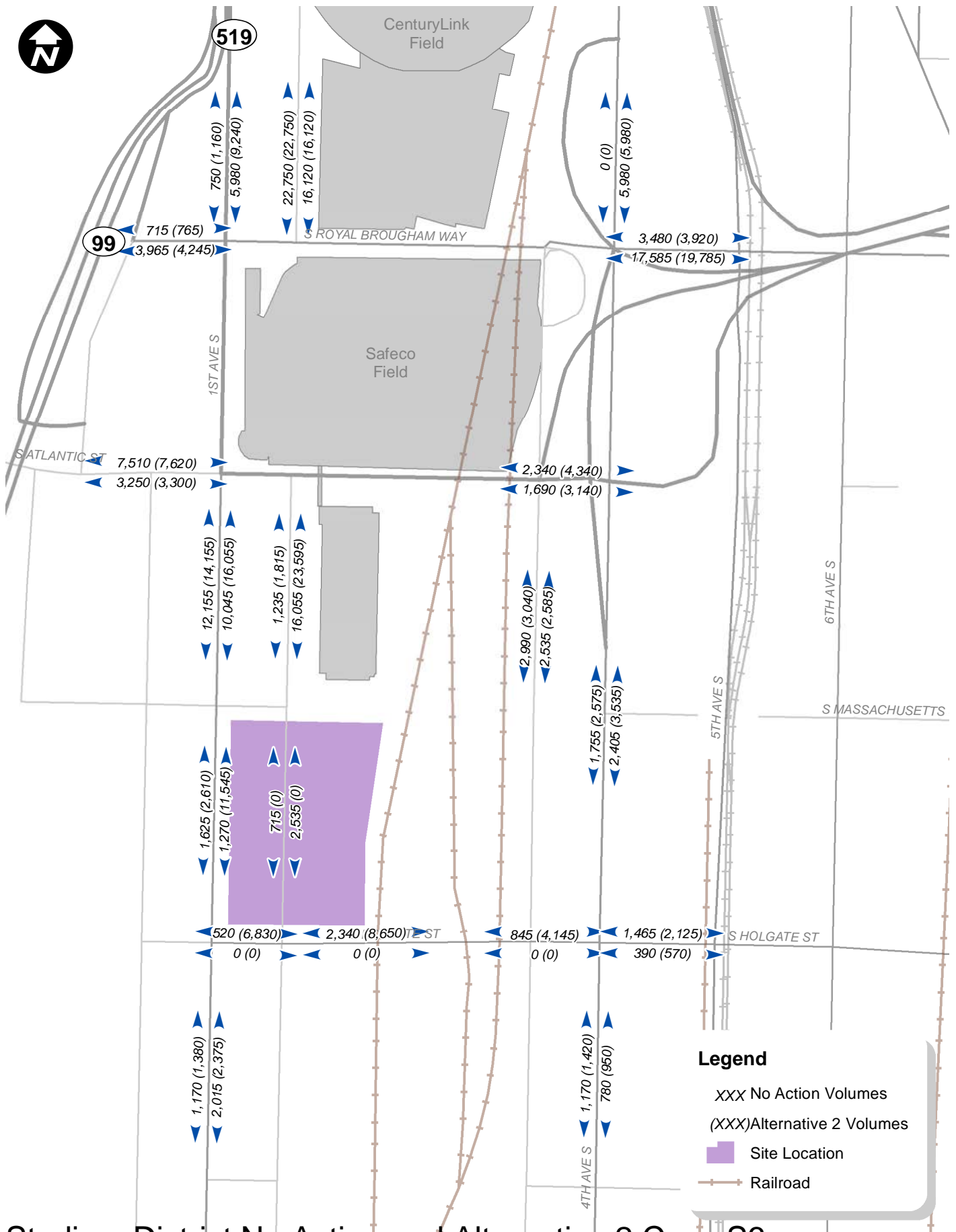
Stadium District No Action and Alternative 2 Case S1
Post-Event Pedestrian Volumes

FIGURE
2-3



Stadium District No Action and Alternative 2 Case S2
 Post-Event Pedestrian Volumes

FIGURE
 2-4



Stadium District No Action and Alternative 2 Case S3
 Post-Event Pedestrian Volumes

FIGURE
 2-5

**Table 2-3
Comparison of Post-Event Hourly Pedestrian Volumes**

	Case S1			Case S2				Case S3			
	No Action	Alt 2		No Action		Alt 2		No Action		Alt 2	
		Original	Revised	Original	Revised	Original	Revised	Original	Revised	Original	Revised
1st Ave - West Side											
Atlantic to Massachusetts	10	2,010	2,010	1,540	10,525	3,540	12,525	2,000	12,155	4,000	14,155
Massachusetts to Holgate	10	470	470	210	1,440	670	2,590	270	1,625	730	2,610
Holgate to Walker	10	220	220	150	1,025	360	1,235	190	1,170	400	1,380
1st Ave - East Side											
Atlantic to Massachusetts	35	6,045	6,045	1,285	8,780	7,295	14,790	1,655	10,045	7,665	16,055
Massachusetts to Holgate	10	8,700	8,700	170	1,165	8,860	11,935	210	1,270	8,900	11,545
Holgate to Walker	10	370	370	260	1,775	620	2,135	330	2,015	690	2,375
4th Ave - West Side											
Atlantic to Holgate	10	840	830	230	1,580	1,060	2,400	290	1,755	1,120	2,575
Holgate to Walker	10	260	260	150	1,025	400	1,275	190	1,170	440	1,420
4th Ave - East Side											
Atlantic to Holgate	5	1,125	1,135	305	2,080	1,425	3,210	395	2,405	1,515	3,535
Holgate to Walker	10	180	180	100	695	270	865	130	780	300	950

2.5.2 Operation Impacts of the No Action Alternative at Alternative 2 and 3 Site

2.5.2.1 Impacts of No Action Alternative Identified in May 2015 FEIS

1st and 4th Avenues S.: Based on the No Action post-event pedestrian volumes along the 1st Avenue S. study segments flow rates are acceptable with rates less than 10 p/ft/min. This analysis indicates that the sidewalks on the east and west sides of 1st and 4th Avenues S. are adequate to accommodate the No Action pedestrian demand under all event cases.

S. Holgate Street: During train crossings, pedestrian queues range from 5 to 450 pedestrians, depending on the duration of the blockage. Blockages up to 45 minutes (representing increased activity) would result in the need for approximately 505 feet of storage to accommodate the Case S3 representing 52,500 attendees. This pedestrian queue would be greater than could be accommodated between the railroad tracks and 1st Avenue S. along S. Holgate Street; therefore, pedestrians would likely stand closer together and/or extend back along the sidewalk along 1st Avenue S. As noted in the Affected Environment, the pedestrian environment along S. Holgate Street, with related lack of storage, and proliferation of rail crossings, creates an environment with opportunity for conflicts between pedestrians and rail activity. With increases in pedestrians associated with the No Action and planned increases in train activity, these issues would likely increase in the future along S. Holgate Street.

2.5.2.2 Impacts of No Action Alternative Based on Updated Environmental Information

Impacts of the No Action Alternative are generally discussed in the context of the updated analysis Alternative 2. The updated pedestrian forecasts only impacted a background condition associated with a multiple event scenario (Cases S2 and S3), resulting in higher No Action pedestrian congestion levels, as well as higher levels associated with the with-project condition for those event cases.

2.5.3 Impacts of the Proposed Project (Alternative 2) – Stadium District 20,000-Seat Arena

2.5.3.1 Impacts of Alternative 2 – Stadium District 20,000-Seat Arena – Identified in May 2015 FEIS

Alternative 2 construction would result in intermittent sidewalk closures along the frontage of the site (i.e., 1st Avenue S. and S. Massachusetts and Holgate Streets). A construction management plan would be developed and alternate pedestrian circulation would be provided adjacent to the construction site through the use of temporary walkways, detours and signs.

The following describes the Alternative 2 pedestrian context in terms of the broad study area and proximate links.

Broad Study Area Evaluation

Alternative 2 is not anticipated to change the wider study area or the pedestrian environment along the key travel routes to and from the Stadium District site described in the Affected Environment and No Action.

This alternative would result in the vacation of Occidental Avenue S. between S. Massachusetts Street and S. Holgate Street; therefore, travel patterns for pedestrians using this connection would change. Pedestrian activity occurring along this portion of Occidental Avenue S. is generally minimal during non-event conditions. As event attendance increases, use by pedestrians walking to and from parking located to the south increases. In addition, there are no sidewalk facilities along this segment of Occidental Avenue S., and the environment is poor given the undefined pedestrian area and the level of business activity occurring. Pedestrians currently using Occidental Avenue S. would likely shift to 1st Avenue S., which has an improved pedestrian environment with a connected sidewalk system. The 1st Avenue S. sidewalk frontage between S. Massachusetts and S. Holgate Streets is proposed at 15 feet, which is adequate to accommodate expected levels of pedestrians for Alternative 2.

Link Evaluation

The evaluation considers frontage improvements along 1st Avenue S. and S. Holgate Street with Alternative 2. Alternative 2 Case S1 pedestrian flows would be restricted and pedestrians would experience crowded conditions assuming the identified peaking characteristics. The multi-event cases (Case S2 and S3) would cause further restricted flows on the east side as well as degrade conditions on the west side of 1st Avenue S. between S. Atlantic and S. Massachusetts Streets.

1st and 4th Avenues S.: Alternative 2 results in a large increase in the pedestrian flow rate along all segments given the proximity of the site to these roadways:

- Alternative 2 Case S1 pedestrian flows on the east side of 1st Avenue S. between S. Atlantic and S. Massachusetts Streets would be severely restricted and pedestrians would experience crowded conditions, assuming the identified peaking characteristics.
- The multi-event cases (Case S2 and S3) would cause further restricted flows on the east side as well as degrade conditions on the west side of 1st Avenue S. between S. Atlantic and S. Massachusetts Streets.
- Given the location of the doors to the Arena along 1st Avenue S. at the northwest (at 1st Avenue S./S. Massachusetts Street) and southwest (1st Avenue S./S. Holgate Street) corners of the building and the approximately 24-foot wide sidewalk (16-foot pedestrian zone) proposed along the frontage, flows along 1st Avenue S. between S. Massachusetts and S. Holgate Streets would be slightly restricted.
- Pedestrian flows along 4th Avenue S. between S. Atlantic and S. Walker Streets would generally experience free flow except on the west side of 4th Avenue S. between S.

Atlantic and S. Holgate Streets where the addition of the Arena would result in some crowding due to a constrained sidewalk section. There is capacity on the east side, so pedestrians wanting to avoid crowds could use these facilities. It is noted that along 4th Avenue S. the sidewalk conditions (including width and lack of maintenance) and poor lighting make this route less accessible for pedestrians.

The calculation of pedestrian flow rates suggests that during the peak 15 minutes associated with a capacity event egress sidewalk on the east side of 1st Avenue S. north of Massachusetts Street would be crowded as a result of the Arena. This could be mitigated by rerouting more pedestrians to Occidental Avenue S. immediately north of the site, and / or providing more onsite attractions and amenities to reduce peaking characteristics of post-event egress.

S. Holgate Street: The evaluation assumed that the sidewalk along the S. Holgate Street Arena frontage would be widened to 24-foot and that given the crowding during post event conditions up to 8 pedestrians would walk side-by-side. By comparison, the No Action assumes up to 2 pedestrians would walk side-by-side. Alternative 2 would result in substantially more pedestrians along S. Holgate Street than characterized for the No Action conditions during both event ingress and egress. It is likely that conflicts between pedestrians and trains would increase with Alternative 2 exacerbating an issue that exists under current event and non-event conditions. The introduction of an Arena at this location would substantially increase and concentrate demands over currently observed levels.

As illustrated by the sensitivity analysis for Alternative 2 pedestrian demands:

- Pedestrian queues and storage needs would range from approximately 15 to 330 times greater than characterized for the No Action conditions.
- Pedestrian queues attributable to waiting for passing trains would range from approximately 900 to 8,000 pedestrians, depending on the duration of the blockage.
- Sidewalk storage to accommodate queues based on current blockage levels of around 10 minutes would be over 500 feet.
- Blockages up to 45 minutes (representing increased activity) would result in the need for approximately 2,120 square-feet of storage to accommodate just an Arena event. This would mean that pedestrian queues would extend to 1st Avenue S.

As noted in the Affected Environment, there is an existing pedestrian access issue along S. Holgate Street related to the lack of storage. With significant increases in event-related pedestrian volumes associated with Alternative 2 and planned increases in train activity, pedestrian access issues would increase in the future along S. Holgate Street. Accommodating the large storage needs for pedestrians, particularly during post-event egress, would be difficult even with enhanced at-grade crossings and pedestrian treatments.

2.5.3.2 Impacts of Alternative 2 Based on Updated Environmental Information

The following provides an updated pedestrian analysis reflective of additional pedestrian data collected for a Mariners game on June 19, 2015 with an attendance of 40,956 (approximately 41,000) persons. The updated pedestrian data is documented in the 2015 Heffron memorandum. The June 2015 Mariners data shows that the forecasted pedestrian volumes along sidewalks south of Safeco Field are likely to be higher than presented in the Seattle Arena FEIS. The new analysis contained in this Addendum focuses primarily on an updated capacity analysis. The findings and recommendations previously noted for the link evaluation regarding lighting and wayfinding remain the same as described in the FEIS.

The FEIS considered the dual event cases S2 (Arena plus either a Mariners or Sounders game to have a 40,500 person attendance at Safeco Field) and the triple event case S3 (Arena plus Mariners or Sounders plus small event at CenturyLink Field) to have a 47,500 person attendance at Safeco plus 5,000 person attendance at CenturyLink. During the study for the FEIS, pedestrian counts were conducted and factored up to a design day attendance level condition. However, for the higher attendance game recently counted, a higher concentration of parking was located to the south than captured in the data from the FEIS. As a result, pedestrian volumes on the sidewalk sections in the FEIS under-estimated the pedestrian levels expected for events of the sizes identified for analysis Cases S2 and S3.

The 2015 Heffron memorandum draws conclusions that the increased pedestrian congestion (represented as pedestrian levels of service in the Severely Restricted range) represented by these higher peak pedestrian flows would create an unsafe pedestrian condition adjacent to the proposed Arena. This would suggest that pedestrian flows would exceed the sidewalk width and result in pedestrians walking in the street. The analysis described below updates the pedestrian forecasts and related analysis for the sidewalk and pedestrian zone in front of the Arena on 1st Avenue S., and along all of the sidewalk sections disclosed in the FEIS. While the analysis identifies sections of sidewalks that would be severely restricted immediately following the ending of one or more events, it does not reach a conclusion that impacts of the Arena would result in an unsafe condition for pedestrians.

The updated description of impacts below is based on Alternative 2, which reflects the larger (20,000 seat capacity) of the two SoDo Alternatives. It is recognized that Alternative 3 would result in similar, though marginally lower impacts based on smaller attendance, as described in the FEIS.

Table 2-4 shows the 1st and 4th Avenues S. Alternative 2 pedestrian flow analysis as compared to the No Action conditions for each event case. Pedestrian flow rates are measured relative to the capacity to provide a “level of crowding”. Sidewalk conditions are characterized as free flow (<10 p/ft/min), restricted (11-23 p/ft/min), or severely restricted (>23 p/ft/min). The City of Seattle does not have an adopted standard.

**Table 2-4
Pedestrian Flow Assessment – Comparison of No Action and Alternative 2
(Simultaneous Post Event Case)**

Sidewalk or Pedestrian Zone Section		Case S1		Case S2		Case S3	
		Pedestrian Flow Rate ¹ (p/ft/min) / Level of Crowding ²		Pedestrian Flow Rate ¹ (p/ft/min) / Level of Crowding ²		Pedestrian Flow Rate ¹ (p/ft/min) / Level of Crowding ²	
		No Action ³	Alt 2 ⁴	No Action	Alt 2 ⁴	No Action	Alt 2 ⁴
1st Avenue S.	S. Atlantic St to S. Massachusetts St West Side (width ⁵ = 8.5-feet)	<1 / Free Flow	10 / Free Flow	54 / Severely Restricted	64 / Severely Restricted	62 / Severely Restricted	72 / Severely Restricted
	East Side (width ⁵ = 5.5-feet)	<1 / Free Flow	47 / Severely Restricted	69 / Severely Restricted	117 / Severely Restricted	79 / Severely Restricted	126 / Severely Restricted
	S. Massachusetts St. to S. Holgate St West Side (width ⁵ = 7-feet)	<1 / Free Flow	3 / Free Flow	9 / Free Flow	16 / Restricted	10 / Free Flow	18 / Restricted
	East Side (width ⁵ = 7-feet [No Action Sidewalk] width ⁵ = 19.5-feet [Alt 2 Pedestrian Zone])	<1 / Free Flow	19 / Restricted	7 / Free Flow	27 / Severely Restricted	8 / Free Flow	28 / Severely Restricted
	S. Holgate St to S. Walker St West Side (width ⁵ = 9-feet)	<1 / Free Flow	1 / Free Flow	5 / Free Flow	6 / Free Flow	6 / Free Flow	7 / Free Flow
	East Side (width ⁵ = 6-feet)	<1 / Free Flow	3 / Free Flow	13 / Restricted	15 / Restricted	15 / Restricted	17 / Restricted
4th Avenue S.	S. Atlantic St to S. Holgate St West Side (width ⁵ = 3.5-feet)	<1 / Free Flow	17 / Restricted	20 / Restricted	36 / Severely Restricted	22 / Restricted	38 / Severely Restricted
	East Side (width ⁵ = 3.5-feet)	<1 / Free Flow	7 / Free Flow	26 / Severely Restricted	33 / Severely Restricted	30 / Severely Restricted	37 / Severely Restricted
	S. Holgate St to S. Walker St West Side (width ⁵ = 1-feet)	<1 / Free Flow	8 / Free Flow	45 / Severely Restricted	51 / Severely Restricted	51 / Severely Restricted	57 / Severely Restricted
	East Side (width ⁵ = 3.5-feet)	<1 / Free Flow	3 / Free Flow	9 / Free Flow	12 / Restricted	10 / Free Flow	13 / Restricted

1. Pedestrian flow calculation based on the 2010 *Highway Capacity Manual* (HCM) method using the peak 15-minute pedestrian demand rounded to the nearest 20 pedestrians to determine peak hourly flows. The calculated flow reflects the most constrained portion of the evaluated sidewalk section and is expressed in pedestrian per feet per minute (p/ft/min)
2. Based on HCM, free flow is <10 p/ft/min, restricted is 11-23 p/ft/min, and severely restricted is >23 p/ft/min.
3. No Action Case S1 pedestrian flow is consistent with existing non-event conditions since the pedestrian demand in the study area is low during the post-event time period when there is no event at the existing venues.

4. Assessment assumes pedestrian improvements along site frontage including 1st Avenue S. between S. Massachusetts Street and S. Holgate Street where a 23-foot pedestrian zone (19.5-foot effective width) is assumed on the east side of the street per direction given by City of Seattle SDOT and DPD staff.
5. The analysis assumes the smallest effective walkway width measured along the segment; therefore, widths may be greater in some areas. An effective walkway width of 19.5-feet is assumed along the 1st Avenue S. Arena frontage.

As indicated, the number of sidewalk sections now forecast to exhibit severely restricted flow conditions during the post event peak 15 minutes associated with the identified (worst case) analysis cases has increased from one to six. This increase is a product of both the updated pedestrian forecasts and the application of the higher 15-minute peaking factor inherent in the data.

The FEIS identified severely restricted flow within the following sidewalk sections:

- **1st Avenue S. between S. Massachusetts Street and S. Atlantic Street (East Side)**

With the revised pedestrian forecasts, severely restricted flow rates are forecast within the following sidewalk segments and analysis cases:

- **1st Avenue S. between S. Holgate Street and S. Massachusetts Street (East Side)**— Cases S2 and S3 would create a calculated drop in pedestrian performance from free flow to severely restricted due to simultaneously exiting events at the Arena and one or more of the other stadia or exhibition halls to the north. Given seasonal schedules for the primary tenants, together with the typical start and ending times of events, this condition would not typically occur.
- **1st Avenue S. between S. Massachusetts Street and S. Atlantic Street (East Side).** – Case S1: with Arena Only; Case S2: No Action (with Mariners) and with-project; Case S3: No Action and with-project. As shown the level of pedestrian congestion associated with a Case S1 Arena-only event would be less than the No Action condition associated with a Mariner game of 40,500 persons. Occidental Avenue S. between S. Massachusetts Street and S. Atlantic Street provides a parallel route option. It is noted, however, that, less than a full block away from a major sports venue, severely restricted pedestrian conditions resulting in substantially slowed progress is not an unusual, or necessarily a hazardous condition.
- **1st Avenue S. between S. Massachusetts Street and S. Atlantic Street (West Side).** Case S2 and S3 result in severely restricted flow ratings under either No Action or with project conditions. Although the sidewalks in this segment are generally 15-17 feet wide, the effective width is limited by occasional planters and abutting buildings along portions of the sidewalk segment. As in the east side of the street, the No Action condition associated with an event at Safeco in Case S2 results in a worse pedestrian flow than that associated with a capacity event at the proposed Arena, Case S1.

- **4th Avenue S. between S. Atlantic Street and S. Holgate Street (West Side).** Similar to the section of 1st Avenue S. between S. Holgate Street and S. Massachusetts Street, Cases S2 and S3 would create a calculated drop in pedestrian performance from restricted to severely restricted due to simultaneously exiting events at the Arena and Safeco. Given typical schedules, this condition is not expected to occur, both from the perspective of seasonal overlap as well as the hours that events in each venue would start and stop. The with-project impact of an event at the arena only (S1) would result in less pedestrian congestion than that associated with the No Action condition of either Case S2 or S3. The capacity-limiting factors in this sidewalk section are typically light poles located in the sidewalk on 90-150-foot spacing.
- **4th Avenue S. between S. Atlantic Street and S. Holgate Street (East Side).** Severely restricted pedestrian conditions are calculated for this sidewalk segment under both No Action and with-project condition's for Cases S2 and S3. In both cases, the No Action condition associated with multiple events at CenturyLink and Safeco Fields would exceed the congestion level identified in relation to the with-project condition for Case S1. This sidewalk section is characterized by widths ranging from over 20 feet on the north, to as little as 5 feet, where, near Holgate Street, buildings, fences, and or landscaping contribute to a narrower effective width affecting capacity calculations.
- **4th Avenue S. between S. Walker Street and S. Holgate Street (West Side).** Severely restricted pedestrian conditions are calculated for this sidewalk segment under both No Action and with-project condition's for Cases S2 and S3. In both cases, the No Action condition associated with multiple events at CenturyLink and Safeco Fields would exceed the congestion level identified in relation to the with-project condition for Case S1. This sidewalk section has widths ranging from 4 to 10 feet, but the effective width is impacted by occasional light poles and adjacent fences, which reduce the effective width to as little as 1 to 2 feet at these limited locations.

Holgate Street Railroad Crossing Considerations. The FEIS acknowledged that at-grade crossings of the railroad tracks along Holgate Street, especially considering the level of increasing rail activity planned in the future, was undesirable and capacity constrained when post-event egress coincided with a major train event. While manual control and physical barriers would inhibit undesired pedestrian crossing, it was acknowledged to be a significant adverse impact in the FEIS. To mitigate the impact and reduce the impacts to less than significant, the FEIS identified the need for the Proponent to either develop a pedestrian bridge from the Arena along S. Holgate Street to the east, or implement shuttles or jitneys that would operate during Arena events to connect the Arena with Link Light Rail, transit stations and the Colman Ferry terminal. The Proponent has since agreed to fund the construction of a pedestrian bridge.

The pedestrian demands associated with the Case S2 and S3 conditions would be greater than those identified in the FEIS. With the implementation of the proposed mitigation, impacts would remain below a level of significantly unavoidable adverse impacts.

2.5.4 Operation Impacts of Alternative 3 – Stadium District 18,000-Seat Arena

2.5.4.1 Impacts of Alternative 3 – Stadium District 18,000-Seat Arena – Identified in May 2015 FEIS

With 10 percent less seats, this would result in a 10 percent reduction in the overall pedestrian demand as compared to the Alternative 2. Overall transportation impacts for Alternative 3 would be slightly less than those described for Alternative 2 and the analysis of Alternative 2 fully encompasses any transportation impacts that would occur as a result of developing Alternative 3.

2.5.4.2 Impacts of Alternative 3 Based on Updated Environmental Information

Impacts associated with Alternative 3 would be similar to those described for Alternative 2 above for all event cases. The direct pedestrian impact of Alternative 3 would be approximately 10 percent less than that of Alternative 2, as a simple ratio of the reduced capacity of an Arena under Alternative 3 compared to Alternative 2. Cumulatively, the pedestrian impacts of Alternative 3 with the impacts of other stadia in the area would be similar to those of Alternative 2. No change in substantive analysis or conclusions would occur as a result of Alternative 3 compared to those described for Alternative 2.

2.6 Occidental Avenue South Street Vacation (as it relates to Pedestrians)

2.6.1 Occidental Avenue South Street Vacation Impacts Described in May 2015 FEIS

An element of the Alternative 2 and Alternative 3 proposals includes the vacation of Occidental Avenue S. between S. Holgate Street and S. Massachusetts Street. The cumulative conditions with an arena event, inclusive of the street vacation, were accounted for in the analysis of Alternatives 2 and 3. This section provides a focused comparison of conditions intended to isolate the impacts of the vacation itself. It includes a comparison to developing the site under the current zoning; assuming no vacation of Occidental Avenue S. This additional development scenario is not considered an alternative for purposes of the EIS evaluations but has been included for purposes of assessing the impacts of the Occidental Avenue S. street vacation. This section evaluates the proposed street vacation, independently, and in the context of the development proposal.

2.6.1.1 Context

Occidental Avenue S. is classified as an access street. It serves a variety of purposes, ranging from local access for adjacent business and events, staging for events at Safeco Field and CenturyLink Field, event parking, to a potential route bypass to 1st Avenue S. during periods of higher traffic congestion.

2.6.1.2 Local Circulation Issues

The Mariners emphasized the importance of maintaining accessibility to the Safeco Field parking garage and surface parking lot, as well as the service road and fire lane, and noted the use of the plaza area between the parking structure and Occidental Avenue S. for bus staging.

- **Safeco Field Parking Garage – Access and Usage.** The parking garage is used daily by staff and vendors at the facility, with approximately 250 parking spaces identified for these uses. Another 50 spaces are leased to adjacent office properties, except during game days. Access to the garage is provided directly from S. Atlantic Street on the north, as well as on the south and east faces of the garage, which access the street system via S. Massachusetts Street and / or Occidental Avenue S.
- **Service Road / Surface Parking Lot.** This drive, which extends east via an extension of S. Massachusetts Street, provides direct southerly access to the parking garage. In addition, it connects service activity (trucks, food delivery, etc.) for Safeco Field with the local street system, connecting under S. Atlantic Street to Safeco Field itself from east of the parking garage. This connection also serves as the fire lane for Safeco Field.
- **Plaza and Adjacent Right-of-Way.** This section of the sidewalk and right-of-way is open space for pedestrians during most periods; during events at Safeco Field, as well as some CenturyLink Field events, it is used for charter bus staging and pick-up / drop-off, ADA assisted parking.

2.6.1.3 Methodology

The evaluation of the street vacation on the local transportation network was conducted consistent with the methodology previously discussed in the document. Consistent with the scope of this EIS, the impacts of the proposed street vacation were evaluated for the following transportation elements:

- Trip Generation
- Public Transportation
- Pedestrians
- Bicycle
- Traffic Volumes

Traffic Operations (Intersection Operations, Local Circulation and Traffic Diversion)

- Freight and Goods
- Parking
- Safety

The future 2030 conditions were evaluated for two scenarios. First, the impact of the physical change in street connectivity is evaluated, independent of the proposed development or build-out under the current zoning. Second, the comparative impact of the two site development scenarios is summarized.

1. **Street Vacation Impact:** This scenario provides the most direct basis for understanding the singular effects of the vacation itself, assuming no changes in land use or development. The No Action 2030 conditions without and with a street vacation are compared.
2. **Comparison of Site Development Options:** This scenario compares the results of the analysis conducted for Alternative 2 Case S1, with the vacation of Occidental Avenue S., to the development of an approximately 810,000 sf commercial project on the project site, without the Occidental Avenue S. vacation, assuming build-out under current zoning.

2.6.1.4 Impacts of the Vacation

Table 2-5 provides a summary of the key transportation elements (*for pedestrians only – see Final EIS for complete analysis*) associated comparing the current proposal to future development that would be enabled assuming no Occidental Avenue S. street vacation.

**Table 2-5
Occidental Avenue S. Street Vacation Comparative Analysis**

	Street Vacation Impact	Comparison of Site Development Options
Pedestrians	With the street vacation, pedestrians would divert from Occidental Avenue S. to either 1st Avenue S. or 4th Avenue S. depending on the origin or destination of the trip Pedestrian volumes were observed to be low along Occidental Avenue S., north of S. Holgate with and without an event.	The Arena would result in concentrated, though comparatively infrequent, pedestrian demands during event ingress / egress; pedestrian demands associated with the development under current zoning would result in lower, more evenly distributed pedestrian demands occurring throughout the day, and especially during lunch breaks. In either case, additional pedestrian demands would contribute to increased use of local sidewalks, including S. Holgate Street. Impacts of Arena related pedestrian peak demands are documented in the Pedestrian section; the impacts of the development under current zoning would be less, but also contribute to existing issues with pedestrian accessibility crossing the

	Street Vacation Impact	Comparison of Site Development Options
		railroad tracks to the east. Office pedestrians could orient eastward to connect to bus and / or Link Light Rail service for commuting.

2.6.2 Occidental Avenue South Street Vacation Impacts Based on Updated Environmental Information

Table 2-6 summarizes the updated Occidental Avenue S. street vacation analysis based on the updated analysis contained in this Addendum.

**Table 2-6
Occidental Avenue S. Street Vacation Comparative Analysis**

	Street Vacation Impact	Comparison of Site Development Options
Pedestrians	<p>With the street vacation, pedestrians would divert from Occidental Avenue S. to either 1st Avenue S. or 4th Avenue S. depending on the origin or destination of the trip. The primary sidewalk impact of the vacation would occur on the east side of 1st Avenue along the project frontage.</p> <p>With an event at Safeco Field of approximately 40,000 attendance (consistent with the attendance level assumed in the No Action condition for Case S2), approximately 2,800 pedestrians use Occidental Avenue S. immediately south of S. Massachusetts Street, in many cases, walking down the center of the street, since no formal sidewalks exist.</p> <p>With the vacation, these pedestrians would largely shift to 1st Avenue S. sidewalks, primarily onto the eastern sidewalk. Pedestrian conditions would be free flow with the shifting of pedestrians from Occidental Avenue S. to 1st Avenue S. along the Arena frontage given the anticipated widening of the pedestrian zone with the Arena. Other sidewalk sections in the area would operate at restricted or severely restricted consistent with the No Action Cases. In addition, depending on the amount of pedestrians that shift to the west side of 1st Avenue S. between S. Massachusetts and S. Holgate Streets, this section of sidewalk could become restricted.</p> <p>During event conditions at the Arena, with an event at the Arena alone (Case S1)</p>	<p>The Arena would result in concentrated, though comparatively infrequent, pedestrian demands during event ingress / egress; pedestrian demands associated with the development under current zoning would result in lower, more evenly distributed pedestrian demands occurring throughout the day, and especially during lunch breaks.</p> <p>In either case, additional pedestrian demands would contribute to increased use of local sidewalks, including S. Holgate Street. Impacts of Arena related pedestrian peak demands are documented in the Pedestrian section; the impacts of the development under current zoning would be less, but also contribute to existing issues with pedestrian accessibility crossing the railroad tracks to the east. Office pedestrians could orient eastward to connect to bus and / or Link Light Rail service for commuting.</p>

	Street Vacation Impact	Comparison of Site Development Options
	restricted conditions are forecast along the frontage. Cases S2 and S3 would result in severely restricted flows; however, the resulting flow rate would be at or below the flow rates that commonly occur under event conditions without the Arena at other sidewalk locations in the SoDo area.	

2.7 Mitigation Measures

2.7.1 Mitigation Measures for Pedestrian Impacts Identified in May 2015 FEIS

There are generally two types of mitigation measures discussed: (1) physical improvements; and (2) programmatic improvements to be identified as part of the Transportation Management Plan (TMP).

Physical Capacity and Safety Improvements for Alternatives 2 and 3

Physical improvements are specific elements that have been identified to enhance the transportation infrastructure in a manner that directly or indirectly reduces the impact of the Arena, or reduces the negative consequences of project or cumulative conditions associated with the Arena.

Required Mitigation or Mitigation Included in Project Proposal for Alternatives 2 and 3

The following mitigation measures have been proposed by the applicant or have been identified to be required of the applicant as a condition of MUP approval:

- **Pedestrian Improvements.** Implementation of the following pedestrian improvements would contribute to increased safety and / or improved connectivity between the Arena and pedestrian connections to transit and / or offsite parking areas.
 - The north-south crossing of S. Atlantic Street at Occidental Avenue S. would be improved by:
 - Providing manual traffic control at the north-south crossing, and / or,
 - Developing a more-permanent improvement such as adding a staircase to the south side of S. Atlantic Street connecting to 3rd Avenue S.
 - To improve the connectivity and safety of the east-west pedestrian connection between the Arena site and 4th Avenue S., ArenaCo would be required to develop or implement one of the following:
 - Construction of a pedestrian bridge from the Arena along S. Holgate Street to the east spanning such that it clears the easternmost railroad

tracks. This would reduce the need for surface management pedestrian traffic control measures before or after events. The pedestrian bridge should directly connect to the Arena with a pathway wide enough to assure free flow of pedestrians during ingress and egress conditions.

- Alternatively, the applicant may provide operating shuttles or jitneys that follow a fixed route on a fixed headway that link the Washington State Ferry terminal, Link Light Rail and Transit Stations to / from the Arena. The intent of these jitneys and / or shuttles would be to provide an incentive for walk-on ferry passengers, transit users and persons parking in more remote offsite parking spaces. A specific shuttle plan would be developed as part of the TMP. The shuttle option would be coupled with pedestrian lighting and sidewalk improvements along 1st Avenue S. from S. Holgate Street to S. Lander Street, and along S. Lander Street between 1st Avenue S. and 4th Avenue S.
- **At-Grade Way-Finding System.** In coordination with other Stadium District stakeholders, ArenaCo could be required to contribute to development of a way-finding system to guide pedestrians and cyclists to the various venues in the Stadium District. To the extent possible this system will link with and through the Pioneer Square, International District, and SoDo.

2.7.2 Updated Mitigation Measures for Pedestrian Impacts Based on Additional Environmental Information

Required Mitigation or Mitigation Included in Project Proposal for Alternatives 2 and 3

The following mitigation measures have been identified to be required of the Proponent as a condition of MUP approval:

- **Pedestrian Improvements.** Implementation of the following pedestrian improvements would contribute to increased safety and / or improved connectivity between the Arena and pedestrian connections to transit and / or offsite parking areas.
 - The north-south crossing of S. Atlantic Street at Occidental Avenue S. would be improved by:
 - Providing manual traffic control at the north-south crossing, and / or,
 - Developing a more-permanent improvement such as adding a staircase to the south side of S. Atlantic Street connecting to 3rd Avenue S.
 - To improve the connectivity and safety of the east-west pedestrian connection between the Arena site and 4th Avenue S., the Proponent has agreed to fund the construction of a pedestrian bridge:

- Construction of a pedestrian bridge from the Arena along S. Holgate Street to the east spanning such that it clears the easternmost railroad tracks. This would reduce the need for surface management pedestrian traffic control measures before or after events. The pedestrian bridge should directly connect to the Arena with a pathway wide enough to assure free flow of pedestrians during ingress and egress conditions.
- If completion of the Arena precedes the construction of the pedestrian bridge, the Proponent may provide operating shuttles or jitneys that follow a fixed route on a fixed headway that link the Washington State Ferry terminal, Link Light Rail and Transit Stations to / from the Arena to operate during Arena events. The intent of these jitneys and / or shuttles would be to provide an incentive for walk-on ferry passengers, transit users and persons parking in more remote offsite parking spaces. A specific shuttle plan would be developed as part of the TMP. The shuttle option would be coupled with pedestrian lighting and sidewalk improvements along 1st Avenue S. from S. Holgate Street to S. Lander Street, and along S. Lander Street between 1st Avenue S. and 4th Avenue S.

At-Grade Way-Finding System. In coordination with other Stadium District stakeholders, the Proponent could be required to contribute to development of a way-finding system to guide pedestrians and cyclists to the various venues in the Stadium District. To the extent possible this system will link with and through the Pioneer Square, International District, and SoDo.

2.8 Secondary and Cumulative Impacts

2.8.1 Secondary and Cumulative Impacts Identified in May 2015 FEIS

No secondary or cumulative impacts to pedestrians were identified in the Final EIS.

2.8.2 Updated Secondary and Cumulative Impacts Based on Additional Environmental Information

There could be secondary or cumulative impacts to non-event pedestrians in the Pioneer Square and SoDo area due to additional pedestrians walking to and from the Arena. Non-event pedestrians may find sidewalks more crowded before and immediately after events at the Arena, however impacts would be similar or less than those that exist today with events at CenturyLink or Safeco Fields.

2.9 Significant Unavoidable Adverse Impacts

2.9.1 Significant Unavoidable Adverse Impacts Identified in May 2015 FEIS

Alternatives 2 and 3 - Increased frequency of events together with the proximity of the Arena to the S. Holgate Street rail crossings would increase the potential for conflict between

pedestrians and rail, east of the site. If a pedestrian overpass were constructed, this issue would be largely eliminated. With at-grade improvements together with increased manual control of pedestrians at crossings, the potential would be reduced but not eliminated.

2.9.2 Updated Significant Unavoidable Adverse Impacts Based on Additional Environmental Information

No significant unavoidable adverse impacts for Alternatives 2 and 3. The increased frequency of events together with the proximity of the Arena to the S. Holgate Street rail crossings would increase the potential for conflict between pedestrians and rail, east of the site. The Proponent has agreed to fund the construction of a pedestrian overpass, and this issue would be largely eliminated. With the new pedestrian bridge, at-grade improvements together with increased manual control of pedestrians at crossings, the potential would be reduced to less than a significant unavoidable adverse impact.

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Section 4 - Glossary

Air emissions. Gas emitted into the air from industrial and chemical processes, such as ozone, carbon monoxide, nitrogen oxide, nitrogen dioxide, sulfur dioxide and others.

Air pollutant. Any substance in air that could, in high enough concentration, harm humans, other animals, vegetation or material. Pollutants may include almost any natural or artificial composition of airborne matter capable of being airborne. They may be in the form of solid particles, liquid droplets, gases or a combination thereof. Generally, they fall into two main groups: 1) those emitted directly from identifiable sources; and 2) those produced in the air by interaction between two or more primary pollutants, or by reaction with normal atmospheric constituents, with or without photoactivation. Exclusive of pollen, fog and dust, which are of natural origin, about 100 contaminants have been identified and fall into the following categories: solids, sulfur compounds, volatile organic chemicals, nitrogen compounds, oxygen compounds, halogen compounds, radioactive compounds, and odors.

Air quality standards. The level of pollutants prescribed by regulations that may not be exceeded during a given time in a defined area.

A-weight. A standard frequency weighting to stimulate the response of the human ear.

Congestion. A condition characterized by unstable traffic flows that prohibit movement on a transportation facility at optimal legal speeds. Recurring congestion is caused by constant excess volume compared with capacity. Nonrecurring congestion is caused by unusual or unpredictable events such as traffic accidents.

Cumulative effect. The effects on the environment that result from the incremental consequences of an action when added to other past, present and reasonably foreseeable future actions.

Emission. Pollution discharged into the atmosphere from smokestacks, other vents and surface areas of commercial or industrial facilities, and from residential and mobile sources.

Environmental impact statement (EIS). A document that identifies and analyzes, in detail, environmental impacts of a proposed action. As a tool for decision-making, the EIS describes positive and negative effects, and lists alternatives for an undertaking.

Grade. The natural surface contour of a lot. Grade can be modified by minor adjustments to the surface of the lot in preparation for construction.

Greenhouse gases. Greenhouse gases (GHGs) are the gases present in the earth's atmosphere which warm near-surface global temperatures through the greenhouse effect. The principal greenhouse gases are carbon dioxide, NO_x, methane, and three groups of high-warming potential gases—hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Height. Measurement from grade.

Impervious surface. Surface through which water cannot percolate.

Leq. Equivalent sound level. The level of a constant sound which, in a given time period, has the same energy as does in a time-varying sound.

Level of service (LOS). A gauge for evaluating system performance for roadways, non-motorized and other transportation modes. For example, roadway measures of level of service often assign criteria based on volume-to-capacity ratios.

Mitigation measures. Actions taken to reduce adverse effects on the environment, usually implemented under the State Environmental Policy Act.

MUP. Master Use Permit. The document issued to a project applicant, recording all land use decisions made by the DPD on a master use application. The term excludes construction permits and land use approvals granted by the City Council, by citizen boards or by the state.

National Ambient Air Quality Standards (NAAQS). Standards established by the US Environmental Protection Agency that apply to outside air quality throughout the country.

Nitrogen oxide. A gas formed by combustion under high temperature and high pressure in an internal combustion engine. Changes in nitrogen dioxide in the ambient air contributes to photochemical smog.

Non-attainment area. Area that does not meet one or more of the National Ambient Air Quality Standards for the criteria pollutants designated in the Clean Air Act.

Pedestrian Zone. For the purpose of this Addendum, a pedestrian zone denotes the contiguous walking surface unobstructed by permanent intrusion. A pedestrian zone may include both public and private property.

Public Sidewalk. A public sidewalk is that portion of a pedestrian zone located entirely within public right-of-way.

State Environmental Policy Act (SEPA). State legislation passed in 1974, which establishes an environmental review process for all development projects and major planning studies prior to taking any action on these projects. SEPA permits early coordination to identify and mitigate any significant issues or impacts that may result from a project or study.

SOV. Single Occupant Vehicle means a motor vehicle occupied by one (1) person, excluding motorcycles.

Transportation Management Program (TMP). A required set of measures to reduce a project building's demand on transportation infrastructure. These measures typically seek to discourage commuting via single-occupant vehicle and encourage alternative commute modes. TMPs must be approved by DPD, SDOT, and the owner of the project building as a condition of the project building's Master Use Permit.

Section 5 - EIS Addendum Distribution List

5.1 State Agencies

Department of Community Development Historic Preservation Office
Department of Ecology, Environmental Review Section
Department of Transportation (WSDOT)

5.2 Regional Agencies

Port of Seattle
Puget Sound Clean Air Agency
Puget Sound Regional Council
Sound Transit

5.3 Local Agencies

King County Attorney
King County Department of Transportation/Metro Transit

City of Seattle

City Attorney, Attn: Mr. Robert Tobin
Department of Planning and Development, Attn: Mr. John Shaw
Department of Neighborhoods, Landmarks Preservation Board, Attn: Ms. Karen Gordon,
Seattle Historic Preservation Officer
Fire Department
Parks Department
Police Department
Seattle Center, Attn: Ms. Jill Crary
Seattle Public Utilities, Environmental Review Section
Seattle Department of Transportation

5.4 Libraries

Seattle Public Library – Central Library
Seattle Public Library – Douglass Truth Branch
Seattle Public Library – International District/Chinatown Branch

5.5 Newspapers

Seattle Daily Journal of Commerce
Seattle Times



City of Seattle
Edward B. Murray, Mayor

Department of Transportation
Scott Kubly, Director

November 30, 2015

Honorable Tom Rasmussen, Chair
Transportation Committee
Seattle City Council
600 Fourth Avenue
Seattle, Washington 98104

**Subject: Petition of WSA Properties et al. to vacate Occidental Avenue South between the north margin of South Holgate Street and a line parallel and 30 feet south of the centerline of South Massachusetts Street in the South Downtown neighborhood of Seattle
Clerk File 312905**

Dear Councilmember Rasmussen and Honorable Members of the Transportation Committee:

We are returning the petition from WSA Properties, *et al.* ("Petitioner") for the vacation of the street described as:

**That portion of South Occidental Avenue South lying east of Block 320, and west of Block 319, Seattle Tide Lands, more particularly described as follows:
Beginning at the southwest corner of Block 319, Seattle Tide Lands, in King County, Washington, as shown on the official maps on file in the Office of Commissioner of Public Lands at Olympia, Washington;
Thence north 88°51'24" west along the westerly extension of the southerly line of said Block 319 for a distance of 30.00 to the centerline of Occidental Avenue South;
Thence north 88°49'39" west along the easterly extension of the southerly line of block 320 of said Seattle Tide Lands for a distance of 30.00 feet to the southeast corner thereof;
Thence north 01°08'29" west along the easterly line of said Block 320 and that portion of vacated South Massachusetts Street, City of Seattle Vacation Ordinance #117475 for a distance of 680.18 feet;
Thence south 88°50'27" east parallel and 30.00 feet southerly of the centerline of South Massachusetts Street 60.00 feet to the easterly margin of Occidental Avenue South;
Thence south 01°08'29" west 680.17 feet to the point of beginning.**

The street proposed for vacation includes approximately 40,811 square feet of right-of-way.

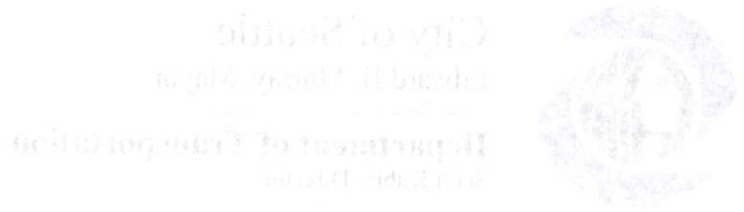
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Fax: (206) 684-5180

Hearing Impaired use the Washington Relay Service (7-1-1)

www.seattle.gov/transportation



BACKGROUND

The Petitioner is proposing to vacate a portion of South Occidental Street between Blocks 319 and 320 which is bounded by South Holgate Street to the south and South Massachusetts Street to the north, BNSF right-of-way to the east, and 1st Avenue South to the west. The street in the block runs north to south and the street is 60 feet wide with a length of approximately 680 feet. The Petitioner owns all the property on the block faces fronting both sides of the street and proposes to develop an approximately 750,000 s.f., 18,000 – 20,000 seat spectator sports facility on the site. The facility will be capable of hosting NBA games, NHL games, concerts and other events. A training facility for professional team is also proposed as part of the facility and on-site parking will be provide for the team and team management. Amenities proposed for the facility will include retail, restaurant and concession operations, a hall of fame, media and broadcast facilities, support areas including arena and team operation offices and facilities and locker rooms. The project would also realign South Massachusetts Street between Occidental and 1st Avenue South to align with the Mariners' garage entrance/exit. The site is generally flat.

The block currently contains surface parking and six buildings, including: the United Warehouse (a 54,000 s.f. warehouse building, built in 1954 and located on the entire eastern portion of the site), Showbox Sodo (a 20,747 s.f. entertainment/club building, built in 1935 and located on the northwest portion of the site), the former Glass Distillery building (a 18,000 s.f. warehouse building, built in 1927 and located on the west side of the site), the Bill the Butcher building (a 5,700 s.f. warehouse building, built in 1967 and located on the west side of the site), the 1st Ave Deli Mart (a 1,848 s.f. mini mart building, built in 1985 and located on the west side of the site), and Mac's Smokehouse and BBQ (a 3,978 s.f. vacant restaurant building, built in 1976 and located on the southwest corner of the site).

Vacation of the street is necessary to build the spectator sports facility. A portion of South Massachusetts Street, just to the north of the proposal site, was vacated in 1904 in Ordinance 10696 and ultimately provided a site adequate to build the current Seattle Mariners' garage facility. In 1994, in Ordinance 117034, a portion of north side of South Massachusetts Street was vacated a block west of the Mariner's garage for industrial purposes. In 1995, in Ordinance 117475, a portion of the south side of South Massachusetts Street was vacated. Occidental Avenue South continues one additional block to the north, to Edgar Martinez Boulevard. North of Edgar Martinez Boulevard, Occidental was vacated in 1999 in Ordinance 119534 in order to construct Safeco Field. North of Safeco Field, Occidental Avenue South reappears, and runs just west of the CenturyLink Field Event Center, and CenturyLink Field, until the street ultimately terminates at Yesler Way. To the south, Occidental Way South functions as somewhat of an alley; its function is limited by the existence of the railroad tracks to the east and the few east-west connections that occur because of the tracks. Occidental Way South terminates at South Horton Street.

Blocks 319 and 320 are located within Seattle's Stadium Transition Area Overlay District ("Stadium Overlay District"), which is a zoning overlay that was enacted to implement the City's Comprehensive Plan, including the neighborhood plan for the Greater Duwamish Manufacturing/Industrial Center. The Stadium Overlay District is centered on large sports

facilities and allows large spectator sports facilities and uses complementary to them. According to the Land Use Code, SMC 23.74.002.A, the Stadium District Overlay is intended to “contribute to a safer pedestrian environment for those attending events and permits a mix of uses, supporting the pedestrian-oriented character of the area as well as the surrounding industrial zone, while minimizing conflicts with industrial uses.” Blocks 319 and 320 are also zoned Industrial Commercial with an 85 foot height limit, but the 85-foot height limit does not apply to spectator sports facilities in the Stadium Overlay District.

REASON FOR VACATION

The existing Occidental Avenue South bisects the parcels owned by the Petitioner, making it more difficult to develop the site with a consolidated proposal. Without the vacation, the block could be developed with two 1/2 block rectangular buildings, with above- and below-grade parking, on each side of the existing street, similar to what has been developed at the Home Plate Center northwest of the proposal site. While this would provide office and retail space, it does not provide the amount of consolidated space necessary for the arena. Combining the two blocks owned by Petitioner through the proposed vacation will allow for the desired development, a spectator sports facility, including the following:

- Allows for a site large enough for an 18,000 – 20,000 seat spectator sports facility in the Stadium District Overlay, where the other two stadia also exist;
- Provides publicly accessible open space in a neighborhood, SODO, that sorely lacks public open space;
- Utilities are upgraded and undergrounded;
- Realigns S. Massachusetts Street to allow for better exit/entry from the Mariners’ garage and an improved connection to 1st Avenue S.;
- Provides consolidated service access on a rear access road; and
- Creates only one curb cut (from S. Holgate Street).

The Petitioner proposes the vacation to allow it to develop the proposed spectator sports facility.

DEVELOPMENT THAT COULD OCCUR WITH A NO VACATION ALTERNATIVE

Under a no-vacation alternative scenario, based on current zoning, two mixed-use office buildings could be built on each side of Occidental Avenue South totaling up to 810,000 s.f.. The buildings could provide street-level uses along 1st Avenue South, though no such uses are required by Code. The buildings would provide an 85’ tall scale, consistent with the Code. The office buildings would be massed similar to the Home Plate Center, a block north of the project site. However, the no-vacation alternative would not provide any neighborhood publicly accessible open space to the SODO neighborhood, would not be required to underground or significantly upgrade power and other utilities, would not be required to provide street-level uses, and the parking needed to satisfy the buildings would need to be provided largely above-grade, given the high water table in the area. The office buildings would generate significant

peak hour traffic volumes that are associated with office development. Finally, the no-vacation alternative would not require any of the public benefits proposed with the arena proposal.

PROJECT DESCRIPTION

The proposed development is an approximately 750,000 s.f., 18,000 – 20,000 seat spectator sports facility (plus training facility and on-site parking) that is capable of hosting NBA basketball, NHL hockey, other sporting events, concerts, family shows, and large assembly events. The proposal includes a 40,000 s.f. attached training facility with team offices and locker rooms, as well as player and team management parking. Amenities included in the facility will include a bike shop/valet, retail, restaurant and concession operations, ticket office, hall of fame, media and broadcast facilities, support areas including arena and team operation offices and facilities and locker rooms. The proposal would provide a year round restaurant with sidewalk café seating fronting 1st Ave. South that would serve the general public during non-event times, and would be converted to club/restaurant during events. Parking for the team management, players and some staff will be provided on-site within the facility. The large majority of the code-required parking for the facility, approximately 1,750 stalls, would be developed in a multi-level parking structure across Holgate Street to the south of the project, on a site controlled by the Petitioner. The exact number of parking stalls will be determined by the formula in Seattle Municipal Code (SMC) 23.54.015 Table A. The size of this parking facility would be reduced to the extent alternative dedicated parking in the vicinity becomes available for use by the project. A 31,800 s.f. publicly accessible plaza is proposed that will contain additional public benefits.

The public benefit proposal includes:

- A Living Machine for waste water treatment and re-use for project non-potable water supplies, with a 4 Million gallon per year capacity
 - Goal of exploring the feasibility of including additional capacity for potential future District connections
- 31,800 s.f. publicly accessible open space plaza
 - Per the Plaza Activation Plan, the Plaza will be programmed to host both neighborhood and regional activities; programming would be coordinated with representatives from SODO, Pioneer Square, International District, Boys and Girls Clubs and other organizations serving youth, bicycle and trail users, sports enthusiasts and sustainability groups.
 - 500 s.f. storage within the building for event items is provided
 - Utilities are provided in the plaza to facilitate events and food trucks
 - Drinking fountains & Permanent and Temporary Public Seating
- A restroom accessible to the public is provided in the Arena for use during plaza hours
- Art Program Budget is 1.5% of Project Cost
 - Public Art Program led by collaborating/lead artist
 - Collaboration on plaza and pedestrian bridge design
 - Plaza anchor artwork
 - Integrated permanent installations

- Temporary installations, performances, projections
- Project cost defined as construction cost plus consultant fees
- Enhance SODO Bicycle Network
 - S. Atlantic Street multi-use trail
 - Utah Avenue Greenway from S. Atlantic to S. Stacy (connects to Starbucks headquarters)
 - S. Massachusetts St. multi-use trail
 - S. Holgate bike multi-use trail
 - Bike wayfinding signage
 - Bicycle signal at S. Atlantic Street crossing
- Realignment of S. Massachusetts Street/Creation of Curbless Street from 1st Avenue South to Occidental Avenue South
 - Facilitates better exit/entry from Mariners' Garage
 - Requires 2,400 s.f. dedication of private property to public right-of-way
 - Concrete and granite resurfacing, drainage, channelization
 - Street trees
 - Pedestrian lighting & seating
- Realignment and Improvement of S. Massachusetts Street between 1st Ave S and Utah Ave S
 - Asphalt resurfacing, curb & gutter, drainage, channelization and signage
 - Street trees
 - Rain garden
- 1st Avenue South enhanced right-of-way improvements on property frontage
 - Rain garden/swale
 - Pedestrian lighting, public seating elements
- 1st Avenue South enhanced right-of-way improvements off-property frontage to complete SDOT 1st Avenue South Street Concept Plan from S. Massachusetts St to Edgar Martinez Way on east side of 1st Avenue South
 - Sidewalk
 - Rain garden/swale
 - Pedestrian lighting
- South Holgate Street enhanced right-of-way improvements on property frontage
 - Rain garden/swale
 - Pedestrian lighting and seating
- South Holgate Street enhanced right-of-way improvements off property frontage
 - Street realignment, asphalt surfacing and repair, channelization and signage per SDOT requirements
 - Drainage improvements
 - Rain garden/swale
 - Street trees and sidewalk
- Neighborhood/Area-Wide Wayfinding for transportation and other major elements
 - 15 Wayfinding signs per SDOT standard and SDOT locations
 - Information kiosk per SDOT standard and SDOT location

ARENA MEMORANDUM OF UNDERSTANDING

The City of Seattle and King County entered into a Memorandum of Understanding (“MOU”) with WSA Properties III, LLC (referred to as “ArenaCo”) on December 3, 2012, and contained in Ordinance number 124019. The MOU is a binding agreement setting forth the process for permitting of the Seattle Arena and for approving future transaction documents between the parties that incorporate the business terms and conditions outlined in the MOU. Under those business terms, ArenaCo will sell the Arena site to the City, and then ground lease the property back from the City for at least 30 years. ArenaCo is obligated to construct the Seattle Arena and ultimately transfer it to City/County ownership. Public financial contribution is capped at \$200 million (of the \$500 million+ project). No public financial participation is triggered until an NBA franchise is acquired and located in Seattle via a binding non-relocation agreement. If only an NBA team is acquired, public participation is capped at \$125 million until an NHL team is acquired.

The public financial participation is designed to be self-financing and requires no new taxes or fees. The public financial participation will be repaid solely with Arena-generated revenues that would not otherwise exist. The MOU provides for guaranties of the ArenaCo obligations, and multiple reserve funds are established to protect the City from any Arena tax revenue shortfalls. The MOU establishes a separate fund from ArenaCo contributions and Arena revenues to finance ongoing maintenance and repair and future capital upgrades to the facility. The MOU also creates a \$40 million fund to improve transportation infrastructure in the SODO area.

The MOU establishes a condition precedent that the Arena project requires preparation of an environmental impact statement (EIS) and issuance of a Master Use Permit, including potential mitigation conditions under SEPA.

DRAFT and FINAL ENVIRONMENTAL IMPACT STATEMENT and ADDENDUM

A Draft (DEIS) and Final Environmental Impact Statement (FEIS) were prepared to analyze the environmental impacts of the arena proposal, including the impacts of the Street Vacation.¹ An Addendum was prepared to analyze specific pedestrian impacts related to 1st Avenue South. The DEIS was published on 8/15/2013, the FEIS was published on 5/7/2015, and the Addendum was published on 10/29/2015.

The FEIS found that the proposal would have no significant unavoidable adverse primary impacts to geology, air, water, scenic resources, noise, land use, historic and cultural resources, public services and utilities, street systems, public transportation, bicyclists, or bicycle corridors.

The FEIS found that the order of magnitude in change in traffic volumes associated with the proposal falls within the range of current event experience; there would be an increase in traffic

¹ The FEIS also analyzes several different development options, including the demolition and rebuilding of Key Arena and a no-action alternative, as required by the State Environmental Policy Act. Only those items that pertain to the proposal before the Council will be discussed here.

volumes during peak conditions on event days, which would occur more frequently with an arena. On event days, delays to freight traffic may occur as a result of additional arena traffic, just as current delay occurs presently on event days. On event days, increased parking demand would occur as it does on current event days. Increased frequency of events and the proximity of the arena to the S. Holgate Street rail crossing would increase the potential for conflict between pedestrians and rail, east of the site.

Potential mitigation measures were identified by the FEIS. If the Council conditionally approves the Street Vacation proposal, the next step would be for DPD to review the Council action and determine which mitigation measures would be required as conditions of the arena's Master Use Permit. As with any proposal including an alley or street vacation, DPD cannot issue the Master Use Permit decision until after the Council conditionally approves the Street Vacation.

The following examples of potential mitigation measures were identified by the FEIS related to the current proposal:

General Mitigation Measures:

- Utilize certain construction techniques to minimize or eliminated geologic impacts
- Compliance with Puget Sound Clean Air Agency requirements and other measures to reduce construction-related air impacts
- Require a Construction Management Plan to reduce construction-related impacts on the area
- Implement engineering techniques to minimize impacts to groundwater during and after construction
- Keep the sewer main in S. Massachusetts available for maintenance and repairs
- Construction noise management including limiting the hours of construction
- Constructing temporary noise barriers to decrease noise levels at nearby sensitive receptors
- No mitigation for land use impacts is necessary
- No mitigation for historic resources is necessary as none of the on-site buildings appear to meet criteria for historic landmark status
- An Unanticipated Discovery Plan would be prepared for the project that provides for notification and consultation among the State Historic Preservation Office Department of Archaeology and Historic Preservation (DAHP), Tribes, and the City of Seattle related to discoveries of unknown archaeological materials or human remains

Transportation-Related Mitigation Measures:

- As part of the Construction Management Plan, identify anticipated street closures, the timing for street closures, and the detour routes and signing plan to guide drivers and pedestrians around these restrictions. This proposal would be reviewed and coordinated with SDOT, the Port of Seattle, and other nearby venues.

- Update the current Event Scheduling Agreement that exists between the two existing venues to add the Arena
- The Event Scheduling Protocol and Management. Considering the existing and proposed event venues, their potential effect on each other and cumulative traffic and freight impacts, establish a protocol for scheduling to minimize conflict with events. When two or more time specific events with the combined forecasted attendance of over 58,000 people appears to be scheduled, a basic approach for resolving potential conflicts would be identified. The separation of event start and end times would vary dependent on projected attendance levels, time of day, and the host facilities. As part of the process the Port of Seattle would be part of the protocol to work with facilities to advise them of when container ship loading and unloading requires double shifting so events and TMP activities can be adjusted to accommodate truck priority routes and/or time windows.
- Work with the Port of Seattle when events coincide with extended gate operations. Such coordination protocols include schedule adjustments, freight routing designations, event traffic routing, or other measures specifically tailored to support minimizing event traffic impacts on Port operations.
- An Event Transportation Coordinator would be identified to coordinate and manage the Transportation Management Plan (TMP) and Arena scheduling such that multiple event days with attendance in excess of identified thresholds would be eliminated.
- An event access guide would be developed to list alternatives to driving, preferred parking areas and other designated Arena parking areas that offer carpool incentives, neighborhood dinner/parking promotions, and other programs and resources to assist users with travel options
- The Event Transportation Coordinator would attend/be informed by the Maintenance of Traffic Task Force relating to utility and road projects that would potentially impact Arena and other event access in the area as well as regional projects like SR 520 and Mercer Corridor projects that shift traffic patterns.
- A Public Information Coordinator would be identified to coordinate and distribute transportation and parking information; a major role of this position would be to ensure that non-event attendees are aware of an upcoming event
- Develop a webpage incorporating the transportation access guide as well as additional transportation-related information
- Utilize social networking/other technology to broadcast alerts of travel options, real-time traffic incidents and congestion or safety issues
- A call center would be established for the Arena for transportation or parking information and referral
- The Arena would coordinate with its broadcast team for each major franchise to promote alternative modes of travel in advance of games and major events and to provide real-time information four hours prior to an event.
- The Arena would coordinate with regional transit agencies to identify express bus service that connects regional park and ride lots, with the intent to utilize under-capacity return routes at the end of the commuter peak, similar to what occurs currently for FC Sounder Games

- Provide shuttles to/from the Ferry Terminal, Link Light Rail stations, and other Transit Stations
- Subsidize transit fares and work with all transit agencies including the Ferry system to promote transit use
- Charter bus/meal/ticket packages and rail/lodging/ticket packages could be offered, with preferential charter bus parking and preferred exit routes following events
- Link Light Rail trains would be expanded from two to four cars during events; if the demand for Link Light Rail appears to exceed current forecasts, additional capacity would be added by adding an additional train
- Develop a preferred ingress and egress plan as a basis for guiding drivers to specific destinations
- Realign Massachusetts to improve the direct alignment of the street with the section immediately east of Occidental (proposed as part of the project).
- North-South service road on the east side of the arena would link S. Holgate Street with the extension of Massachusetts Street, with an easement from the Mariners.
- Periodic review of Arena Traffic Operations and TMP

Pedestrian-Related Mitigation Measures:

- Provide manual traffic control at the north-south crossing of S. Atlantic at Occidental during arena events, or provide a more permanent improvement such as a staircase to the south side of S. Atlantic Street connecting down to 3rd Avenue S.
- Active traffic and pedestrian management during pre-and post-event conditions to facilitate pedestrian movement, similar to current event scenario
- Construct a pedestrian bridge from the Arena along S. Holgate Street to the east spanning the railroad tracks; prior to the construction of the pedestrian bridge, operate a local shuttle system to connect Arena patrons to local transit and light rail stations
- Install a wayfinding system for pedestrians to get to and from the various venues
- Upgrade street lighting to enhance pedestrian safety in low-light areas

Bicycle-Related Mitigation Measures:

- Incorporate bicycle racks as part of arena design, locate racks near entrances in well-lit areas proximate to bike routes
- Participate in marketing and upgrading the bike routes system and prioritize bike lanes in the immediate vicinity of the site

Priority Loading/HOV Incentives:

- Identify two locations for limo/taxi/passenger drop off and pick up, one should be reserved for disabled attendees and located with barrier free access to the arena
- Drop off areas should be sized to accommodate charter or special bus services

- Coordinate with private and public parking operators to develop rates that discourage single occupant vehicles and encourage carpools; reserved parking associated with the Arena should be priced as high as practical.

Capacity and Safety:

- Revise signage between the freeway and other limited access facilities to incorporate the Arena, this would complement existing signage that currently exists for the existing facilities
- Implement a parking guidance system that provides direction and information regarding parking availability to drivers who do not pre-purchase parking
- Consider a contribution to the improvements to the SDOT Traffic Control Center including WSDOT and SDOT Traffic camera and posting of current conditions related to traffic incidents and congestion
- Consider upgrading traffic control equipment at signalized intersections in the Stadium District to increase reliability and communication with the SDOT Traffic Control Center
- Pro-Rata contributions such as the ITS Next Generation project list have been identified; the Arena will work with SDOT to consider upgrading such projects which give signals the flexibility to respond to unanticipated surges, interruptions, and/or shift in traffic flows due to collisions, road construction projects, and/or variation in tenant access patterns.

Parking:

- Expand signed and metered parking in selected commercial areas where businesses desire parking turnover
- Change parking rates and time limits during event hours
- Establish covenant parking agreements for off-street parking
- Parking opportunities for staff should be identified in areas that do not compete with attendee parking
- Promote pre-sold reserved Arena parking
- Establish a Shared Use Parking Protocol with other Stadium District Venue Owner

Services:

- Traffic—Intelligent traffic signal controls at signalized intersections would be installed
- Fire—The project would require an emergency evacuation plan
- Police—The arena would be responsible for maintaining security at construction and staging areas during construction
- Police—During events, high-volume traffic and pedestrian improvements would require additional police services to direct and control traffic and pedestrian movements
- Electrical—to the extent feasible, the overhead transmission power lines would be undergrounded

The MUP decision for the project will impose SEPA-related mitigation for the project.

The full FEIS can be viewed here: <http://buildingconnections.seattle.gov/2015/05/07/seattle-arena-final-environmental-impact-statement-available/>

The Addendum can be viewed here:

<http://web6.seattle.gov/DPD/LUIB/Notice.aspx?BID=1080&NID=20858>

MEETINGS WITH CITY AND STAKEHOLDERS

The Petitioner met numerous times with City Staff and Stakeholders, including but not limited to the following meetings:

Meetings and Process for MOU

- March 2012: Arena Review Panel (appointed by Mayor and County Executive) convened to evaluate the proposal
- April 4, 2012: Arena Review Panel issues its report
- May – July 2012: County Council’s Budget and Fiscal Management Committee and the City Council’s Government Performance and Finance Committee considered the proposal in several public meetings
- July 19, 2012: City and County Councils held a joint public hearing on the proposal
- July 23, 2012: full County Council took up consideration of the MOU with numerous revisions recommended by the County Council committee
- July 3, 2012: County Council approved the MOU, with revisions
- September 13, 2012: City Council committee voted to recommend approval of the revised MOU to the full City Council
- September 24, 2012: City Council made additional changes to the MOU and voted to approve the MOU with these changes
- October 15, 2012: City Council and County Council approved the MOU with all of the revisions made previously and additional technical changes and minor adjustments
- December 3, 2012: MOU was signed by the Mayor and County Executive

Meetings with Stakeholders

- Meetings with the following stakeholders occurred from 2012 through the present date:
 - Stadium District Task Force
 - Public Facilities District
 - Seattle Mariners
 - Seattle Seahawks
 - Public Stadium Authority

Design Review Board meetings

- EDG meeting November 27, 2012
- EDG meeting December 11, 2012
- EDG meeting January 22, 2012 (double meeting)

- EDG meeting March 5, 2013 (double meeting)
- Recommendation meeting August 6, 2013
- Recommendation meeting September 17, 2013
- Recommendation meeting September 1, 2015 (double meeting)

Design Commission meetings

- December 6, 2012
- January 17, 2013
- April 4, 2013
- May 2, 2013
- November 7, 2013
- April 16, 2015
- May 21, 2015
- June 18, 2015
- August 6, 2015
- September 3, 2015

Meetings with SDOT staff/Street Improvement Permit meetings

- Meeting with Calvin Chow January 1, 2013
- Meeting with Beverly Barnett March 14, 2013
- SIP kickoff meeting March 27, 2013
- SIP meeting April 17, 2013
- SDOT streetscape and urban design discussion April 22, 2013
- SIP meeting June 25, 2013
- SDOT 1st Avenue curblin meeting September 9, 2013
- SDOT 1st Avenue curblin/channelization meeting October 21, 2013
- Meeting with Susan McLaughlin, March 26, 2015
- SDOT public benefit meeting June 1, 2015
- Meeting with Beverly Barnett and John Shaw to discuss EIS July 10, 2015

Meetings with Other Agencies, City Departments, or IDT meetings

- Amtrak April 3, 2013
- King County Metro April 3, 2013
- IDT meeting May 1, 2013
- Office of Sustainability May 3, 2013
- Amtrak November 19, 2013
- SCL Transmission Line relocation meeting December 20, 2013
- SCL Transmission Line relocation meeting September 8, 2014
- Amtrak/BNSF joint meeting May 13, 2015
- IDT meeting June 22, 2015
- IDT meeting July 13, 2015
- SCL Power Undergrounding and Transmission Line meeting July 16, 2015

- IDT meeting August 24, 2015
- IDT meeting September 3, 2015
- IDT meeting September 21, 2015
- IDT meeting September 5, 2015
- IDT/TMP meeting October 8, 2015

Public Hearings

- MOU public hearing
- EIS Scoping public hearing November 8, 2012
- EIS Scoping public hearing November 14, 2012
- Draft EIS public hearing September 10, 2013
- Draft EIS public hearing September 19, 2013

COMMENTS/ISSUE IDENTIFICATION (NOT ISSUE RESOLUTION)

The comments received on this vacation petition are extensive in nature so the explanation of the comment process, the comments, and the Petitioner's response to some of the comments are highlighted by a box around each page in order to clarify and separate the comment section from the rest of the recommendation.

The proposed vacations were circulated to various City departments, outside agencies and community groups for comment. The vacation review process also includes review by the Seattle Design Commission. In addition to the vacation review, including the Design Commission, the project is subject to:

- Design Review Board review as required by DPD,
- Master Use Permit (MUP) review,
- Preparation of a Draft and Final Environmental Impact Statement,
- Street Improvement Plan (SIP) review, the SDOT process to review street design and utility issues, and
- Utility Major Permit, the process to review major utility changes.

The purpose of the broad review of the vacation petition is to identify issues that need to be addressed through the vacation process by changes to the project or vacation conditions. The comments, closely reproduced below, reflect the statements made by the reviewers and any issues identified during the initial portion of the review process. The comments reflect a "snapshot in time" when the comments were received and do not reflect any project revisions, updates or responses to comments. They also do not reflect the conclusions of the Final Environmental Impact Statement, which was not published at the time of these comments. All the comments received are a part of the record and are not revised or amended by Seattle Department of Transportation.

The public comments reflect the views and analysis of the group, organization, or individual for consideration by the City and do not reflect the analysis and conclusions of the City.

The comment section does not reflect the resolution of the issue or subsequent design changes or mitigation. The analysis section will focus on the resolution of any issues, recommended project changes, or conditions to address any issues or concerns. The Petitioner has responded to some of the comments received; due to the length and breadth of the comments the responses are brief and the Petitioner's responses are included at the end of the comment section.

The following comments were received:

City Departments:

Seattle Police Department: We have no issue with the closure of the street. We are concerned about the possible overlap of events at the various venues and our ability to facilitate the movement of vehicles and pedestrians.

SDOT Traffic Management and Policy and Planning Divisions: The Traffic Management and Policy and Planning divisions have reviewed the petition for vacation of a portion of Occidental Avenue South. Given the delayed timing of the release of the EIS, we would prefer to offer comments relative to the public benefit package once we are able to review the project impacts and proposed mitigation that will be identified in the EIS. In the meantime, we can offer the following comments:

- In general, we expect to see public realm improvements that will provide ongoing benefits to multiple audiences, not just attendees at arena events.
- Public realm improvements should be designed with aesthetics, maintenance and public safety in mind.
- The proponent should provide information that clearly identifies what elements of the project are design features, what elements are mitigation for impacts under SEPA, and what elements are proposed as public benefit related to the proposed street vacation. In reviewing other projects, we have found that a table describing all of the public realm improvements and indicating under what requirement or guideline they are being provided can be very helpful.

Seattle City Light (SCL): Based on the description provided by the petitioner, it looks like one of our transmission poles, located at the southwest corner of Occidental and Massachusetts, may be within the proposed vacation area. We would like to request that the petitioner mark the north boundary of the proposed vacation area on the ground with paint (we assume there has been some kind of survey) and then let us know when that is done. We will need to verify that the pole is in or out based on the identification of the north boundary. The map shows the south line of Mass produced east, and it appears that the base of the wood glue laminate pole is south of that line, but it is close.

Seattle Department of Parks and Recreation (Parks): The Department of Parks and Recreation has no comments or concerns about the proposed vacation of Occidental Avenue South between South Holgate Street and South Massachusetts Street.

Seattle Public Utilities (SPU): Seattle Public Utilities (SPU) has reviewed the proposed vacation, and has identified the following concerns and has the following conditions:

SPU Sewer and Drainage: The petitioner's request has been reviewed and these revised comments are provided in November, 2015. There is an existing 15" PS combined sewer main in Occidental Ave S built in 1916 (vault plan number 66-92). There are also existing catch basins and inlets and pipes connecting the street drainage all within the proposed right of way to be relinquished. There are also side sewers that are shown on side sewer cards numbers 5157, 5158, and 5158-1.

Conditions required by the street vacation shall be as follows:

1. Petitioner to reroute the side sewer from south of S Holgate Street to the 15" PSS south of S Holgate street in Occidental Ave S flowing southbound. Petitioner to get permission from the property owner to reroute their side sewer connection
2. Remove or Abandon the sewer north of centerline of S Holgate St projecting from Occidental Ave S.
3. SPU to relinquish ownership of the sewer pipe, sewer maintenance hole and all drainage appurtenances in Occidental Ave S right of way to be vacated.
4. The petitioner is to install a new maintenance hole on the same sewer line (projecting north on Occidental Ave S) approximately 5 feet minimum from the north margin of the street vacation.

SPU Water: The existing 16" feeder main in Occidental Ave S is one of two alternate feeds to the Pioneer Square seismic backbone main from Beacon Hill Reservoir. If Occidental Ave S, between S Massachusetts St and S Holgate were to be vacated, the current ability to feed the 24" pioneer Square backbone main from either the Holgate St feeder or the 1st Ave S feeder will be lost.

To accommodate the loss of the 16" Occidental feeder in the proposed vacation area, the remaining 16" feeder in 1st Ave S would need to be upsized and reconstructed to be seismically resistant. The existing 16" Occidental feeder, severed by the street vacation at S Massachusetts, would need to be extended west to connect with the upgraded 24" seismically resistant feeder in 1st Ave S. Valving at the supply junction of 1st Ave S & S Massachusetts St would need to be arranged so that either the 16" feeder in Occidental Ave S or the 16" feeder in 1st Ave S- north of Massachusetts- could be supplied from the upgraded 24" feeder approaching Massachusetts from the south. Similarly, at 1st Ave S & S Holgate St, valving would need to be provided such that the single, seismically upgraded 24" feeder north of Holgate could receive two alternate supplies from the reservoir: from either the east (via Holgate) or from the south (via 1st Ave S).

Significant water system reconfiguration required by the street vacation would include:

- Approximately 800 LF of 24" seismically resistant feeder main in the 1700 block of 1st Ave S, including hydrant and water service laterals
- Retirement of the existing 16" main in the 1700 block of 1st Ave S
- Retirement of the existing 16" main in the 1700 block of Occidental Ave S
- Approximately 230 LF of 16" seismically resistant pipe in 1st Ave S, two line valves controlling the two alternate supply connections at Holgate
- Contiguous with the seismically resistant pipe in 1st Ave S,, two line valves controlling the two alternate supply connections at Massachusetts.

After reconfiguration of the existing distribution system grid, water service to the facilities located in the street vacation area would need to be established via new metered water service connection, per standard charges.

Recommendations: SPU recommends the Vacation Petition of Occidental Avenue South; Clerk File 312905 be approved with the enclosed conditions considered and met.

Department of Planning and Development (DPD): Please accept these DPD comments on the proposal of WSA Properties et al to vacate one block (Holgate to Massachusetts) of the above identified street. They are based upon the Land Use Policies section II of the Seattle Street Vacation Policies.

Background:

The development proposal includes 2 full, rectangular blocks of land, each about 150 x 680 ft, totaling 233,500 sf of site area, PLUS the 60 ft wide Occidental street ROW they flank, which totals 40,811 sf (+ 17.5% site area), totaling 274,311 sf for the combined parcel. Both blocks are located in the IC-85 Industrial Commercial zone (SMC 23.50), and are also fully within the Stadium Transition Area Overlay District (STAOD) (SMC 23.74).

The vacation proposal would allow construction of an arena with a floorplate dimension of approximately 390 x 500 ft, while the existing blocks at 150 and 187 ft wide cannot accommodate the floorplate. "Spectator Sports Facilities" are permitted outright in the IC zone. An EIS is being prepared for the project and will address traffic, land use and other effects of the vacation (Guideline 4.2.C); a Draft EIS is expected in mid-August of 2013.

Guideline 4.1 - Land Use Considerations:

- A) The development potential of the combined two blocks plus the vacated street is theoretically increased, however the arena proposal is specifically less. Assuming 5 stories of development (within the 85 ft IC-85 height limit) the 2 blocks would generate 1.16 mil sf. The street ROW fully developed in a like fashion generates 204,000 sf. The 2 blocks plus vacation equals a total potential of 1.37 mil sf. The proposed arena is predominantly a rectangular volume, 75 ft tall, and contains 750,000 sf of net usable floor area, which is 54% of the total including ROW, and 64% of the total possible without the ROW vacation.

- B) "Circulation, access, utility... and view functions of nearby public streets" will be evaluated in the EIS. In terms of "light, air and open space" the essential building volume is slightly less tall than the 85 ft maximum allowed, thus not blocking light, and the air and open space of the ROW are not critically linked to any larger urban design patterns. In terms of development scale, the long and short term impacts of the combined parcel are not considerable.
- C) Consistency with the Seattle Comprehensive Plan and other policies including the Greater Duwamish Manufacturing/Industrial Center (MIC), will be evaluated in the DEIS, as will transportation aspects. No zoning change is proposed, and the combined site with vacation is fully within the STAOD, which "centers on large sports facilities and allows uses complementary to them"; the arena is complementary as a "similar major, regional attraction." The site is not within an Urban Center or Urban Village, and the vacation does not entail a boundary change of the STAOD.
- D) In this existing Industrial Commercial zone, there is a wide range of development size, scale and character, and the arena on the proposed combined parcel would be compatible with existing development, and with development expected from the base IC zoning on similarly large parcels.
- E) The existing "local pattern of land division" ranges from single lot buildings along First Avenue to full block warehouses along the nearby railroad tracks. The proposed arena on the combined site – even 390x 500 x 75 ft tall - represents a transition from long warehouses to the south, to the even larger stadiums to the north. The post-vacation lot size and configuration would not be disruptive to the local pattern. The Occidental ROW does not provide a boundary to a different zone; it is surrounded by IC zoning for at least 2 blocks on all sides, so the ROW does not need to be preserved as a transition or buffer.

Guideline 4.6 – Zone Specific Review

E) In Industrial Areas, the guiding policies come from the Comprehensive Plan. Consistency with the Seattle Comprehensive Plan and other policies including the Greater Duwamish Manufacturing/Industrial Center (MIC), will be evaluated in the DEIS.

Conclusion and Summary

DPD is not opposed to the proposed vacation on land use grounds. The development potential attributable to the vacation is consistent with adopted land use policies; in fact, as proposed, the floor area is 64% of what could be developed without a vacation. The potential development with vacation is consistent with the existing context and creates no significant land use incongruities. In both the short and long term there would appear to be no appreciable negative land use effects on the area from the proposed vacation.

Seattle Design Commission (SDC):

The Seattle Design Commission reviewed the Project on the following dates.

- December 6, 2012
- January 17, 2013

- April 4, 2013
- May 2, 2013
- November 7, 2013
- April 16, 2015
- May 21, 2015 (Urban Merit Action taken)
- June 18, 2015
- August 6, 2015
- September 3, 2015 (Public Benefit Action taken)

For brevity, only those meeting minutes for the meetings when the Urban Merit Action and Public Benefit Action were taken are included in this recommendation. The rest of the meeting minutes and presentations to the Design Commission are a part of the Clerk's File and can also be found at:

<http://www.seattle.gov/dpd/cityplanning/designcommission/projectreviews/currentprojects/seattlearena/documents/default.htm>

The SDC reviewed the project on May 21, 2015 and had the following comments and took the following action:

Summary of Discussion

The Commission organized its discussion around the following issues:

Circulation and access

The Commissioners began their discussion of urban design merit with circulation and access. They agreed that an essential component of the proposed circulation scheme was an agreement among stakeholders outlining shared use of the proposed access road east of the Arena. The Commissioners appreciated the widened sidewalks, voluntary setbacks, other efforts to implement the vision of the Stadium District Study Street Concept Plan. They also supported the proposal to table S Massachusetts St between 1st Ave S and Occidental Ave S to create a curbless, pedestrian-oriented environment. Due to lingering concern about pedestrian safety along S Holgate St and at the railroad tracks, the Commissioners recommended a condition requiring construction of the proposed pedestrian bridge and recommended other pedestrian improvements in the vicinity.

Parking and utilities

The Commissioners also discussed the proposed parking scheme as shown in the presentation. They continued to support a parking solution that uses existing parking facilities instead of construction a new parking garage. However, should a parking facility be constructed, the Commissioners agreed that incorporating an appropriate mix of uses, including potential industrial uses that complement the surrounding businesses, should be an essential part of the garage. The Commission also discussed utilities and expressed their preference for undergrounding utilities wherever possible in order to improve the pedestrian experience at and around the project site. The Commission continued to applaud the proposed approach to

managing stormwater on-site and encouraged the petitioner to develop this strategy as much as possible

Open space

Finally, the Commission considered the open space proposed at the northwest corner of the project site. They agreed that, from an urban design merit perspective, this open space serves to accommodate the pedestrian volumes that the Arena will generate. Should this plaza be included as part of a public benefit package, the Commissioners emphasized that it should benefit all people equitably and encouraged a variety of programming and activities to achieve that. They also identified lighting on non-event days as a key determinant of whether the plaza is a successful public space outside of its role accommodating pedestrian volumes on event days.

Action

The Design Commission thanked the project team for the urban design merit presentation. The Commission particularly recognized the attention given to the pedestrian realm, notably the sidewalk widening and landscaping proposed on 1st Ave S, and appreciated that the plaza and restaurant would be accessible to the public year-round.

With a vote of 8 to 0, the Commission approved the urban design merit of the petition to vacate Occidental Ave S between S Massachusetts St and S Holgate St. The Commission's recommendation of approval of urban design merit referenced the following recommended conditions:

1. Prior to the issuance of a Certificate of Occupancy for the Seattle Arena, the proposed pedestrian and bicycle bridge in the S Holgate St right-of-way shall be constructed and available for use by Arena attendees.
2. The petitioner shall finalize a shared-use agreement with the Public Facilities District that allows Safeco Field event attendees to use the proposed access road east of the Arena, in order to support the urban design vision of a) Occidental Ave S as a shared use street and b) the proposed design for S Massachusetts St between 1st Ave S and Occidental Ave S.
3. While the Commission continues to support a parking solution that uses existing parking facilities instead of construction of a new parking garage, if the petitioner proceeds with development of a parking structure at S Holgate St and Occidental Ave S as shown in Figure 2 of the May 21, 2015 meeting minutes, the Design Commission shall review and approve its exterior design prior to the issuance of a Master Use Permit.
4. If the petitioner proceeds with development of a parking structure at S Holgate St and Occidental Ave S as shown in Figure 2, the ground floor of the parking structure shall include ground-level uses that are a) independent of any uses needed to support Arena functions and b) designed to accommodate the range of uses permitted in its zone.

The Commission also recommended that the City Council adopt the following conditions if it grants concept approval:

1. If a shuttle system is implemented for Arena attendees, the shuttle shall not be an interim measure but a permanent project element, in order to provide greater access to King Street Station and other transit facilities, particularly for mobility-impaired attendees.
2. If a shuttle system is implemented for Arena attendees and becomes a permanent project element, an evaluation of shuttle performance shall be required within three years of commencing operations and the results provided to the City Council. The evaluation shall indicate the extent to which the service should be adjusted or modified to reflect or meet rider demand.

Should the petitioner determine that any of the aforementioned conditions are infeasible or if any changes occur to the site plan or components of the urban design merit review as presented today, the Commission requests that SDOT re-refer the petition to the Commission for additional review of urban design merit. Because the Commission will review any proposal for construction of the new pedestrian bridge in the S Holgate St. right-of-way, this urban design merit approval does not constitute approval of any particular bridge design elements shown in the presentation.

The SDC reviewed the project on September 3, 2015 and took the following action to approve Public Benefit:

Summary of Discussion

The Commission organized its discussion around the public benefit items in the order they were presented and as they were grouped:

1. Plaza Programming and Living Machine

The commissioners agree that the concept of the public plaza and living machine are understood, but more detail needs to be provided. More specifically, the design team should think about how the overall design of the plaza, including the size of the living machine, location of open space, and other design features, will facilitate the programmability of the plaza. The design team should research how to establish programming year round, not only during the summer months (May-Oct.), and should think about reaching out to other professional sports teams to leverage large events. In order to establish a diverse list of programs for the plaza, a broad and diverse group of stakeholders should be formed, including organizations such as the department of parks and recreations, the boys and girls club, Mariners and Seahawks organizations, as well as other regional groups.

2. S Massachusetts St ROW

With regard to the overall design and pavement material used, the commission supports a design that will terminate at the edge of the public plaza rather than extending across S. Massachusetts

St., which will use a curb-less street design. This approach will show a clear transition from the public plaza to the streetscape. The presence of large mature trees in front of the plaza along S. Massachusetts will also help in signifying the transition from plaza to street.

3.1st Ave S ROW

Although the commissioners have a few concerns about the design, which includes long linear rain gardens with few breaking points for access and eliminates on street parking, they agree the overall design of the rain garden, along with its ability to treat water along 1st Avenue is a huge asset for the city. The commission suggested breaking up the linear space, physically or perceptually, by incorporating small gathering spaces, different paving patterns, and a variety of plant species, which will also enhance the overall design of the rain garden.

4. S Holgate St ROW and Pedestrian Bridge

The commissioners support the realignment of S. Holgate Street, but are concerned with the number of designated vehicular lanes on Holgate. There is confusion regarding the number of lanes required for mitigation, as the environmental impact statement suggests five lanes while SDOT recommends three lanes. Although S. Holgate is not designated as a residential street, the commission recommends the pedestrian flow along Holgate be preserved. If significant changes are made to the design of Holgate Street that will affect the pedestrian flow then the design will come back to the commission for further review. In keeping with surrounding industrial uses, the commission recommends preserving the industrial feel of S. Holgate St.

5. Public Art Plan

The commissioners greatly appreciate the work Norie has done in creating the public art framework. As part of the framework, the temporary art program will serve as a way for young artists and agencies to display artwork and/or provide educational opportunities through temporary art exhibitions. Thought should be given to funding the temporary art program in a way that will provide a steady stream of income. Although the public plaza has been identified as a major area for displaying public art, this may conflict with other proposed programs. The design team should be flexible when it comes to designating space within the plaza for public art so it does not conflict with other programmable elements.

6. Bike Facilities

The commission commends the design team for providing a high level of detail within the design of the bicycle facility plan. The commission notes that the plan extends the furthest away from the project site and provides the clearest example of public benefit.

7. Off-Site Wayfinding

The commission appreciates the additional signage, but suggests the design team make clear that the 15 additional wayfinding signs and kiosk are in addition to the signs required for mitigation measures.

Action

The SDC thanked the project team for the detailed presentation of on and off-site public benefits related to the Arena street vacation.

The Commission voted to recommend approval of the public benefit package, 6 to 0, with the following conditions:

1. Prior to the issuance of a construction permit, the SDC shall review and approve permanent and programmable elements, in its totality, for the public plaza and Living Machine program.
2. Prior to the issuance of a construction permit, the SDC shall review and approve the proposed programming plan for the plaza. The SDC review shall include consultation with the City's Parks Department and Office of Arts and Culture.
3. Prior to the issuance of a construction permit, the SDC shall review and approve the proposed Public art plan. The SDC review shall include consultation with the Seattle Office of Arts and Culture and King County's culture office.
4. Prior to the issuance of any Street Improvement Permit, the SDC shall review and provide comment on the proposed designs of the S Holgate right of way, in particular on the urban design issues related to the street and its related improvements.
5. Prior to the issuance of a certificate of occupancy, install permanent art prior to opening of building. We are asking you come back with a detailed public art program prior to the issuance of construction permits.

In addition, the SDC also makes the following recommendations to enhance the design and function of the proposed public spaces:

1. The commission recommends the design team look at multi-seasonal programming within the public plaza
2. See efforts to differentiate treatment with plaza and street along S. Massachusetts St.
3. The commission recommends there be discussion related to how the temporary program can relate to the overall art program.

Outside Agencies:

King County Wastewater Treatment Division: Our pipe lies in the center of the Massachusetts right-of-way. Provided that the vacation aligns with parcel lines as shown on the map there is no impact.

King County Metro: King County Metro Transit has conducted a review of the above referenced street vacation. We've concluded that this vacation will have no effect on our facilities or operations in the vicinity of the subject street right of way. Thank you for providing Metro with the opportunity to comment.

CenturyLink: This letter is in response to the notice for all of the above referenced proposals. Please be advised that Qwest Corporation (d/b/a CenturyLink) currently has facilities in the area(s) addressed by these actions. These facilities and our needs have been identified by our Engineer with the Arena Development Team. At this time, Qwest (d/b/a CenturyLink) has no issues with the proposed vacations so long as provisions are made to retain our rights by either PUE or private easement to cover our existing & future facilities.

Puget Sound Energy: PSE has conducted a review of its existing gas facilities in the subject portion of Occidental Ave S. as described in Clerk File No. 312905. The subject vacation is being requested by WSA Properties. According to PSE's records, there is an existing 3" steel wrapped intermediate pressure natural gas main in 6" conduit located longitudinally along the full length of the proposed vacation area of Occidental Ave. S. Our maps also indicate the main feeds several properties abutting Occidental. PSE will require an easement in order to protect this natural gas main and allow for its safe and continuous operation in its current location.

Community Comments:

Kevin Daniels, Nitze-Stagen & Co., Inc.: While the proposal has the potential for many positive contributions, we hope the public benefit requirements of any street vacation approval will consider opportunities for pedestrian connections that enhance the SODO and Pioneer Square neighborhood. Also, the issues of traffic and parking will require special attention during the SEPA review, particularly the traffic at 1st and Edgar Martinez Way. Currently Occidental plays an important commute role in the AM commute (even if it's unintended) and the increased additional flow south onto First Avenue South caused by this proposal will need to be improved over what exists today. We understand the Draft EIS is expected to be out in June and hope that the information will assist with the analysis of the impacts associated with the area. We will reserve further comments until then.

Geri Poor, Port of Seattle: Thank you for the opportunity to review the proposed package for the vacation of Occidental Avenue South. In addition to drawing on a century of marine cargo operations in the Duwamish Manufacturing and Industrial Center (MIC), our comments are based on review of:

- "Seattle Arena, Seattle Design Commission, Occidental Ave Street Vacation, Urban Merit" 5/2/13
- Memorandum, "Proposed Vacation of Occidental Avenue South: Clerk File 312905," Gray, 4/17/13
- "Seattle Arena Street Vacation Petition," 3/12/13
- Port of Seattle Commission motion concerning siting of a sports facility in SoDo, adopted 8/7/12

- Seattle Planning Commission's "Review of the Proposed Sports Arena in the Duwamish Manufacturing and Industrial Center." 7/27/12
- City of Seattle Container Port comprehensive plan element, adopted 4/2/12

Our international gateway serves imports and exports by providing container port facilities for cargo transfers from ships to truck or train, using the very system where capacity would be reduced if the vacation of Occidental Avenue South were approved. The Duwamish/SoDo neighborhood is a symbiotic network of businesses and infrastructure that supports this economic driver.

The Port of Seattle is on record supporting the return of NBA basketball to our region. The Port, however, has raised concerns about the impacts of the proposed SoDo arena development on port operations and the economic vitality of the Duwamish industrial area.

The information provided by the applicant does not justify a street vacation and the loss of transportation capacity. The application does not demonstrate that the vacation is in the public interest, nor that its impacts can be addressed. The vacation would exacerbate the traffic operations in the Duwamish/SoDo neighborhood in ways that the proponents have not disclosed nor sufficiently analyzed. Further analysis of the concerns laid out below must be completed before a decision about the proposal can be made. Effective mitigation measures must be in place before any vacation could occur.

1. Occidental Avenue S between SR 519 (Edgar Martinez Drive) and S Holgate Street functions as a relief valve for the 1st Avenue S and S Atlantic Street intersection, serving through traffic in addition to adjacent properties. This intersection is the primary gateway for traffic between this neighborhood and Interstates 5 and 90. Losing the traffic carrying capacity afforded by Occidental Avenue will divert this traffic to adjacent streets, exacerbate congestion in the area, and affect access to and from the interstates.
2. The proposed vacation of Occidental risks adverse land use effects which are inconsistent with city policies.
3. Other street proposals presented in these documents further weaken the capacity of the street network in the Duwamish Manufacturing & Industrial Center (e.g., lane reductions on 1st Avenue, festival street uses), yet there is no corresponding discussion of viable and effective mitigation measures.

The following paragraphs provide additional information and examples of these three concerns.

1. Through traffic on Occidental: Occidental Avenue S is one of only three north-south streets located between the BNSF Railway mainline railroad tracks and the SIG Railyard, and is an important part of the limited grid of streets in this neighborhood. It currently serves traffic destined beyond the adjacent properties, among SR519 (Atlantic/Edgar Martinez Drive), S Holgate Street, and 1st Avenue S, in addition to providing local access

to adjacent properties. Some of the street vacation documentation refers to Occidental Avenue S as an alley, which it is not—it serves a much broader role for through trips as well, given the existing capacity deficiencies of the surrounding street system.

- Occidental Avenue S carries through traffic between SR 519 and S Holgate Street throughout the day, but its capacity is even more important during peak periods when the intersection at 1st Avenue South and Atlantic Street operates under failing (LOS F) conditions. In the morning, vehicles on westbound SR 519 will turn onto southbound Occidental to bypass this congested intersection, and in the afternoon, northbound vehicles will use Occidental instead of 1st Avenue S to access the interstate ramps.
- The Port understands that Occidental plays an important role for access to the Mariners garage as well. Impacts and delays compared to current operations due to the proposed vacation have not been analyzed (ref p. 9, Street Vacation Urban Merit, 5/2/13).
- When trains crossing Holgate block eastbound vehicle traffic, Occidental provides a through route to the SR519 (Edgar Martinez Drive) overpass which provides grade- separated access over the tracks.

Further data and analysis are needed to determine the volume of traffic that would be diverted to other streets, and to evaluate the impacts of those diversions due to the proposed street vacation. We do not see how these impacts can be mitigated given the current street configuration, existing structures, limited land availability and lack of funding. Yet, effective mitigation measures must be in place before any vacation could occur.

Mitigation measures will likely be necessary at locations such as 1st and Atlantic, 1st and Massachusetts, 1st and Holgate, as well as Occidental and Holgate, 4th and Holgate, Massachusetts and Atlantic, and at train crossing blockages. We note that Washington State Convention Center was built elevated over the freeway, to allow traffic to continue to flow.

2. Inconsistency with City Policies: The proposed vacation of Occidental is inconsistent with city policies as it risks adverse transportation impacts that the city's Container Port Element of the Comprehensive Plan is seeking to prevent, and to the City's Manufacturing and Industrial Center, resulting in increasing gentrification pressure and a negative impact on the city's economy.
 - Approval of this proposed street vacation is inconsistent with the Container Port element of the City's comprehensive plan because it would impair the vital cargo transportation corridors that serve the Port's marine cargo terminals and put redevelopment pressure on nearby industrial lands. Among the policies in that element, Policy CP3 speaks directly to this situation: CP3: Discourage non-industrial land uses, such as retail and residential, in industrially zoned areas to minimize conflicts between

uses and to prevent conversion of industrial land in the vicinity of cargo container terminals or their support facilities.”

- In 2007, the City held extensive study and stakeholder outreach regarding industrial lands as a city resource. It concluded that development of intense commercial uses near and within the industrial zones threatens the viability of industrial centers and their living wage jobs. At year end, the council passed Ordinance 122601 imposing significant limitations on developing commercial uses on industrially-zoned land. The proposed street vacation and the resulting development will put additional pressure on the remaining industrial lands base, which this ordinance was intended to prevent.
- The Seattle Planning Commission’s “Review of the Proposed Sports Arena in the Duwamish Manufacturing and Industrial Center” (7/27/12), also notes that the proposed arena is likely to put further conversion pressure on nearby manufacturing and industrial businesses, as the additional non-industrial traffic makes industrial transportation to and from the area less efficient and more congested, weakening the long-term prospects for industrial growth.
- Further, from the same document, the potential loss of tax revenue and jobs from the Manufacturing and Industrial Sector puts at risk 36% of the City’s total revenue from all sales tax receipts and 38% of the City’s total business and occupation (B&O) tax revenue annually.

These impacts are not consistent with long-term public benefit.

3. Accounting for cumulative proposed street changes: Other street proposals presented in these documents further weaken the capacity of the street network in the Duwamish MIC, yet there is no corresponding discussion of viable and effective mitigation measures.

- The petition’s First Avenue Street Section (“Street Vacation Petition,” 3/12/13, p. 84) shows 1st Avenue reduced from three lanes in each direction (including parking) to 2 lanes (including parking) with a center turn lane. Adding this to the proposal to vacate Occidental must be thoroughly analyzed and mitigated.
- Festival Street use on Occidental, between Edgar Martinez Drive and Massachusetts, and on Massachusetts, between 1st and Occidental, must be part of the transportation analysis and mitigation planning, as well.
- An additional scenario to consider in the cumulative changes to the street use is how the proposed tolling of the SR99 Bored Tunnel will increase the traffic at the south portal to the tunnel, in this same SoDo/Duwamish neighborhood. Upon close review of the proponent’s documents, we suggest some technical edits in the Technical Addendum below.

While we have expressed concerns about the proposal of a Seattle Arena in the Duwamish MIC, we support the concept of NBA basketball in the region and recommend alternate sites for the reasons which will become apparent when thorough transportation analysis is completed. We look forward to more information becoming available.

TECHNICAL ADDENDUM – recommended edits to proponent’s graphics

p. 22 (Street Vacation Petition): Graphics showing “interstate access” (beginning on p. 22 of Street Vacation Petition and continuing throughout) reflect only the access to I-90 at the throat of the highway above Airport Way. In fact, those ramps connect to the city street system at 4th Avenue South (north of Royal Brougham), and at 3rd and 4th Avenues with SR519 (Edgar Martinez Drive). These locations, which are much more proximate to the proposed street vacation, should be shown.

p. 22 (Street Vacation Petition and ensuing): Base map graphics showing “BNSF Yard” (between Occidental and 3rd Avenue South on either side of Holgate), (beginning on p. 22, and as well p 34/35, of Street Vacation Petition, and p. 11 Urban Merit, 5/2/13) should reflect that this is a passenger train maintenance yard (Sounder, Amtrak) with heavy traffic crossings as well as the mainline rail through Seattle. There are frequent closures at the 14 Holgate rail crossings.

p. 16 (Urban Merit): Service Connections provided for PM peak, but given the permanency of the street vacation, AM and mid-day analysis is needed as well.

Ann Kawasaki Romero, Washington State Public Stadium Authority and First & Goal, Inc.:

The Washington State Public Stadium Authority ("PSA") and First & Goal Inc. ("FGI"), submit this joint initial comment letter regarding WSA Properties' ("WSA") petition to vacate Occidental Avenue South (Clerk File 312905). The PSA is the public owner of CenturyLink Field and Event Center (collectively "CenturyLink Field"), and FGI is the master tenant and facility operator for CenturyLink Field. As explained herein, the PSA and FGI believe that the City and all stakeholders should have better information regarding the impacts of the proposed street vacation and subsequent arena development *before* the City takes any action related to the vacation proposal. As those impacts are disclosed, the PSA's and FGI's goals are to ensure that the public's investment in CenturyLink Field is protected, and that the area surrounding the stadiums continues to function efficiently and develops to the benefit of all three major sports facilities.

City's Street Vacation Policies and Priorities.

The City's street vacation policies call for the City to consider three principal issues when reviewing a street vacation proposal. First, the City must consider the impact of the proposed street vacation on the right-of-way's public trust functions, including impacts to circulation and access. This includes ensuring that "circulation to properties on neighboring

streets is retained," and replacing all lost public parking spaces. Street Vacation Policies, p. 8, 11. The City's Street Vacation Policies require applicants to mitigate all adverse effects on these "public trust functions," and further provide that "[w]hat constitutes adequate mitigation will be determined ultimately by the City Council." *Id.* at 6.

Second, the City considers the land use impacts of the proposed development enabled by the street vacation. The proposed development must be consistent with the City land use policies for the area in which the right-of-way is located.

Third, the City considers the public benefit of the proposed street vacation and subsequent development. The City's street vacation policies require applicants to provide long term benefits to the general public above and beyond offsets and mitigation. The City's policies call for "significant public benefit from major projects, that is those that are large in scale...or those where the vacation contributes a significant increase in the scale of the project." (Street Vacation policies, p. 29) Due to size of the proposed arena project and the relative importance of the street vacation to arena development, the City should apply this policy to the arena. The PSA and FGI ask that the City evaluate the WSA's street vacation petition against each of these policies and ensure that the WSA provides appropriate mitigation and public benefits commensurate with the scale of the arena proposal and its impacts on the surrounding area, including the operation of CenturyLink Field.

Too Little Is Known About the Impacts of the Proposed Street Vacation and Subsequent Development for the City to Proceed with a Recommendation or Decision at this Time.

The WSA's initial street vacation petition does not provide adequate information to make an informed recommendation or decision regarding its street vacation proposal. The City's street vacation application checklist requires the applicant to "describe the transportation impacts and address both the impacts from the loss of the right-of-way currently and in the future as well as the transportation impacts from the new development." It goes on to require the applicant to "describe any impacts on the transportation system, which includes impacts to pedestrians, bicycles, transit and vehicles," and to "describe impacts to the street grid." WSA has not yet provided information responsive to these application requirements. The PSA and FGI acknowledge that WSA has stated it intends to provide this information with the Environmental Impact Statement (EIS) for the arena project. That is an acceptable approach provided the City (Planning Commission, SDOT or City Council) defer any recommendation or decision regarding the street vacation proposal until the EIS is complete.

The WSA's intended reliance on the EIS to meet its application requirements for the street vacation petition highlights the need to ensure that the EIS analysis is complete and accurate. It is not possible to complete the necessary EIS analysis without complete information regarding: (i) the terms of a coordinated events scheduling agreement as required by the City/Arena MOU; (ii) how the WSA intends to meet the parking requirement for the arena. To date, WSA has not initiated discussions with the PSA or

FGI regarding events coordination. Similarly, the street vacation petition does not include any information regarding how the WSA intends to coordinate events with CenturyLink Field and Safeco Field. The addition of the WSA is not contemplated by the current Scheduling Agreement between Safeco Field and CenturyLink Field.

Adding an arena and additional events will require a new approach to scheduling and traffic mitigation that needs to be resolved before the City makes any recommendation or decision regarding WSA's street vacation petition. The City should facilitate the parties initiating negotiations on this agreement.

Further the WSA appears to have represented that it will use the Safeco Field Garage to meet its parking obligations for the new arena. The Safeco Field Garage, however, is already subject to parking agreements, including one with the PSA and FGI that significantly limits the available parking in the Garage at any given date/time. The PSA and FGI are committed to ensuring that CenturyLink Field patrons continue to have safe and convenient access to the Safeco Field Garage consistent with its existing agreement with the Mariners and the Washington State Major League Baseball Stadium Public Facilities District ("PFD"). The City should require the WSA to provide complete and accurate information regarding how it intends to meet its parking requirements, including replacing the parking spaces lost as a result of the street vacation.

Until the WSA has provided a complete application and description of its proposal, including the completed EIS, it is not possible for the PSA or FGI to evaluate and comment fully regarding the street vacation proposal. Consequently, the PSA and FGI anticipate that we will submit one or more additional comment letters as more complete information becomes available. More importantly, until there is a complete proposal, it is not possible for the City to adequately assess the impacts and the benefits of the proposed arena and apply the City's Street Vacation Policies.

The City Should Ensure that the WSA and Arena Provide Comprehensive Mitigation and Appropriate Public Benefits as Conditions of Any Street Vacation Approval.

The WSA's proposed arena would be the third professional sports facility to be constructed in the South Downtown neighborhood in the last fifteen years. The prior approvals for CenturyLink Field and Safeco Field provide useful templates in considering what types and amounts of mitigation and public benefit should be provided by the WSA as part of constructing the arena. We have attached a list of the conditions imposed by the City on the PFD when constructing Safeco Field and the PSA when constructing CenturyLink Field. These requirements have contributed to the successful development and operation of the existing facilities and should be considered as a starting point for mitigation and public benefit requirements for the arena. Furthermore, such requirements are needed to ensure that the arena development does not adversely affect the existing facilities.

The City should also consider the new Stadium District Concept Plan in determining the scope of mitigation and public benefits required for the new arena. The Stadium District Concept Plan, adopted by the PSA and PFD in December 2012, presents a vision for the Stadium District over the next decade intended "to dramatically and positively impact the

neighborhood." Particularly relevant to the proposed street vacation and arena proposal, the Stadium District Concept Plan calls for enhanced pedestrian and bicycle connections within the Stadium District, including way-finding signage and lighting to connect the District and events facilities to key parking facilities. Consistent with these objectives, the February 22, 2013, Design Review packet for the arena references a pedestrian bridge over the railroad tracks on Holgate. The Design Review packet, however, anticipates that this pedestrian overcrossing will be "constructed by others." The City's approvals for both CenturyLink Field and Safeco Field included obligations on the PSA and PFD to contribute to similar pedestrian overcrossings. The City should consider imposing a condition on the street vacation approval to require the WSA to contribute to the Holgate pedestrian bridge and other pedestrian improvements in the District. Further, the City should consider where the additional parking required for the arena would be located. The Stadium District Concept Plan calls for the development of an additional 2,000 parking spaces in the Stadium District to meet current and future demand even *before* the addition of the proposed arena.

Thank you for the opportunity to provide initial comments regarding the WSA's street vacation petition. The PSA and FGI look forward to the opportunity to comment further once the EIS for the arena development is completed, including an analysis of the impacts of the street vacation. Until then, we urge the City to defer any recommendations or decisions regarding the street vacation petition as premature.

Melody McCutcheon, Seattle Mariners:

On behalf of the Seattle Mariners, we offer the following comments on the Occidental Avenue South street vacation petition submitted in March, 2013, by WSA Properties, LLC, et al., for the proposed arena.

As outlined in this letter, the proposed vacation will have significant adverse impacts on traffic circulation that must be mitigated. Without very specific mitigation imposed as a condition of street vacation approval, the vacation would adversely affect: 1) access to and from the Safeco Field garage, surface parking lot, and service road; 2) emergency access to the ballpark and areas north; 3) use of the plaza west of the Safeco Field garage and Occidental Avenue north of the arena, for staging and other activities for the ballpark and Century Link. In addition to requiring mitigation for loss of the street, we have two primary concerns regarding the review process for the street vacation:

- The information presented in the street vacation petition is based on an inadequate understanding of current traffic conditions in the area. Basic data is lacking on how the streets are actually used. Traffic associated with the interplay of Safeco Field, Century Link, and the Exhibition Hall creates a complicated and unique situation. There must be careful consideration of the existing conditions and that information will not be available until an Environmental Impact Statement is prepared and vetted through a public process. In the absence of such critical information, action on the street vacation (by either SDOT or the Design Commission) is premature. We urge

SDOT to obtain the needed information prior to issuance of a recommendation on the vacation.

- A number of our concerns with the proposed vacation could be addressed if a scheduling agreement was worked out with the arena ahead of time. A scheduling agreement is essential that avoids or eliminates events in the arena that are concurrent with major events at Safeco Field or Century Link. The street vacation approval for the ballpark, and the permit approval for Century Link, both required the venues to coordinate their scheduling. If the arena street vacation is to be approved, a scheduling agreement must be required. In fact, this is so intrinsic to review of the arena proposal and street vacation, such an agreement should be required prior to issuance of SDOT's recommendation on the vacation.

Occidental and Massachusetts are Critical to Safeco Field and 'Related Uses'

The Mariners have been active participants in the public process related to the new arena. The Mariners have appeared and made constructive comments and suggestions at every design review meeting. Many of those suggestions have been incorporated to improve the arena design elements. Even before the petition was filed, the Mariners met with the applicants and SDOT on February 4, 2012 to explain existing conditions in the area so that planning for the arena could properly account for those existing conditions. The Mariners presented a significant amount of information explaining the use of the portion of Occidental Avenue that is south of Massachusetts Street that would become part of the arena site ("Occidental South"), the use of Occidental Avenue north of Massachusetts Street adjacent to the Safeco Field plaza and parking garage ("Occidental North"), and the use of Massachusetts Streets and the functioning of the Safeco Field garage and the adjacent plaza during the various events at Safeco Field and Century Link. A multi-colored chart summarizing the information was provided to the applicants and SDOT at the meeting. *See* enclosed chart in DEIS.

The chart summarizes the various street functions over the period of a year, and for each use assigns a color indicator of how necessary the streets are per month for a given use, with red being the most critical. As you can easily see, the streets are used *regularly* throughout the year for daily operation of Safeco Field for baseball games and other events. Occidental South and Occidental North, as well as Massachusetts Street, are critical for access to the Safeco Field garage. Based on permits and covenants, the garage serves as the required parking for Safeco Field and Century Link about 169 days per year. In addition, the immediate streets provide emergency vehicle access to the ballpark, and critical access to the surface parking area east of the garage, and to the service road and service compound on the southeast corner of the ballpark, that is essential for all the "back of house" functions (such as broadcast truck access, deliveries and loading docks, trash and recycling facilities, and security) for daily operation of Safeco Field.

The plaza area adjacent to the Safeco Field garage is committed as a staging area at least 100 days per year for events at Safeco Field and Century Link. Portions of the plaza provide

essential charter bus parking (often for school children or seniors), and the curb side area of Occidental North is used for ADA and senior drop off. Massachusetts and Occidental North are the necessary access streets for substantial truck and other vehicle activity associated with those uses. In sum, use of the streets is critical year round.

After having provided this detailed information to the applicant, however, we are surprised to find that none of it was included in or factored into the Street Vacation Petition. Among other things, we found particularly curious the statement on Page 21 of the Street Vacation Petition that "the only parcels that utilize this portion of Occidental are parcels that will become part of the development. Therefore, vacation will not impact direct access for any other property not included as part of the development." This statement is erroneous. It is similarly erroneous for the Street Vacation Petition on Page 39 to assert that Occidental and Massachusetts serve a "Minor" right of way vehicle circulation function.

As made clear in the information previously provided to the applicants, Occidental South, Occidental North, and Massachusetts are vitally important to Safeco Field and its related uses and functions year round. Information on existing conditions must be considered as part of the street vacation petition analysis; SDOT should insist on receiving accurate and complete information from the applicants. We also note from the City's Street Vacation Policies that: "[v]acation requests may be approved only when they are clearly in the public interest. Rights-of-way will be retained unless it can be shown that they are not required for a current or foreseeable public use." Street Vacation Policies, as contained in Clerk File No.310078 ("Policies"), Framework Policy – Public Interest, Page 6.

In order to have adequate information for SDOT's analysis, we urge you to consider information in the Draft and Final Environmental Impact Statement ("EIS"). In February 2013, in order to inform the EIS, we provided to DPD's John Shaw and to the outside consultant, Transpo, information relating to the traffic and parking needs of Safeco Field. See enclosed February 11, 2013 letter to John Shaw in DEIS. The information in the EIS will be critical to the City's street vacation impact analysis and recommendations on mitigation. Therefore, we urge SDOT to consider the EIS information before making a recommendation on the vacation. We would also note that the City Council may not consider the petition until the Final EIS has been published. Policies, Section II, Policy 4, Guideline 4.2.C, Page 19.

Access Road Mitigation

Loss of Occidental South will cause significant impacts to Safeco Field and its related uses. Such impacts will require mitigation. In recognition of the adverse effects of the proposed vacation, the arena applicant has been amenable to providing a private access road along the east side of the arena property to make up for the loss of right of way function due to the vacation. We appreciate the applicant's cooperation in that regard. Provision of an acceptably-designed access road, with appropriate operational safeguards, will go a long way toward mitigating the loss of Occidental South.

It is critical that this private access road be made a permanent requirement of the vacation for mitigation purposes, as the road is essential to the usability of the Safeco Field south garage entry/exit, surface parking area, service and operations compound, and service road. The private access road needs to be established as a perpetual easement granted to the ballpark property for access to and from Holgate. This access road will need to be continuously available to the ballpark, on a 24/7, 365-day basis, with full clearance for highway trucks and appropriate security provisions.

This requirement is consistent with the Policies: "Vacations may be approved only if they do not result in negative effects on both the current and future needs for the City's vehicular, bicycle, or pedestrian circulation systems or on access to private property, unless the negative effects can be mitigated." Policies, Section I, Policy 1, Page 7. The private access road is critical mitigation for loss of Occidental South, and an agreement and easement for its use must be worked out prior to action on the proposed street vacation.

Mitigation for Impacts to Massachusetts Street

The function of Massachusetts Street will significantly change due to the arena. The arena's main entrance is off that street, and the proposal clearly intends for that area (including the street itself) to be a gathering space. Massachusetts Street is also critical for access to the Safeco Field garage.

The arena proposes to develop a small open space area on the arena-owned parcel on the north side of Massachusetts Street. However, more recently, it has been suggested (and supported by the arena applicant) that the Massachusetts Street right of way between Occidental and 1st Avenue South be moved north onto this arena-owned parcel, thereby squaring off the arena site on the north. Such a move would allow the arena's on-site plaza to accommodate a larger contiguous open space area in the critical location of the main entrance to the arena, thereby relieving pedestrian overflow that might otherwise have been forced into a busy street. It is an important safety improvement. This realignment would also improve the flow of traffic into and out of Massachusetts Street and the Safeco Field garage, and better align the right of way with Massachusetts Street west of First Avenue. The Mariners support this proposal and suggest it be required as mitigation, should the street vacation be approved.

Closure of Additional Streets as "Festival Streets"

In addition to the proposed street vacation, the applicant proposes in connection with arena events to close Occidental North and Massachusetts to traffic in order to create a public plaza and pedestrian circulation for thousands of people, under a so-called "Festival Street" permit. Street Vacation Petition, Pages 57 - 58. Such a closure would be an additional loss of right of way function with a direct and severe effect on ballpark operations that cannot be mitigated.

We also note that this particular proposal is not compliant with the rules for Festival Street permits. Such permits are not allowed for activities with "anticipated attendance of over 300 people." SDOT DR 2-2012, Section 6.3.

Thank you for considering our comments, and we would be happy to work with SDOT and the arena team regarding these issues and concerns.

Ron Jay

I am in favor of the new arena's location. I would ask that if Occidental is going to be vacated, there need to be some concessions. Third Ave. North from Holgate to Royal Brougham needs to be brought up to city street standards. Holgate east from 1st to Airport and Lander east from 1st to Airport is in need of desperate repair. I feel the Port of Seattle needs to get involved since they are the major loads on these streets and the reason they are in the condition they are. It's the same old problem, the people that beat up the streets don't have to get involved in maintaining them. Lanes are being taken away and given to the bicycles who pay nothing to use them. That's my two bits.

Charley Royer, Washington State Major League Baseball Stadium Public Facilities District:

The Washington State Major League Baseball Stadium Public Facilities District (PFD) appreciates the opportunity to comment on the petition for the vacation of Occidental Avenue S. for the proposed arena project. The ballpark PFD is the public entity that developed and owns Safeco Field. The PFD is responsible for overseeing this public asset and for ensuring that the public's investment in Safeco Field is not compromised. Safeco Field and its parking garage are located immediately to the north of the proposed SODO site for the arena, which includes the portion of Occidental Avenue S. to be vacated.

The PFD leases Safeco Field to The Baseball Club of Seattle, LLP (Seattle Mariners), which is our sole tenant. The Seattle Mariners are fully responsible for the operation and maintenance of the ballpark, and they have submitted a separate comment letter expressing their issues and concerns with the proposed street vacation. As detailed in their letter, Occidental Avenue S. currently serves as a major access point for ballpark fans and patrons, and its vacation will have significant adverse impacts that must be mitigated. The PFD has reviewed the Mariners' comment letter and joins in all of the issues raised by the team.

In addition to the team's comments, the PFD is concerned with the completeness of the street vacation petition and the timing of the City's review. Until environmental review of the arena proposal is complete—including an opportunity for public and agency comment—the true impacts of the street vacation will remain unknown and alternatives to the vacation will remain unexplored. Any City recommendation on the street vacation petition will be premature until the environmental process is finished, as described in more detail below. Accordingly, we urge that any staff recommendation on the street vacation petition be deferred until the final environmental documents for the arena project are completed.

If the City elects to proceed with the vacation after the environmental review is complete and the impacts of the vacation are fully disclosed, then we want to remind the City of important conditions imposed on the PFD and Safeco Field as part of the street vacation process that accompanied the development of Safeco Field. These conditions can provide a baseline for the

conditions that should be evaluated as part of the arena street vacation. Establishing similar conditions for both venues will help ensure operational consistency among these adjacent venues and will minimize conflicts in managing dual (overlapping) events in these adjacent venues.

Finally, we are concerned that the existing street vacation petition is not complete, because it does not fully address all the elements required for a petition. We encourage the City to ask the petitioner to supplement its application so that it addresses all of the City policies and guidelines for street vacations, and then circulate that supplement for additional public and agency review. All of these concerns are addressed in more detail below.

Any Recommendation on the Street Vacation Petition Should be Deferred Until the Arena Environmental Review is Complete.

Under the City's Street Vacation Policies (C.F. 310078; "Policies"), proposed street vacations may be approved only after considering all of the following:

1. the impact of the vacation on the "public trust functions" of the right-of-way,
2. the "land use impacts" of the vacation, and
3. the "long-term benefits to the general public."

(See Policies, pp. 5-6). For major projects such as the arena proposal, a "significant public benefit must be provided." (Policy 5.D.)

In reviewing a street vacation petition, the City must ultimately determine whether the vacation is in the public interest. In making this determination, the City is directed to weigh the public trust and land use impacts of the vacation, potential mitigating measures, and the public benefit provided by the vacation. (Policies, p. 7). This weighing process cannot proceed without first understanding the impacts of the proposal and potential mitigating measures.

The public trust and land use elements of a street vacation decision expressly require the consideration of project impacts. In evaluating the effect of the street vacation on Public Trust Functions, the City's Policies direct it to consider impacts on all of the following: "circulation, access, utilities, light, air, open space, and views provided by the right of way." (Policies, p. 5). These impacts are given "primary importance" in evaluating a vacation proposal, and specific policies are devoted to each impact area. (Policies, pp. 7-17). The Policies expressly require "mitigation of adverse effects on [each of] these public trust functions." (Id.). Similarly, the Policies require the City to consider the "land use impacts" of the proposed vacation and its consistency with City land use policies. (Policies, p. 6).

Unfortunately, at this stage in the arena review process, very little information has been provided regarding the project's impacts or proposed mitigation measures. We understand that this analysis is underway, with a draft environmental impact statement (EIS) scheduled to be issued for public comment this summer and a final EIS to be issued this fall. But until the environmental analysis is complete and all the impacts of the proposal are known, it will be

difficult for the City to conduct further meaningful review of the street vacation petition, or to conduct the required weighing to determine whether the vacation is in the public interest. Similarly, any evaluation or analysis of the “public benefits” of the proposal is premature before the environmental review is complete. Under the City’s Policies, public benefit review must begin with an understanding of project impacts, recognizing “the loss of benefits provided by the right-of-way” being vacated and the “gains achieved” by the vacation. (Policy 5.C.). The public benefit must “balance what the public loses through the vacation with what the public will gain through the project.” (Id.) While the petitioner has outlined the public benefits of the proposal, there is no analysis yet of project impacts and the public loss that will result from the vacation. As a result, the public benefit analysis cannot proceed, because only part of the benefits equation is known.

Without a final EIS it is also impossible for the City to fully evaluate the effects of a ‘no vacation’ alternative. Under the City’s street vacation policies, the petitioner is required to evaluate both a vacation and no-vacation alternatives. (Policies, p. 19). While some details of the no-vacation alternative have been provided by petitioner, there is no impact analysis of the no-vacation alternative, which may include analysis of off-site alternatives. We understand that this analysis is forthcoming in the EIS, and we look forward to being able to review and comment on it once published.

Finally, we note that the sequence that we propose for further City review (environmental review first, followed by street vacation and permit review) is consistent with the approach used for the street vacation that was required to develop Safeco Field, and it need not result in project delays. For Safeco Field, the PFD completed the EIS process in nine months, including extensive public and agency comments on the draft EIS. The final EIS was published *before* the street vacation petition was submitted to the City, and prompt City review immediately followed. We encourage the City to follow a similar course here and to defer any recommendation on the street vacation petition until the environmental review process is complete.

If the Vacation is Granted, it Should be Subject to Conditions that Ensure the Safe and Smooth Operation of the Arena and its Neighbor Facilities, Safeco Field and CenturyLink Field and Exhibition Center.

Development of Safeco Field in the 1990s also required the vacation of a portion of Occidental Avenue South. As noted above, the PFD completed its EIS on the ballpark project before submitting its street vacation petition to the City. In the course of the City’s review of the petition, careful consideration was given to the impacts of constructing and operating a major sports and event venue in this neighborhood, and appropriate mitigation measures were developed and imposed as conditions of the street vacation. Many of these conditions were later carried forward and imposed as requirements for CenturyLink Field and Exhibition Center. The PFD believes that the public would be well-served if similar conditions are also included as part of the street vacation for the arena project.

We know that City staff has copies of all of the Safeco Field street vacation materials and can use that information in conducting its analysis, but we want to call out a number of conditions that

have served the ballpark well and that are essential to smooth event operations. We believe that these conditions in particular would be essential to a well-operated arena functioning efficiently in the neighborhood:

- Provide a Community Liaison during the construction of the facility
- Prepare a Security and Emergency Access Plan and fund the additional public services required for events, including traffic and crowds control, security, and emergency response
- Prepare a clean-up plan for post games and events and fund its implementation
- Provide route signing improvements, including variable and changeable message signs
- Work with project partners to ensure the construction of a pedestrian overcrossing of the BNSF tracks adjacent to the facility
- Provide traffic signals where warranted
- Study area-wide pedestrian improvements and help fund their implementation (\$1.2M in 1996 dollars)
- Develop a Parking Management Plan to minimize the impact of event parking
- Develop a “dual events” scheduling agreement to help effectively manage and coordinate event scheduling and transportation management among the stadium venues. (Note: This is also a requirement of the City/County MOU for the arena project)
- Impose specific hour restrictions for events of a certain size, and limitations on daytime events.
- Require a Transportation Management Plan (TMP), including specific targets designed to reduce and manage traffic and parking demand along with accountability mechanisms for ensuring compliance. Require annual review and approval (with an opportunity for revisions) by SDOT and DPD.
- Provide support to the neighborhoods during construction (\$90K/year for two years) and the three opening years of operation (\$60K/year) (1996 dollars).

Given the certainty of overlapping events at Safeco Field and a SODO arena, it is essential that both facilities share similar operating requirements so that the cost of implementation is borne by the appropriate facility. If one venue is required to undertake these tasks and the other is not, then the burdened venue is likely to carry a disproportionate load. Common conditions should also make it easier for the venues to discuss efficiencies in operations and shared workloads. Accordingly, we urge that street vacation conditions similar to the conditions identified above be evaluated for the proposed arena.

The Vacation Petition is Not Yet Complete

In addition to the absence of the environmental impact analysis, the street vacation petition appears to be missing a number of key elements. For example, under the City’s “Circulation and Access” policies, the petitioner is required to show that necessary on-street public parking will be replaced. (Policies, Guideline 1.4). The street vacation petition notes that the vacation will result in the loss of on-street parking along Occidental Avenue S., but no provisions for public replacement parking are described. Instead, the petition states that “No new parking facilities are proposed for the project.” (Petition, p. 2). This position on replacement parking

also appears to be inconsistent with the City's own traffic study conducted in May 2012, which assumed that the project would develop "approximately 1,500 spaces new to the arena."

Another example of missing information or analysis relates to the issue of vehicular access. Guideline 1.6 of the City's street vacation policies provides that vehicular traffic functions may *not* be provided by agreement across private property. The PFD supports the need to mitigate the loss of vehicle access to the Safeco Field parking garage caused by the vacation by creating a private access way across the arena property. But this alternative access may also need to be supported by the re-location of a portion of Massachusetts Avenue S. as described in the Mariners' comment letter. In any event, petitioner needs to better explain how this mitigation is consistent with City Policies.

Finally, an example of misleading information comes from the March 12, 2013, Street Vacation Petition packet submitted to the Seattle Design Review Board. The public benefit matrix on p. 57 of that packet, and the public benefit diagram on p. 58, both count as part of the project's public benefit the private replacement roadway that will likely be required in order to mitigate the circulation and access impacts that would result from the vacation of Occidental Ave. S. Under the City's Policies, mitigation of the adverse effects of a vacation do *not* constitute a public benefit. (Policies, p. 29). This is no small error, as the proposed access road represents a significant percentage of the proposed public open space on the project site. While later vacation documents do not appear to count this area as a public benefit, the record should be reviewed and revised to ensure that it is accurate. In addition, the petition should be corrected to delete the claimed public benefit for 'festival streets', which we understand have been deleted from the proposal.

While we have not completed a detailed review of petition as compared against all of the City's street vacation policies and guidelines, we suggest that it may be helpful if the City asks petitioner to supplement its petition to better respond to all of the elements of the City's policies and guidelines, including a demonstration of public interest and public benefit. If such a supplement is prepared, we would appreciate the opportunity for additional public and agency review and comment.

Again, we appreciate the opportunity to submit these preliminary comments. We look forward to submitting additional comments to the City as the environmental review for the arena proposal proceeds, and as additional detail regarding the proposed street vacation become available, including any agreements on event scheduling or parking.

PETITIONER RESPONSES TO COMMENTS

City Agency Comments

- **Seattle Police Department:** The event scheduling document and FEIS mitigation measures will manage event scheduling concerns. As with the other venues, the Arena team will pay for any additional police services that might be necessary.

- **SDOT Traffic Management and Policy and Planning Divisions:** The public benefit features will serve all, not just arena users, public realm improvements have been designed with aesthetics, maintenance and public safety in mind.
- **Seattle City Light:** The arena will underground the 26KV transmission line impacted by the vacation. This work is being coordinated with SCL through the SIP and the UMP processes.
- **Seattle Parks Department:** No comment.
- **Seattle Public Utilities:** The water mains will be rerouted and upgraded per SPU's direction. The sewer mains will be rerouted and upgraded per SPU's direction. All SPU conditions are met by the proposal; this work is being coordinated with SPU through the SIP and UMP processes.
- **DPD:** No comment. We agree that there would be no appreciable negative land use impacts as a result of the proposal.

Outside Agency Comments

- **King County Wastewater Treatment Division:** Agreed, no impacts to the main trunk sewer line as it is outside of the vacation area.
- **King County Metro:** Thank you for your comment, agreed, no impact to operations.
- **CenturyLink:** All dry utilities including CenturyLink facilities will be rerouted via 1st Avenue South; this work has been coordinated and checked with CenturyLink and is being generally coordinated through the SIP plan.
- **PSE:** The gas line will be decommissioned and rerouted in 1st Avenue South. This work has been coordinated and checked with PSE and is being generally coordinated through the SIP process.

Design Commission Comments

- **Urban Merit Comments:** Thank you for your action regarding Urban Merit. The arena will construct the pedestrian/bicycle bridge across the Holgate tracks, with an interim shuttle system in place if the pedestrian bridge is not yet constructed at the time of Arena opening. The Arena team also agrees with your comment related to reduction of structured parking facilities, but will build the parking necessary to meet Land Use Code requirements.
- **Public Benefit Comments:** Thank you for your action to approve our Public Benefit proposal. We acknowledge the conditions of approval and look forward to coming back to you with the requirement plans and documents.

Public Comments

- **Kevin Daniels, Nitze-Stagen:** Thank you for your comment. The EIS has fully analyzed traffic impacts at 1st Ave S. and S. Atlantic, as well as impacts of the loss of Occidental to the morning commute. The "cut-through" that currently occurs will remain, it will simply be moved one block south (right turn on Massachusetts from 1st, left onto the remainder of Occidental, right onto Edgar).

- **Geri Poor, Port of Seattle:** Thank you for your comment. The EIS concludes that the loss of Occidental Street does not have a significant adverse impact on transportation, or on freight mobility. You note that Occidental serves as a “relief valve” for the 1st and S. Atlantic intersection, serving through traffic as a short cut to SR519/Edgar Martinez Drive. However, the vacation of Occidental in the proposed location does not prevent this movement from occurring; there remains the same movement—right turn down Massachusetts, left on Occidental, and right onto SR 519.

It should also be noted that the “Heavy Haul Route” legislation, passed by Ordinance 124890 in October 2015, only identifies Occidental Avenue South as a “Heavy Haul Route” from South Horton Street to South Holgate Street. The segment proposed to be vacated is not included in the Port’s important Heavy Haul Network. This is a clear sign that Occidental is not necessary to freight movement or Port operations. The Port was obviously a necessary partner in passage of this legislation.

You allege negative land use impacts that will occur as a result of the proposal. This allegation is not supported by the EIS or by the City’s policies or zoning code. The EIS concludes that no significant adverse impact related to land use will occur as a result of the project. The project is located within the Stadium District Overlay which permits the arena use outright; the policy to potentially site a stadium in this location was made long ago, when the Overlay was put into place. Had the Council at the intended for no additional stadium/arena to be built in this location, it would have further restricted zoning. Instead, the arena is permitted outright by zoning in this location.

Finally, the Festival Street proposal is no longer a part of the project. In addition, the 1st Avenue Street section was fully analyzed in both the FEIS and the Addendum to the FEIS and no significant adverse impacts related to those sections have been found.

- **Ann Kawasaki, Washington State Public Stadium Authority, and First & Goal, Inc.:** Thank you for your comments. A full FEIS and Addendum have been prepared to analyze impacts; no significant impacts to CenturyLink field or the Exhibition Center were identified. We agree that a Scheduling Agreement is necessary for the three facilities to co-exist. We understand that there is an existing Scheduling Agreement between you and the Mariners that can be amended, and we look forward to that discussion.

Regarding parking, as stated above, the arena will provide the number of parking stalls required by the Land Use Code. We agree that this could be an issue resolved in any scheduling or other agreements beyond the three arena owners and their users.

We have provided an extensive public benefit package which has been approved by the Design Commission, in addition to those items identified as mitigation by the EIS. We look forward to working with you in the future regarding these items.

- **Melody McCutcheon, Seattle Mariners:** A full FEIS and Addendum have been prepared to analyze impacts; no significant impacts to Mariners' operations were identified. We agree that a Scheduling Agreement is necessary for the three facilities to co-exist. We understand that there is an existing Scheduling Agreement between you and CenturyLink Field that can be amended, and we look forward to that discussion.

Thank you for your statement that our voluntary realignment of S. Massachusetts Street to align with the Mariners' garage entry/exit is a benefit to the Mariners. We agree, and we are happy to help provide a well-designed front door to the Mariners' facilities and a great pedestrian experience leading to Occidental between S. Massachusetts and Edgar Martinez, which we know is well-used by Mariners' patrons.

The vacation of Occidental for the arena will not negatively impact the Mariners' garage or staging operations. As you stated, the garage serves as the required parking for Safeco Field, and the plaza area adjacent to the garage is committed as a staging area at least 100 days/year for events at Safeco and CenturyLink. The vacation of Occidental south of this area does not impact the Mariners' use of this area in any way; there is still full access to this area via S. Massachusetts, which will remain.

You request that the private service road to the east of the arena be made available for Mariners' garage exit during events, and continuously available to the Mariners will full clearance for large trucks, while allowing for appropriate security provisions for the arena. We have continuously stated that we are planning to allow the Mariners to access this road. We also look forward to discussions with the Mariners regarding the grant of an easement on the north end for the driveway. We presume that the discussion regarding the access road is a necessary part of the discussion related to the Scheduling Agreement, and again we look forward to that discussion with you.

As noted above, the "Festival Street" proposal has been deleted. Massachusetts is proposed as a curbsless street, and like any right-of-way, a street use permit would be required to be obtained in the event of any special closure. Such a street use permit would be necessarily coordinated with the Mariners and other facilities.

- **Ron Jay:** Thank you for your comments. The arena has proposed extensive improvement to the roadway system including pavement upgrades on Holgate, 1st Ave. S., S. Massachusetts St., and S. Utah Ave., and ultimately a bridge over the railroad tracks at Holgate for bicycles and pedestrians, with shuttle service provided to patrons to transit hubs provided in the interim.
- **Charles Royer:** Thank you for your comments. A full FEIS and Addendum have been prepared to analyze impacts; no significant impacts to Safeco Field operations were identified. We agree that a Scheduling Agreement is important for the three facilities to co-exist. We understand that there is an existing Scheduling Agreement between the two existing facilities that can be amended, and we look forward to that discussion.

Thank you also for your suggestion that the arena be required to include the same conditions as Safeco Field when Safeco Field vacated Occidental Avenue South. The petitioner is willing to include these conditions as may be relevant to the current proposal, as part of this vacation recommendation and approval process.

CLOSE OF COMMENT SECTION AND RESPONSE TO COMMENTS FROM THE PETITIONER

POLICY FRAMEWORK

Street vacation decisions are City Council decisions as provided by State statute and have not been delegated to any City department. There is no right under the zoning code or elsewhere to vacate or to develop public right-of-way. Vacation of public right-of-way requires discretionary legislative approval that must be obtained from the City Council, and the Council may not vacate public right-of-way unless it determines that to do so is in the public interest. The decisions must assure that potential development and use of the vacated right-of-way is in the public interest. The Council may be guided by adopted land use policies, but the Council is not limited by land use policies and codes in making street vacation decisions and may condition or deny vacation as necessary to protect the public interest.

Rights-of-way are dedicated in perpetuity for use by the residents of Seattle for purposes of public travel and transportation of goods. The dedication carries with it certain public rights to circulation, access, utilities, light, air, open space, and views. City government acts as the public's trustee in administering streets and streets. The City Council first adopted Street Vacation Policies in 1986 in Resolution 27527. A few sections of the policies were revised in 1991 in Resolution 28387, 1993 in Resolution 28605 and again in 2001 in Resolution 30297. Significant revisions were made to the Vacation Policies in 2004 in Resolution 30702.

The Policies were again amended in 2009 in Resolution 31142 and the Policies are currently contained in Clerk File 310078.

ANALYSIS

The City's Street Vacation Policies provide that vacation requests may be approved only when they significantly serve the public interest. The Street Vacation Policies provide for a three-step review of any vacation petition in order to determine if the vacation is in the public interest.

The Policies define the components of public interest as:

1. Protection of the public trust;
2. Protection from adverse land use impacts; and
3. Provision of public benefit.

The Street Vacation Policies provide that during the review of the petition, the public trust and land use effects of a vacation should be weighed against the mitigating measures and the public benefits provided by the vacation to determine whether the vacation is in the public interest. In balancing these elements of the public interest, primary importance should be placed upon protecting the public trust in rights-of-way.

Protection of Public Trust: The Policies define the public trust functions of rights-of-way as being circulation, access, utilities, light, air, open space, and views. Policy 1 of the Street Vacation Policies addresses the basic purpose of streets. Streets are created to provide for the free movement of people and goods throughout the City, to provide access to individual properties, and to provide space for utility services.

Through the vacation process, an adjacent property owner acquires public street right-of-way for private use or development purposes. Since the vacation is generally about the loss of some portion of a street, the review process must evaluate the loss of that street segment. The review normally looks at the impact on the grid pattern in the area, the impact on the provision of utility services, how the circulation pattern is altered and how that affects pedestrians, bicyclists, vehicular movements, emergency services, and commercial activity.

Transportation Impacts: Streets are intended to provide for access to adjacent properties, to provide for service functions such as loading bays and access to parking and to provide space for utility infrastructure. In reviewing street vacations the critical questions are whether the vacation pushes traditional street functions out onto the street or otherwise impairs the function of the adjacent streets.

The project is being designed so that typical transportation functions of the street will continue to be provided internal to the site and not on the public street. The project will include only one curb cut to S. Holgate Street which leads to a private access/utility drive that is similar to those types of utility drives provided by the other two sports facilities. The service drive will access an internal loading dock with capacity to serve the facility, and will access the parking provided on-site for team management and player functions.

There has obviously been much discussion regarding transportation related to this project. A full EIS was prepared related to the project, with the bulk of analysis lent to transportation impacts. An Addendum was also prepared related to impacts of the proposal on 1st Avenue South. The FEIS specifically analyzed the potential impacts of the vacation of Occidental, as well as the impacts of the arena on neighborhood traffic.

The FEIS shows that this portion of Occidental does not serve a critical function to the street grid. The FEIS reviewed traffic volumes along Occidental Avenue S. to identify the approximate number of vehicles that use Occidental Avenue S. as an alternative travel route to 1st Ave. S. Gathered data show that the diversion to Occidental is greatest during the weekday AM peak hour when approximately 200 westbound vehicles on S. Atlantic Street divert southbound onto Occidental to primarily turn right onto S. Holgate Street (150 vehicles). Hourly truck counts ranged from 0 trucks per hour to up to 10 trucks per hour,

depending on Port activities. Hourly traffic volumes collected along 1st Ave. S. demonstrated that additional capacity is available on 1st Ave. S, suggesting that the movements to Occidental may not be due to 1st Ave S. congestion. The EIS observed that westbound traffic on Edgar Martinez Drive can include truck traffic destined for the Port's Terminal 46 during loading/unloading times. When this happens, trucks will turn left onto Occidental, then right onto S. Holgate, then turning south onto 1st Ave. S.² It is important to note that this cut-through movement, while not determined to be necessary from a traffic standpoint, will still be able to occur with the vacation—vehicles can still turn off of Edgar to Occidental, and then turn right onto Massachusetts and turn left at a signalized 1st and Massachusetts intersection. The same is true for a reverse movement (headed north and east toward Edgar Martinez). Thus, the vacation of this section of Occidental Avenue S. will not result in the loss for the area of any cut-through function the street might serve.

The FEIS further summarizes the potential impacts of the vacation on transportation and other related issues. The vacation will not create any emergency access or Mariners' garage issues, and the FEIS notes that if the private access drive is made available to the Mariners' garage for exit during its use, transportation circulation is improved. Related to parking, the vacation of Occidental will result in the loss of approximately 60 on-street stalls. Finally, the FEIS notes that the vacation with the arena degrades the intersection of S. Holgate and 1st Ave S from LOS D to LOS F on event days with a capacity event at the arena, however the document notes that this impact may be mitigated with traffic routing and management, TMP and other measures. It should also be noted that the no-vacation scheme, which would result in approximately 810,000 s.f. of commercial development, would create fewer overall trips, but more consistent daily volumes during peak hours. The arena impact would not occur daily (as with an office building) but would only occur during event days.

There was concern raised by the Port regarding freight movements and the impact of the loss of Occidental to freight mobility. Again, the EIS shows that this portion of Occidental does not serve a critical function to maintain freight mobility; up to 10 trucks per hour were found using this segment of Occidental during peak Port operations. As stated above, to the extent that trucks use Occidental as a cut-through to SR519, they will continue to be allowed to do so following the street vacation. It must also be noted that the City Council passed Ordinance 124890 on October 30, 2015. This Ordinance was also known as the "Heavy Haul" Legislation and was supported by the Port of Seattle. The Legislation identifies those streets heavily impacted by Port truck/container traffic and sets a cost sharing mechanism for the Port to be able to haul overweight trucks on these important streets in exchange for payment of fees to help repair roadway damage from overweight trucks. The Ordinance designates 32 segments of roadway in the City as streets to be included in the Heavy Haul Network. Occidental Avenue South is identified in the network only from South Horton Street to South Holgate Street. The segment of South Occidental Street to be vacated is not included within the Heavy Haul Network.

² For more detailed analysis regarding this issue, please see FEIS Appendix E, pp. 2-333 to 2-348.

The proposal also includes several other roadway network improvements that contribute to a better-functioning roadway network. The project proposes to straighten S. Massachusetts Street to align directly with the Mariners' garage exit/entry. It proposes to improve S. Massachusetts across 1st Avenue from the arena site to allow for full sidewalks and bike lane improvements. It proposes to improve 1st Avenue South along its frontage to accommodate pedestrian surge capacities from events at the arena and events elsewhere, and it proposes to improve 1st Avenue South along the eastern frontage between S. Massachusetts and S. Atlantic/Edgar Martinez (frontage not owned by the petitioner) in order to meet pedestrian surge conditions for both Mariners' games and arena events. It proposes full sidewalk improvements on both sides of S. Holgate Street. It proposes a public pedestrian bridge as EIS mitigation that will allow grade-separated crossings for pedestrians and bicycles, both the general public and event attendees, over the S. Holgate railroad tracks, with shuttle service provided to arena patrons to take them to transit hubs if necessary in the interim prior to bridge completion. Finally, it includes extensive bicycle improvements, completing the Greenway from S. Massachusetts to S. Stacy Street on Utah Avenue South (to Starbucks), and providing a bicycle activated light for the bicycle crossing at S. Atlantic Street. The Design Commission worked with the Petitioner to require and refine these improvements. Very few, if any, of these improvements would be provided with the no-vacation option.

Parking for the team management, players and some staff will be provided on-site within the facility. The large majority of the code-required parking for the facility, approximately 1,750 stalls, would be developed in a multi-level parking structure across Holgate Street to the south of the project, on a site controlled by the Petitioner. The size of this parking facility may be reduced to the extent alternative dedicated parking in the vicinity becomes available for use by the project. The City's Comprehensive Plan last amended in 2015 provides that the City should manage the parking supply with the goal of increasing other modes of transportation such as walking, biking, or taking the bus. The arena project must still meet Land Use Code minimum parking requirements, but the amount of parking provided (as well as flexibility to use shared parking facilities if available) is consistent with this policy.

SDOT includes in its recommended conditions of approval an aggressive Transportation Management Program (TMP). Specific TMP elements, including performance goals, will be set forth in the MUP approval. The overall goal of the TMP is to reduce automobile traffic traveling to the arena for events, particularly single occupant vehicles. The index that best reflects this is expressed in terms of cars per 1,000 attendees. The index incorporates both the increased non-auto mode split (transit pedestrians, bicycles, ferry, drop-off, etc.) and average vehicle occupancy (persons per car) into a single goal. This index is also used by CenturyLink Field and Safeco Field to determine compliance with their respective TMPs. In addition, increased transit access to the Arena is one of the TMP goals; thus a second performance goal related to transit mode split will also be established in the MUP decision. These goals should be reviewed and adjusted over time with phasing and timing of more aggressive goals corresponding to public transportation system capacity upgrades (such as the opening of the Northgate or East Link Extension for Sound Transit). No major goal modification should occur for the first five years of arena occupancy without such a capacity upgrade.

In addition, the TMP will include further details regarding physical and operational improvements, such as ITS Next Generation Signal System Upgrades, Parking Guidance Systems, as well as other more typical transportation management strategies for large event centers.

Finally, and most importantly, the TMP will include a Multiple Event Scheduling Principle framework. A completion of this framework through a Scheduling Agreement will be included in the MUP conditions of approval. Arena events will need to be scheduled to either avoid or closely overlap events at the other two nearby venues to avoid conflicts between egress and ingress of different events at different facilities. Principles that can guide such an agreement include, but are not limited to, the following:

- Multiple events mean time-specific events occurring on the same day in the Ballpark, Stadium and/or Arena.
- Overlapping events mean events with the projected start times and/or the projected end times occurring within one hour of each other.
- Sequential events are events where the start of a second event follows the end of a first event.
- Sequential events involving an Arena event will be separated by a minimum of 3 hours between the projected end time of one event and the scheduled start time of the next event on any non-holiday weekday or weeknight. Reduced time separation between events may be considered if the combined reasonably anticipated actual attendance of the Arena and the Ballpark or Stadium is less than 45,000 attendees.
- There shall be no overlapping events involving three time specific events.
- No multiple, sequential, or overlapping events with a projected combined actual attendance exceeding 15,000 may start between 4:00pm and 7:00pm on non-holiday weekdays.
- There will be no exceptions from the threshold combined anticipated actual attendance thresholds for concurrent or overlapping weekday events involving arena events.
- Scheduling principles should be reviewed and updated periodically. Such scheduling principles should include a discussion of playoff schedules for potential NBA/NFL/NHL/MLB playoff participation.

Final scheduling principles will be incorporated in the MUP decision for the project.

The no-vacation alternative would have transportation impacts that would be related to a large office building development. Office buildings have more regular peak hour traffic impacts. SDOT does not find adverse transportation impacts associated with the vacation petition. SDOT supports the arena subject to implementation of an aggressive TMP that supports continued work to encourage walking, biking, and transit use for those attending all events at all of the event facilities.

Utility Impacts: In addition to the transportation purposes, street rights-of-way provide space for utility lines and facilities. The vacation review must consider the impact on any public utilities; both current and future impacts must be assessed. If any utilities are located in the right-of-way, it must be possible for the utility to relocate or terminate those facilities or the vacation is not feasible. The utility should not be negatively impacted in its ability to deliver services, now or in the future, to access its facilities for repair or maintenance, or to update or expand services. Any proposal to relocate or alter utility services must be satisfactory to the utility provider and the costs to accommodate the utility needs are the obligation of the Petitioner.

An important element of the review of downtown street vacations is making sure that there is adequate space for the relocation of utility infrastructure from the street to the adjacent street. While it is possible to relocate utilities, finding space for them is becoming more of a challenge. Relocating utilities to the street edge means that the utilities will now compete with other public elements that are located at the street edge such as planting strips, street trees, parking or loading areas, bus stops or bicycle facilities. Competition for space or changes in materials can have a major impact. For example, street trees do not thrive over drainages systems that keep tree roots wet. Newer requirements to develop natural drainage facilities to meet Green Stormwater Infrastructure requirements also require a lot of space. The street trees, drainage and City Light vaults all compete for space and all these needs must be kept separate.

The Petitioner proposes to relocate utilities into 1st Avenue South, including undergrounding of an SCL transmission line. The 1st Avenue South right-of-way is 100 feet wide and therefore has adequate capacity to accommodate the relocated utilities. The Petitioner and development team have been regularly coordinating utility relocation with all agencies and City staff and have addressed all identified concerns. The City will continue to monitor utility issues as the project moves through its SIP and UMP permit processes.

The vacations should be conditioned to require that this coordination work continue and the final plans address issues to the satisfaction of the City or other agency impacted by the vacation. SDOT does not identify any adverse utility impacts.

Light, air, open space and views: Because street right-of-way is open and undeveloped, streets and streets can have value as open space and can be important view corridors. Streets can provide important breathing space in dense urban areas. This street runs north-south and is 60 feet wide and approximately 620 feet in length. The street does not include sidewalks and street trees, if any, are intermittent. To the east of the project site are the BNSF rail lines and the Amtrak railyard. To the west of the project site is 1st Avenue South, which is a 100-foot wide right-of-way. The street two blocks to the north was already vacated for the construction of Safeco Field. While the street is open and improved so that the public can access the street and use the street for any street purpose, the street does not provide for important public views or open space on the block.

The no-vacation alternative would allow two large buildings of up to 85 feet in height along Occidental Avenue S. These buildings would themselves impact the availability of light, air, and

views along the right-of-way. In addition, any view of the downtown skyline is largely blocked by Safeco Field to the north. No open space requirements exist for office buildings developing under the IC zone, so it is not anticipated that open space would be provided on-site in the no-vacation alternative.

Following the vacation, the arena's height is not as tall as Safeco Field or CenturyLink. The arena will include a total of more than 32,000 square feet of publicly-accessible street-level open space, public plaza with a living machine and programming, pedestrian amenities, rain gardens/swales, and a fully improved pedestrian and bicycle network in the surrounding neighborhood. The block will have significantly more open space after the vacation than if the block was developed around the existing street. SDOT does not identify any adverse light, air, open space and view impacts.

Protection from adverse land use impacts: The second step in the review process is to evaluate the land use impacts of the proposed vacation and subsequent development. The land use portion of the Policies, Policy 4, is concerned primarily with ensuring that post-vacation development is consistent with the land use pattern in the area and with City policies and codes. The Policies specifically state that proposed vacations may be approved only when the development potential that is attributable to the vacation would be consistent with the land use policies adopted by the City Council. The vacation decision will be based on the policies applicable for the type of area where the development is proposed.

It is also important to assess whether the loss of the streets creates building sites that allow for projects that are out of scale with the area. The proposal site is zoned Industrial Commercial with a height limit of 85 feet. It is also included in the Stadium District Overlay, which permits spectator sports facilities to be unlimited in height. The arena is close to 85 feet in height, unlike Safeco Field and CenturyLink which are much larger. Following its review of the proposed vacation, DPD concluded that the development potential attributable to the vacation is consistent with adopted land use policies; in fact, as proposed, the floor area is 64% of what could be developed without a vacation. The potential development with vacation is consistent with the existing context and creates no significant land use incongruities. In both the short and long term there would appear to be no appreciable negative land use effects on the area from the proposed vacation.

An important element of the neighborhood is the two existing sports and entertainment facilities, both of which are significantly larger than the proposed basketball arena. The Mariner's ballpark can accommodate 47,500 fans; CenturyLink can accommodate 67,000 Seahawks fans and 43,000 fans for soccer. The proposed arena is significantly smaller and will be able to accommodate between 18,000 and 20,000 fans.

The Seattle Municipal Code (SMC) provides in Chapter 23.74 that the Stadium District Overlay's purpose is to implement the City's Comprehensive Plan, including the neighborhood plan for the Greater Duwamish MIC, by establishing a Stadium Overlay District. The Stadium District Overlay centers on large sports facilities and allows uses complementary to them; it is intended to contribute to a safer pedestrian environment for those attending events, and designed

to discourage encroachment on nearby industrial uses to the south. The Stadium District Overlay boundary coincides with the southern boundary of the proposal site; the District stretches north to include Safeco and CenturyLink Fields and terminates in the North Lot.

The vacation review looks at the neighborhood context for each proposal. In a sense the context of the neighborhood was set first when the Kingdome was constructed (vacating 2nd Avenue South), extended when Safeco Field was constructed (vacating Occidental Avenue South just two blocks north of the proposal site), and was reaffirmed with the construction of CenturyLink Field and the Event Center. The creation of the Stadium Overlay District further confirmed the land use of the neighborhood, including the proposal site. The Overlay was passed in 2000 in Ordinance 119962. The Overlay rezoned the properties contained within its boundaries, including the proposal site, to permit spectator sports facilities. There have been comments from the Port of Seattle stating that the proposal will facilitate gentrification or pressure on industrial lands to the south of the proposal site. However, the current land use code does not permit this. The Stadium District Overlay's boundary is the southern edge of the proposal site. South of Holgate Street, the standard industrial zone requirements apply. South of the proposal site is zoned IG-1 and IG-2; these zoning designations include a maximum size of use restriction on non-industrial uses. The size of use restrictions were instituted in 2007 with support from the Port of Seattle. Thus, proper zoning controls are already in place to prevent pressure on industrial uses. The building of the arena in this location would have no impact on this issue due to land use code controls.

It must also be noted that the arena's location makes sense from a transportation perspective. The arena is located near the most transit-heavy area in the City, within walking distance to light rail, heavy rail (King Street station), the future East Link, and the bus tunnel. The arena is also located within a long walk of downtown Seattle, which will provide ease of access for many downtown patrons. The arena is also located very close to major transportation thoroughfares for ease of automobile access—SR99, SR519, I-5 and I-90 are all a short distance away.

The no-vacation alternative would allow for two large office buildings on each side of Occidental. The permitted FAR for each building would be 3.0, resulting in 810,000 s.f. of office development. These land uses are permitted outright in the zone, and would have similar land use impacts to the arena, as they would also be similarly located close to transportation hubs.

The Petitioner has indicated that the goal of seeking a street vacation was to build a spectator sports facility/arena, which is consistent with the zoning and land use policies that have been in place in the neighborhood since 2000.

SDOT does not find adverse land use impacts associated with the proposed vacation.

Provision of Public Benefit: The Street Vacation Policies note that vacations must provide a long-term public benefit. Vacations will not be approved to achieve short-term public benefits or for the sole benefit of individuals. It is anticipated that the public benefit will include specific and tangible physical elements as the Policies provide that facilitating economic development,

meeting code requirements for development or mitigating defined impacts is not a sufficient public benefit.

The Policies provide that there should be a balance between what the public gives up and what the Petitioner acquires through the vacation process. The review should consider the scale of the vacation, the scale of the project, and the identified impacts. If a project is significant in scale, if the vacation is large in size or if the project has significant impacts, then the Policies anticipate that the public benefit proposal must also be significant. By eliminating the street, the Petitioner can develop the entire block in a way that best suits its programmatic needs and can consolidate below-grade functions such as parking and loading. Since the vacations make an important contribution to a project that is significant in scale, the Policies require that a significant public benefit be provided.

In addition to addressing the scale or amount of public benefit that must be provided, the Policies are also clear that the public benefit elements proposed must clearly benefit the general public and not merely the tenants of the project. The Policies are also clear that the public benefit proposed for a vacation must be separate and above amenities provided to meet code or other requirements. The amenities listed on the public benefit chart below are not required for any other purpose.

The goal of the arena public benefit proposal is to provide neighborhood open space and a project that will benefit the neighborhood during both event- and non-event days. The arena project's public benefit package also completes several neighborhood amenities that may not have been funded in several years, such as the Neighborhood Greenway on Utah Avenue South between S. Atlantic Street and S. Stacy Street (connects the waterfront bike trail to Starbucks), as well as many other pedestrian and bicycle improvements in the neighborhood that are supported by the Stadium District Plan. The public benefit also focuses on sustainability expressed in a public way to create an opportunity for the public to learn about the systems provided on- and off-site.

While the following diagram details all the elements of the proposed public benefit, some items should have a more in depth discussion. The Petitioner proposes to provide a "Living Machine", a unique sustainable feature. The City Council has provided guidance on previous projects that sustainable features should be considered as part of the best practices for development and should not be considered as elements of the public benefit package. However, the Petitioner proposes to provide something that will be the first of its kind in the area and something of a scale that far exceeds any standard practice or best practice guideline. The project proposes to treat all of its waste with an ecological sewage treatment facility called a Living Machine. It is planned that the Living Machine will be located in the public plaza area and there will be signage explaining the Living Machine and how it works. Treated water will be re-used in the building for toilet flushing, landscape irrigation, and other uses. It is anticipated that the Living Machine will result in a 99% reduction in wastewater and remove 4 million gallons of sewer each year from the combined sewer system.

The Petitioner proposes pedestrian enhancements along 1st Avenue South adjacent to the proposed facility and on the block north of the proposed arena. The design for 1st Avenue South includes wide sidewalks, a rain garden/swale, pedestrian lighting, seating, some café seating adjacent to the arena, and street trees. The design for 1st Avenue South was reviewed and approved by the Design Commission. Subsequent to the review by the Design Commission an Addendum was prepared to the FEIS. The Addendum examined the pedestrian environment with the vacation of Occidental Avenue South and addressed the width of sidewalk necessary to accommodate the number of event attendees that may be leaving the venues.

Following the publication of the Addendum, SDOT is requiring that an additional amount of the 1st Avenue South sidewalk be a clear walk space area. On days with an event (inclusive of arenas, stadia, and exhibition halls) there must be 18.5 feet of clear walkway pedestrian space on the 1st Avenue South sidewalk. For event days where more than 15,000 attendees are expected, the Petitioner must remove all tables and chairs from the sidewalk within this 18.5-foot zone two hours before scheduled events and keep them off the sidewalk for 1.5 hours after such an event. With the removal of the café seating during events the sidewalk clear walk space will be at least 18.5 feet. There will be less café seating during events and it is also anticipated that the rain garden/swale dimension will shrink in some areas.

The Design Commission has expressed an interest in having the opportunity to review the final redesign of the pedestrian environment along 1st Avenue South.

The Petitioner is proposing to provide an art package as a portion of its public benefit. The Petitioner was able to provide the overall vision for the art plan but the proposal should be viewed by the Design Commission as the proposal is more fully refined. The art commitment is for a program that is 1.5% of the total project cost which is defined as construction cost plus consultant fees. To provide an estimate of the scale of the art obligation, if the final project cost is \$450M, the art obligation would be \$6.75M.

The chart below outlines the public benefit package.

Public Benefit		Description
On Site		
1	Living Machine	<ul style="list-style-type: none"> • On-site gray and black water treatment and reuse with 4 million gallon annual capacity • Explore feasibility of including additional capacity to allow future other users to connect in a “District” fashion
2	Arena Plaza	<ul style="list-style-type: none"> • 31,800 s.f. of publicly accessible neighborhood open space <ul style="list-style-type: none"> ○ 2 water features ○ 2 drinking fountains ○ Pedestrian lighting achieving 1 foot candle average ○ 300 l.f. of permanent public seating ○ Temporary public seating per programming needs

		<ul style="list-style-type: none"> • Plaza will include public programming for non-event days with focus on equitable programming <ul style="list-style-type: none"> ○ Plaza includes utility connections (water, power) to facilitate programming flexibility ○ 500 s.f. event storage space for programming in arena building • Provides Park-Hour access to arena public restroom during non-event days to facilitate programming
3	Public Art Plan	<ul style="list-style-type: none"> • Art Program Budget is <u>1.5% of total project cost</u> <ul style="list-style-type: none"> ○ Program led by collaborating/lead artist ○ Art will be coordinated between arena building and pedestrian bridge ○ At least 1 piece of anchor art in plaza ○ Several other pieces of permanent integrated art ○ Temporary artworks, installations, programming as part of Art Plan ○ Project cost defined as construction cost plus consultant fees
Adjacent Public R.O.W.		
4	S. Massachusetts ROW Realignment and Curbless Street	<ul style="list-style-type: none"> • Dedication of 2,400 s.f. of private property to public ROW • Creation of curbless street between 1st and Occidental <ul style="list-style-type: none"> ○ 16,000 s.f. of concrete and granite resurfacing, drainage, channelization and new signage ○ 15 street trees ○ 20 linear feet of seating ○ Pedestrian lighting 1 foot candle average
5	1 st Ave S. Improvements on Property Frontage	<ul style="list-style-type: none"> • Expanded and upgraded pedestrian streetscape, includes: <ul style="list-style-type: none"> ○ Rain garden/swale ○ Pedestrian lighting 1 foot candle average ○ Permanent pedestrian seating
6	S. Holgate Improvements on Property Frontage	<ul style="list-style-type: none"> • Enhanced pedestrian streetscape, subject to SDOT design of S. Holgate St., includes: <ul style="list-style-type: none"> ○ Rain garden/swale ○ Pedestrian lighting 1 foot candle average
Off-Site Benefits		
7	Implement Bicycle Master Plan Improvements	<ul style="list-style-type: none"> • Complete public bicycle facilities from existing waterfront trail to arena site to Starbucks • Improvements implement the Bicycle Master Plan <ul style="list-style-type: none"> ○ Improve Atlantic Street multi-use trail (600 l.f.)

		<ul style="list-style-type: none"> ○ Complete and repave Utah Avenue Neighborhood Greenway from S. Atlantic St. to S. Stacy (2,800 l.f.) ○ Complete S. Massachusetts multi-use trail (175 l.f.) ○ Complete S. Holgate St. multi-use trail (160 l.f.) ○ Bicycle wayfinding signage (12+ signs) ○ Bicycle signal at S. Atlantic St. Crossing to Waterfront Trail
8	S. Massachusetts ROW between Utah and 1 st Ave	<ul style="list-style-type: none"> ● Realignment of street, construction of curb & gutter, drainage, channelization and signage on both sides of S. Massachusetts St. <ul style="list-style-type: none"> ○ 12,500 s.f. of new asphalt resurfacing, curb & gutter, channelization and signage ○ 8 street trees ○ 2,600 s.f. of rain garden/swale
9	S. Holgate St. off-site (south side of S. Holgate)	<ul style="list-style-type: none"> ● Street realignment, asphalt resurfacing and repair, channelization and signage, per SDOT direction <ul style="list-style-type: none"> ○ Drainage improvements as required ○ Sidewalks ○ Rain garden/swale ○ 8 street trees
10	1 st Ave. S. between S. Massachusetts and Edgar	<ul style="list-style-type: none"> ● Construct new frontage improvements per SDOT approval <ul style="list-style-type: none"> ○ New sidewalks ○ Street trees ○ Rain garden/swales ○ Pedestrian lighting at 1 foot candle average

The Policies require that the Petitioner provide some factual information about the project site to assist in the review of the public benefit proposal. The goal of including this information is to help in determining if there is an appropriate balance between what the developer achieves from the vacation and what is provided to the general public.

Public Benefit Matrix

Zoning designation	IC/Stadium District Overlay, located within the Duwamish MIC
Street classification	Minor Arterial Street
Assessed value of adjacent property	The land is assessed at approximately \$160.00 per square foot
Lease rates in the vicinity for similar projects	Retail rates vary but average NET Class A Average Asking Rental Rate: \$25/SF/Yr.
Size of project, in square feet	750,000 s.f. (plus training facility and

	parking on-site)
Size of area to be vacated, in square feet	40,811 square feet
Contribution of vacated area to development potential	Site increases to 274,311 s.f., developable area increase by approximately 17.5%.

The public benefit package was designed to add to the mitigation measures identified by the FEIS. The focus on the public street environment and character matches priorities that the City Council has established with other permitting actions for spectator sports facilities, including the vacation of Occidental approved for Safeco Field.

RECOMMENDATION

It is recommended that the vacation be granted upon the Petitioner meeting the following conditions. The Petitioner shall demonstrate that all conditions imposed by the City Council have been satisfied and all fees paid, prior to the passage of the street vacation ordinance.

1. The vacation is granted to allow the Petitioner to build a project substantially in conformity with the project presented to the City Council and for no other purpose. The project must be substantially in conformity with the proposal reviewed by the City Council.
2. All street improvements shall be designed to City standards, as modified by these conditions to implement the Public Benefit requirements, and be reviewed and approved by the Seattle Department of Transportation through a Street Improvement Permit.
3. The utility issues shall be resolved to the full satisfaction of the affected utility prior to the approval of the final vacation ordinance. Prior to the commencement of any development activity on the site, the Petitioner shall work with the affected utilities and provide for the protection of the utility facilities. This may include easements, restrictive covenants, relocation agreements, or acquisition of the utilities, which shall be at the sole expense of the Petitioner. Utilities impacted may include:
 - DOIT
 - SPU Sewer
 - SPU Water
 - PSE Gas
 - Seattle City Light; and
 - CenturyLink Communications.
4. It is expected that development activity will commence within approximately 36 months of this approval and that development activity will be completed within 7 years. In order to insure timely compliance with the conditions imposed by the City Council, the Petitioner shall provide the Seattle Department of Transportation with Quarterly Reports,

- following Council approval of the vacation, providing an update on the development activity, schedule, and progress on meeting the conditions. The Petitioner shall not request or be issued a Final Certificate of Occupancy (C of O) until SDOT has determined that all conditions have been satisfied and all fees have been paid as applicable.
5. In addition to the conditions imposed through the vacation process, the project, as it proceeds through the permitting process, is subject to SEPA review and to conditioning pursuant to various City codes and through regulatory review processes including SEPA.
 6. The Petitioner shall develop a parking garage in order to provide the Code-required parking for the facility. Parking should be developed in a multi-level parking structure across Holgate Street to the south of the project, on a site controlled by the Petitioner. It is anticipated that approximately 1,750 stalls would be provided; the exact number of parking stall will be determined by the formula in Seattle Municipal Code (SMC) 23.54.015, Table A. The size of this parking facility would be reduced to the extent alternative dedicated parking in the vicinity becomes available for use by the project as determined by the Master Use Permit. The Petitioner should work to identify parking opportunities for event staff in areas that do not compete with event attendee parking. The provision of parking shall include accommodation for modal options such as van pools and other share transportation options (Uber, Lift, car2go, etc.) to the extent practicable. The Petitioner will be required to participate in the City's e-Park Program and should:
 - Provide a centrally coordinated event parking program that would allow fans to reserve and pre-purchase parking passes at convenient facilities;
 - Pre-sell parking and incorporate it as part of ticket packages.
 7. The Petitioner shall provide for a new traffic signal at South Walker Street and 1st Avenue South should traffic warrants be met by the arena and the proposed parking garage.
 8. The Petitioner shall be required to provide a pro-rata contribution to the future grade separation of Lander Street based on the existing and future deficiencies identified in the FEIS. Such proportional share will be determined at a later date when the Lander Street project moves forward and may not be determined by the completion of the vacation process.
 9. The Petitioner shall develop a pedestrian bridge at South Holgate Street to provide a grade-separated means for event patrons and the general public to cross the rail lines in South Holgate Street. The pedestrian bridge shall provide for pedestrians and bicycles and shall be ADA compliant. The dimension, ramps, and location must be generally consistent with the pedestrian bridge presented to SDOT and to the Design Commission. In addition to SIP review, the pedestrian bridge will require a term permit from SDOT and an indemnification agreement. Development of the pedestrian overpass may require pedestrian enhancements at 4th Avenue South such as additional pedestrian lighting.

Timing of implementation of the pedestrian bridge, and interim shuttle service pending bridge completion, shall be set forth in the Master Use Permit decision for the project.

10. The Petitioner shall schedule events according to the scheduling principles outlined below and as defined under the Master Use Permit decision for the project in order to avoid or closely overlap those events to avoid conflicts between egress and ingress of different events at different facilities. The arena and the other two facilities are strongly encouraged to enter into a Scheduling Agreement. The scheduling principles will include the following elements:

- Multiple events mean time-specific events occurring on the same day in the Ballpark, Stadium and/or Arena.
- Overlapping events mean events with the projected start times and/or the projected end times occurring within one hour of each other.
- Sequential events are events where the start of a second event follows the end of a first event.
- Sequential events involving an Arena event will be separated by a minimum of 3 hours between the projected end time of one event and the scheduled start time of the next event on any non-holiday weekday or weeknight. Reduced time separation between events may be considered if the combined reasonably anticipated actual attendance of the Arena and the Ballpark or Stadium is less than 45,000 attendees.
- There shall be no overlapping events involving three time specific events.
- No multiple, sequential, or overlapping events with a projected combined actual attendance exceeding 15,000 may start between 4:00pm and 7:00pm on non-holiday weekdays.
- There will be no exceptions from the threshold combined anticipated combined attendance thresholds for concurrent or overlapping weekday events involving arena events.
- Scheduling principles should be reviewed and updated periodically. Such scheduling principles should include a discussion of playoff schedules for potential NBA/NFL/NHL/MLB playoff participation.
- Final scheduling principles will be incorporated in the MUP decision for the project and such scheduling principles required under the Master Use Permit decision shall prevail over these principles.

11. The Petitioner shall develop and implement a Transportation Management Plan (TMP), subject to the conditions set forth in the Master Use Permit (MUP) decision for the project in order to reduce and manage vehicular traffic and parking demand associated with the Arena as disclosed during the EIS process. The TMP shall include specific goals, objectives, and strategies to reduce the number of vehicles that travel to the venue, and facilitate and promote alternative transportation options to and from the arena. The TMP goals shall be established and included as specific conditions of approval of the

MUP decision, and shall include two measures: a maximum number of vehicles per thousand attendees, and a transit mode split for weekday, weeknight and weekend events. The TMP goals shall be reviewed and adjusted over time to be commensurate with the level of transportation infrastructure and transit service, including rail, to and from the arena.

12. In addition to the goals, objectives, and strategies outlined in the TMP, the Petitioner should work on innovative Intelligent Transportation System (ITS) upgrades in the vicinity of the arena. The ITS elements should include:

- Participation in the e-Park program and integration of the parking garage entrance/exit into the signal system;
- Contribution to the funding of advanced signal timing progression which allows signals to communicate with other signals based on data input, and Closed Circuit Television (CCTV) at three intersections (1st Avenue South & South Holgate Street; 1st Avenue South & South Massachusetts Street; and 4th Avenue South & South Holgate Street); and
- Contribution to the funding for other ITS investments in the SODO area; this would likely include Dynamic Message Signs (DMS), Closed Circuit Television (CCTC), advanced signals and new technology as it develops .
- Specific requirements for ITS contributions shall be identified in the Master Use Permit decision for the project.

13. The Petitioner shall, within one year after occupancy by a major tenant, be required to evaluate traffic conditions, assess the effects of arena-generated traffic on area intersections, conduct a comprehensive travel survey to better understand travel behavior of arena visitors and assess the transit service operations before and after events. The information will be provided to DPD and SDOT to determine whether the mitigation goals and strategies specified in the MUP must be adjusted either upward or downward. Following that assessment, the TMP, including goals, demonstrated performance, and strategies will be reviewed by the Parking and Access Review Committee (PARC) annually, similar to the reviews for the existing Safeco Field and CenturyLink Stadium. Goals shall be reviewed and strategies adjusted at least every 5 years to reflect goals commensurate with the transportation infrastructure and transit/rail service to and from the arena.

14. The Petitioner shall be required to participate as a member of the Parking and Access Review Committee (PARC) which was established to monitor TMP implementation for both Safeco Field and CenturyLink Stadium, to review their annual TMP reports and proposed TMP program changes and now should include the participation of the proposed arena.

15. In addition to the goals, the TMP, as set forth in the MUP conditions, should also include specific measures and strategies for meeting those goals, including but not limited to

event coordination protocols and management strategy, event access guide, incentives, communication, marketing and outreach. Measures and strategies may include, but are not limited to:

- **Communications, Marketing, and Outreach:**
 - A dedicated public information coordinator to ensure accurate and consistent travel information provided over several medium;
 - An Arena call center with a central phone number specifically for transportation and access, parking information and referral;
 - A webpage that is up to date and easy to use incorporating information on multi-modal transportation options to the arena;
 - An Event Access App to provide advance planning and real time travel options providing a range of information and links to alternate transportation modes to real-time information regarding congested routes and alternative access;
 - An Event Access and Parking Guide listing alternatives to driving, parking areas that offer carpool incentives, neighborhood dinner/parking promotions and other programs to assist ticket holders with options for traveling to and from the area;
 - Cross marketing with area businesses to extend arrival and departure times of fans traveling to and from the area;
 - Use social media and mass email broadcasts to provide alerts of travel options and incidents and real-time congestion issues;
 - Use of broadcast advisory to actively promote alternative modes of travel in advance of games and major events, and to provide real-time information within four hours prior to an event. Real-time information should be coordinated with WSDOT and SDOT traffic control centers;
 - Provide direct notice to all affected area business and residents concerning event schedules, including periodic updates as necessary to inform about revisions to the schedule.
- **Alternative Transportation Modes:**
 - Coordinate with King County Metro and Sound Transit to identify express bus service that connects Park-and-Ride lots in Northgate, South Kirkland, Eastgate, and Federal Way with off-loading in the vicinity of the arena. Use under-capacity return routes at the end of the commuter peak. Stage coaches on Occidental Avenue north of the arena or south of Holgate;
 - Operate fixed route shuttles on a fixed headway that link the arena site to the Washington State Ferry Terminal, Link Light Rail, and Transit Stations;
 - Work with King County Metro, Sound Transit, and Washington State Ferries to offer attendees a discount to regular fares to encourage use of these travel modes;
 - Work with neighborhood businesses and service providers to develop packages that involve meals, event admission, and charter bus

transportation or for rail/lodging/meal packages with tickets for events at the arena;

- Work with Sound Transit to increase the capacity from two to four cars of regularly scheduled Link Light Rail prior to and following events, as feasible;
- Work with Washington State Ferries to promote use of ferries from Bremerton and Bainbridge. Explore the feasibility of operating a shuttle between the ferry terminal and the arena during winter months;
- Work with King County to extend ferry passenger service to and from West Seattle on major event days, as feasible;
- Discourage driving to events, except for carpools/vanpools. Provide high occupancy vehicle (rate to be determined in TMP) promotions such as parking or reserved parking at reduced rates in parking facilities close to the arena.
- Ensure easy access to bicycle parking racks and include a provision for a bicycle valet during events. If warranted, portable bike racks could be added during certain events.
- Work with the City to purchase and install at least 2 PRONTO bikeshare stations in the vicinity of the arena.
- Clearly identify areas within walking distance, north and south of the arena to accommodate buses, limos, and shared vehicles and passenger drop-off and pick-up.
- Specific TMP measures shall be identified in the Master Use Permit decision for the project.

16. The project shall conform to the following conditions that were imposed as part of the Safeco Field vacation of Occidental Avenue South:

- The Petitioner shall provide a community liaison position during the construction and operation of the arena. This role shall be filled by a person who is fully responsible for carrying out the task. This person will work with the neighboring businesses and residents to resolve traffic, parking, noise, and other environmental, construction, and operational issues arising from the project. This person will also be available to answer questions and keep the arena operator informed as to community issues. The liaison's contact information shall be distributed to neighborhood groups and stated on the project's website.
- Security and Emergency Access Plan. The Petitioner shall provide the city with a plan detailing security and emergency access procedures. The arena shall pay the cost of developing such plan and shall coordinate with the Seattle Police Department, Seattle Fire Department, and other government agencies and adjacent communities. The plan, at a minimum, shall address security on adjacent streets before and after games and events, security at arena parking locations, emergency access to the arena and to the surrounding communities, and additional

measures necessary for dual events. The emergency and security plan must be approved by SDOT and the plan shall be in place prior to the issuance of a C of O for the arena. A summary of the plan shall be publicly available and any substantive changes to the plan shall be publicized. The plan may be modified with approval by the Fire Chief.

- The Petitioner shall pay for equipment and services for security, emergency response, and crowd control that are over and above what is provided in the absence of arena events. Examples of such equipment and services include but are not limited to having crowd control around the arena, having paramedics on-site, and having adequate security inside the arena during events. When such equipment and services are provided by the City of Seattle, the arena shall reimburse the City annually for costs incurred by the City.
- Clean Up Plan. The Petitioner shall provide the City with a plan detailing clean-up procedures following games and events. The arena shall pay the costs of developing such a plan and shall coordinate with the City and the adjacent communities in preparing the plan. The arena shall review the area within a 3,000 foot radius from the arena site. Major pedestrian and vehicular routes shall be identified and a specific clean-up program with a defined radius and routes shall be prepared. The arena shall pay the costs of the clean-up activity after arena events. The arena is encouraged to provide such clean-up services by coordinating with the existing community clean-up programs/MID in Pioneer Square and/or the International District, or with the SODO BIA. The plan must be approved by SDOT and shall be in place prior to the issuance of the final C of O for the arena. The plan may be modified with the approval of SDOT.

17. The Petitioner shall develop and maintain the public benefit elements as defined by the City Council. A Property Use and Development Agreement (PUDA) or other binding mechanism shall be required to ensure that the public benefit elements remain open and accessible to the public and to outline future maintenance obligations of the improvements. Signage clearly identifying public access is required at the public open space elements and shall require the review of SDOT Street Vacations. The final design of the public benefit elements shall require the review and approval of SDOT Street Vacations. Additional Design Commission review will be required for review of the Public Art Plan; and of the permanent and programmable elements of the Plaza and Living Machine. SDOT may request additional review by the Design Commission of the implementation of the public benefit elements or the pedestrian enhancements; and of the final design of 1st Avenue South, as necessary. Public benefit elements in the right-of-way require additional street use permits and indemnification, public and private areas must be distinguished and markers in the sidewalk shall be required. The public benefit requirements include the following features as well as corresponding development standards, including approximate square footage dimensions, which shall be outlined in the PUDA:

Public Benefit		Description
On Site		
1	Living Machine	<ul style="list-style-type: none"> ● On-site gray and black water treatment and reuse with 4 million gallon capacity ● Explore the feasibility of including additional capacity to allow future other users to connect in a “District” fashion
2	Arena Plaza	<ul style="list-style-type: none"> ● 31,800 s.f. of publicly accessible neighborhood open space <ul style="list-style-type: none"> ○ 2 water features ○ 2 drinking fountains ○ Pedestrian lighting achieving 1 foot candle average ○ 300 l.f. of permanent public seating ○ Temporary public seating per programming needs ● Plaza will include public programming for non-event days with focus on equitable programming <ul style="list-style-type: none"> ○ Plaza includes utility connections (water, power) to facilitate programming flexibility ○ 500 s.f. event storage space for programming in arena building ● Provides Park-Hour access to arena public restroom during non-event days to facilitate programming
3	Public Art Plan	<ul style="list-style-type: none"> ● Art Program Budget is <u>1.5% of total project cost</u> <ul style="list-style-type: none"> ○ Program led by collaborating/lead artist ○ Art will be coordinated between arena building and pedestrian bridge ○ At least 1 piece of anchor art in plaza ○ Several other pieces of permanent integrated art ○ Temporary artworks, installations, programming as part of Art Plan ○ Project cost defined as construction cost plus consultant fees
Adjacent Public R.O.W.		
4	S. Massachusetts ROW Realignment and Curbless Street	<ul style="list-style-type: none"> ● Dedication of 2,400 s.f. of private property to public ROW ● Creation of curbless street between 1st and Occidental <ul style="list-style-type: none"> ○ 16,000 s.f. of concrete and granite resurfacing, drainage, channelization and new signage ○ 15 street trees ○ 20 linear feet of seating ○ Pedestrian lighting 1 foot candle average
5	1 st Ave S. Improvements	<ul style="list-style-type: none"> ● Expanded and upgraded pedestrian streetscape, includes: <ul style="list-style-type: none"> ○ Rain garden/swale

	on Property Frontage	<ul style="list-style-type: none"> ○ Pedestrian lighting 1 foot candle average ○ Permanent pedestrian seating
6	S. Holgate Improvements on Property Frontage	<ul style="list-style-type: none"> ● Enhanced pedestrian streetscape, subject to SDOT design of S. Holgate St., includes: <ul style="list-style-type: none"> ○ Rain garden/swale ○ Pedestrian lighting 1 foot candle average
Off-Site Benefits		
7	Implement Bicycle Master Plan Improvements	<ul style="list-style-type: none"> ● Complete public bicycle facilities from existing waterfront trail to arena site to Starbucks ● Improvements implement the Bicycle Master Plan <ul style="list-style-type: none"> ○ Improve Atlantic Street multi-use trail (600 l.f.) ○ Complete and repave Utah Avenue Neighborhood Greenway from S. Atlantic St. to S. Stacy (2,800 l.f.) ○ Complete S. Massachusetts multi-use trail (175 l.f.) ○ Complete S. Holgate St. multi-use trail (160 l.f.) ○ Bicycle wayfinding signage (12+ signs) ○ Bicycle signal at S. Atlantic St. Crossing to Waterfront Trail
8	S. Massachusetts ROW between Utah and 1 st Ave	<ul style="list-style-type: none"> ● Realignment of street, construction of curb & gutter, drainage, channelization and signage on both sides of S. Massachusetts St. <ul style="list-style-type: none"> ○ 12,500 s.f. of new asphalt resurfacing, curb & gutter, channelization and signage ○ 8 street trees ○ 2,600 s.f. of rain garden/swale
9	S. Holgate St. off-site (south side of S. Holgate)	<ul style="list-style-type: none"> ● Street realignment, asphalt resurfacing and repair, channelization and signage, per SDOT direction <ul style="list-style-type: none"> ○ Drainage improvements as required ○ Sidewalks ○ Rain garden/swale ○ 8 street trees
10	1 st Ave. S. between S. Massachusetts and Edgar	<ul style="list-style-type: none"> ● Construct new frontage improvements per SDOT approval <ul style="list-style-type: none"> ○ New sidewalks ○ Street trees ○ Rain garden/swales ○ Pedestrian lighting at 1 foot candle average

Appendix

**Comparison of arena facilities
 (data provided by ArenaCo from public sources, including ESPN)**

Facility	Safeco Field (built 1995)	CenturyLink Field and Event Center	Proposed Arena
Teams/Sports	Seattle Mariners Major League Baseball	Seattle Seahawks National Football League Seattle Sounders Major League Soccer	TBD National Basketball Assoc. TBD National Hockey League
Capacity (number of seats)	47,500 seats maximum	68,000 seats in stadium maximum 5,000 seats in event center	18,000 – 20,000 seats
Average Attendance 2012	21,258 baseball only	67,946 football only 43,144 soccer only	TBD
Total number of events 2012	81 home baseball games 129 non-baseball events	10 home football games 24 home soccer games 116 concerts or trade shows at Event Center	TBD

Appendix

Project Timeline of Major Events

March 2012	Arena Review Panel appointed by Mayor and County Executive to evaluate arena proposal
April 4, 2012	Arena Review Panel issues report
July 19, 2012	City and County Councils hold joint public hearing regarding MOU
October 15, 2012	City and County Councils approve MOU
November 27, 2012	First Design Review Board meeting
October 25, 2012	Notice of EIS/scoping notice issued
November 8 & 13, 2012	EIS public scoping meetings held
December 3, 2012	Mayor and County Executive sign MOU
December 6, 2012	First Design Commission meeting
March 12, 2013	Street Vacation Petition submitted
April 30, 2013	Master Use Permit application submitted
August 15, 2013	Draft Environmental Impact Statement issued
September 10 & 19, 2013	DEIS comment public hearings
May 15, 2015	Final EIS issued
May 21, 2015	Design Commission recommends Urban Merit approval of street vacation
September 1, 2015	Design Review Board recommends approval of design (7 design review board meetings held)
September 3, 2015	Design Commission recommends Public Benefit approval of street vacation (10 total Design Commission meetings held)
October 29, 2015	Addendum to EIS
November 30, 2015	SDOT street vacation recommendation transmitted to Council

SEATTLE DEPARTMENT OF TRANSPORTATION

Petition of WSA Properties et al. to vacate Occidental Avenue South between the north margin of South Holgate Street and a line parallel and 30 feet south of the centerline of South Massachusetts Street; Clerk File 312905

ATTACHMENT: Petition Comments

Section 1:

Page	City Departments – pages: 1-74
1	Department of Parks and Recreation
2-3	Department of Planning and Development
4-6	Seattle City Light – Comments 1 & 2
7-8	Seattle Department of Transportation
9-63	Seattle Design Commission Meeting Minutes
64	Seattle Fire Department
65	Seattle Police Department
66-74	Seattle Public Utilities – Comments 1 & 2

Section 2:

	Utilities – pages: 75-79
75	CenturyLink
76	King County Transit Design and Construction
77	King County Wastewater Division
78-79	Puget Sound Energy – Comments 1 & 2

Section 3:

	Other Organizations and Individuals – pages: 80 - 151
80	Nitze-Stagen & Co., Inc.
81-91	Port of Seattle – Comments 1,2 & 3
92	Ron Jay, Process Heating Company
93-94	Seattle Freight Advisory Board
95-131	Seattle Mariners – Comments 1 & 2
132-138	Washington State Major League Baseball Stadium Public Facilities District – Comments 1 & 2
139-150	Washington State Public Stadium Authority and First & Goal Inc. – Comments 1 & 2
151	Puget Sound Bike Share

Gray, Moira

Subject: FW: Occidental Avenue South Street Vacation - request for updated comments after FEIS

From: Harris, Donald
Sent: Wednesday, May 20, 2015 1:16 PM
To: Gray, Moira
Subject: RE: Occidental Avenue South Street Vacation - request for updated comments after FEIS

The Department of Parks and Recreation has no comments or concerns about the proposed vacation of Occidental Avenue South between South Holgate Street and South Massachusetts Street.

Donald M. Harris
Manager, Property and Acquisition Services
Seattle Parks and Recreation
800 Maynard Avenue South
Seattle, Wa. 98134
206-684-8018
206-915-1729
www.seattle.gov/parks



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City of Seattle

Department of Planning and Development

D. M. Sugimura, Director

MEMORANDUM

TO: Moira Gray, Seattle Department of Transportation, Street Vacations
FROM: Garry Papers, Senior Land Use Planner
Seattle Department of Planning & Development (DPD)
DATE: June 5, 2013
RE: **Proposed Vacation of Occidental Avenue South; Clerk File 312905**

Please accept these DPD comments on the proposal of WSA Properties et al to vacate one block (Hogate to Massachusetts) of the above identified street. They are based upon the Land Use Policies section II of the Seattle Street Vacation Policies.

Background:

The development proposal includes 2 full, rectangular blocks of land, each about 150 x 680 ft, totaling 233,500 sf of site area, PLUS the 60 ft wide Occidental street ROW they flank, which totals 40,811 sf (+ 17.5% site area), totaling 274,311 sf for the combined parcel. Both blocks are located in the IC-85 Industrial Commercial zone (SMC 23.50), and are also fully within the Stadium Transition Area Overlay District (STAOD) (SMC 23.74).

The vacation proposal would allow construction of an arena with a floorplate dimension of approximately 390 x 500 ft, while the existing blocks at 150 and 187 ft wide cannot accommodate the floorplate. "Spectator Sports Facilities" are permitted outright in the IC zone. An EIS is being prepared for the project and will address traffic, land use and other effects of the vacation (Guideline 4.2.C); a Draft EIS is expected in mid August of 2013.

Guideline 4.1 - Land Use Considerations:

- A) The development potential of the combined two blocks plus the vacated street is theoretically increased, however the arena proposal is specifically less. Assuming 5 stories of development (within the 85 ft IC-85 height limit) the 2 blocks would generate 1.16 milsf. The street ROW fully developed in a like fashion generates 204,000 sf. The 2 blocks plus vacation equals a total potential of 1.37 milsf. The proposed arena is predominantly a rectangular volume, 75 ft tall, and contains 750,000 sf of net usable floor area, which is 54% of the total including ROW, and 64% of the total possible without the ROW vacation.

“Circulation, access, utility... and view functions of nearby public streets” will be evaluated in the EIS. In terms of “light, air and open space” the essential building volume is slightly less tall than the 85 ft maximum allowed, thus not blocking light, and the air and open space of the ROW are not critically linked to any larger urban design patterns. In terms of development scale, the long and short term impacts of the combined parcel are not considerable.

- B) Consistency with the Seattle Comprehensive Plan and other policies including the Greater Duwamish Manufacturing/Industrial Center (MIC), will be evaluated in the DEIS, as will transportation aspects. No zoning change is proposed, and the combined site with vacation is fully within the STAOD, which “centers on large sports facilities and allows uses complementary to them”; the arena is complementary as a “similar major, regional attraction” . The site is not within an Urban Center or Urban Village, and the vacation does not entail a boundary change of the STAOD.
- C) In this existing Industrial Commercial zone, there is a wide range of development size, scale and character, and the arena on the proposed combined parcel would be compatible with existing development, and with development expected from the base IC zoning on similarly large parcels.
- D) The existing “local pattern of land division” ranges from single lot buildings along First Avenue to full block warehouses along the nearby railroad tracks. The proposed arena on the combined site – even 390x 500 x 75 ft tall - represents a transition from long warehouses to the south, to the even larger stadiums to the north. The post-vacation lot size and configuration would not be disruptive to the local pattern. The Occidental ROW does not provide a boundary to a different zone; it is surrounded by IC zoning for at least 2 blocks on all sides, so the ROW does not need to be preserved as a transition or buffer.

Guideline 4.6 – Zone Specific Review

- E) In Industrial Areas, the guiding policies come from the Comprehensive Plan. Consistency with the Seattle Comprehensive Plan and other policies including the Greater Duwamish Manufacturing/Industrial Center (MIC), will be evaluated in the DEIS.

Conclusion and Summary

DPD is not opposed to the proposed vacation on land use grounds. The development potential attributable to the vacation is consistent with adopted land use policies; in fact, as proposed, the floor area is 64% of what could be developed without a vacation. The potential development with vacation is consistent with the existing context and creates no significant land use incongruities. In both the short and long term there would appear to be no appreciable negative land use effects on the area from the proposed vacation.

Gray, Moira

From: Bresnahan, John
Sent: Tuesday, June 09, 2015 12:18 PM
To: Gray, Moira
Cc: Lee, Ted; Ta, MinhQ
Subject: Occidental Avenue South Street Vacation - request for updated comments after FEIS

Moira,

City Light received your request to review the petition to vacate a portion of Occidental Avenue South between South Holgate Street and South Massachusetts Street for Arenaco's new sports arena.

City Light owns and operates three-phase overhead electric power lines, including poles, transformers and wires within the proposed vacation area, and owns and operates a transmission pole and overhead transmission wires that may be within the proposed vacation area.

We have no objection to the proposed vacation of that portion of the alley in Block 3, Norris Addition, provided that the following paragraphs containing certain requirements are made part of the petition:

1. Prior to the approval of the street vacation of that portion of Occidental Avenue between Holgate and Massachusetts, Petitioner shall provide for the removal and/or relocation of Seattle City Light's electric utility facilities, including electrical services to any other properties affected by such conversion or removal. This work may also include the acquisition of additional easements over the property of others, the creation of restrictive covenants, deed reservations, or the execution of Seattle City Light (SCL) relocation or work order agreements, all of which shall be in forms and with terms and conditions satisfactory to SCL. Petitioner shall be solely responsible for acquiring any such additional easements and the creation of any such restrictive covenants or deed reservations, all at Petitioner's sole expense. Petitioner shall be solely responsible for all costs associated with the removal, underground conversion, and/or relocation of SCL's electric facilities, including all costs related to the restoration of electric service to other properties affected by the vacation. Seattle City Light issues shall be resolved to the full satisfaction of SCL either prior to the approval of the final vacation ordinance by the City Council, or prior to the vacation ordinance becoming effective. Evidence of SCL's satisfaction may be delivered by any method agreeable to SCL and SDOT. The Petitioner is already working with SCL engineering staff to create plans to relocate the affected overhead electric power lines.
2. We have identified a steel transmission line pole located at the southeast corner of the intersection of Occidental and Massachusetts that may be within the proposed vacation area, indicated on the map below. In the previous comment period, we had asked that the Petitioner survey the north line of the proposed vacation area and survey the location of the SCL steel pole relative to it. To date, we have not seen such a survey. Until we know for certain whether that transmission pole is in the proposed vacation area, we would be unable to give our assent to the vacation petition. See map below for a visual representation. If any part of the transmission pole, arms, or wires are within the proposed vacation area, we will need an easement from the Petitioner.



Any questions may be directed me or Ted Lee, SCL Engineering, at 615-1111.

Seattle City Light thanks you for the opportunity to review and comment on the proposed vacation.

JOHN J. BRESNAHAN | SENIOR REAL PROPERTY AGENT
 SEATTLE CITY LIGHT
 ENVIRONMENTAL AFFAIRS AND REAL ESTATE DIVISION
 700 Fifth Avenue SMT 3338
 P.O. Box 34023

From: [Bresnahan, John](#)
To: [Gray, Moira](#)
Cc: [Lin, Jimmy](#)
Subject: Occidental Street Vacate
Date: Monday, April 22, 2013 1:10:30 PM

Moira,

Based on the description provided by the petitioner, it looks like one of our transmission poles, located at the southwest corner of Occidental and Massachusetts, may be within the proposed vacate area. We would like to request that the petitioner mark the north boundary of the proposed vacate area on the ground with paint (we assume there has been some kind of survey) and then let us know when that is done. We will need to verify that the pole is in or out based on the identification of the north boundary. The map below shows the south line of Mass produced east, and it appears that the base of the wood glue laminate pole is south of that line, but it's close.

Thank you.



John J. Bresnahan
Senior Real Property Agent
Seattle City Light
700 5th Avenue SMT 3338
P.O. Box 34023
Seattle, WA 98124-3024
(206) 684-3324
john.bresnahan@seattle.gov



Date: April 25, 2013

To: Moira Gray, SDOT Street Vacation Office

From: Darin Stephens PE, SDOT CPRS Construction Inspection Mgr

Subject: Vacation Petition for Occidental Ave S, Clerk File 312905:

Comments on the vacation:

No Comments





To: Moira Gray, Street Use and Urban Forestry
From: Kristen Simpson, Traffic Management
Susan McLaughlin, Policy and Planning
Re: Proposed Vacation of Occidental Ave South; Clerk file 312905
Date: May 31st, 2013

The Traffic Management and Policy and Planning divisions have reviewed the petition for vacation of a portion of Occidental Avenue South. Given the delayed timing of the release of the EIS, we would prefer to offer comments relative to the public benefit package once we are able to review the project impacts and proposed mitigation that will be identified in the EIS. In the meantime, we can offer the following comments:

- In general, we expect to see public realm improvements that will provide ongoing benefits to multiple audiences, not just attendees at arena events.
- Public realm improvements should be designed with aesthetics, maintenance and public safety in mind.
- The proponent should provide information that clearly identifies what elements of the project are design features, what elements are mitigation for impacts under SEPA, and what elements are proposed as public benefit related to the proposed street vacation. In reviewing other projects, we have found that a table describing all of the public realm improvements and indicating under what requirement or guideline they are being provided can be very helpful.

Thank you for the opportunity to comment, and please let us know if you have any questions or need additional information.



APPROVED
MINUTES OF THE MEETING

Mike McGinn
Mayor

Diane Sugimura
Director, DPD

Marshall Foster
Planning Director, DPD

Julie Bassuk
Chair

Seth Geiser

Debbie Harris

Laurel Kunkler

Shannon Loew

Tom Nelson

Julie Parrett

Osama Quotah

Ellen Sollod

Valerie Kinast
Coordinator

Tom Iurino
Senior Staff

December 6, 2012

Convened 12:30pm
Adjourned 3:30pm

Projects Reviewed

Arena

Commissioners Present

Julie Bassuk, Chair
Seth Geiser
Debbie Harris
Laurel Kunkler (excused 12:30-1:45pm)
Shannon Loew
Tom Nelson
Osama Quotah (excused from 12:30-1:30pm)
Ellen Sollod

Commissioners Excused

Julie Parrett

Staff Present

Valerie Kinast
Tom Iurino



**Department of Planning
and Development**
700 5th Avenue, Suite 2000
PO Box 34019
Seattle, WA 98124-4019

TEL 206-615-1349
FAX 206-233-7883



December 6, 2012

Project: Arena
Phase: Briefing
Last Reviewed: NA
Presenters: Jack McCullough, McCullough Hill, PS
 Barb Swift, Swift Company
 Anton Foss, 360 Architecture

Attendees: Bob Chandler, SDOT
 John Shaw, DPD
 Angela Steel, SDOT
 Beverly Barnett, SDOT
 Brook Jackson, Magnusson Klemencic
 Garry Papers, DPD
 Jack McCullough, McCullough Hill, PS
 Kristin Dean, WSDOT
 Michele Scoleri, Mayor Office
 Nathan Torgelson, Finance and Administrative Services
 Rollin Fatland, Mayor press contact
 Tom Backer, Ballpark PFD

Time: 2:00pm-3:30pm

Summary of Project Presentation

The applicant is requesting the vacation of 23,531 sq ft of Occidental Ave. S. between S. Holgate and S. Massachusetts Streets in order to permit the future construction of an approximately 725,000 sf, 18,000 – 20,000 seat private spectator sports facility, the Seattle Arena, on land bounded by S. Holgate St., S. Massachusetts St., 1st Ave. S., and the Burlington Northern Railroad tracks.

The applicant has not yet filed a petition to vacate Occidental Way S. The team will return in January with another briefing, and then in February they will submit the petition to vacate. Then the proponents will formally present to the commission the urban design merit of the proposed street vacation and offer a proposed public benefit package.

The design team presented the context, urban analysis, standard arena programming, and three design options for the Seattle Arena. The team is looking at the project from all scales. At the city-wide scale, the team analyzed the north-south form of the city, the weaker E-W connections, the other stadiums and landmarks, and the 5-15 minute walk-sheds. At the neighborhood scale, the team studied the nearby surface and structured parking, the smaller building types along 1st Ave. S., the numerous utilities, the gateways to downtown, and the heavily travelled streets that border the site, 1st Ave S and S. Holgate St. The team identified two major design ideas they culled from the urban analysis that they integrated into

the site planning and design concepts: the nodes of activity at the southern edge and the northwest corner of the site; and the strong presence the site has on 1st Avenue.

The team discussed the arena's programming and the three early design concepts. Arena programming requires that patrons enter at the concourse level of the arena. This enables patrons to walk either down to lower level seats or up to higher level seats, and frees up space at the lower levels for necessary stadium operating functions. Because of the high water table, the arena can't be sunk into the ground to allow the arena entries and the street level to align with the arena's concourse level. As a result, the arena must be designed to allow for patrons to walk or ride up on escalators or elevators to the concourse level from the street. Also, another constraint is that the arena's site is a little tight in width (E-W), so that will affect the design.

The team presented the three early design concepts: 1. a program driven design; 2. a design that spreads the program to Holgate and 1st Ave.; and 3. a preferred design, which contains a contextual, perforated wrapper that hides and also allows views of the interior. The design may include Occidental S. to the north of the arena as a festival street. The northern entry of the arena and the associated plaza may be covered with a glazed canopy. At the street level, the aim is to activate the street as much as possible, featuring retail and club restaurants whose location and number will be determined by the arena's dimensions. The design also includes a practice facility in the site's northeastern corner. The team hopes to build as little structured parking as possible, drawing upon already existing parking structures and lots.

Public Comments

John Shaw, EIS reviewer, is studying both the SODO site and the Key Arena site at the Seattle Center for the EIS. He will finish the scope of the key elements for the EIS next week. The draft EIS is due in April, the final EIS in the late summer or fall.

Gary Papers, DPD design review planner, notes the Downtown Design Review Board will review the project again at a second EDG meeting on Tuesday, December 11. He anticipates a third EDG meeting in January, and at least one Recommendation meeting in mid to late late spring. He highlights several of the recommendations the board made at the last meeting at the end of November: the building should contribute to the city's life 365 days a year; the building should be uniquely Seattle; the plazas should be strong, active places; the public spaces above the street should be designed for views; the ground level treatment along 1st Ave. S. should be scaled to the pedestrian and designed for the gathering and flow of crowds; the movement of large crowds should be choreographed, designed for the pedestrian experience, and not overwhelm the city's infrastructure.

Beverly Barnett, SDOT, confirms there is no vacation application yet. SDOT anticipates it will be submitted in February, after the Downtown Design Review Board has reviewed the project through the EDG phase.

Sandra Mallory, OSE, advises that because the City may have the potential to purchase the arena under the MOU, it should follow the City's lead and design to the standards the City uses for its own capital projects.

SUMMARY (by Quotah)

The Seattle Design Commission thanks the Arena design team for its briefing on the Arena in advance of its petition for a street vacation of Occidental Ave. S. between S. Holgate and S. Massachusetts Streets. The commission will consider the project's Urban Design Merit and Public Benefit at future reviews before it can make a recommendation to the SDOT Director about the proposed street vacation. The commission appreciates the presentation and has the following recommendations:

- **As you prepare to submit for the vacation, prepare to show how the arena meets the criteria for urban design merit in this specific location with this proposed design. Show both vacation and no vacation options. Consider the qualities of the street that is proposed to be vacated; show what the street provides the city (air, light, connections, a place for utilities, transportation, services, etc.) and evaluate what the city is losing and gaining by vacating the street.**
- **Study the pedestrian level experience, public realm, and access (pedestrian and service) to the building and include this study as part of the analysis and development of the design. Develop a**

design which activates the streets on all sides of the building, and include overhead weather protection as one element. Develop a design which activates the streets on all sides of the building. Don't neglect to consider the design of the back (or east) side of the building and also at the southern edge, which is proposed as a new southern gateway to downtown. Specifically, study the pedestrian experience on 1st Ave; it is, at present, not a welcoming street for pedestrians. Also, study and show ground level views of the proposed pedestrian procession south on Occidental toward the north entry of the arena and also from Railroad Ave. and 1st Ave. S. Evaluate the impacts to the public realm caused by raising the ground plane to accommodate the building's primary entry at the northern end of the building; show ground level views of the arena's public plazas and open spaces. Study the impact on the public realm when the arena is closed.

- Consider how the arena can contribute to the neighborhood context. Be aware of the vision for the neighborhood might be. Study the Stadium District Concept Plan, consult with the DPD Planning Division, and show how the area design responds to the plan for the area.
- Further study transit and pedestrian connections to the arena; identify the expected mode splits for arena patrons and the locations for parking. Study access from the light rail stations and along S. Holgate St., which is an east-west connector that crosses the frequently used railroad track; the design shows it as a southern gateway to the city and a building entry. Evaluate the impact of the arena on the transit, transportation and pedestrian networks and on the public realm during concurrent and staggered events hosted by the nearby stadiums.
- Show the design precedents of other arenas in urban contexts that illustrate the team's intent for the design of this arena.
- Develop a public benefit package for the larger public not just those who will attend events at the arena. Consider a benefit package that is proportional to the large scale of the project and vacation and includes elements located in proximity to the arena, such as the festival street on Occidental to the north.
- Incorporate in the design the city's standards for sustainability and green building for capital projects, as outlined in the Sustainable Buildings and Sites Policy, for both the building itself and also in the public realm.
- Develop and show light and solar access studies.



APPROVED MINUTES OF THE MEETING

Mike McGinn
Mayor

Diane Sugimura
Director, DPD

Marshall Foster
Planning Director, DPD

Julie Bassuk
Chair

Seth Geiser

Laurel Kunkler

Shannon Loew

Tom Nelson

Julie Parrett

Osama Quotah

Ellen Sollod

Debbie Harris

Valerie Kinast
Coordinator

Tom Iurino
Senior Staff

January 17, 2013

Convened 8:30am

Adjourned 4:30pm

Projects Reviewed

Mapes Creek Restoration and 52nd Ave CSO

Arena Street Vacation

Elliott Bay Seawall

Commissioners Present

Julie Parrett, Chair

Seth Geiser

Lolly Kunkler (excused from 9:00am-11:00am)

Shannon Loew

Tom Nelson

Osama Quotah

Ellen Sollod

Commissioners Awaiting Confirmation Present

Martin Regge

Commissioners Excused

Debbie Harris

Julie Bassuk



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and Development**
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PO Box 34019
Seattle, WA 98124-4019

TEL 206-615-1349

FAX 206-233-7883

Staff Present

Valerie Kinast

Tom Iurino



January 17, 2013

Project: Arena
Phase: Briefing
Last Reviewed: Dec 6, 2012
Presenters: Jack McCullough, McCullough Hill, PS
Anton Foss, 360 Architecture
Barbara Swift, Swift Company

Attendees: Beverly Barnett, SDOT
Tom Bathalamew
Amy Lindemuth, Swift Company
Barb Wilson, Seattle Planning Commission
Beverly Barnett, SDOT
Brett Earnest, Clark Construction
Brook Jackson, Magnusson Klemencic
Bryan Stevens, DPD
Garry Papers, DPD
Geoff Wentlandt, DPD
John Shaw, DPD
Melody McCutcheon, Hillis, Clark, Martin and Peterson, P.S.
MyTam Nguyen, DPD
Rebecca Herzfeld, Council staff
Susan McLaughlin, SDOT
Tom Backer, Ballpark PFD
Tom Bartholomew, Bartholomew Planning

Time: 11:00am-1:00pm

Summary of Project Presentation

The applicant is requesting the vacation of 23,531 sq ft of Occidental Ave. S. between S. Holgate and S. Massachusetts Streets in order to permit the future construction of an approximately 725,000 sq ft, 18,000 – 20,000 seat private spectator sports facility, the Seattle Arena, on land bounded by S. Holgate St., S. Massachusetts St., 1st Ave. S., and the Burlington Northern Railroad tracks.

The applicant has not yet filed a petition to vacate Occidental Way S. but expects to in February upon completion of early design guidance review by the Design Review Board. At that time, the applicant will formally present to the commission the urban design merit of the proposed street vacation and offer a proposed public benefit package.

Arena design requires entrances at the concourse level which enables patrons to walk either down to lower level seats or up to higher level seats and necessary stadium functions to be located at the lower level underneath the seating bowl. Because of the high water table in SODO, the Seattle arena isn't sunk into the ground. As a result, the Seattle arena is designed to allow for patrons to walk or ride up on escalators or elevators to the concourse level from the street.

The Seattle arena's design is based upon a contextual, perforated wrapper. The design may include Occidental S. to the north of the arena as a festival street. The northern entry of the arena and the associated plaza may be covered with a glazed canopy. The street along 1st Ave features retail and club restaurants whose location and number will be determined by the arena's dimensions. The design also includes a practice facility in the site's northeastern corner. There are no plans at present to build structured parking; the existing parking structures and lots nearby will absorb most of the need for parking. The full extent of the need and location for parking will be evaluated in the EIS. On game days, 13,000 patrons expect to arrive from the north, 2,400 from the south, and 2,400 from the east across the railroad tracks. These estimates are based upon existing use of light rail, not projections based upon light rail's expansion.

The design of the Seattle arena's public realm includes: 16-30' sidewalks along Holgate Ave S.; 16-24' sidewalks along 1st Ave; a 120' x 170' at-grade plaza with an entry to the arena in the northwest part of the site; a 140' x 180' area for stairs which lead from S. Massachusetts Street and Occidental Ave S. to the arena's main entry; and a 140' x 190' elevated terrace located to the east of the entrance stairs. The landscaping and furnishings include: large 40' street trees, rain gardens, streetscape planting, seating stoops, lean rails, and bicycle racks as well as entrances to retail along 1st Ave; small 20' tree plantings, porous paving, and water features in the at-grade and elevated plazas; and columnar 40' street trees and a green wall with upper level terraces on S. Holgate St.

The commissioners' discussion centered on: the uses, design and programming of the plaza spaces, including the elevated terrace, especially given Seattle's dark, winter weather when the arena would most often be open; the needs of the local community and how the arena affects and shapes planning for the neighborhood; the character and uses along 1st Ave; the shelf life of the building, the sustainability of its materials and design, and the opportunity to create the largest sustainable impact as possible; and access to and from the arena for all modes—car, transit and pedestrian—and how that affects the public realm not only on the arena site but also in the neighborhood.

PUBLIC COMMENT

Gary Papers, DPD noted the upcoming 3rd EDG meeting and the Design Review Boards recommendations about the quality of the public realm, the importance of the building's public character, the need to create a space for the whole year, the character and uses along 1st Ave on the building's west faced, the design and amount of pedestrian realm, and that the entrances allow for proper queuing.

Beverly Barnett, SDOT, anticipated the vacation petition in early or mid February after the EDG process. The vacation for the applicant's other site may be simultaneous, if they know how the site is going to be used.

Barb Wilson, Planning Commission, asked about the plan's for access to the Safeco Field garage.

Melody McCutcheon, representing the Seattle Mariners, noted Occidental Ave. and Massachusetts St. are vital for Safeco Field's operations, including its garage and emergency access and large vehicle staging. Safeco Field needs to insure its access and operational needs will be met.

Geoff Wentlendt, DPD, noted the city is studying developing a stadium district and strengthening land use protection of industry in SODO.

SUMMARY (by Quotah)

The Seattle Design Commission thanked the design team for its briefing on the Arena in advance of its application for a street vacation of Occidental Ave. S. between S. Holgate and S. Massachusetts Streets. The commission will consider the project's Urban Design Merit and Public Benefit at future reviews before it can make a recommendation to the SDOT Director about the proposed street vacation. The commission appreciated the presentation and the redesign of the stairs at the main entry to create more of an opening and buffer along 1st Ave. The commission had the following recommendations:

Context

- For the urban design merit, study the function of the street to be vacated and show how it affects Safeco Field and surrounding properties. Also, show the effect on the project if there was no vacation, and what type of a building would be there.
- Show an understanding of neighborhood dynamics and character, how they will change, and how this project facilitates that change.
- Show the program on the site, and options to use offsite properties for the program and how these options affect the neighborhood's urban design.
- Study the feasibility of a service entry on Holgate. Develop drawings that show and analyze the access road, loading zones, short-term parking, service entry, and public entries.
- Show due diligence for freight, rail, and other users of the right-of-way.

Plaza

- Show how the plaza's design is an "essence of place" and is compatible with Seattle's climate of rain and darkness and the SODO neighborhood.
- Better define the plaza programming and who is responsible for it. Show how the programming influences the design of the plaza, entry stairs, and elevated terrace.
- Show concepts for public art in plaza, public realm and throughout the project and how they fit into the neighborhood context, especially if they are seen as part of the public benefit.
- Show more details of the plaza, including the water features, signage, pageantry graphics, paving, runnels, seating and other furnishings especially if they are part of the public benefit.
- Continue to explore removing the wall of stairs on 1st Ave. and create an opening and buffer to the street.
- Develop a design concept for Occidental Ave. S. and S. Massachusetts St. and ensure the design and use of the elevated terrace and plaza relate to these streets.

Streetscape

- Study and consider relocating the loading and service entry on S. Holgate St. to provide a better pedestrian experience.
- Study the proportion of the bottom of the building façade and consider raising its height so it is more than 15 feet.
- Better define the retail experience strategy and the expected tenants, and how both relate to neighborhood. Study the experience on game and non-game days.

Building form

- Provide details about the building wrapper, how the screen meets the ground and the pieces meet the exterior. Show precedents of building wrappers.
- Better integrate the building design and the site and landscape design.

Sustainability

- Further develop sustainability goals. Develop a design that considers the life of building and the life of the building form. Consider the role and image of the project's sustainability could have on the city. Take advantage of the unique opportunity for sustainability afforded by the project's large scale. Integrate sustainability in other ways besides stormwater; for example, consider options for daylighting, cooling, solar, etc. Study harnessing the scale of systems.
 - Develop a plan to show the educational benefits of sustainability to arena patrons and the public.
-

APPROVED
MINUTES OF THE MEETING

April 4, 2013

Convened 8:30 am
Adjourned 4:30 pm

Mike McGinn
Mayor

Diane Sugimura
Director, DPD

Marshall Foster
Planning Director, DPD

Julie Bassuk
Chair

Seth Geiser

Laurel Kunkler

Shannon Loew

Tom Nelson

Julie Parre

Mar n Regge

Osama Quotah

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Debbie Harris

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Projects Reviewed

10th Avenue Hillclimb
Railroad Avenue
Arena

Commissioners Present

Osama Quotah
Debbie Harris
Laurel Kunkler (joined at 11:00am)
Shannon Loew
Tom Nelson
Mar n Regge
Ellen Sollod

Commissioners Excused

Julie Bassuk
Julie Parre
Seth Geiser

Sta Present

Valerie Kinast
Tom Iurino

April 4, 2013
2:30pm – 4:30pm

Project: Arena
Review Type: Street Vacat on and ROW Design Review
Phase: Urban Design Merit – Part 1
Previous Reviews: January 17, 2013

Presenters: Anton Foss, 360 Architecture
Jack McCullough, McCullough Hill Leary, PS
Barbara Swi , Swi Company
Brook Jacksha, Magnusson Klemencic

Attendees:

Tom Backer, Ballpark PFD
Beverly Barne , SDOT
Calvin Chow, SDOT
Jessie Clawson, McCullough Hill Leary, PS
Cale Dpornbos, 360 Architects
Matthew Halle , 360 Architects
Amy Lindemuth, Swi Company
Sandra Mallory, OSE
Garry Papers, DPD
Susan Ranf, Mariners
Bryan Stevens, DPD
Nathan Torgelson, FAS

Recusals and Disclosures

There were no recusals or disclosures.

Purpose of Review

At this meeting the project proponents presented Part I of II of the Urban Design Merit aspect of the proposal to vacate the portion of Occidental Ave S between S Massachusetts St and S Holgate St. They familiarized the Commission with the development proposal at a meetings on December 6, 2012 and January 17, 2013. A presentation of Part II of the Urban Design Merit is anticipated for May 2013.

Besides the Urban Design Merit, the commission will review the Public Benefit aspect of the street vacat on at future meetings. Approval by the Design Commission of both the Urban Design Merit and Public Benefit constitute a recommendation to the SDOT Director to recommend approval of the vacat on to the City Council, which makes the ultimate decision on the vacat on. Besides the vacat on, the Design Commission will also review the design of the public realm at the project site, and provide recommendations to the SDOT director on this.

The Design Commission review is one component of the vacat on review, which is led by SDOT. The project is receiving a number of other reviews also, including Design Review by the Downtown Design Review Board, Environmental Review by DPD, and Street Improvement Permit review by SDOT.

Summary of Proposal

The applicants are proposing to vacate the portion of Occidental Ave S that lies between S Massachusetts St and S Holgate St. in order to consolidate lots and build an approximately 700,000 sq ft, 20,000 spectator arena. The area of vacat on would be approximately 40,800 sq ft (680 ft by 60 ft). It is currently improved paving and gravel on either side, curbs, gutters, no sidewalks. According to early information, this part of Occidental is currently being used as a staging area for trucks for events at the existing stadiums to the north.

The public benefit they are proposing consists of:

1. A publically accessible private plaza on the site north of the stadium building.
2. A publically accessible private plaza on-site, north of S Massachusetts St.
3. Elevated View Decks
4. Two publically accessible basketball half-courts.
5. Increased building setbacks and sidewalk widths.

6. Public art.
7. Sustainable building features.

The development proposal is for a sports stadium of approximately 700,000 sq ft with seating for approximately 18,000 to 20,000 spectators on a 276,000 sq ft site (approximately 397 ft by 680 ft). The structure is about 400 ft wide by 700 ft long and 165 ft high. The program includes a field and seating, two practice courts, associated administrative, services, and support functions, as well as retail. Primary open space is a plaza at the north. Vehicle access points would be off of Holgate, Massachusetts, and a private drive along the east edge of the site, next to the BNSF right of way. The primary pedestrian entrance would be at the north, with a secondary one at the corner of Massachusetts and Holgate.

Summary of Presentation

The proponents presented background and context information. The project is in an industrial area south of downtown, just south of the two existing stadiums, between port uses to the west and railroad tracks to the east. To the south are industrial uses, and increasingly offices and a retail presence along 1st Ave. S. The site is at the south edge of the stadium district overlay, and DPD is in the process of working with stakeholders to update this planning.

The area where the arena is proposed is low, nearly at the level of Elliot Bay, which is to the west beyond the port facilities. Heights to the north gradually decrease from the skyscrapers of downtown, to the midrises of Pioneer Square. The two existing stadiums as well as the cranes to the west, SR-99 and the railways, are large forms in the industrial landscape. To the east beyond is Beacon Hill, and to the west the expanse of Elliot Bay. Current development at the site and areas to the south, east, and west is lowrise and industrial or commercial in character. Viewed from the south, the site is in the north of a low-lying industrial area punctuated by the historic landmark building which now houses Starbucks, and beyond it are the two existing stadiums and the downtown skyline.

The street grid in this part of the city varies between the fine grain of Pioneer Square, the larger industrial blocks east and south of the site, very large swaths where the stadiums, railyards, and Port are located. To either side of 1st Ave S, from downtown through the industrial area, there the smaller scale grid is retained in part.

Circulation in the area is complex. Rail lines run along the east side of the site, freight moves on trucks along Holgate and 1st Ave, light rail is a block away to the east, and people come to the area by car for work and events at the stadiums. To the north beyond the other stadiums is King St Station and west of that Colman Dock. SR-99 to the west is currently being reconstructed in preparation for boring the tunnel, and in the future the last opportunity to exit before entering the tunnel will be a few blocks north of the site.

The team went through their *powerpoint* presentation which is posted on the Design Commission website: http://www.sea-le.gov/dpd/Planning/Design_Commission/Project_Review_Meetings/Minutes/default.asp. They covered: Site conditions, city planning goals, history, existing uses, urban form, and connections, neighborhood character, corridor views, district street grid analysis, parking, and access, and utilities inventory and planning. They also presented analysis of two scenarios for development: Without street vacation, proposed arena.

As a general update on the overall design, they showed the most recent design, that was recently reviewed by the DRB and given approval by them to proceed into the MUP process.

Summary of Discussion

The conversation circled around the lack of analysis and conclusions of the information that was presented. The commissioners talked about what areas they would like to see addressed in more depth. Those are reflected in the Action below.

Agency Comments

Beverly Barne, received phone call last week.

Garry Papers, DPD, DRB had fourth EDG and passed on to MUP. Applaud more pedestrian space on 1st, improvements to loading on Holgate, plaza orientation, needs work on visibility of turbine, including that it's obstructed by 20 ft wall along top of building. Recommended removing or reducing front wall of wrapper.

Public Comments

Susan Ranf – Mariners. Will submit written comments. Occidental serves important function must be thoroughly addressed. Private access is planned, but part listed as open space shouldn't be, because it's mitigation for loss of Occidental function.

ACTION

No action was taken. The second half of the Urban Design Merit presentation will be given at the May 2, 2013 Design Commission. A vote is anticipated at a later date.

The following summary was provided:

While information about the context was provided, it needs to be augmented and synthesized in order to fully explain how the new facility will become a valuable part of the urban fabric in this location. By giving up a part of Occidental, the public is losing a piece of functionality of the grid and the City is allowing for a much larger structure that brings with it visual, traffic, and other environmental impacts. There must be an explanation of how the design responds to and functions within the urban systems it is placed into. The commission needs to understand what design choices were made and how they add value to the city. It must be illustrated how the functionality of the right of way system is changed by removing a segment of Occidental and adding a large number of users to it, and that the various users of this important public service, right-of-way, will be served to a level expected by the City.

The area is changing rapidly and the tunnel project and ancillary improvements will bring changes too. It must be clear how this project works within those trends and affects the area in relation to this.

For next presentation of Urban Design Merit the Commission recommends addressing the following items:

1. What is the Urban Design Merit?

What is the overall value of adding this building, its uses, and functionality to our urban systems in this place.

How does the scale of the impacts of allowing for a larger facility, by allowing vacation of Occidental, stand in relation to the value of what is being added here?

Given the observations the team had of the neighborhood, how is that analysis impacting the urban design of the building or the project enhancing/ changing those characteristics.

2. Pedestrian, transit, and bike movements along the edges of the site, and in the network as far out as it is affected.

Both the arena patrons and other users of the ROW must be considered. Also, it must be clear how the modal systems work in various seasons, times of days, event timing, etc..

Information such as pedestrian and vehicular counts, as well as trend information must be used to explain changes to the area.

Some specific areas: Holgate, 1st Ave S, loading at the north, RR crossing to east, Massachusetts.

3. Replacement of functions of this segment of Occidental as well as in the portions of Occidental that are losing connectivity after the vacation.

4. Utility redundancy and safety.

5. The ways sustainability has driven the placement and integration of the building on its site, in this location.

6. The pedestrian experience of the arena in its context at the site, a short distance from the site, and from afar on game day, on non-game days.

7. What the site offers the non-paying, general public, and specifically how they are anticipated to use it on game days and non-game days.

8. The value of the main wall and building edges in relation to the larger and immediate urban context.

9. The role of the plaza in the urban design context, at event and non-event times.

10. In the context of connections to major employers in the area, what does this project offer.

11. Systems were presented, but it remains to be shown how the proposal will affect or enhance them. For example it must be shown that the new arena won't hinder such functions as freight mobility, and commissioners will want to know how the design will enhance pedestrian and bike circulation. Trends in the area, parking, and fluctuations in schedules, are some of the considerations that must be explained.

Seattle
design
Commission

Mike McGinn
Mayor

Diane Sugimura
Director, DPD

Marshall Foster
Planning Director, DPD

Tom Nelson, Acting Chair

Osama Quotah, Vice Chair

Julie Parre

Julie Bassuk

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APPROVED
MINUTES OF THE MEETING

May 2, 2013

Convened 8:30 am
Adjourned 4:00 pm

Projects Reviewed

Center for Wooden Boats

Arena – Vacant on Occidental Ave. S

Commissioners Present

Tom Nelson, Acting Chair

Osama Quotah, Vice Chair

Seth Geiser

Shannon Loew (excused from 8:30-10:45am)

Julie Parre (excused from 12:30- 4:00pm)

Mar n Regge

Ellen Sollod

Debbie Wick-Harris

Unconvened Commissioners Present

Bernie Alonzo

Commissioners Excused

Julie Bassuk

Laurel Kunkler

Staff Present

Valerie Kinast

Joan Nieman

1:30pm – 4:00pm

Project: Arena**Phase:** Urban Design Merit**Last Reviewed:** April 4, 2013 (UDM no action taken)**Presenters:** Anton Foss, 360 Architecture
Barbara Swi , Swi Company.**Attendees:**

Amy Lindemuth	Swift Company
Anton Foss	360 Architecture
Barbara Swift	Swift Company
Beverly Barnett	SDOT
Brett Earnest	Clark Construction
Brook Jacksha	Magnusson Klemencic
Bryan Stevens	DPD
Cale Doornbos	360 Architects
Calvin Chow	SDOT
Jack McCullough	McCullough Hill, PS
Melody McCutcheon	Hillis, Clark, Martin and Peterson, P.S.
Nathan Torgelson	FAS
Rollin Fatland	Chris Hansen Representative
Susan Ranf	Seattle Mariners
Tom Backer	Ballpark PFD
Tom Marseille	WSP Flack + Kurtz

Project Description

The petitioner is requesting the vacation of 23,531 sq ft of Occidental Ave. S. between S. Holgate and S. Massachusetts Streets in order to permit the future construction of an approximately 725,000 sq ft, 18,000 – 20,000 seat private spectator sports facility called the Sea Gate Arena.

S. Holgate St., S. Massachusetts St., 1st Ave. S., and the Burlington Northern Railroad tracks bound the land.

Summary of Discussion

The purpose of this meeting is to review the Urban Design Merit for the second time. At the last review on April 4th no action was taken. The consensus opinion from the Commissioners was the petitioner needed to provide "reactions to all the analysis".

Commissioners needed more information on the following:

- Pedestrian connections and modal along edge of site
- Utility redundancy and safety
- Finwall
- Sustainability, building placement and integration
- Pedestrian level views
- What happens on edges and plaza on game and non-game days?

Presentations:

[http://www.seattle.gov/dpd/Planning/Design Commission/Project Review Meetings/Minutes/default.asp](http://www.seattle.gov/dpd/Planning/Design%20Commission/Project%20Review%20Meetings/Minutes/default.asp)

Anton Foss, 360 Architects, reviewed *PowerPoint* presentation.

Summary of updates are elimination of the wall and parapet, plaza pivoted more, larger overall, stairs shorter.

Agency comments:

Beverly Barne, SDOT: Presentation is in and being reviewed. Realignment of Massachusetts St under review.

Public comments:

Melody McCutchen, attorney for the Mariners: Traffic, in general, not addressed enough. Occidental Ave is essential for staging for Century Link and Mariners. Project must address access road and be conditional of approval. Strongly support realignment of Massachusetts. Vacation St shows closure of Occidental north of Mass. This will significantly affect Safeco Field operations. Will submit comments to SDOT.

Written comments: none

ACTION:

We will postpone the action until a greater level of information is achieved.

The Design Commission recommends the following:

- Assure reliability and redundancies with all transportation modes and utilities, especially along Holgate
- Create a dynamic urban canopy. Target more canopied areas that are deliberate and assure public use and assembly in private areas.
- Celebrate the character of the SW corner. Do not have Holgate look like back-of-house. Align design with Stadium District standards. Investigate future retail viability on non-game days.
- Investigate exemplary sustainability design and encourage sewer mining and out-of-the box thinking.
- A matrix approach to public benefits.

Mike McGinn
Mayor

Diane Sugimura
Director, DPD

Marshall Foster
Planning Director, DPD

Tom Nelson, Chair

Osama Quotah, Vice Chair

Bernie Alonzo

Brodie Bain

Megan Groth

Laurel Kunkler

Shannon Loew

Martin Regge

Ellen Sollod

Michael Jenkins
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Valerie Kinast
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Joan Nieman
Administrative staff

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Seattle, WA 98124-4019

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APPROVED **MINUTES OF THE MEETING**

November 7, 2013
Convened 8:30 am
Adjourned 4:30 pm

Projects Reviewed

Arena vacation
Denny Substation
LRRP Northgate art

Commissioners Present

Tom Nelson, Chair
Osama Quotah, Vice Chair
Brodie Bain (arrived at 9:30 am)
Megan Groth
Shannon Loew (arrived at 9:45 am)
Ellen Sollod

Commissioners Excused

Bernie Alonzo
Martin Regge
Laurel Kunkler

Unconfirmed Commissioner Present

Ross Tilghman

Staff Present

Michael Jenkins
Valerie Kinast
Joan Nieman



November 7, 2013
9:30 am – 12:00 pm

Project: Arena
Review Type: Vacation
Phase: Urban Design Merit
Previous Reviews: 1/17/13; 4/4/13; 5/2/2013

Presenters:

Anton Foss	360 Architecture
Barbara Swift	Swift Company
Brook Jacksha	Magnusson Klemencic
Jack McCullough	McCullough Hill, PS

Attendees:

Beverly Barnett	SDOT
Brad Tong	SOJ
Bryan Stevens	DPD
Cale Doornbos	360 Architects
Jessica Clawson	McCullough Hill, PS
John Shaw	DPD
Josh Brower	Seattle Planning Commissioner
Katy Chaney	URS Corporation
Kurt Gahnberg	Transpo Group
Melody McCutcheon	HCMP
Moira Gray	SDOT
Nathan Torgelson	FAS
Susan Ranf	Seattle Mariners
Tom Backer	Ballpark PFD
Zach Mendelsohn	Magnusson Klemencic

Recusals and Disclosures

There were no recusals or disclosures.

Purpose of Review

The purpose of this meeting was to review for the third time the urban design merit of the Arena and to preview the public benefit. At the previous review on May 2, 2013, the approval for urban design merit was postponed until a greater level of information was available for the Commissioners. It was anticipated that the public benefit would be reviewed at a future meeting. Approval of urban design merit and the public benefit package of the vacation result in the Design Commission recommending approval of the vacation to the SDOT director. The ultimate decision to approve the vacation lies with the City Council.

Summary of Proposal

The applicant is requesting the vacation of 23,531 square feet of Occidental Ave S between S Holgate and S Massachusetts Streets in order to permit the future construction of an approximately 725,000-square-foot, 18,000-20,000-seat private spectator sports facility called the Seattle Arena. The land is bounded by S Holgate St, S Massachusetts St, 1st Ave S, and the BNSF railroad tracks.

Since the last review on May 2, 2013, the team is proposing to change the facility to be fully above ground due to the high water table in SODO. Service and loading facilities will be located at grade with entry from the access road. The event level and plaza will be at grade, and there will be approximately 100 staff parking spaces onsite.

The design is based upon a contextual, perforated wrapper. It may include Occidental S. to the north of the arena as a festival street. The northern entry of the arena and the associated plaza may be covered with a glazed canopy. The street along 1st Ave features retail and club restaurants whose location and number will be determined by the Arena's dimensions. The design also includes a practice facility at the northeast corner of the site. At present, there are no plans for structured parking; existing structures and nearby lots will absorb most of the need for parking. The full extent of the need and location for parking will be evaluated in the Environmental Impact Statement (EIS). On game days, 13,000 patrons are expected to arrive from the north, 2,400 from the south, and 2,400 from the east across the railroad tracks. These estimates are based upon existing use of light rail, not projections based upon light rail's expansion.

The design of the Seattle arena's public realm includes:

1. 16-30' sidewalks along Holgate Ave S
2. 16-24' sidewalks along 1st Ave
3. 120' x 170' at-grade plaza with an entry to the arena in the northwest part of the site
4. 140' x 180' area for stairs which lead from S Massachusetts St and Occidental Ave S to the arena's main entry
5. 140' x 190' elevated terrace located to the east of the entrance stairs.

Landscaping and furnishings include:

1. Large 40' street trees, rain gardens, streetscape planting, seating stoops, lean rails, and bicycle racks as well as entrances to retail along 1st Ave
2. Small 20' tree plantings, porous paving, and water features in the at-grade and elevated plazas
3. Columnar 40' street trees and a green wall with upper level terraces on S Holgate St.

The proposed public benefit package consists of:

1. A publically accessible private plaza on the site north of the stadium building
2. A publically accessible off-site private plaza, north of S Massachusetts St
3. Elevated view decks
4. Two publically accessible basketball half-courts
5. Increased building setbacks and sidewalk widths

Summary of Presentation

Jack McCullough, McCullough Hill PS, introduced the project and noted that, per Commission recommendation, the wing wall had been removed and the Draft Environmental Impact Statement (DEIS) completed. Anton Foss of 360 Architecture gave the presentation dated November 7, 2013, available on the [Design Commission website](#), and explained how the design had evolved since the last

Commission meeting. Mr. Jacksha noted that the building had been raised due the level of the water table, and as a result the previously below-grade elements are now located at grade.

Summary of Discussion

The Commission acknowledged the challenges of working within an industrial area and was hopeful the Stadium District planning process can provide guidance and direction towards creating a smart pedestrian network. They were appreciative of the deletion of the wing wall, the location of the plaza on one level, improved transparency on 1st Ave S, and the removal of loading from S Holgate St. The Commissioners also focused on the impact of the project on the transportation network. There was interest in bus queuing and loading at the site and concern that pedestrian conflicts had not been fully resolved. The increased sidewalk width was a positive new element.

Agency Comments

There were no agency comments.

Public Comments

Melody McCutcheon stated that she believed the action on the vacation was premature for the following reasons:

1. Since the DEIS lacks critical info, action on the vacation is premature. Ours is 18 pages long. There is a lack of appreciation of the role Occidental in this setting. It is unique and very complicated. There is not enough information on mitigation.
2. The Arena needs a pedestrian overpass over railroad tracks at Holgate. The Mariners have had to provide overpasses. This needs to be part of the project as is central to UDM.
3. Loss of 50 parking spaces.
4. Access road on eastern side is critical to functioning of Mariners. Only southern access to Mariners garage and access functions. 24-7 access critical

Joseph G, Port of Seattle:

1. Caution against underestimating the role of Occidental. Traffic scenarios. Railroad tracks and freeway access create a bottleneck. Occidental helps relieve that pressure. The Safeco Field garage exits onto Occidental. It is critical and necessary.
2. We hate to see a loss of industrial land that cannot relocate elsewhere.

Josh Brower, Seattle Planning Commission, explained who the Commission is, its purpose, and its process. He is on the advisory committee for the Stadium District/Industrial zone. The Commission is a steward of the comprehensive plan. Currently there is an overlay. The Stadium District would create new district, the 39th. One voice. Discussion so far is that the project is moving too quickly. There is no need for urgency and not enough information to make a major zoning change. The freight access study will not be done until 2014; without it there is no holistic view of how freight moves around.

OQ: Can you talk about the process?

Amendments to the Comprehensive Plan are considered once a year. Major update occurs every 5 years. Then the amendment goes before PLUS committee for review and input (December).

OQ: Arena in overlay district is compliant, technically, with current zoning. Any input on that?

That district was not intended to accommodate a third stadium. Refer to letter on website.

Action

The Design Commission thanked the team for the presentation of the urban design merit of the Arena proposal to vacate Occidental Ave S between S Massachusetts and S Holgate St. Overall, the Commission applauded the direction of the new design. The removal of the wing wall, the team's decision to raise the stadium out of the ground and locate the plaza on one level, and the area where the stairs empty onto 1st Ave all received praise from the Commission. They also encouraged the team to take the sustainability program even further, particularly around opportunities to use natural lighting and to allow the public to see how the building systems function.

Nevertheless, the Commissioners felt that, due to concerns and insufficient information, they were not prepared to vote on the urban design merit of the Arena at this meeting. Most importantly, it was stated that, until the mitigation measures that come out of the EIS process are known, it would not be clear to what degree the functionality of the grid could be maintained without this segment of Occidental Ave S. This would also stymie assessment of public benefits, because it would not be clear what is "above and beyond" mitigation requirements. The specific concerns were as follows:

1. It is still unknown how the loss of function for vehicles in the area, especially freight, will be mitigated and how much the functionality of the grid will be affected.
2. Information is lacking on a) the number and sizes of buses and other vehicles expected to drop off and pick up patrons from events and b) the location and timing of queuing.
3. Planning for pedestrian queuing and circulation within the overall scheme is insufficient.
4. There is a need to address pedestrian circulation beyond the site, to and from transit and garages, etc.
5. We have not seen a solution for managing conflicts between pedestrians and rail on S Holgate St.
6. There is inadequate information about the vehicular and pedestrian functions of both the north *and* south sides of S Holgate St.
7. It has not been thoroughly explained what the plans are for corporate naming, signage, the video installation, and the integration of these elements into the concept of landscape.
8. The value of the plaza to the public has not been shown. It is shaded and appears to be needed for the functioning of the facility.
9. The interconnectedness of the plaza to the areas beyond the site at the north have not been defined.
10. The retail strategy has not been fully developed.
11. The focus is still on game days and facility users, not the neighborhood and general public in this changing part of town. It is not clear that conditions during all seasons have played out in the design.

The Commission provided the following recommendations as the team moves forward:

1. Allow good design to manage the issues of the mobility networks, not technology. Design good spaces for pedestrians in the right places.

2. The simplified building forms are appreciated, but continue to balance them with interesting elements.
3. Maintain vibrancy along the street and consider ways to increase the level of activity throughout the year.
4. Increase building transparency and activation of the S Holgate St frontage. Allow insight into what's going on in the building. If possible, move back-of-house uses below grade. Consider how the landscape here relates to the landscape concept of the plaza.
5. Begin planning for the art now, when it can still be integrated. Provide information on the art planning to the Commission, preferably in a written document.
6. Consider integrating vertical elements with the ground plane, such as moving the video wall. Consider moving the signage to S Holgate St. Think about disintegrating the massing at the north edge corner to allow light to go through edge of building.
7. Consider exploring solutions to the issue of shading of the plaza. Given the shading and expansive functional needs of the facility here, explore shrinking the plaza and expanding public open space where it would be more valuable, such as along S Holgate St or 1st Ave S, where there is more light.
8. Balance the approach of "building as signage" with the other signage that is planned. Consider the content of the video signage with a mind to times of day and what's going on at the venue and providing public messaging.
9. Consider how the building can carry messaging to the public about the systems and sustainability.
10. The quality and durability of the materials should be considered, in addition to maintenance.

Ed Murray
Mayor

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Director, DPD

Shannon Loew, Chair

Ellen Sollod, Vice Chair

Brodie Bain

Lee Copeland

Thaddeus Egging

Grant Hromas

Martin Regge

John Savo

Ross Tilghman

Commissioners Present

Shannon Loew, Chair

Brodie Bain

Lee Copeland

Thaddeus Egging

Grant Hromas

John Savo

Ross Tilghman

Commissioners Excused

Ellen Sollod, Vice Chair

Martin Regge

Project Description

The petitioner proposes to vacate Occidental Ave S between S Massachusetts St and S Holgate St in the SoDo neighborhood to facilitate development of a 750,000-square-foot, 18,000-20,000-seat multi-purpose arena for NBA basketball, NHL hockey, other sporting events, concerts, and shows.

The project site is bounded by S Massachusetts St to the north, 1st Ave S to the west, S Holgate St to the south, and the BNSF Railway right-of-way to the east. The vacation of Occidental Ave S would increase the developable area of the project site by roughly 17.5%. The proposed development includes a plaza space at the northwest corner of the site and widened sidewalks along 1st Ave S and S Holgate St.

Meeting Summary

The Commission did not vote on urban design merit at this meeting because the Final Environmental Impact Statement (FEIS) for the project had not yet been published. The petitioner's presentation focused on specific project features that the Commission had identified at previous review as outstanding issues.

Recognizing the FEIS is outstanding, the Commission expressed general support for the urban design merit of the proposed vacation of Occidental Ave S. However, the Commission requested additional information from the petitioner at the next review, primarily concerning pedestrian, vehicle, and freight circulation; the location of required parking; and details on the proposed design of pedestrian facilities at and around the site, including a proposed pedestrian bridge at S Holgate St over the BNSF Railway right-of-way.

Recusals and Disclosures

There were no recusals or disclosures.

Michael Jenkins
Director

Valerie Kinast
Coordinator

Nicolas Welch
Planner

Joan Nieman
Administrative Staff

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April 16, 2015**9:00 am – 12:00 pm****Type**

Street Vacation

Phase

Urban Design Merit

Location

Full block bounded by S Massachusetts St, 1st Ave S, S Holgate St, and the BNSF Railway right-of-way

Previous Reviews

[12/6/12](#), [1/17/13](#), [4/4/13](#), [5/2/13](#),
[11/7/13](#)

Project Team Present**Mark Brands**

Site Workshop

Jessica Clawson

McCullough Hill, PS

Cale Doornbos

HOK

Rollin Fatland

Rollin Fatland & Associates

Anton Foss

HOK

Brook Jacksha

Magnusson Klemencic Associates

Jack McCullough

McCullough Hill Leary, PS

Zach Mednelsohn

Magnusson Klemencic Associates

Dave Perez

ArenaCo

Fong Wu

Site Workshop

Attendees**Katy Chaney** URS Corporation**Chris Daniels** KING5**Chris Eaves** SDOT**Kurt Gahnberg** Transpo Group**Joseph Gellings** Port of Seattle**Melody McCutcheon** Hillis, Clark, Martin, and Peterson, PS**Mike Merritt** Port of Seattle**Garry Papers** DPD**Susan Ranf** Seattle Mariners**John Shaw** DPD**Mike Swenson** Transpo Group**Cristina VanValkenburgh** SDOT**Lish Whitson** Council Central Staff

April 16, 2015

Summary of Presentation

Jack McCullough introduced the presentation and stated that the presentation would address five outstanding issues that the Commission identified at previous reviews:

1. The impacts resulting from the loss of Occidental Ave S
2. The location of Arena access and parking for all modes
3. An overview of pedestrian flows to and from the facility
4. S Holgate St improvements
5. The transportation management program (TMP) for the facility

Anton Foss showed several perspectives of the proposed Arena. The presentation is available on the [Design Commission website](#).

As shown in Figure 1, Mark Brands identified the proposed changes to the curb line around the perimeter of the site. Mr. Brands noted that the proposal to widen the sidewalk approximately nine feet by removing existing on-street parking along the east side of 1st Ave S is consistent with the recently released draft of the Street Concept Plan for 1st Ave S. A series of slides showed current and proposed sidewalk widths along 1st Ave S both adjacent to the project site and for blocks north and south of the facility.



Figure 1. Illustrative site plan

Mr. Brands then identified the potential locations the team is considering to meet the parking requirements for the facility. Mr. McCullough reaffirmed that team's goal is to use existing parking supply in the vicinity but indicated that one option includes construction of a 1750-space parking facility south of the project site across S Holgate St. Mr. Brands described how the FEIS analyzes pedestrian traffic from various zones around the project site.

The presentation also included an analysis that compared a no vacation alternative with the proposed street vacation. The no vacation alternative would include a commercial development with street-level retail and below-grade parking; an arena facility is not feasible under the no vacation alternative. Aside from the preservation of Occidental Ave S, there would be no publicly accessible open space in the no vacation alternative. By comparison, the full street vacation alternative would include roughly 36,000 square feet of open space primarily in the form of the plaza at the corner of 1st Ave S and S Massachusetts St. Mr. Brands showed four scenarios illustrating how people could use the plaza for various events and throughout the day.

Several diagrams showed access and circulation for automobiles, service vehicles, pedestrians, and bicycles. Brook Jacksha explained various options for relocating utilities under the full street vacation alternative. Mr. Jacksha indicated the team's preference to underground utilities wherever possible.

Finally, the presentation showed the following three options for a pedestrian bridge over the BNSF Railway right-of-way at S Holgate St. According to the petitioner, if the arena opens prior to completion of the pedestrian bridge, the petitioner would provide a shuttle service to take event attendees to transit locations like King Street Station. The shuttle service would be an interim measure; the petitioner did not specify a date when it would be terminated. Mr. McCullough stated that the petitioner has committed to paying for the construction of the pedestrian bridge and coordinating with SDOT on its alignment and design.

Mr. Brands concluded with a brief preview of the potential public benefit package, listed below, which the team will present in more detail at a later meeting:

- Publicly accessible open space
- Enhanced right-of-way improvements
- Pedestrian access and safety improvements
- Public art program
- Utility improvements
- Sustainability measures
- Contribution to SoDo Transportation Infrastructure Fund

Agency Comments

Garry Papers stated that this project has had four Early Design Guidance (EDG) meetings and two Recommendation meetings with the Design Review Board (DRB) and that at least one more Recommendation meeting is forthcoming. According to Mr. Papers, most of the outstanding issues are refinements to the building materials and ground-floor details. Mr. Papers noted that the DRB will comment on the building interface of the newly added and committed pedestrian bridge and how the bridge transitions to the S Holgate St setback. The DRB will also make recommendations on the large private plaza, which partly overlaps with the Design Commission's review of the project.

Public Comments

Melody McCutcheon spoke as a representative of the Mariners. Ms. McCutcheon believed that the issues of circulation and access had not advanced much in presentation materials since the last review 18 months ago when the Commission said critical information was lacking. Ms. McCutcheon made the following four primary comments on the proposed vacation:

1. Ms. McCutcheon stated Occidental Ave S is a working street with critical transportation function that provides access to Safeco Field for cars, trucks, buses, emergency vehicles. If vacated, its function must be mitigated. According to Ms. McCutcheon, while the petitioner is attempting to partially mitigate the vacation with an access road on the east side of the project site, the Mariners' comments on the EIS indicate that this requires the access road be available at all times to maintain access to the Mariners' garage and service road. Ms. McCutcheon said there has been no commitment from the petitioner.
2. Ms. McCutcheon said she was unclear whether the petitioner was assuming use of the Mariners property. She stated that the presentation materials indicate that truck access (the primary truck route) for the Arena is across the Mariners' property, which would require an agreement.
3. Ms. McCutcheon expressed surprise that the vacation proposal includes changes to the Mariners' property without discussion with her client; these changes include eliminating a row of trees, adding a sidewalk, and undergrounding power.
4. Ms. McCutcheon noted that, after two years, the petitioner has finally indicated that code-required parking would be provided in a garage south of S Holgate St. Ms. McCutcheon stated that, by code, the Arena cannot be constructed without 1,700 parking spaces. She stated that a decision on the parking location is critical to evaluating pedestrian flows, proposed street improvements, and the design and size of the plaza.

Mike Merritt spoke on behalf of the Port of Seattle. Mr. Merritt said the Port wants to welcome NHL and NBA to Seattle but continues to believe this is wrong site. Mr. Merritt asserted the Commission cannot recommend approval of the vacation petition without determining that the impacts of vacation are balanced by the proposed public benefits. Mr. Merritt expressed a desire for a site that does not have impacts on Seattle's industrial sector, which employs

many people in the city. He emphasized the Port's concerns about the loss of Occidental Ave S and cautioned that current levels of congestion in SoDo would only worsen with the Arena. Finally, Mr. Merritt stated that the City made promises to the Port as part of this project proposal, including protections, but the Port has not seen anything for over a year. While he commended the contribution to the transportation benefit fund, Mr. Merritt stated that this contribution has no structure or definition.

Summary of Discussion

The Commissioners were pleased to see a greater level of clarity from the project team on several key elements of the urban design merit component of the street vacation petition. Since any action on the urban design merit phase of review will occur at a subsequent meeting, the Commissioners primarily identified project elements needing further detail.

The Commission continued to highlight access and circulation as a critical part of the urban design merit review. The Commissioners appreciated the petitioner's commitment to pay for construction of a pedestrian bridge over the BNSF Railway right-of-way at S Holgate St, which they believed was critical infrastructure for safely accommodating the pedestrian volumes the Arena will generate. They asked that the team explain the performance criteria for the bridge, including its capacity, alignment, and intended modes, at the next meeting.

The Commissioners also identified the design of 1st Ave S streetscape as an area for further detail, particularly given the recently released final draft of the Stadium District Study Street Concept Plan, shown in Figure 2. The Commission was excited to see that the project would include a restaurant open year round in a prominent location along 1st Ave S. The Commissioners encouraged the petitioner find other opportunities for activating the project site, particularly 1st Ave S and the plaza at the corner of 1st Ave S and S Massachusetts St, on non-event days and in the off season. There was also a desire to understand the realignment of S Holgate St and S Massachusetts St not just at the project site but beyond the property line as well.

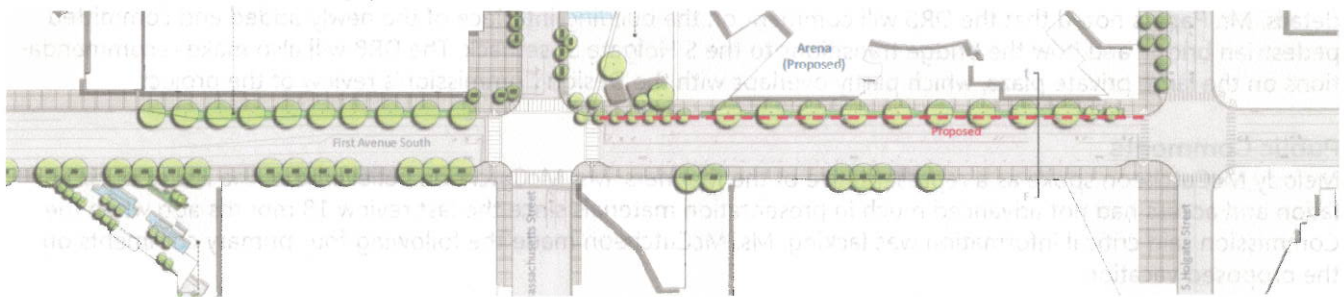


Figure 2. Excerpt from Stadium District Study Street Concept Plan for 1st Ave S between S Massachusetts St and S Holgate St

Lastly, the Commissioners provided some initial recommendations based on the preview of the public benefit package associated with the street vacation. Recognizing that any improvements proposed as public benefit must exceed code and mitigation requirements, the Commissioners encouraged the team to explore enhancements of the public realm along 1st Ave S and in the plaza at the northwest corner of the site. They also expressed support for off-site improvements and the contribution to the SoDo Transportation Benefit Fund given the pedestrian and vehicle volumes the Arena will generate in the neighborhood.

Action

The Design Commission thanked the team for the presentation concerning the urban design merit review phase of the proposed vacation of Occidental Ave S between S Holgate St and S Massachusetts St. The Commission recognized substantial improvement in the clarity and thoroughness of the presentation compared to previous reviews. The additional diagrams and clearer analysis helped the Commission understand the proposal in greater depth.

In particular, the Commission appreciated the team's effort to integrate the facility and streetscape design with the final draft of the Street Concept Plan for the Stadium District and encouraged the team to continue exploring opportunities to implement this plan.

The Commission did not vote on urban design merit because the Final Environmental Impact Statement has not been published. Instead, the Commission offered comments and recommendations to identify outstanding issues and to guide the next urban design merit presentation.

The Commission expressed general support for the urban design merit of the proposed vacation. However, the Commission emphasized that any approval of urban design merit hinges on a greater understanding of the impacts of the vacation on circulation in the immediate area, the location and extent of parking for the Arena, and how the project siting affects the public realm. The Commission’s decision-making would benefit from clarity on the following specific items, each of which the team should address at the next review:

Circulation

1. The circulation needs of the Mariners and the Port of Seattle.
2. The current function of Occidental Ave S for pedestrians and vehicles at the end of events at CenturyLink and Safeco Fields.
3. Coordination between the petitioner and SDOT regarding freight circulation in this area.
4. A commitment to where the petitioner will provide parking for the facility (see Figure 3). The Commission believes an agreement to allow use of the Mariners’ garage, if feasible given the project’s parking requirement, is a better urban design solution because it uses existing facilities more efficiently and allows for additional development in the area.

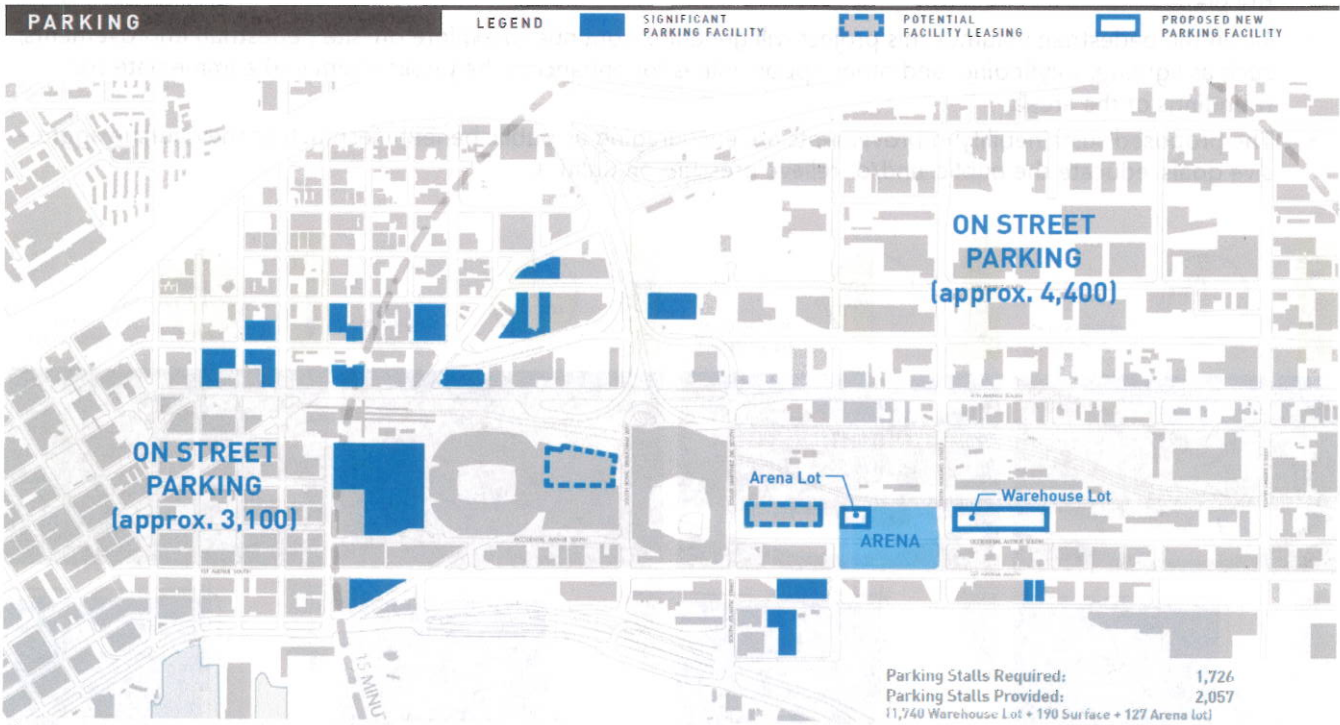


Figure 3. The Commission emphasized that any approval of urban design merit would require a greater understanding of project elements, including the location and extent of Arena parking.

5. Diagrams showing the project’s relationship to the 1st Ave S Street Concept Plan beyond the site itself.
6. Diagrams illustrating how pedestrians use Occidental Ave S from Pioneer Square to the project site, currently and as anticipated in the future.
7. A diagram showing the existing and proposed S Holgate St cross section between 1st Ave S and the BNSF right-of-way so the Commission understands how the proposed realignment of S Holgate St would transition to the east and west of the project site.
8. Performance criteria for the proposed pedestrian bridge, including its width, capacity, and intended modes (i.e., would cyclists use the bridge).
9. Performance criteria for the proposed interim shuttle, including its capacity, frequency, routing, and stops.

Site and ground plane

10. Explanation of what happens at the project site in general, and the proposed plaza in particular, on non-event days.
11. Further study of how the plaza design can take advantage of the sun in all seasons.
12. Additional detail on pedestrian features at surrounding intersections, particularly where 1st Ave S intersects S Massachusetts St and S Holgate St.
13. Additional discussion of how the sidewalk on the east side of 1st Ave S between S Holgate St and S Massachusetts St would be managed given its 24-foot width, particularly on non-event days.
14. Information about how Property Use and Development Agreement would ensure that the restaurant on 1st Ave S is open to the public on non-event days and throughout the year.
15. Confirmation of the building setback on 1st Ave S.

The Commission also offered initial thoughts on the preview of the public benefit package for the proposed vacation:

- Explore opportunities to program the plaza for various gathering sizes, times of year, and times of day, as shown in Figure 4. The Commission sees the large screen is one of several potential strategies for activating the plaza.
- Given the pedestrian volumes this project will generate, continue to explore off-site pedestrian improvements, such as lighting, wayfinding, and other opportunities for enhancing the public realm in the immediate surroundings of the arena.
- The proposed sustainability improvements are encouraging as public benefit inasmuch as they pursue aggressive goals, educate the public, and/or relieve pressure on utilities.

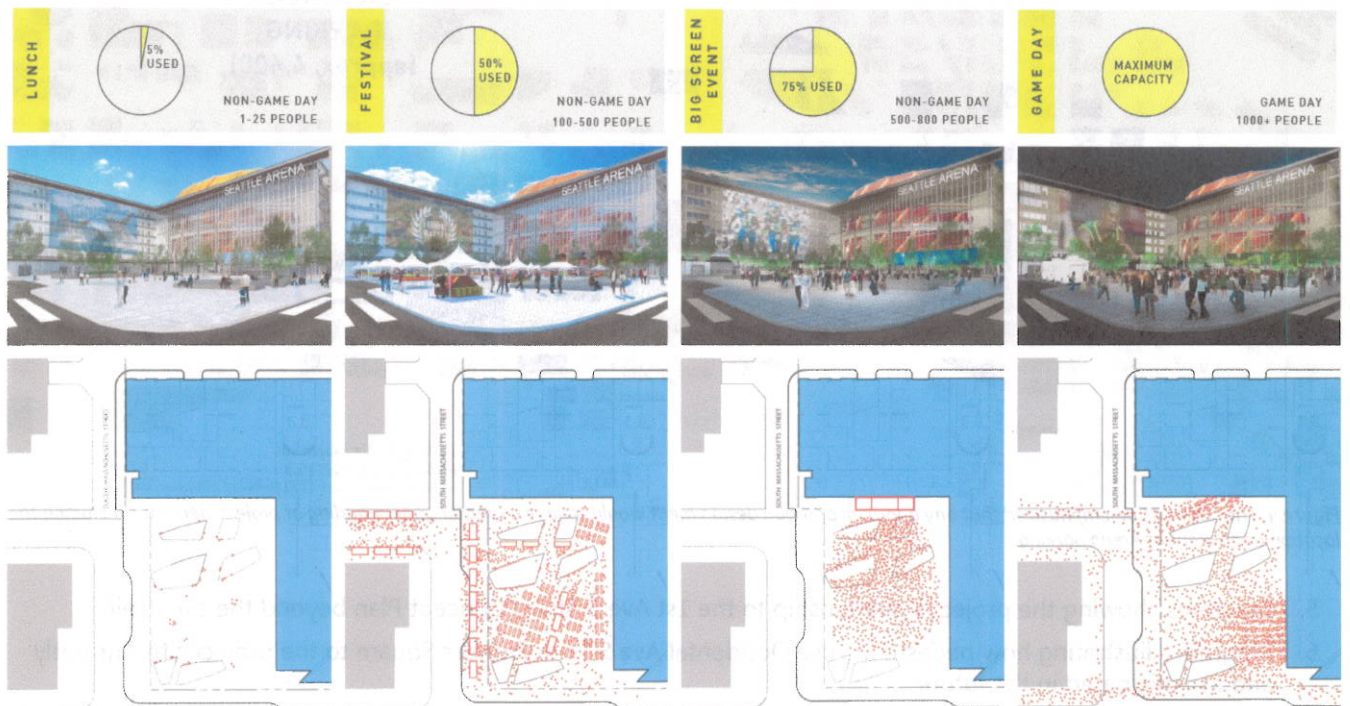


Figure 4. The Commission recommended the petitioner continue to explore opportunities both on- and off-site public benefits, including strategies for activating the proposed plaza at the northwest corner of the site.

Ed Murray
Mayor

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**Commissioners
Present**

Shannon Loew, Chair
Ellen Sollod, Vice Chair
Brodie Bain
Lee Copeland
Grant Hromas
Martin Regge
Ross Tilghman
John Savo

**Incoming Non-Voting
Commissioners**

Rachel Gleeson

**Commissioners
Excused**

Thaddeus Egging

Project Description

The petitioner proposes to vacate Occidental Ave S between S Massachusetts St and S Holgate St in the SoDo neighborhood to facilitate development of a 750,000-square-foot, 18,000-20,000-seat multi-purpose arena for NBA basketball, NHL hockey, other sporting events, concerts, and shows.

The project site is bounded by S Massachusetts St to the north, 1st Ave S to the west, S Holgate St to the south, and the BNSF Railway right-of-way to the east. The vacation of Occidental Ave S would increase the developable area of the project site by roughly 17.5%. The proposed development includes a plaza space at the northwest corner of the site and widened sidewalks along 1st Ave S and S Holgate St.

Meeting Summary

The Design Commission unanimously approved the urban design merit of the proposal to vacate Occidental Ave S with several conditions. The Commission's approval is contingent on the petitioner constructing a pedestrian and bicycle bridge in the S Holgate St right-of-way and finalizing an agreement with the Seattle Mariners for use of the proposed access road. The Commission will review a pedestrian bridge or new Arena parking garage in a separate review; this urban design merit approval does endorse any design details for either facility. Refer to the action on page 6 for the full list of conditions and recommendations.

Recusals and Disclosures

There were no recusals or disclosures.

May 21, 2015**9:00 am – 12:00 pm****Type** Street Vacation**Phase** Urban Design Merit**Location** Full block bounded by S Massachusetts St, 1st Ave S, S Holgate St, and the BNSF Railway right-of-way**Previous Reviews**[12/6/12](#), [1/17/13](#), [4/4/13](#), [5/2/13](#),
[11/7/13](#), [4/16/15](#)**Project Team Present****Brian Bishop** Site Workshop**Mark Brands** Site Workshop**Cale Doornbos** HOK**Rollin Fatland** Rollin Fatland & Associates**Anton Foss** HOK**Brook Jacksha** Magnusson Klemencic Associates**Jack McCullough** McCullough Hill Leary, PS**Zach Mednelsohn** Magnusson Klemencic Associates**Dave Perez** ArenaCo**Fong Wu** Site Workshop**Attendees****Tom Backer** Washington State Major League Baseball Stadium Public Facilities District**Brad Baker** KOMO News**Beverly Barnett** SDOT**Kris Brannon** resident**Chris Daniels** KING-TV**Chris Eaves** SDOT**Kurt Gahnberg** Transpo Group**Joseph Gellings** Port of Seattle**Peter Goldman** International Longshore and Warehouse Union**Gary James** resident**Melody McCutcheon** Hillis Clark Martin & Peterson, P.S.**John Odland** MacMillan-Piper**Susan Ranf** Seattle Mariners**Jordan Royer** Pacific Merchant Shipping Association**John Shaw** DPD**Bryan Stevens** DPD**Mike Swenson** Transpo Group**Cristina Vanvalkenburgh** SDOT**Lish Whitson** Council Central Staff**Summary of Presentation**

Jack McCullough introduced the project team. Mark Brands reviewed the outline for the presentation, which is available on the Design Commission website, and described the proposed vacation and Arena. Mr. McCullough stated that since the previous review no agreements have been made with the Seattle Mariners concerning shared use of the Safeco Field garage.

Mr. McCullough also summarized various findings from the Final Environmental Impact Statement (FEIS) as it pertains to the vacation petition and distributed copies of a letter from First & Goal Inc. and the Washington State Public Stadium Authority, the owner and tenant of CenturyLink Field, stating their interest in developing a shared parking agreement. Mr. Brands showed multiple scenarios for how the petitioner could fulfill code-required parking through a combination of 1) constructing of a new 1,754-space parking garage south of S Holgate St and 2) utilizing existing parking facilities in the area via parking lease agreements; the presentation identified the latter as the petitioner's preferred scenario.

Several slides showed the proposed realignment of S Holgate St at the project site and on adjacent blocks and introduced performance criteria for the proposed 820-foot-long concrete girder pedestrian and bicycle bridge in the S Holgate St right-of-way over the BNSF Railway railroad tracks. As shown in Figure 1, the petitioner's preferred alignment would include an east landing on the south side of S Holgate St at 3rd Ave S and a west landing on the north side of S Holgate St at Occidental Ave S. The presentation included three scenarios for the west landing of the bridge and options for direct pedestrian connections to the Arena facility. Mr. McCullough referred to meetings with Amtrak and BNSF Railway, whose long-term goal is the closure of S Holgate St; BNSF Railway supports the bridge for that reason.

A site plan showed the proposed route for a potential interim shuttle that would connect event attendees with transit facilities in the event the pedestrian bridge is not constructed. Mr. Brands stated that it is not intended to be a long-term solution.

Mr. Brands then presented the proposed plaza at the northwest corner of the site and two options for the design and realignment of S Massachusetts St; one option would raise the street level to sidewalk grade and create curbsless, pedestrian-oriented environment with special paving and finishes.

Mr. Brands showed another excerpt from the aforementioned Street Concept Plan calling for a 16-foot-wide pedestrian zone along 1st Ave S between S Massachusetts St and S Holgate St. An image of the proposed Arena design showed a proposed setback between four and eight feet in width. Mr. Brands stated that the proposed retail space along 1st Ave S would be open to the public year round.

Finally, Mr. Brands described the design and anticipated function of the proposed 35,000-square-foot plaza at the northwest corner of the project site. According to Mr. Brands, potential activities in this space included hosting an existing food truck program that operates in the SoDo area, farmer's markets, and 3-on-3 basketball.

Agency Comments

John Shaw stated that the FEIS identified a range of impacts and mitigation measures that can ameliorate those impacts. He emphasized that the purpose of the FEIS is to disclose impacts to inform decision makers as they consid-

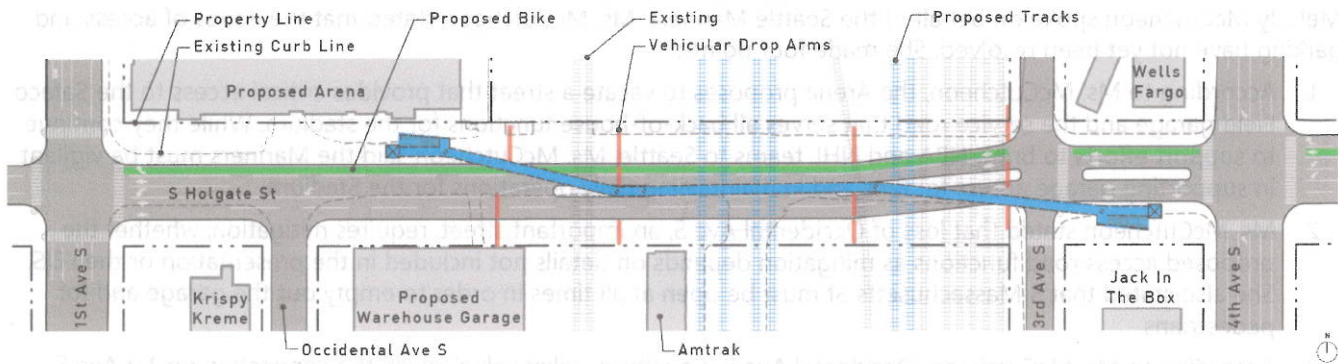


Figure 1. The petitioner's preferred alignment for a pedestrian and bicycle bridge in the S Holgate St right-of-way

er permits. Mr. Shaw stated that the FEIS does not require anything in and of itself. He also said the presentation appropriately draws on and reports information from the FEIS. Mr. Shaw stated that he did not hear anything in the presentation that misinterpreted information from the FEIS

Beverly Barnett stated that SDOT is actively engaged in reviewing the FEIS and working closely with DPD. Ms. Barnett noted that SDOT is reviewing not only the proposed street vacation but broader project impacts as well. Ms. Barnett said that SDOT does not yet have specific conclusions because the review is ongoing and that she is eager to hear from everyone affect in order to inform how SDOT might condition project going forward.

Public Comments

John Odland read the following statement:

Occidental Ave S fulfills four important transportation system functions on the segment that is proposed to be vacated:

1. *Occidental Ave S is the "relief valve" for congestion on 1st Ave S at S Atlantic St. Loss of Occidental Ave S will exacerbate congestion on 1st Ave S and at the intersection of 1st Ave S and S Atlantic St. That impact will be irrevocable and will affect conditions seven days a week, 24 hours a day. That intersection already operates at Level of Service F.*
2. *Vacating Occidental Ave S has regional implications. The 1st Ave S and S Atlantic St corridor is the most critical connection for traffic entering or exiting downtown at its southern edge, affecting access to the freeway system from the Duwamish MIC and downtown. This includes trucks moving between the region's freeways and the Port or the BNSF Railway intermodal yard.*
3. *Occidental Ave S provides an escape route for vehicles block by long trains on S Holgate St. It provides the route that vehicles can use to access Edgar Martinez Dr S to pass over the railroad tracks between 1st Ave S and 4th Ave S.*
4. *Occidental Ave S is an important southbound egress route for pedestrians after sporting events. If it is vacated, those pedestrians would be forced to 1st Ave S, where sidewalks cannot feasibly be widened to accommodate the load without eliminating vehicular capacity.*

It is unfathomable that the Design Commission can conclude the proposal reaches a standard for approval of urban design merit when the project seeks to eliminate a critical part of the street network in a neighborhood that already has too many obstacles to a functional street grid. The mainline rail lines an BNSF Railway railyard disrupt the east-west grid, and now this project wants to disconnect the north-south grid. Both the land use incursion and the street grid impacts will further threaten the industrial base of this city.

Jordan Royer echoed Mr. Odland's comments about the technical aspects of the vacation. Mr. Royer said his comments were about industry and the Seaport Alliance, in which he said the Port of Seattle plays a big role. Mr. Royer said the first and last mile in and out of the Port is already bad. He suggested the Commission look at the Container Port Element of Seattle's Comprehensive Plan, which includes policies about supporting Port operations. Mr. Royer said the Port of Portland has struggled with retaining container port operators. He said every import is an export opportunity and cautioned that without infrastructure Seattle could lose all Port operations. He described how this could affect not only Seattle but eastern Washington farmers, who know the Mariner's schedule because of the impacts games have on getting their products to market.

Melody McCutcheon spoke on behalf of the Seattle Mariners. Ms. McCutcheon stated that the issues of access and parking have not yet been resolved. She made four points:

1. According to Ms. McCutcheon, the Arena proposes to vacate a street that provides critical access to the Safeco Field garage and the service road that serves all back-of-house functions for the stadium. While they continue to support efforts to bring NBA and NHL teams to Seattle, Ms. McCutcheon said the Mariners must be vigilant in supporting garage access for fans and in maintaining daily operations for the Stadium.
2. Ms. McCutcheon stated that loss of Occidental Ave S, an important street, requires mitigation; whether the proposed access road functions as mitigation depends on details not included in the presentation or the FEIS. She also stated that S Massachusetts St must be open at all times in order to empty out the garage and for pedestrians.
3. According to Ms. McCutcheon, Occidental Ave S is a critical "relief valve" given the congestion on 1st Ave S. Without this street, the Mariners urge the City to look carefully at changes to signal timing and other improvements where S Atlantic St and Edgar Martinez Dr S intersect 1st Ave S.
4. Finally, Ms. McCutcheon stated that the FEIS overestimates the availability of parking. She explained that the Safeco Field garage and the CenturyLink Field garage and parking lot are already committed to events and permit conditions require these locations be available for a certain portion of the year for events there. For that reason she argued it is essential that the petitioner build a garage.

Peter Goldman stated that International Longshore and Warehouse Union (ILWU) Local 19 continues to oppose the proposed vacation for construction of the Arena for three reasons:

1. The probable impact on vehicle and Port operations and viability.
2. Upward pressure on property values and rents and negative impact on businesses that support Port operations in the SoDo area.
3. Public safety concerns resulting from another sports facility. Mr. Goldman warned of traffic not only from events at the Arena but from the SR 99 tunnel, which will not have exits or entrances in downtown.

Mr. Goldman stated that the Arena is not in the public interest and will increase traffic. He warned that a shipper's mere perception that traffic is increasing can cause them to leave the Port. He asked the Commission what it envisions for the future of SoDo: another South Lake Union with office buildings an upper-middle-class people or a neighborhood that preserves Seattle's industrial and maritime heritage.

Joseph Gellings described the Arena site as the front door to the Port terminals. On behalf of the Port, Mr. Gellings echoed the previous statements about the critical function of the intersection of 1st Ave S and S Atlantic St to the city, the region, and the Port. He said the City should do everything to maximize grid connectivity surrounding that critical intersection. Mr. Gellings referred to the no vacation alternative evaluated in the FEIS, which would include 800,000 square feet of development and preserve Occidental Ave S. He stated that in that scenario, the street grid performs better. He also said the FEIS did not establish the scale of mitigation necessary.

Kris Brannon spoke on behalf of himself and millions of sports fans that like the Sonics and hockey. Mr. Brannon said the FEIS has been approved and praise the presentation. He said he has attended over 2,500 events, and this project needs to move forward. According to Mr. Brannon, 90% of people want to bring basketball back — and the other 10% want hockey. He said that sports are a true unifier and that everyone — whether white, black, gay, straight, liberal, or conservative — likes sports. He reminded the Seattle Mariners that Mariners fans are also basketball fans. Because Tukwila has been in the news as a potential location for an arena, Mr. Brannon said if Seattle wants the team it needs to act. He said he has confidence the project will go through the proper review process, will provide good family-wage jobs, and will bring a sense of community back to the region.

Summary of Discussion

The Commission organized its discussion around the following issues:

Circulation and access

- The loss of Occidental Ave S and its impacts on circulation
- Improvements to 1st Ave, including widened sidewalks and activating street level uses, and the extent to which they implement the Stadium District Study Street Concept Plan
- Improvements to S Holgate St

- The location and performance criteria of the proposed pedestrian bridge
- The role, route, and stops of the proposed interim shuttle
- The realignment of S Massachusetts St
- The Access road between S Holgate St and S Massachusetts St/Safeco Field garage

Parking

- The location of the proposed parking garage
- The advisability of market or third-party solutions to parking, including surface parking lots and use of nearby parking facilities

Utilities

- Conceptual plans for the S Massachusetts St substation

Open space

- The role of the northwest plaza for crowd control and potential for nonevent day use

Circulation and access

The Commissioners began their discussion of urban design merit with circulation and access. They agreed that an essential component of the proposed circulation scheme was an agreement among stakeholders outlining shared use of the proposed access road east of the Arena. The Commissioners appreciated the widened sidewalks, voluntary setbacks, other efforts to implement the vision of the Stadium District Study Street Concept Plan. They also supported the proposal to table S Massachusetts St between 1st Ave S and Occidental Ave S to create a curbsless, pedestrian-oriented environment. Due to lingering concern about pedestrian safety along S Holgate St and at the railroad tracks, the Commissioners adopted a condition requiring construction of the proposed pedestrian bridge and recommended other pedestrian improvements in the vicinity.

Parking and utilities

The Commissioners also discussed the proposed parking scheme as shown in the presentation. They continued to support a parking solution that uses existing parking facilities instead of construction a new parking garage. However, should a parking facility be constructed, the Commissioners agreed that incorporating an appropriate mix of uses, including potential industrial uses that complement the surrounding businesses, should be an essential part of the garage. The Commission also discussed utilities and expressed their preference for undergrounding utilities wherever possible in order to improve the pedestrian experience at and around the project site. The Commission continued to applaud the proposed approach to managing stormwater on-site and encouraged the petitioner to develop this strategy as much as possible.

Open space

Finally, the Commission considered the open space proposed at the northwest corner of the project site. They agreed that, from an urban design merit perspective, this open space serves to accommodate the pedestrian volumes that the Arena will generate. Should this plaza be included as part of a public benefit package, the Commissioners emphasized that it should benefit all people equitably and encouraged a variety of programming and activities to achieve that. They also identified lighting on non-event days as a key determinant of whether the plaza is a successful public space outside of its role accommodating pedestrian volumes on event days.

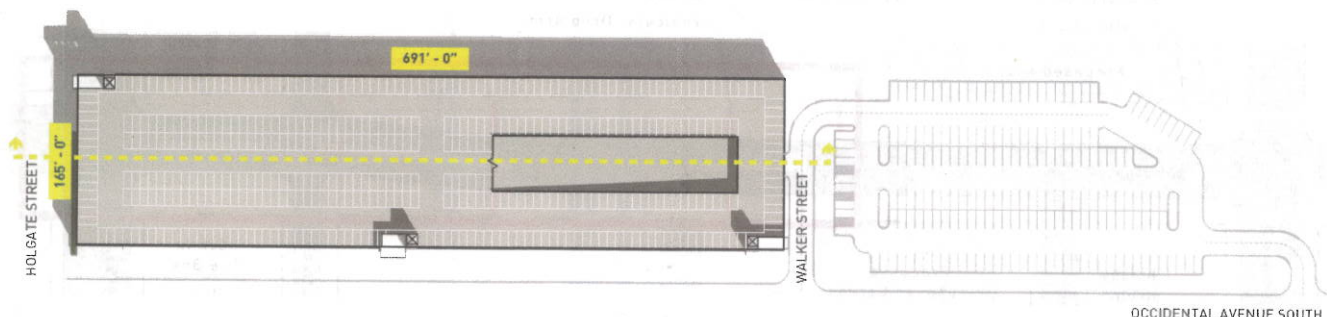


Figure 2. The proposed parking structure would be located at S Holgate St and Occidental Ave S south of the Arena facility.

Action

The Design Commission thanked the project team for the urban design merit presentation. The Commission particularly recognized the attention given to the pedestrian realm, notably the sidewalk widening and landscaping proposed on 1st Ave S, and appreciated that the plaza and restaurant would be accessible to the public year-round.

With a **vote of 8 to 0**, the Commission approved the urban design merit of the petition to vacate Occidental Ave S between S Massachusetts St and S Holgate St. The Commission’s approval of urban design merit is subject to the following conditions:

1. Prior to the issuance of a Certificate of Occupancy for the Seattle Arena, the proposed pedestrian and bicycle bridge in the S Holgate St right-of-way shall be constructed and available for use by Arena attendees.
2. The petitioner shall finalize a shared-use agreement with the Public Facilities District that allows Safeco Field event attendees to use the proposed access road east of the Arena, in order to support the urban design vision of a) Occidental Ave S as a shared use street and b) the proposed design for S Massachusetts St between 1st Ave S and Occidental Ave S.
3. While the Commission continues to support a parking solution that uses existing parking facilities instead of construction of a new parking garage, if the petitioner proceeds with development of a parking structure at S Holgate St and Occidental Ave S as shown in Figure 2, the Design Commission shall review and approve its exterior design prior to the issuance of a Master Use Permit.
4. If the petitioner proceeds with development of a parking structure at S Holgate St and Occidental Ave S as shown in Figure 2, the ground floor of the parking structure shall include ground-level uses that are a) independent of any uses needed to support Arena functions and b) designed to accommodate the range of uses permitted in its zone.

The Commission also recommended that the City Council adopt the following conditions if it grants concept approval for the vacation petition:

5. If a shuttle system implemented for Arena attendees, the shuttle shall not be an interim measure but a permanent project element in order to provide greater access to King Street Station and other transit facilities, particularly for mobility-impaired attendees.
6. If a shuttle system is implemented for Arena attendees and becomes a permanent project element, an evaluation of shuttle performance shall be required within three years of commencing operations and the results provided to the City Council. The evaluation shall indicate the extent to which the service should be adjust or modified to reflect or meet rider demand.

Should the petitioner determine that any of conditions 1-4 is infeasible, or if any changes occur to the site plan or components of the urban design merit review as presented today, the Commission requests that SDOT re-refer the petition to the Commission for additional review of urban design merit. Because the Commission will review any proposal for construction of a new skybridge in the S Holgate St right-of-way, this urban design merit approval does not constitute approval of any particular bridge design elements shown in the presentation.

The Commission also provided the following recommendations to the petitioner:

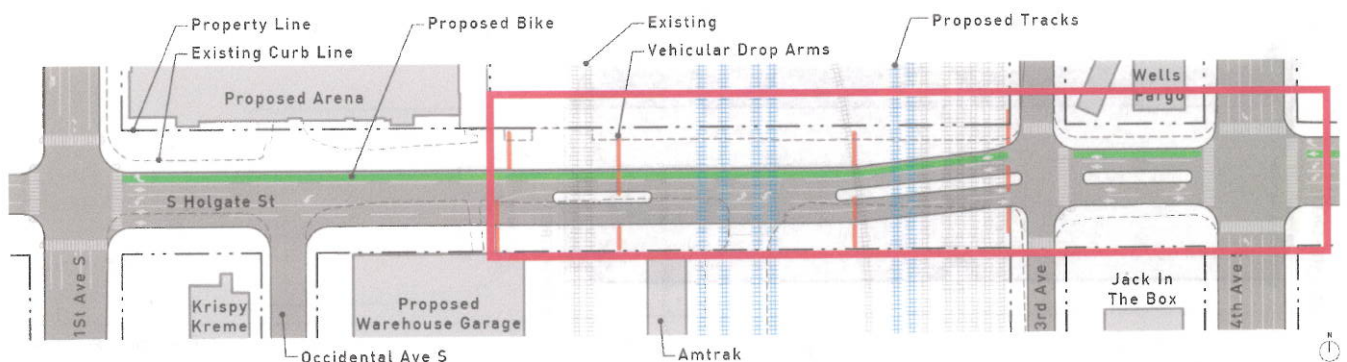


Figure 3. The Commission recommended the petitioner improve sidewalks east of the Arena given the anticipated pedestrian volumes there.

1. Explore opportunities to improve the sidewalks and pedestrian environment on S Holgate St east of the Arena facility towards 4th Ave S, as outlined in Figure 3, given the anticipated increase in pedestrian volumes throughout this area.
2. Remain flexible about the optimal widths for the sidewalk, travel lanes, and planting strip on the proposed access road east of the Arena in order to increase the likelihood of use agreement with the Seattle Mariners.
3. Should a new parking facility be constructed south of the Arena across S Holgate St, consider and study a skybridge connection to provide direct pedestrian access to the Arena.

Urban design merit is the first of two phases in the Design Commission’s review of a vacation petition. Given today’s approval, the petition will advance to the second phase of review, public benefit. Approval of both urban design merit and public benefit constitutes the Design Commission’s recommendation to SDOT that the vacation be approved. The final decision whether to vacate the right-of-way lies with the City Council.

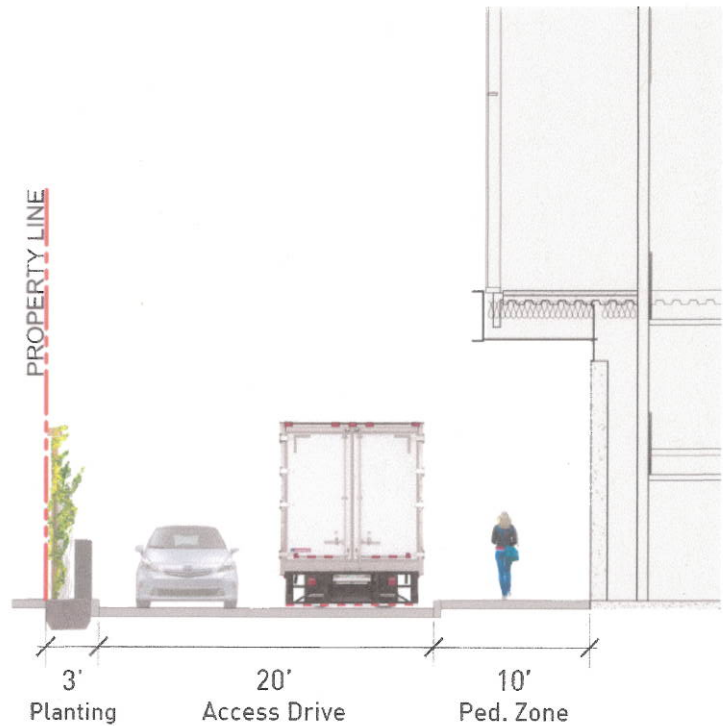


Figure 4. The Commission suggested flexibility about the design of the access road to facilitate an agreement with the Mariners for shared use of the road.

Ed Murray
Mayor

Diane Sugimura
Director, DPD

Shannon Loew, Chair

Ellen Sollod, Vice Chair

Brodie Bain

Lee Copeland

Thaddeus Egging

Rachel Gleeson

Grant Hromas

Martin Regge

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Shannon Loew, Chair
Brodie Bain
Lee Copeland
Rachel Gleeson
Grant Hromas
Martin Regge

Commissioners Excused

Ellen Sollod, Vice Chair
Thaddeus Egging
John Savo
Ross Tilghman

Project Description

The petitioner proposes to vacate Occidental Ave S between S Massachusetts St and S Holgate St in the SoDo neighborhood to facilitate development of a 750,000-square-foot, 18,000-20,000-seat multi-purpose arena for NBA basketball, NHL hockey, other sporting events, concerts, and shows.

The project site is bounded by S Massachusetts St to the north, 1st Ave S to the west, S Holgate St to the south, and the BNSF Railway right-of-way to the east. The vacation of Occidental Ave S would increase the developable area of the project site by roughly 17.5%. The proposed development includes a plaza space at the northwest corner of the site and widened sidewalks along 1st Ave S and S Holgate.

Meeting Summary

This was the first time the Design Commission saw a preview of the petitioner's proposed public benefit package. Previous presentations included summary information on the proposed public benefits. Because of the scope and complexity of the project and proposed street vacation, coupled with the City's ongoing review of mitigation required for permitting of the Arena, the petitioner did not request an action on the proposed public benefit package. Until the City determines the mitigation required, the Commission could not make a final determination about public benefit. The Commission only provided direction to the petitioner to guide the continued development of the public benefit package.

Recusals and Disclosures

There were no recusals or disclosures.

June 18, 2015

9:00 – 11:00 am

Type Street Vacation

Phase Public Benefit

Location Full block bounded by S Massachusetts St, 1st Ave S, S Holgate St, and the BNSF Railway right-of-way

Previous Reviews

12/6/12, 1/17/13, 4/4/13, 5/2/13, 11/7/13, 4/16/15, 5/21/15

Project Team Present

Mark Brands

Site Workshop

Cale Doornbos

HOK

Anton Foss

HOK

Brook Jacksha

Magnusson Klemencic Associates

Jack McCullough

McCullough Hill Leary, PS

Zach Mednelsohn

Magnusson Klemencic Associates

Attendees

Tom Backer

Washington State Major League Baseball Stadium Public Facilities District

Beverly Barnett

SDOT

Lynn Claudon

Lynn Claudon Consulting

Chris Eaves

SDOT

Dan Eder

Council Central Staff

Mike Fleming

resident

Melody McCutcheon

Hillis Clark Martin & Peterson, PS.

Garry Papers

DPD

Norie Sato

Sato Services

John Shaw

DPD

Bryan Stevens

DPD

Mike Swenson

Transpo Group

Lish Whitson

Council Central Staff

Ruri Yampolsky

Office of Arts & Culture

Summary of Presentation

Jack McCullough introduced the presentation, which is available on the Design Commission website. Mr. McCullough said that the project team is working with DPD and SDOT regarding mitigation requirements for the project. According to Mr. McCullough, the petitioner cannot define its public benefit proposal until those discussions are completed. Mr. McCullough stated that, for the same reason, it is not possible for the Design Commission to reach conclusions regarding public benefit at this briefing.

As shown in Figure 1, Mark Brands summarized the proposed public benefit items in two categories: 1) on-site and frontage improvements and 2) off-site improvements:



Figure 1. Proposed public benefit package

Mr. Brands explained that the petitioner is in the process of working with the City to identify the scope of required mitigation and the extent to which the proposed public benefit items are not needed for project mitigation. He then described each public benefit item in detail.

According to Mr. Brands, active uses would surround the proposed plaza at the corner of 1st Ave S and S Massachusetts St, shown in Figure 2. The presenta-

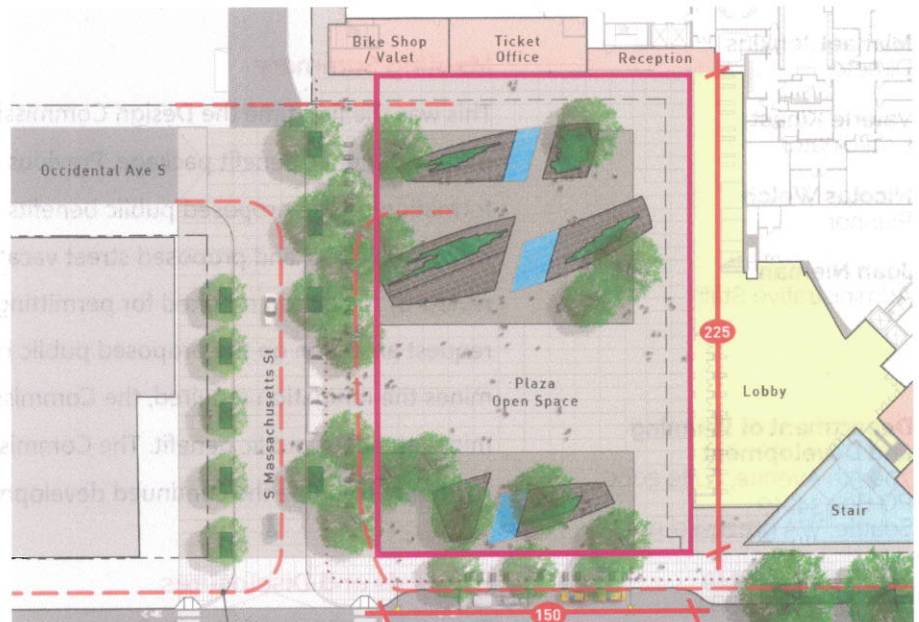


Figure 2. Plaza at the northwest corner of the site

tion included several images of potential activities that could be programmed in the plaza, including food trucks or basketball games.

Mr. Brands described the S Massachusetts St right-of-way dedicated and shared-use street proposal as an extension of the plaza. He noted that the proposal aligns with the Stadium District Study Street Concept Plan.

Finally, Mr. Brands briefly described the remaining public benefit items. He said the petitioner is still developing these items and intends to bring more information on each to the next review.

Agency Comments

Beverly Barnett stated that SDOT is actively engaged in determining the appropriate mitigation program for the proposed Arena. She said that mitigation is critical for the City Council to be assured that the project will function well. Ms. Barnett also reiterated that the petitioner cannot “double count” proposed public benefit items and mitigation. According to Ms. Barnett, several of the items shown are likely to be mitigation. She is eager to see more information about the proposed lighting and wayfinding in order to determine if it goes beyond the requirements for ensuring event attendees can safely go to and from the Arena.

Garry Papers reminded the Commission that the project has gone through five meetings with the Downtown Design Review Board (DRB) and will have at least one more Recommendation meeting. According to Mr. Papers, the proposed plaza design as shown in the presentation materials is consistent with what the DRB saw at their last review. Mr. Papers said additional enhancements, such as seating and water features, would be logical to integrate into the next review. He recounted feedback from the DRB that the generous sidewalk and year-round club on 1st Ave S were desirable and important project elements in order to energize the sidewalk on non-event days. Lastly, Mr. Papers noted that the DRB has approximately five or six items for refinement on the plaza design.

Chris Eaves stated that SDOT has been working to understand operations on S Holgate St given its role in both Arena operations and SoDo freight movements. Mr. Eaves reported that initial meetings with the petitioner have gone well. According to Mr. Eaves, SDOT will likely require that the proposed pedestrian and bicycle bridge in the S Holgate St right-of-way be open 24 hours a day and seven days a week as mitigation.

Ruri Yampolsky thanked the petitioner for including public art as a public benefit. She stated that a building of this significance should include art, regardless of whether it is a public benefit item. Ms. Yampolsky requested to be engaged in the process of reviewing the proposal as it develops.

Public Comments

Melody McCutcheon stated that the petitioner proposes to convert S Massachusetts St as extension of its plaza on game days. She referred to slide 20 of the presentation, which shows S Massachusetts St closed for a farmers market. According to Ms. McCutcheon, S Massachusetts St needs to remain open for vehicle traffic at all times. She said that the Arena cannot vacate Occidental Ave S and close S Massachusetts St, as these two roads provide the only access to the Safeco garage. Ms. McCutcheon said that, while event scheduling coordination works well for parking, she could not see how coordination could allow for closure of S Massachusetts St. Ms. McCutcheon asked the Commission to support that S Massachusetts St must remain open for vehicle traffic.

Mike Fleming said that, since there are only roughly 80 Mariners home games each year, he believes farmers markets could occur on weekend days when no event is scheduled. He stated that currently there is a lot of inactivity in the area. Mr. Fleming said he hoped the Mariners would become a partner in, rather than opposing, the Arena project.

Summary of Discussion

Because the petitioner did not seek a vote on the public benefit package at this review, the Commission provided direction on the proposed public benefit items and steps the petitioner should pursue to enhance those items. Using the Council’s policies on street and alley vacations, the Commission evaluated each of the proposed public benefit items. The discussion focused on:

1. The merits of the proposed public benefit item
2. Whether the proposed public benefit item should be modified or enhanced to increase the likelihood that the Commission would recognize it as public benefit
3. The public items that lacked merit and should be removed

Action

The Design Commission thanked the project team for providing a briefing on the proposed public benefit package for the petition to vacate Occidental Ave S between S Holgate St and S Massachusetts St. The Commission provided guidance on the public benefit items described in Figure 3:

1. Plaza

- Develop a programming plan that emphasizes events not related to Arena function or program on non-Arena event days
- Engage a third-party entity to operate programming events.
- Endeavor to make the plaza a regional destination.
- Provide a better understanding of how the plaza design supports non-Arena events.

2. S Massachusetts St right-of-way dedication and shared street

- Coordinate all proposed circulation and programming with all parties that use or require access to S Massachusetts St.
- The Commission was generally supportive of the dedication and shared street concept.

3. Public art plan

- If the petitioner seeks approval of a public art plan now, as opposed to specific art pieces, develop a plan that establishes
 - a. the vision for the role of art,
 - b. how the vision will be implemented, and
 - c. what type of art would implement the vision.
- Work with the Office of Arts and Culture and King County's 4Culture to develop the public art plan.
- Explore opportunities to use artwork as a network throughout the site and vicinity.
- Select an artist early in order to ensure meaningful integration into the project and site design.
- Consider integration of artwork into the proposed S Holgate St pedestrian and bicycle bridge.

4. Bicycle connections

- Provide additional information about the specific infrastructure and treatments proposed to support bicycle connections between the Arena and other locations along the Central Waterfront, SoDo, and locations identified in the Bicycle Master Plan.
- Clarify how the proposal relates to the adopted Bicycle Master Plan.
- Explain how the proposed on- and off-site improvements go beyond what would otherwise be required.

5. Off-site lighting and wayfinding

- Explain in more detail where wayfinding would occur, what destination it would identify, and whom it would serve, independent of any requirements to enhance transit connections or required mitigation.
- Consider opportunities to integrate artwork into any proposed lighting and wayfinding.
- Explore other opportunities beyond required mitigation for improving the pedestrian realm in the vicinity of the Arena.

6. Living machine

- The living machine could be recognized as public benefit if it exceeds the requirements for sustainability established in the Memorandum of Understanding (MOU) (Ordinance 123979).
- Explore how the living machine can operate not just for the Arena but also at a district scale.
- Make the function of the living function visible and ensure it has a full-cycle educational component. This should occur not only at its particular location but also throughout the building. Include education at both the point of use (e.g., toilet) and end of cycle (i.e., where clean water is available thanks to the living machine).

- The living machine notwithstanding, address the fundamental problem that we use potable water to convey waste. Carefully consider fixtures and other opportunities for water conservation. The petitioner should not use the living machine only to improve standard poor practice for water usage.

7. 1st Ave S and S Holgate St enhanced right-of-way improvements

- For these items to be considered public benefits, the Commission must understand what mitigation is required and the extent to which these improvements go beyond those requirements to serve the public.
- Continue to study the appropriate width for the 1st Ave S sidewalk. Ensure the sidewalk is not so wide that it feels barren and detracts from the pedestrian experience during non-event times.
- The Commission is concerned that 24 feet is too wide for the sidewalk on the north side of S Holgate St, unless required for mitigation.
- The landscaping, though elegant, appears modest in terms of what would qualify as a public benefit feature. Quantify the extent to which the landscaping exceeds code and mitigation requirements.
- 1st Ave S right-of-way improvements in the block north of the project site could qualify as public benefits if they exceed mitigation requirements.

8. S Holgate St improvements and pedestrian bridge

- If the bridge is not required to be open 24 hours a day and 7 days a week for mitigation, it is eligible for public benefit.

9. SoDo Transportation Infrastructure Fund contributions

- The Commission is skeptical that this fund contribution could be considered public benefit given it is a clear requirement of the aforementioned MOU.

PUBLIC BENEFIT	DESCRIPTION	CODE REQUIRED	MITIGATION	PROPOSED BENEFIT
1 Publicly Accessible Open Space	Flexible publicly accessible plaza open space			33,750 sf
	Tree canopy			10 trees
	Outdoor public seating			700 lf (450+ seats)
	Connections to restrooms			1
	Water / gas connections for food trucks and public events			Multiple
	Demontable basketball hoops			2
	Drinking fountains			2
2 S Massachusetts St ROW Dedication	Dedication of private property to public ROW			3,000 sf
3 S Massachusetts St Shared Use Street	Curbless street w/ concrete paving			16,800 sf
	Curb alignment and curb bulb-outs at intersection			2
	Tree canopy			14 trees
4 1st Ave S Enhanced ROW Improvements	Outdoor public seating			220 lf (145+ seats)
	Additional sidewalk & planting			9,000 sf
	Outdoor public seating			350 lf (230+ seats)
5 S Holgate St Enhanced ROW Improvements	Bike racks			14
	Additional sidewalk & planting			4,700 sf
	Outdoor public seating			300 lf (200+ seats)
	Bike racks			6
6 Public Art Plan	Public Art Plan developed by an artist. Opportunities include but are not limited to the plaza open space, 1st Ave S, S Holgate Street, and the proposed pedestrian bridge.			1
7 Living Machine & Water Re-use	On-site water treatment (Living Machine)			1
	Interpretive / educational signage			1
	Water capture and re-use water			1
8 S Holgate St Improvements & Pedestrian Bridge	Publicly accessible pedestrian bridge from west of 3rd Ave to East of Occidental		Events	10,320 sf 660 lf
	S Holgate Street Row Improvements			1,200 lf
9 Bike Connections	Bike connection from Waterfront Trail to Arena site			1,700 lf
	Bike connection from Arena site to S Holgate Ramp at 8th Ave S			2,600 lf
10 Off-site Lighting and Wayfinding	Lighting (as required) & wayfinding: (1st Ave S, south of site, to Lander Street); (1st Ave S, north of site, to Edgar Martinez Dr.); (STL Stadium Station to new stair at Edgar Martinez Dr.); (STL SODO Station to 1st Ave S); (1st Ave S to Lander St)			TBD
	Wayfinding: 1st Ave S, north of site, to Pioneer Square			TBD
	Streetscape Improvements: West side of Occidental Ave S, north to Edgar Martinez Dr.			TBD
11 SODO Transportation Infrastructure Fund Contribution	Contribution toward transportation infrastructure not required for mitigation			\$40 million

Figure 3. Proposed public benefit schedule

Edward B. Murray
Mayor

Diane Sugimura
Director, DPD

Shannon Loew, Chair

Ellen Sollod, Vice Chair

Brodie Bain

Lee Copeland

Thaddeus Egging

Rachel Gleeson

Grant Hromas

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Ross Tilghman

Michael Jenkins
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Commissioners Present

Ellen Sollod, Vice Chair
Brodie Bain
Lee Copeland
Thaddeus Egging
Rachel Gleeson
Grant Hromas
Martin Regge
John Savo

Commissioners Excused

Shannon Loew, Chair
Ross Tilghman

Project Description

The petitioner proposes to vacate Occidental Ave S between S Massachusetts St and S Holgate St in the SoDo neighborhood to facilitate development of a 750,000-square-foot, 18,000-20,000-seat multi-purpose arena for NBA basketball, NHL hockey, other sporting events, concerts, and shows.

The project site is bounded by S Massachusetts St to the north, 1st Ave S to the west, S Holgate St to the south, and the BNSF Railway right-of-way to the east. The vacation of Occidental Ave S would increase the developable area of the project site by roughly 17.5%. The proposed development includes a plaza space at the northwest corner of the site and widened sidewalks along 1st Ave S and S Holgate St.

Meeting Summary

This was the Seattle Design Commission's (SDC) second review of the proposed public benefit package. On June 18, 2015 the SDC provided initial feedback on the Public Benefit package. Because of the scope and complexity of the project and proposed street vacation, coupled with the City's ongoing review of mitigation required for permitting of the Arena, an action on the proposed public benefit package was not taken at this meeting.

Recusals and Disclosures

There were no recusals or disclosures.

August 6, 2015

9:00 – 11:30 am

Type Street Vacation

Phase Public Benefit

Location Full block bounded by S Massachusetts St, 1st Ave S, S Holgate St, and the BNSF Railway right-of-way

Previous Reviews

12/6/12, 1/17/13, 4/4/13, 5/2/13, 11/7/13, 4/16/15, 5/21/15, 6/18/15

Project Team Present

Mark Brands

Site Workshop

Cale Doornbos

HOK

Anton Foss

HOK

Brook Jacksha

Magnusson Klemencic Associates

Jack McCullough

McCullough Hill Leary, PS

Attendees

Tom Backer

Washington State Major League Baseball Stadium Public Facilities District

Beverly Barnett

SDOT

Lynn Claudon

Lynn Claudon Consulting

Chris Eaves

SDOT

Dan Eder

Council Central Staff

Mike Fleming

Resident

Melody McCutcheon

Hillis Clark Martin & Peterson, P.S.

Zach Mendelsohn

Magnusson Klemencic Associates

Garry Papers

DPD

Norie Sato

Sato Services

John Shaw

DPD

Bryan Stevens

DPD

Mike Swenson

Transpo Group

Lish Whitson

Council Central Staff

Ruri Yampolsky

Office of Arts & Culture

August 6, 2015

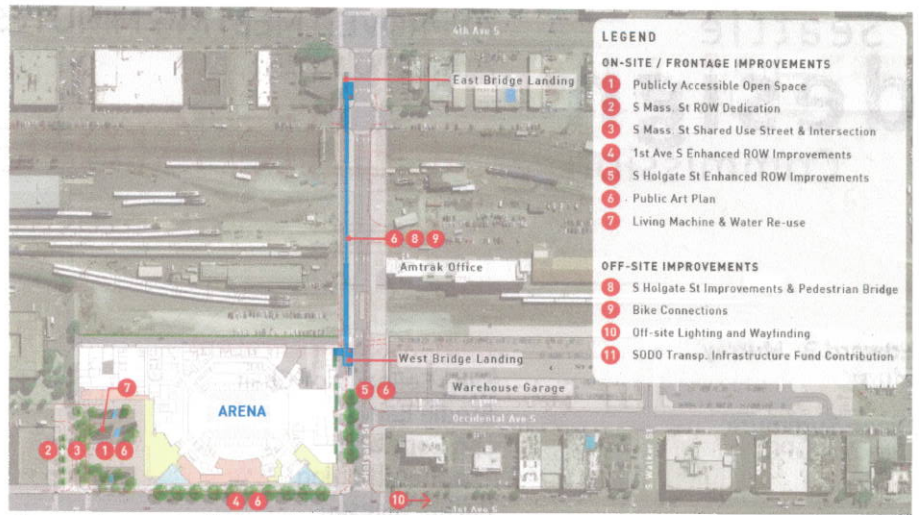


Figure 1. Proposed public benefit package

Summary of Presentation

Jack McCullough introduced the presentation, which is available on the [Design Commission website](#). Mark Brands presented the proposed public benefits broken down into seven categories, as follows. Figure 1 represents the proposed public benefit package.

Open Space and Living Machine

Mr. Brands explained aspects of the open space plaza at the northwest portion of the site. The open space plaza itself is not considered public benefit; the programming of the plaza and the proposed living machine are proposed as public benefit. He provided an overview of how the design of the plaza had been modified since the last meeting in order to support its role as a public benefit feature, as seen in figure 2. One such addition included designation of public restrooms in the building adjacent to the ticketing office. He also described the Living Machine and its role in providing ecological function through the recycling of gray and black water generated by the Arena. Mr. Brands described how additional water features in the plaza, which would be expressed as play elements, and a large art piece would be a further amenity in the Plaza. In response to the SDC request to provide more information on programming of the open space, Mr. Brands also responded to previous direction by the SDC

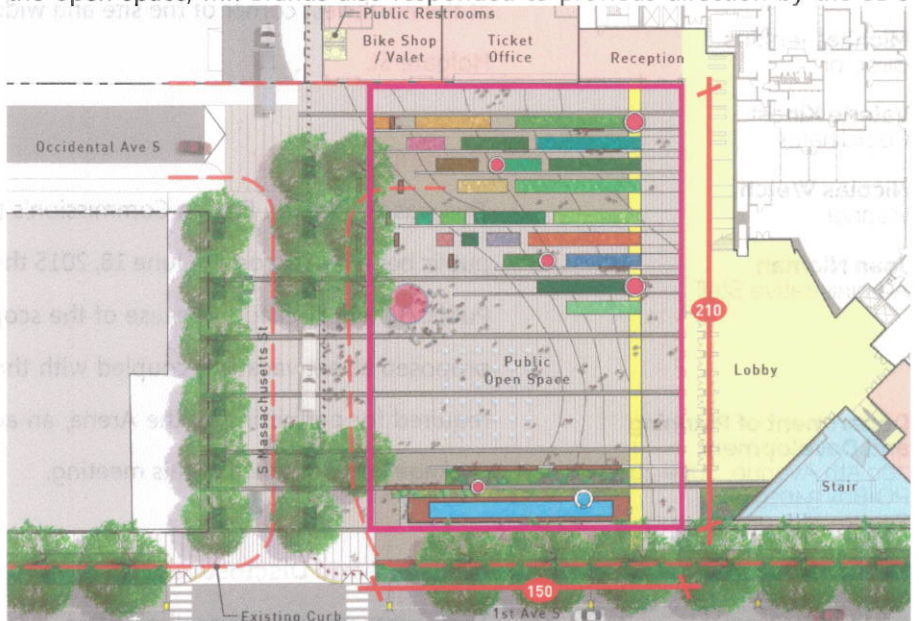


Figure 2. Plaza at the northwest corner of the site

concerning plaza programming; he reported that the project team had done research and would anticipate pursuing a partner to do programming once the project had advanced further.

S Massachusetts St Right of way (ROW) Dedication & Festival Street

A conceptual design of S Massachusetts St between 1st Ave S and Occidental Ave S was presented. Mr. Brands explained this would be designed as a curbless street in order to accommodate for customary industrial use as well as an extension of the plaza at times.

1st Ave S Enhanced ROW Improvements

In response to early SDC input, and after consulting with SDOT, the designers moved the curb of 1st Ave S abutting their site, and the portion to the north of the project site, approximately 9 feet outward to widen the sidewalk zone. Mr. Brands described the system of swales included in the streetscape as both landscape and stormwater management. The swales would treat surface water from the street in a manner that would exceed code requirements. He also provided information on the seat wall proposed both as a public amenity and in its role as enhanced security for the facility from automobiles that could strike the facility from 1st Avenue S. See figure 3 for more detail.

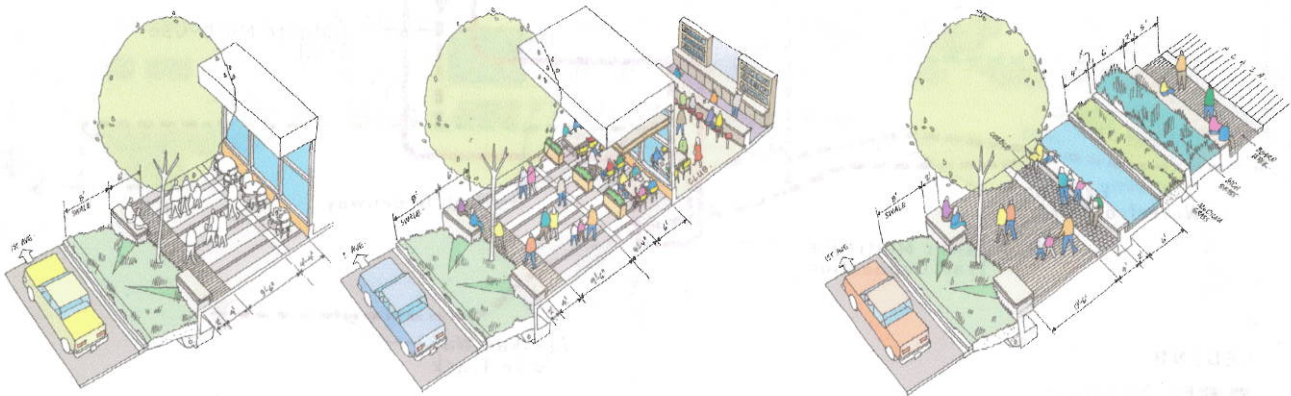


Figure 3. Proposed sidewalk zones and vegetated swales along 1st Ave. S.

S Holgate St Enhanced ROW Improvements and Pedestrian Bridge

Mr. Brands presented improvements to the Holgate and pedestrian bridge design, as seen in figure 4. He reported that coordination with SDOT was ongoing related to the details for this ROW. Enhanced ROW improvements are planned on the north and south sides of the road in the block between 1st Ave S and the railroad ROW. The pedestrian bridge is proposed to extend above S Holgate between 1st Ave S to 3rd Ave S. Ramps and stairs would be provided at each end; no elevators are proposed. A direct connection into the first floor level of the arena is planned. The bridge design assumes the use of a truss bridge system, with specific design details to be developed with SDOT. The intention is to do an artistic bridge such as the Amgen bridge or the one at the Museum of Flight.

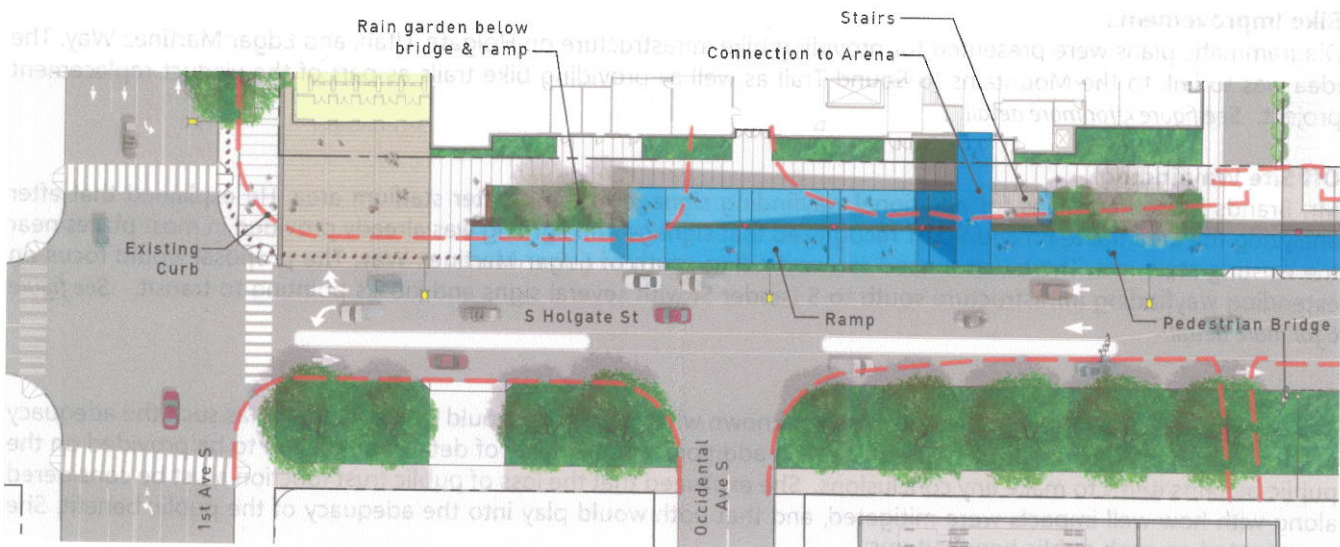


Figure 4. S. Holgate St. ROW improvements and pedestrian bridge location August 6 2015

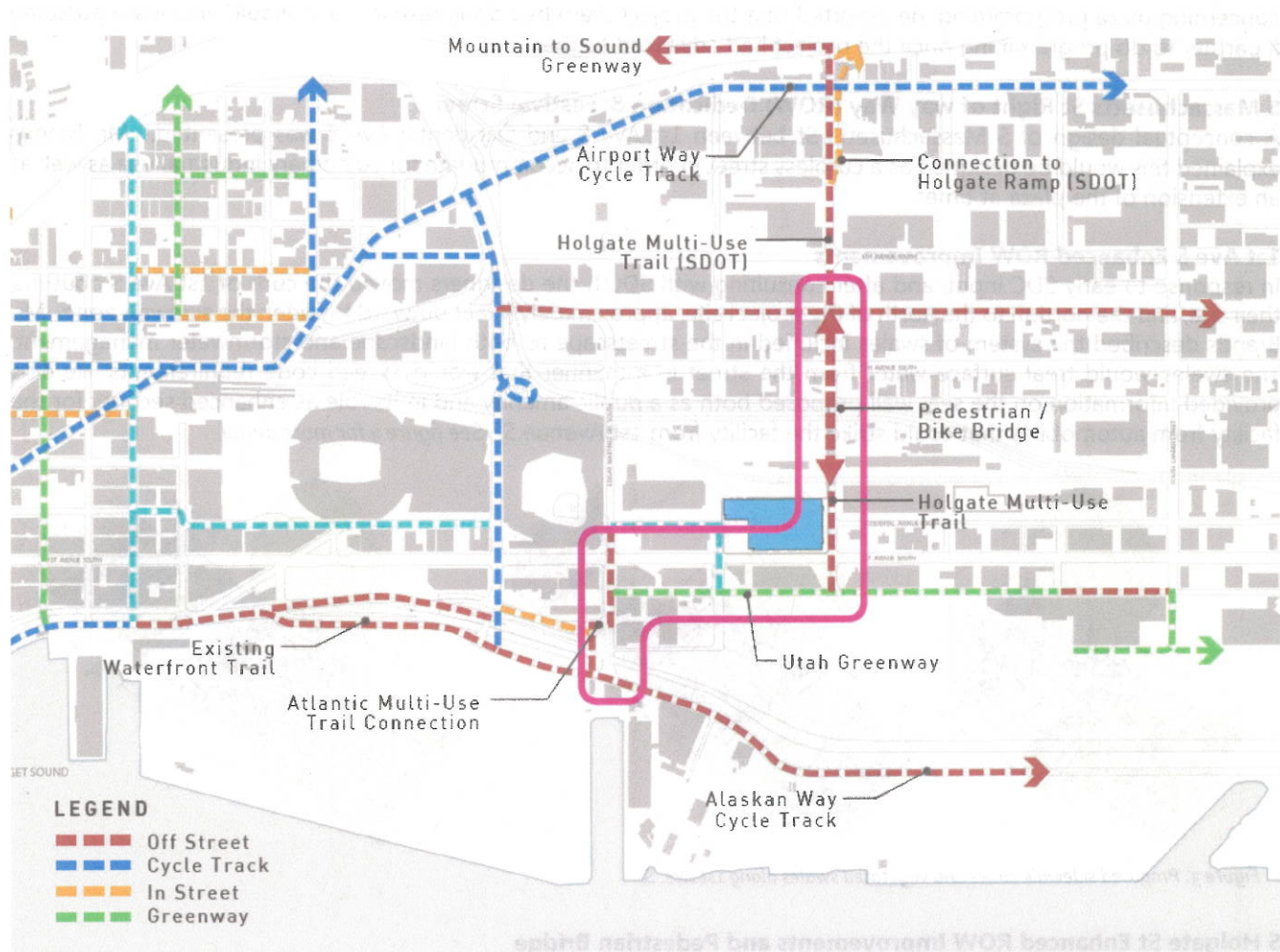


Figure 5. Proposed bicycle improvements

Art Program

A draft art program was presented. It listed the budget for the program as 1% of the project budget. Mr. Brands explained that the Art plan would be developed with enough detail to be part of the vacation decision by the Council. The intent for the art was to integrate it into the project, making it part of the living machine, facades, temporary events, etc. The focus would not be on sports.

Bike Improvements

Diagrammatic plans were presented for providing bike infrastructure on Holgate, Utah, and Edgar Martinez Way. The idea was to link to the Mountains to Sound Trail as well as providing bike trails as part of the viaduct replacement project. See figure 5 for more detail.

Off Site Wayfinding

Mr. Brands presented plans for additional wayfinding signage in the greater stadium area. He explained that after analyzing the area the team and SDOT recognized that signage and lighting was already provided in most places near the existing stadiums. There was a need for wayfinding south of Edgar Martinez Way. The proposal would focus on extending wayfinding infrastructure south to S Lander St with several signs and kiosks pointing to transit. See figure 6 for more detail.

Agency Comments

Beverly Barnett, SDOT, stated that it was still unknown what mitigation would be required and as such the adequacy of the public benefit could not be determined. In addition, a higher level of detail would need to be provided on the public benefits items to make any conclusions. She explained that the loss of public trust function must be considered along with how well impacts were mitigated, and that both would play into the adequacy of the public benefit. She commented on each public benefit items:

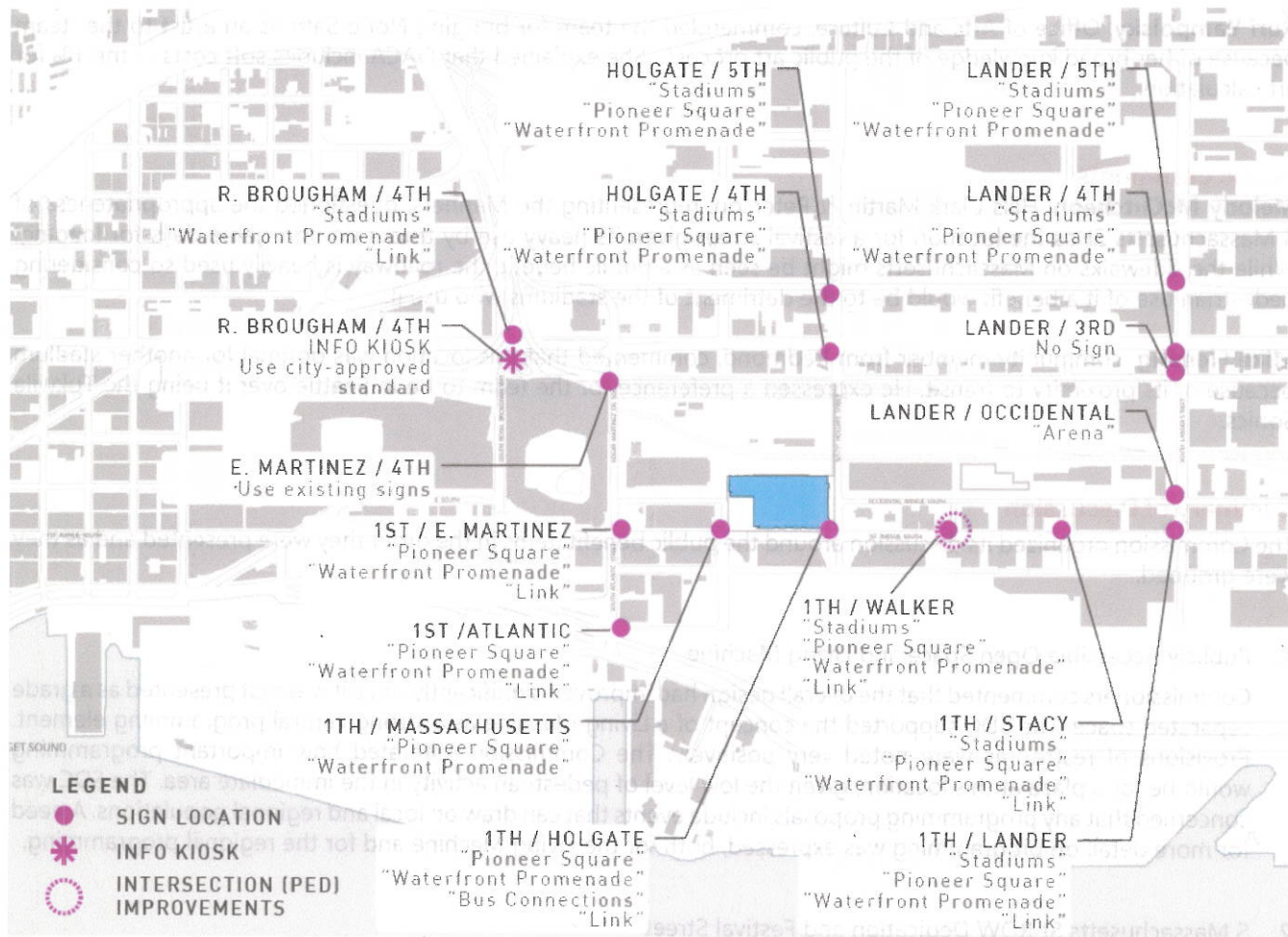


Figure 6. Proposed off-site wayfinding

1. Publicly accessible open space – It is unclear if the plaza can be considered public benefit at all because the DRB considers it a component of the design they are reviewing. Areas for crowd control, entry areas, sidewalk cafes etc. would need to be taken out of the equation. Concerning the Living Machine it appears this is beyond the state of the art sustainable features that would otherwise be expected.
2. Massachusetts St - Dedications are transportation infrastructure basics. Festival streets are an acceptable public benefit, but the applicant must consider other users of street in the neighborhood and avoid conflicts.
3. 1st Ave – Providing improvements based on City plans is laudable, especially if they extend beyond site.
4. Holgate – Remember that the nature of Holgate is different between 1st and 4th than it is east of there. Think about what the public needs. The pedestrian bridge is mitigation given rail lines. It must meet standards. If art is provided beyond that base design that may be considered public benefit.
5. Art Program – The program must provide enough information that the scale of contribution to the public benefit package can be determined and it can be enforced.
6. Bike Facilities – Specific information must be provided as to what is being proposed.
7. Wayfinding – Specifics must be worked out before it can be accepted as public benefit.

Chris Eaves, SDOT Traffic Operations reported that he was glad to be working closely early on with the project designers on solutions for the pedestrian bridge and bike infrastructure. Details still needed to be worked out for connecting to the portside trail, among other things. Also, SDOT was considering possible impacts of a festival street on the operations of S Massachusetts.

John Shaw, DPD, commented that the project would be returning to the DRB for recommendations on September 1, 2015. He explained that the plaza was a central component in meeting the design guidelines. He noted that the board hadn't seen the design since the Living Machine was added and would be taking it under consideration.

Ruri Yampolsky, Office of Arts and Culture, commended the team for bringing Norie Sato as an artist to the team because of her broad knowledge of the public art process. She explained that OACA includes soft costs in the 1% for art calculation.

Public Comments

Melody McCutcheon, Hills Clark Martin & Peterson, representing the Mariners, questioned the appropriateness of S Massachusetts St as the location for a festival street given its heavy use by trucks on non-game days for loading. While the sidewalks on Massachusetts might be seen as a public benefit, the roadway is heavily used so considering pedestrian use of it a benefit would be to the detriment of the stadiums who use it.

Mike Fleming, community member from Redmond, commented that this location was optimal for another stadium because of its proximity to transit. He expressed a preference for the team to be in Seattle over it being the Tukwila Sonics.

Summary of Discussion

The Commission organized its discussion around the public benefit items in the order they were presented and as they were grouped:

1. Publicly Accessible Open Space and Living Machine

Commissioners commented that the overall design had improved significantly since it was first presented as a grade separated space. The SDC supported the concept of a Living Machine as a strong central programming element. Provisions of restrooms were noted very positively. The Commission reiterated how important programming would be for a plaza at this location, given the low level of pedestrian activity in the immediate area. The SDC was concerned that any programming proposals include events that can draw on local and regional populations. A need for more detail on programming was expressed, both for the Living Machine and for the regional programming.

2. S Massachusetts St ROW Dedication and Festival Street

While the Commissioners appreciated the ROW realignment of S Massachusetts, they noted that vacation policies do not allow for street realignments and dedications as public benefit when they are mitigation items. They believed the festival street was a question of semantics and made clear that they expect the function of the road for trucks to be maintained. The SDC supported the use of special paving to extend the plaza visually, but that it not preclude traffic operations as needed in the area.

3. 1st Ave S ROW Improvements

The Commissioners discussed extending the special paving and swales north to the 1st Ave frontage of the block north of Massachusetts. While some of the commissioners questioned the need to extend the paving and swale beyond the Arena site, others felt it would contribute to a special stadium district streetscape. Ultimately, the Commission agreed it was a public benefit to provide street improvements along that block. All appreciated the value of treating stormwater from the street, something not required by code. It was also mentioned that extending the seating wall/safety barrier on the block to the north would be a positive for the overall design.

4. S Holgate St ROW Improvements and Pedestrian Bridge

The Commissioners described the pedestrian bridge as an important structure because of its gateway and connecting functions and its role in enhancing the overall design of the south side of the Arena because the pedestrian bridge is required mitigation, the Commissioners spoke about the need for special architecture and art to make a public benefit contribution. The commissioners struggled with the question of how distinction between public benefit could be provided for the vacation and the skybridge permit; the skybridge will need a separate SDC approval.

5. Public Art Plan

The Commissioners expressed enthusiasm for the idea of providing art as public benefit. They appreciated that ArenaCo engaged an experienced public artist with broad experience. Commissioners had questions about how the proposed art plan would be managed, how art would be selected, and who would influence choices that would affect how the value to the public of the art. Areas of concern about the proposal included:

- How digital art might move into the realm of advertising,
- that art on the turbine would be redundant,
- that art inside the building would not be perceived by the public outside the building, and
- that functional items designed by artists might not be optimal functionally

Commissioners asked that the calculation of what is being offered as public benefit be clear, and that the plan spell out clear implementation. They questioned whether the amount was sufficient within the overall public benefit package.

6. Bike Facilities

The Commissioners saw this as a valuable public benefit. They expressed a need to see specifics on what could be built.

7. Off-Site Wayfinding

This public benefit item was seen as positive. Again, Commissioners wanted to see more specifics on what could actually count as public benefit and what would be required as mitigation.

Action

The SDC thanked the project team for the presentation of the public benefit items of the Arena street vacation.

The SDC did not vote on the Public Benefit proposal. A decision was postponed so that additional information can be developed on the public benefit items, and so that there is more clarity on the mitigation items of the Environmental Review. The following recommendations were provided:

1. Provide a more developed programming strategy for the plaza. Also, present more information on the public restrooms and water features that are proposed.
2. Emphasize the demonstration and educational value of the Living Machine public benefit item.
3. Provide clarity with the terminology used for the special treatment of Massachusetts St. Provide additional information on vehicular and non-vehicular uses of the street and timing of these.
4. Extend the enhanced ROW improvements proposed in 1st Ave along the Arena site to the block north of Massachusetts.
5. Clarify the extent of ROW improvements to Holgate.
6. The pedestrian bridge as such is a mitigation item and is not a vacation public benefit item. If the applicant would like enhancements to the bridge considered as public benefit, the Commission recommends that an artist be a member of the bridge design team. The expectation would be to develop an iconic element in the neighborhood. Provide more information on the character of the bridge and its role as gateway. Give an indication of the bridge type and level of finishes. Lighting and options for art integration should be provided. Provide clarity on the funding and design relationship of this art to the art in the art program, if the two are separate.
7. Increase the level of financial commitment to the art plan and provide a more detailed plan. Provide information on how the funding amount will be calculated, if it is a percentage.
8. Provide more detailed information on the bike facilities that are proposed, including their monetary value. Consider the industrial uses in the area and potential bike-truck conflicts. Consider how this piece connects to the waterfront trails.
9. Illustrate the extent of the area where wayfinding improvements will be provided that are being proposed as public benefit.

Edward B. Murray
Mayor

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Commissioners Present

Ellen Sollod, Vice Chair
Lee Copeland
Thaddeus Egging
Rachel Gleeson
Grant Hromas
Martin Regge
John Savo (excused until 12:30)

Non-Voting Commissioners

Theo Lim (excused until 12:00)

Commissioners Excused

Shannon Loew, Chair
Brodie Bain
Ross Tilghman

Project Description

The petitioner proposes to vacate Occidental Ave S between S Massachusetts St and S Holgate St in the SoDo neighborhood to facilitate development of a 750,000-square-foot, 18,000-20,000-seat multi-purpose arena for NBA basketball, NHL hockey, other sporting events, concerts, and shows.

The project site is bounded by S Massachusetts St to the north, 1st Ave S to the west, S Holgate St to the south, and the BNSF Railway right-of-way to the east. The vacation of Occidental Ave S would increase the developable area of the project site by roughly 17.5%. The proposed development includes a plaza space at the northwest corner of the site and widened sidewalks along 1st Ave S and S Holgate St.

Meeting Summary

This was the Seattle Design Commission's (SDC) third review of the proposed public benefit package. At the commission's August 6, 2015 meeting, the SDC provided further feedback on the proposal. Following ArenaCo's presentation, public comment and SDC review and deliberation, the SDC voted 6-0 in favor of the public benefit package, with conditions and recommendations.

Recusals and Disclosures

There were no recusals or disclosures.

August 6, 2015

9:00 am – 12:00 pm

Type Street Vacation

Phase Public Benefit

Location Full block bounded by S Massachusetts St, 1st Ave S, S Holgate St, and the BNSF Railway right-of-way

Previous Reviews

[12/6/12](#), [1/17/13](#), [4/4/13](#), [5/2/13](#),
[11/7/13](#), [4/16/15](#), [5/21/15](#), [6/18/15](#),
[8/6/15](#)

Project Team Present**Mark Brands**

Site Workshop

Jack McCullough

McCullough Hill Leary, PS

Attendees**George Allen**

George Allen Consulting

Tom BackerWashington State Major League
Baseball Stadium Public Facilities
District**Beverly Barnett** | SDOT**Michael Cannon** | Civitas**Lynn Claudon**

Lynn Claudon Consulting

Jessica Clawson

McCullough Hill Leary, PS

Chris Daniels | King 5 TV**Cale Doornbos** | HOK**Rollin Fatland**

Chris Hansen Representative

Mike Fleming | Resident**Anton Foss** | HOK**Dave Gering**

Manufacturing Industrial Council

Mathew Hallett | HOK**Don Hardman** | Citizen**Brook Jacksha**

Magnusson Klemencic Associates

Emma Mayberry | Van Ness Feldman**Garry Papers** | DPD**Dave Perez** | ArenaCo**Geraldine Poor** | Port of Seattle**Susan Ranf** | Seattle Mariners**John Shaw** | DPD**Bryan Stevens** | DPD**Jerome Unterreiner** | HOK

September 3, 2015

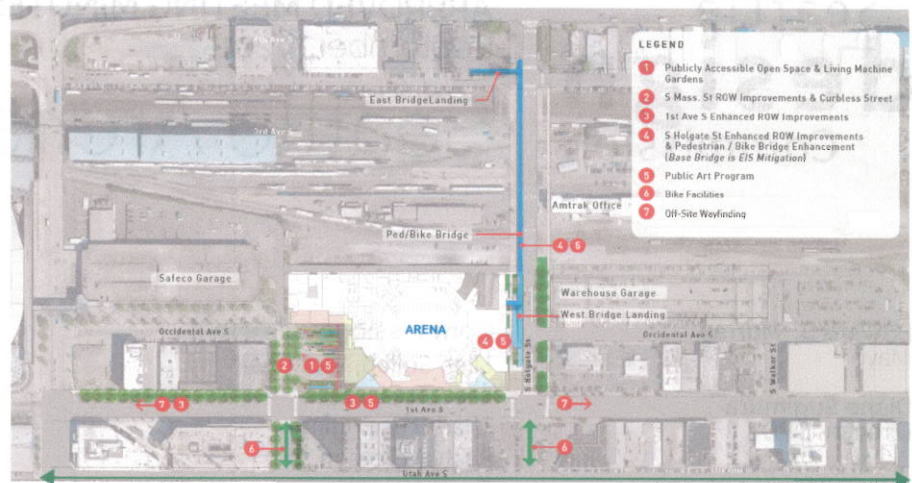


Figure 1. Proposed public benefit package

Summary of Presentation

Jack McCullough introduced the presentation by stating the projected received unanimous support from the Design Review Board (DRB) after the board's September 1st, 2015 meeting. Mr. McCullough stated that the DRB suggested refinements to the public plaza. The DRB indicated their overall support for the project, including designs of public realm elements that fall under the SDC's authority in the vacation process.

Similar to ArenaCo's previous presentations, Mark Brands provided a brief overview of the project as well as an overview of the seven proposed public benefit elements. Mr. Brands also highlighted how the public benefit elements have been refined since the previous meeting.

As seen in figure 1, the proposed public benefit features are:

1. Plaza Programming and Living Machine
2. Improvements to S. Massachusetts
3. Improvements to 1st Avenue S
4. Improvements to S Holgate Street
5. Public Art plan
6. Bicycle facilities
7. Wayfinding signage

Plaza Programming and Living Machine

Mr. Brands highlighted public plaza elements that are considered mitigation measures and those that are requested to be accepted as public benefit features. He included an overview of the public benefit items within the plaza including the Living Machine, publically accessible bathrooms, water features, public art, and pedestrian lighting. As seen in figure 2, Mr. Brands provided an overview of some of the plaza programming strategies that include:

- Educational Tour & Outdoor Classroom: Providing space near the living machine for schools within the surrounding region
- Food Trucks: Providing space for three food trucks along S. Massachusetts St.
- Outdoor Market: Providing space for 10 x 10' tents located west of the living machine near 1st Avenue

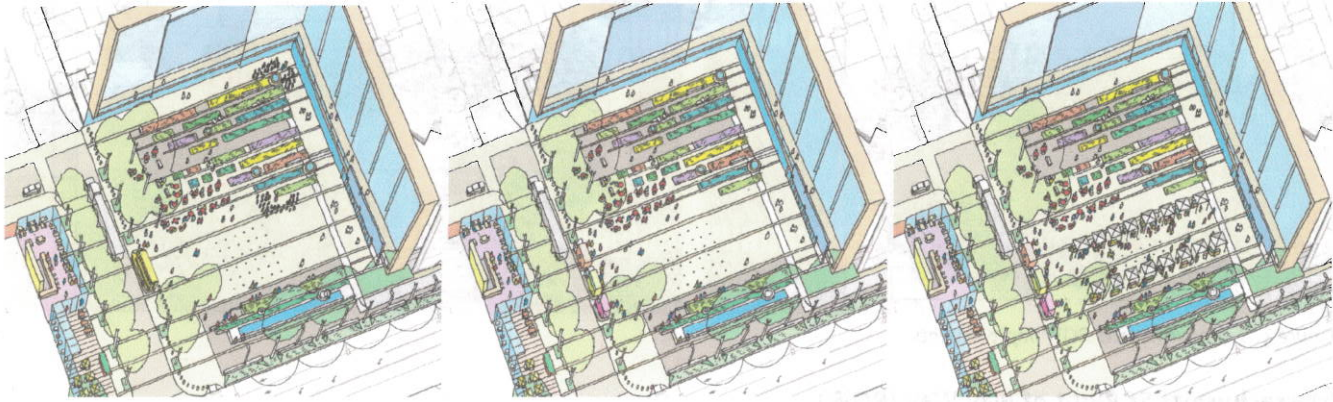


Figure 2. Proposed plaza programming

Plaza programming will occur year around, with emphasis on events from May to October. During events days, the plaza will function for entering and exiting the facility; eligible plaza programming events could only occur on non-Arena event dates.

Mr. Brands highlighted concerns about a proposed water feature in the plaza that divides the plaza from the sidewalk area. Currently, the pathway into the plaza from the sidewalk near the northwest lobby entrance is only 30 feet wide. The DRB was concerned the narrow width along with the obstructed site lines would be a problem on days where a high number pedestrian traffic is flowing through the plaza.

The living machine will cover approximately one-half of the plaza and will include settling, equalization, recirculation, and reuse tanks as well as two stage treatment cells, see figure 3. The system will operate mostly underground and will have the ability to treat/reuse 4 million gallons of wastewater on an annual basis, or approximately 99% of the onsite grey and black water. Above ground, the living machine will include a series of low-lying plant beds as well as an interactive feature to provide information about how the living machine functions. Mr. Brands said there is a possibility for the interactive feature to serve as a permanent art piece for the plaza. The design allows for a district style approach, where new users can connect into the system; no requests or plans have been submitted for additional users.

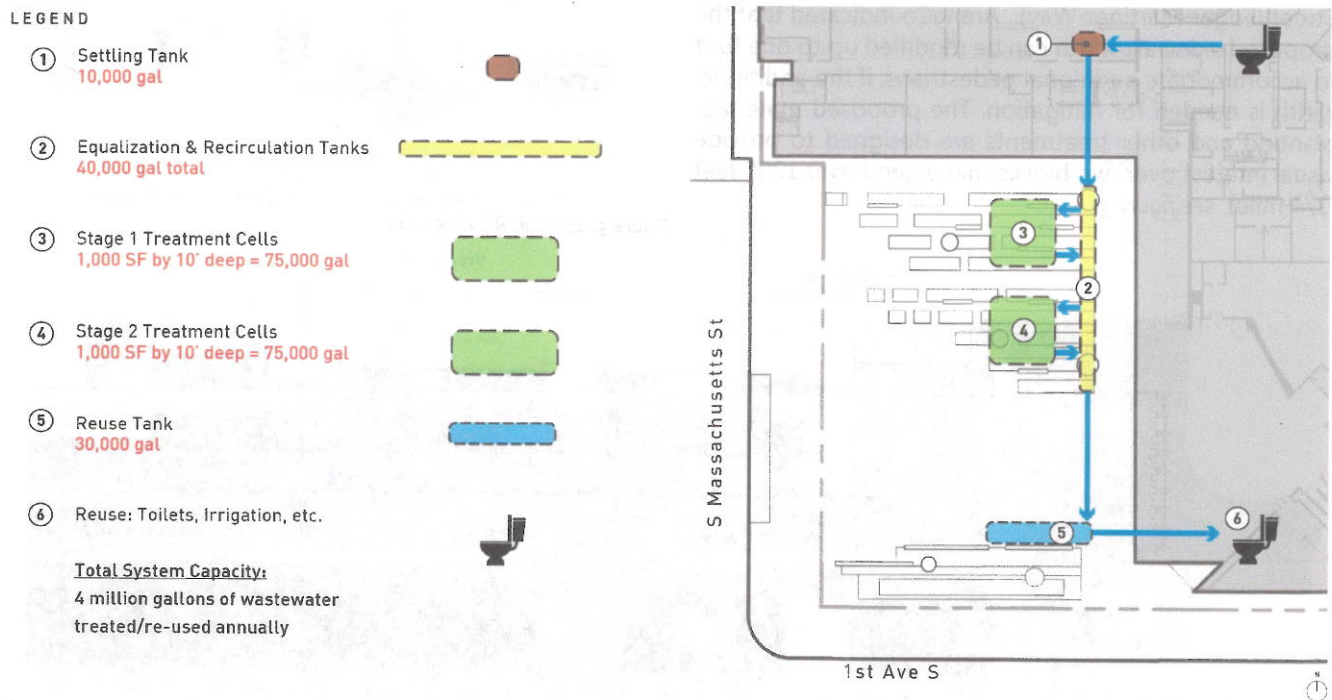


Figure 3. Proposed living machine layout.

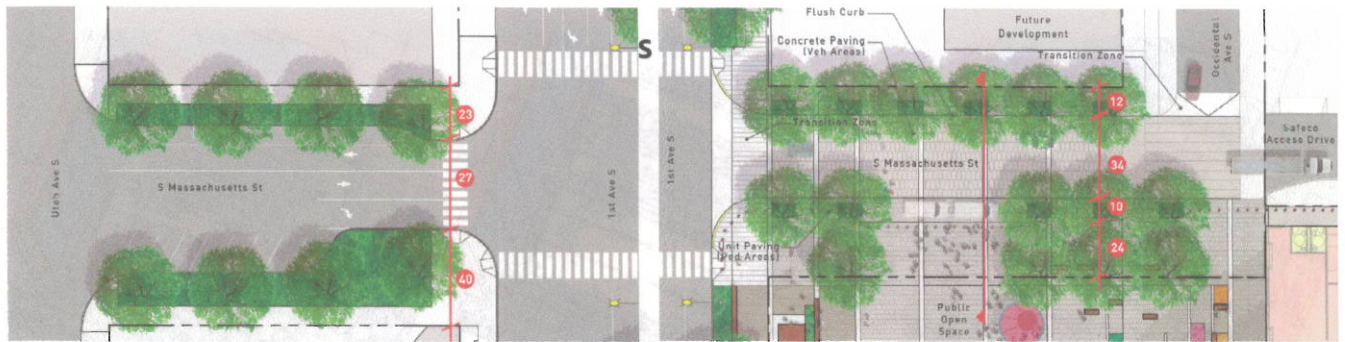


Figure 4. S. Massachusetts ROW Improvements

Massachusetts St Right of way Way (ROW)

S. Massachusetts, between 1st Ave S and Occidental Ave S will include a curb-less street with several paving materials and patterns to distinguish the pedestrian and vehicular areas. The pedestrian zone will serve as an extension of the public plaza by using the same or similar materials such as granite, cobblestone, and cast in place concrete. While the realignment of S Massachusetts is part of the mitigation package, these proposed improvements are considered public benefit elements.

The S Massachusetts ROW improvements between S Utah st and 1st Ave S will include a new curb gutters and sidewalks as well as planting areas. A series of rain gardens will also line the both sides of Massachusetts St. between Utah and 1st. Avenue, see figure 5. A multi-use path will run parallel to Massachusetts St, which will serve as part of the overall bicycle facilities for the surrounding area.

1st Ave S ROW

The 1st Avenue S ROW includes 14-foot wide sidewalks and rain gardens, seating and other enhancements, all of which will extend from S. Holgate St. to S Atlantic Street (Edgar Martinez Way). ArenaCo indicated that the proposed sidewalk width can be modified up to one foot to accommodate additional pedestrians, if the additional width is needed for mitigation. The proposed materials, planting and other treatments are designed to provide visual interest over two blocks that extend over 1200 feet (1/4 mile), see figure 5.

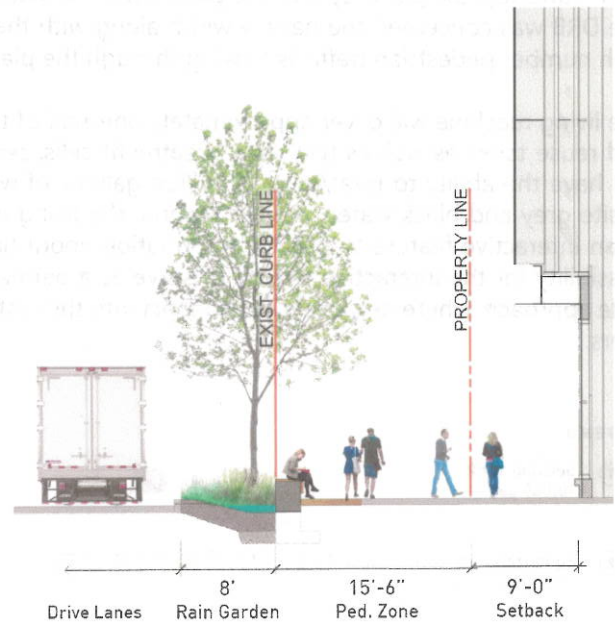


Figure 5. 1st Ave. ROW section

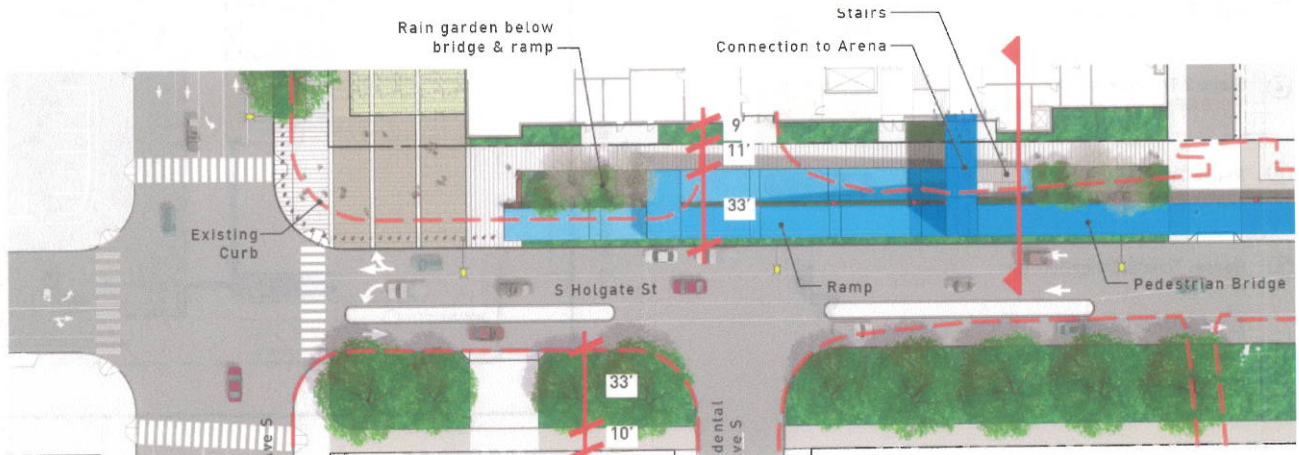


Figure 6. S. Holgate St. ROW Improvements

S Holgate St ROW and Pedestrian Bridge

As seen in figure 6, the proposed S Holgate Street designs reflect Seattle Department of Transportation’s (SDOT) requirements. Through meetings with ArenaCo’s design team SDOT recommended how many vehicular lanes will be required within S Holgate from 1st to 4th Ave S. ArenaCo’s current proposal abutting the site includes street restriping, drainage improvements, rain gardens, and street trees. Details regarding public benefit east of the Arena will be refined as the street improvement process moves forward.

While the proposed pedestrian bridge is required for mitigation, the concept designs include a ramp and stair access via S. Holgate St; no elevator will be required. Although the bridge design is still in a conceptual stage and does not include specific details, the overall design has changed from including a concrete structure to a steel truss structure.

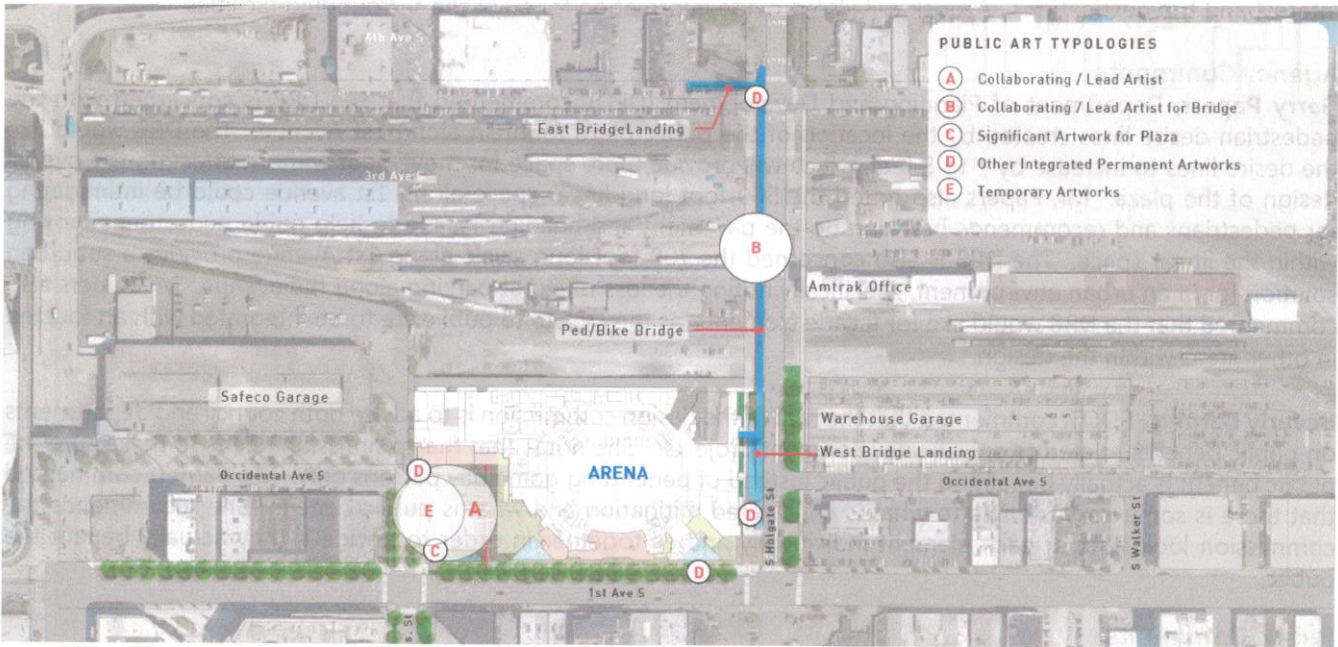


Figure 7. Proposed public art programming

Art Program

The public art program includes plans for permanent and temporary artwork, see figure 7. The program also includes plans for funding an Artist to provide early input into the proposed S Holgate pedestrian bridge designs. Since their last review, the applicant increased the public art program budget from 1% of construction costs to 1.5% of total project costs; the proposed Art budget is now approximately \$8.25 Million. The plan also included a series of proposals that included public involvement and program oversight through a Standing Advisory Committee, to advise on artist and art selection and implementation. ArenaCo will maintain all permanent art installations, while temporary art will be managed until funding ends.

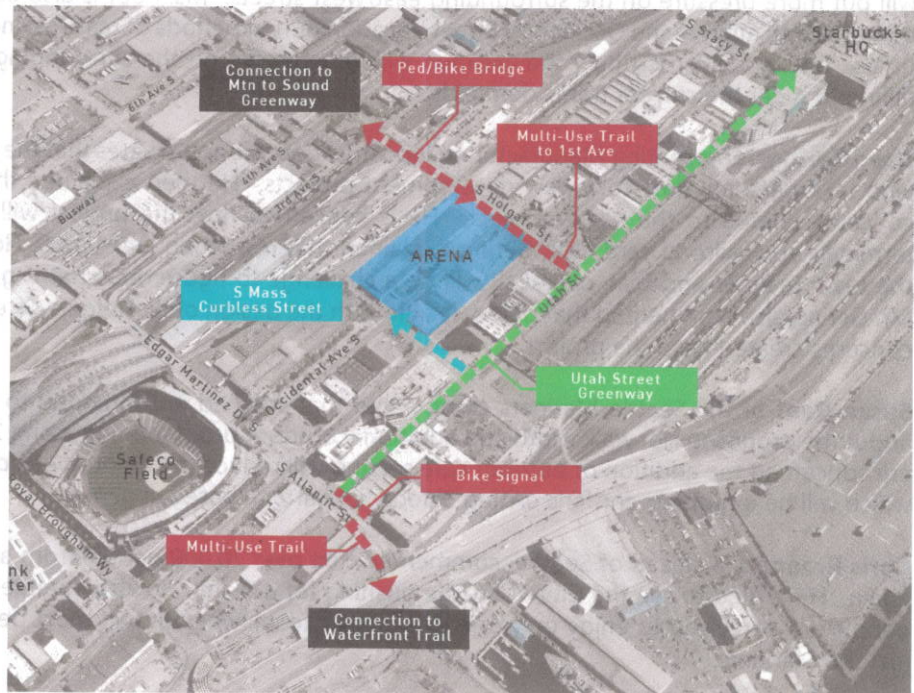


Figure 8. Proposed Bicycle Improvements

Bike Improvements

As seen in figure 8, the proposed public benefit for bicycle facilities were further refined to include the neighborhood greenway route along Utah St. from Edgar Martinez Way to the Starbucks Headquarters at S Lander Street. An off street, multi-use trail will extend from 1st Avenue to 3rd Avenue, a link in the connection of the Waterfront trail with the Mountains to Sound Greenway. S. Atlantic St. will include a bicycle signal and multi-use path, while the curb-less section of S. Massachusetts St. west of 1st Avenue will include a bicycle trail.

Off Site Wayfinding

Mitigation requires several way finding signs in order to provide direction for pedestrians and vehicles travelling within vicinity of the arena. As part of the public benefit, 15 additional wayfinding signs will be used to identify places of interest and trip destinations. A kiosk will also provide information for all of the surrounding facilities.

Agency Comments

Garry Papers, Department of Planning and Development (DPD), commented that the DRB is concerned with the pedestrian desire lines created by the location of the public plaza fountain along 1st Avenue. The DRB would like the desire lines to increase by 2 to 8 feet, which will provide more space for movement without affecting the overall design of the plaza. Mr. Papers also noted the 500-foot long linear space along 1st avenue could be intimidating for pedestrians and recommends breaking up the pavement and building façade to help guide pedestrians moving within the linear space. The DRB is also concerned the 700 foot long swale along 1st Avenue provides a suburban solution for in an urban environment, specifically noting the loss of street parking along the avenue. Mr. Papers also commented that the DRB would like for façade elements, as they relate to public art, to be integrated with art located in other areas within the design.

Beverly Barnett, SDOT, commented that the task of the design commission is to advise both council and departments on public benefits related to specific development projects. She notes that the commission needs to make sure the public benefit is actually benefiting the public instead of benefitting game day patrons only. Ms. Barnett commented that there is some confusion as to what is considered mitigation and what is public benefit. She recommends the commission look both at each element individually and all together in order to decide if they actually benefit the public.

Public Comments

Geraldine Poor with the Port of Seattle has significant concern with the lack of clarity regarding the proposed street network after vacating Occidental St. Ms. Poor explains that the design shows S. Holgate reducing by two lanes, which will put more pressure on the surrounding east/west streets. Ms. Poor is also concerned that no traffic studies were conducted to analyze the Occidental Street Vacation during periods of rail crossing, peak drive times, and during game times. She is concerned how the vacation will affect traffic on the surrounding streets, many of which are already failing to meet the current traffic demands.

Dave Gering, representing Manufacturing Industrial Council, appreciates that the commission is made up of volunteers who take personal time to review development projects. He then explained that it is his job to keep pointing out concerns related to the Arena project. He is concerned how the project will negatively affect the marine cargo terminals and railroad yard. Mr. Gering explained that restricting lanes on S. Holgate will have a larger impact than the team realized and that, overall, it will be a challenge to figure out what is going to work in this section of town. Mr. Gering also commented that being flexible with the design on S. Holgate Street will help tremendously with traffic concerns created from the project.

Susan Ranf of the Seattle Mariners commented that she had not intended to speak, but wanted to voice concern about the proposed sidewalk width and additional outdoor programming along 1st Ave. Ms. Ranf stated the Mariners are concerned the addition of outdoor café seating will reduce the amount of sidewalk available for pedestrian traffic, which will be a problem for fans exiting Safeco field after a baseball game.

Chris Brannon, a citizen of Seattle, commented that over 70,000 people from all over the region want a (NBA) team again. He is glad to see the City of Seattle pushing for a team. He also commented that he finds it frustrating when people are perceived to enjoy only one local sports team, when in fact most people like several local teams and not just the Mariners.

Summary of Discussion

The Commission organized its discussion around the public benefit items in the order they were presented and as they were grouped:

1. Plaza Programming and Living Machine

The commissioners agree that the concept of the public plaza and living machine are understood, but more detail needs to be provided. More specifically, the design team should think about how the overall design of the plaza, including the size of the living machine, location of open space, and other design features, will facilitate the programmability of the plaza. The design team should research how to establish programming year round, not only during the summer months (May-Oct.), and should think about reaching out to other professional sports teams to leverage large events. In order to establish a diverse list of programs for the plaza, a broad and diverse group of stakeholders should be formed, including organizations such as the department of parks and recreations, the boys and girls club, Mariners and Seahawks organizations, as well as other regional groups.

2. S Massachusetts St ROW

With regard to the overall design and pavement material used, the commission supports a design that will terminate at the edge of the public plaza rather than extending across S. Massachusetts St., which will use a curb-less street design. This approach will show a clear transition from the public plaza to the streetscape. The presence of large mature trees in front of the plaza along S. Massachusetts will also help in signifying the transition from plaza to street.

3. 1st Ave S ROW

Although the commissioners have a few concerns about the design, which includes long linear rain gardens with few breaking points for access and eliminates on street parking, they agree the overall design of the rain garden, along with its ability to treat water along 1st Avenue is a huge asset for the city. The commission suggested breaking up the linear space, physically or perceptually, by incorporating small gathering spaces, different paving patterns, and a variety of plant species, which will also enhance the overall design of the rain garden.

4. S Holgate St ROW and Pedestrian Bridge

The commissioners support the realignment of S. Holgate Street, but are concerned with the number of designated vehicular lanes on Holgate. There is confusion regarding the number of lanes required for mitigation, as the environmental impact statement suggests five lanes while SDOT recommends three lanes. Although S. Holgate is not designated as a residential street, the commission recommends the pedestrian flow along Holgate be preserved. If significant changes are made to the design of Holgate Street that will affect the pedestrian flow then the design will come back to the commission for further review. In keeping with surrounding industrial uses, the commission recommends preserving the industrial feel of S. Holgate St.

5. Public Art Plan

The commissioners greatly appreciate the work Norie has done in creating the public art framework. As part of the framework, the temporary art program will serve as a way for young artists and agencies to display artwork and/or provide educational opportunities through temporary art exhibitions. Thought should be given to funding the temporary art program in a way that will provide a steady stream of income. Although the public plaza has been identified as a major area for displaying public art, this may conflict with other proposed programs. The design team should be flexible when it comes to designating space within the plaza for public art so it does not conflict with other programmable elements.

6. Bike Facilities

The commission commends the design team for providing a high level of detail within the design of the bicycle facility plan. The commission notes that the plan extends the furthest away from the project site and provides the clearest example of public benefit.

7. Off-Site Wayfinding

The commission appreciates the additional signage, but suggests the design team make clear that the 15 additional wayfinding signs and kiosk are in addition to the signs required for mitigation measures.

Action

The SDC thanked the project team for the detailed presentation of on and off-site public benefits related to the Arena street vacation.

The Commission voted to approve the public benefit package, 6 to 0, with the following conditions¹:

1. Prior to the issuance of a construction permit, the SDC shall review and approve permanent and programmable elements, in its totality, for the public plaza and Living Machine program.
2. Prior to the issuance of a construction permit, the SDC shall review and approve the proposed programming plan for the plaza. The SDC review shall include consultation with the City's Parks Department and Office of Arts and Culture.
3. Prior to the issuance of a construction permit, the SDC shall review and approve the proposed Public art plan. The SDC review shall include consultation with the Seattle Office of Arts and Culture and King County's 4culture office.
4. Prior to the issuance of any Street Improvement Permit, the SDC shall review and provide comment on the proposed designs of the S Holgate right of way, in particular on the urban design issues related to the street and its related improvements.
5. Prior to the issuance of a certificate of occupancy, install permanent art prior to opening of building. We are asking you come back with a detailed public art program prior to the issuance of construction permits

In addition, the SDC also makes the following recommendations to enhance the design and function of the proposed public spaces:

1. The commission recommends the design team look at multi-seasonal programming within the public plaza
2. See efforts to differentiate treatment with plaza and street along S. Massachusetts St.
3. The commission recommends there be discussion related to how the temporary program can relate to the overall art program

¹URBAN DESIGN MERIT CONDITIONS MUST ALSO BE FULFILLED. DESIGN MERIT CONDITIONS FOR SEATTLE ARENA WERE DEFINED DURING THE COMMISSIONS MAY 21ST, 2015 MEETING

Gray, Moira

Subject: FW: Street vacation informaton for Occidental Ave S proposed sports arena

From: English, Gary
Sent: Friday, April 19, 2013 7:47 AM
To: Gray, Moira
Cc: Barnett, Beverly; Nelsen, John; Grove, Karen; Bernocco, Stephen
Subject: RE: Street vacation informaton for Occidental Ave S proposed sports arena

From: Gary English, Deputy Chief Seattle Fire Department

Thanks for the inquiry regarding the street vacation.

SFD does not object to the street vacation, but requests that emergency vehicle along Occidental be maintained to the front of all buildings until the buildings are removed per building and fire codes. More specifically, the existing distances to the farthest point from the street should not be diminished by construction or demolition processes. If this may be necessary due to demolition or construction please contact either myself or Captain Steve Bernocco. Given the size and complexity of this project, we would recommend the owner contact Seattle Fire Department directly to ensure life safety, water supply and emergency response is maintained as necessary.

Thanks,

G
From: Gray, Moira
Sent: Wednesday, April 17, 2013 13:18
To: Gray, Moira
Cc: Barnett, Beverly
Subject: Street vacation informaton for Occidental Ave S proposed sports arena

Hello, SDOT has received a petition from WSA Properties et al for the vacation of Occidental Ave S between S Massachusetts St and S Holgate St in the SODO Industrial area for a proposed professional basketball arena. Attached is the initial project information regarding the vacation for your preliminary review and comments. We are asking for comments prior to our forwarding a recommendation to the City Council. We would like to receive your comments by May 31st, however comments are accepted throughout the review period.

Thank you, Moira



MOIRA GRAY
Street Vacation Specialist
Seattle Department of Transportation
Street Use & Urban Forestry Division
700 Fifth Avenue, Suite 2300
PO Box 34996
Seattle, WA 98124-4996

206-684-8272 (Tel)

<http://www.seattle.gov>

SEATTLE POLICE DEPARTMENT MEMORANDUM

TO: Moira Gray
SDOT

DATE: November 9, 2015

FROM: Assistant Chief Perry Tarrant
Special Operations Bureau



SUBJECT: Permanent Closure of Occidental Ave S between Massachusetts and Holgate for Arena

I agree with my staff. We have no issue with the closure of the street. We are concerned about the possible overlap of events at the various venues and our ability to facilitate the movement of vehicles and pedestrians.



City of Seattle
Seattle Public Utilities

DATE: May 30, 2013
To: Moira Gray, Street Vacation Office
FROM: Carolyn Johnson, Senior Real Property Agent;
Seattle Public Utilities Street Vacation Reviewers
VACATION:
REVIEWED Proposed Vacation of Occidental Avenue South; Clerk File 312905

Seattle Public Utilities (SPU) has reviewed the proposed vacation, and has identified the following concerns and has the following conditions:

SPU Sewer & Drainage:

SPU currently has a 15" diameter main line sewer in Occidental Ave So., built in 1916 per Exhibit "A" vault plan number 66-92 (see attached).

Please see Exhibit "B" attached as side sewer cards 5157, 5158 and 5158-1 with the bubble number legend coinciding with conditions listed below.

1. Existing side sewers to be verified "live" and reconnect to the 15" PSS in Occidental Ave S south of S Holgate Street if it is sewage only.
2. Existing 15" PS pipe. SPU to relinquish ownership of pipe to the petitioner.
3. Existing catch basin/inlet. SPU to relinquish ownership of the drainage appurtenances to the petitioner.
4. Existing drain pipe. SPU to relinquish ownership of pipe to the petitioner.
5. Existing maintenance hole (MH). SPU to relinquish ownership of the structure to the petitioner.
6. Install a new MH a minimum of 5 feet north of the vacated property line. SPU to own and maintain the MH and the existing sewer line to the north of S Massachusetts Street. It'll be permissible for the Arena's new sewer connection to connect in this MH.
7. Plug existing pipe
8. Abandon and Fill existing pipe per City of Seattle Standard Specifications.
9. Abandon and Fill existing MH per City of Seattle Standard Specifications.
10. Verify existing sewer to be removed during Arena construction.

Ray Hoffman, Director
Seattle Public Utilities
700 5th Avenue, Suite 4900
PO Box 34018
Seattle, WA 98124-4018

Tel (206) 684-5851
Fax (206) 684-4631
TDD (206) 233-7241
ray.hoffman@seattle.gov

<http://www.seattle.gov/util>

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SPU Water:

The existing 16" feeder main in Occidental Ave S is one of two alternate feeds to the Pioneer Square seismic backbone main from Beacon Hill Reservoir. If Occidental Ave S, between S Massachusetts St and S Holgate St were to be vacated, the current ability to feed the 24" Pioneer Square seismic backbone main from either the Holgate St feeder or the 1st Ave S feeder will be lost.

To accommodate the loss of the 16" Occidental feeder in the proposed vacation area, the remaining 16" feeder in 1st Ave S would need to be upsized and reconstructed to be seismically resistant. The existing 16" Occidental feeder, severed by the street vacation at S Massachusetts, would need to be extended west to connect with the upgraded 24" seismically resistant feeder in 1st Ave S. Valving at the supply junction of 1st Ave S & S Massachusetts St would need to be arranged so that either the 16" feeder in Occidental Ave S or the 16" feeder in 1st Ave S – north of Massachusetts – could be supplied from the upgraded 24" feeder approaching Massachusetts from the south. Similarly, at 1st Ave S & S Holgate St, valving would need to be provided such that the single, seismically upgraded 24" feeder north of Holgate could receive two alternate supplies from the reservoir: from either the east (via Holgate) or from the south (via 1st Ave S)

Significant water system reconfiguration required by the street vacation would include:

- Approximately 800 LF of 24" seismically resistant feeder main in the 1700 block of 1st Ave S, including hydrant and water service laterals
- Retirement of the existing 16" main in the 1700 block of 1st Ave S
- Retirement of the existing 16" main in the 1700 block of Occidental Ave S
- Approximately 230 LF of 16" seismically resistant feeder main in S Massachusetts St between the shortened Occidental feeder and the new 24" feeder in 1st Ave S
- Contiguous with the seismically resistant pipe in 1st Ave S, two line valves controlling the two alternate supply connections at Holgate
- Contiguous with the seismically resistant pipe in 1st Ave S, two line valves controlling the two alternate supply connections at Massachusetts.

After reconfiguration of the existing distribution system grid, water service to the facilities located in the street vacation area would need to be established via new metered water service connections, per standard charges.

Recommendations:

SPU recommends the Vacation Petition of Occidental Avenue South; Clerk File 312905 be approved with the enclosed conditions considered and meet.

Cj\SPU Reviewers

Improvement of Occidental Avenue et al Paving etc.,

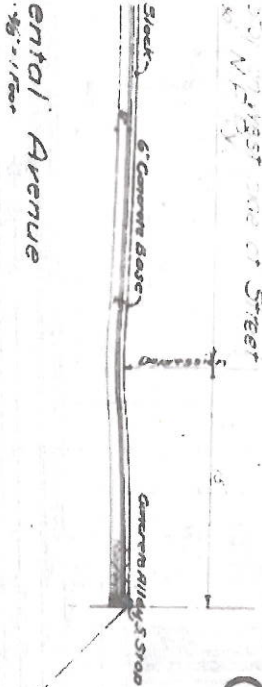
Resolution No. 5246
Local Improvement District No. 5053

Ordinance No. 3733, Approved Apr 4, 1916

August, 1916

Scale: 1 in. = 50 ft.

A. H. Dr...
City Engineer



Blank Order No. _____	Drawing No. 6-11	Approved _____
Made by <i>W. H. ...</i>	8-7-1916	Checked by <i>A. H. Dr...</i>
Checked by <i>A. H. Dr...</i>	8 9	Printed _____
Printed _____	1 5	City Engineer

Approved by the Board of Public Works.
Seattle, Wash. 1916.

Total front feet in dist. _____ feet

Rate per front foot _____

45	74	3 31
42	70	2 84
40	66	2 64
38	62	2 46
36	58	2 28
34	54	2 10
32	50	1 92
30	46	1 74
28	42	1 56
26	38	1 38
24	34	1 20
22	30	1 02
20	26	0 84
18	22	0 66
16	18	0 48
14	14	0 30
12	10	0 12
10	6	0 00

Exhibit "A"

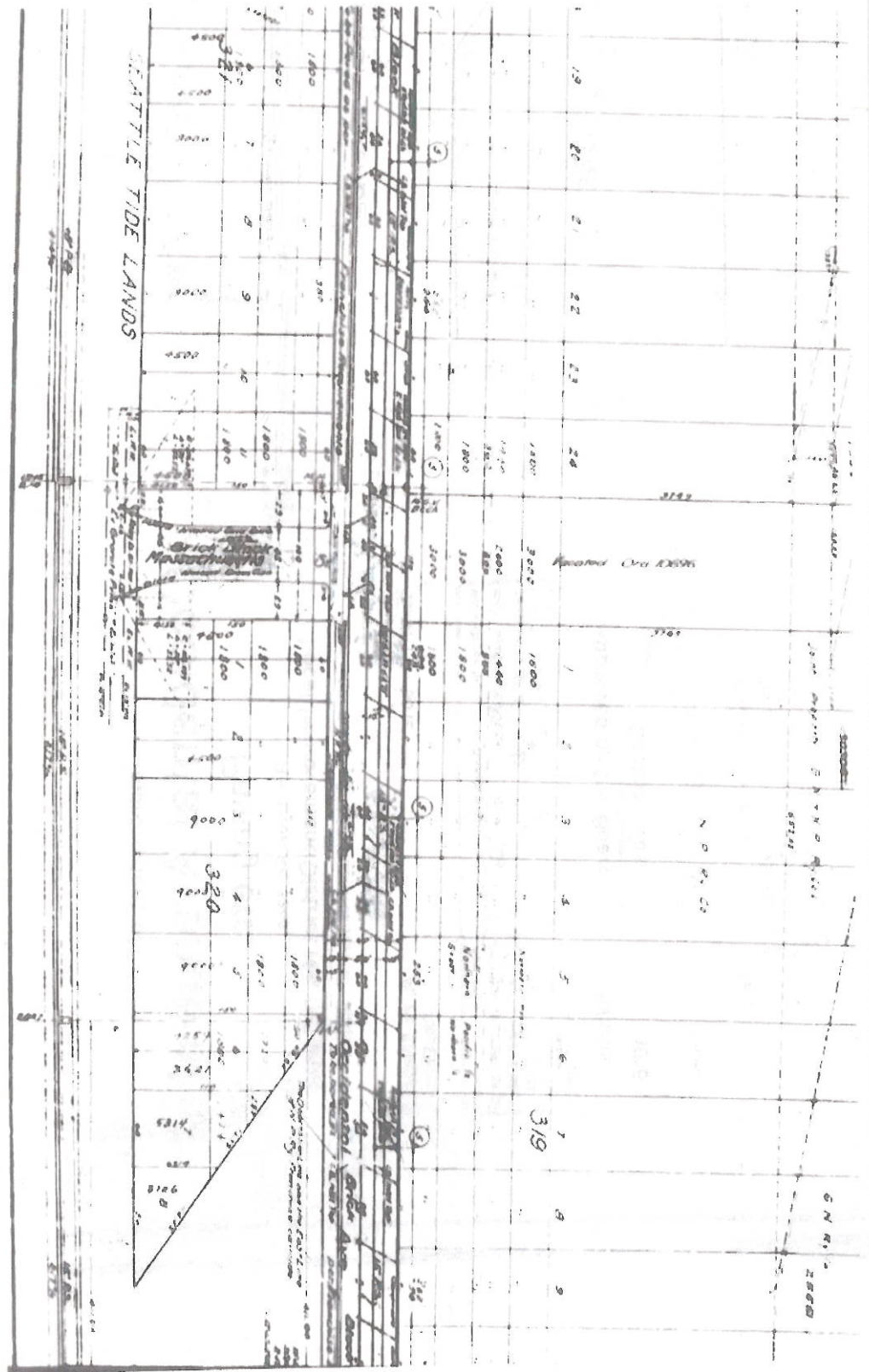


Exhibit "A"

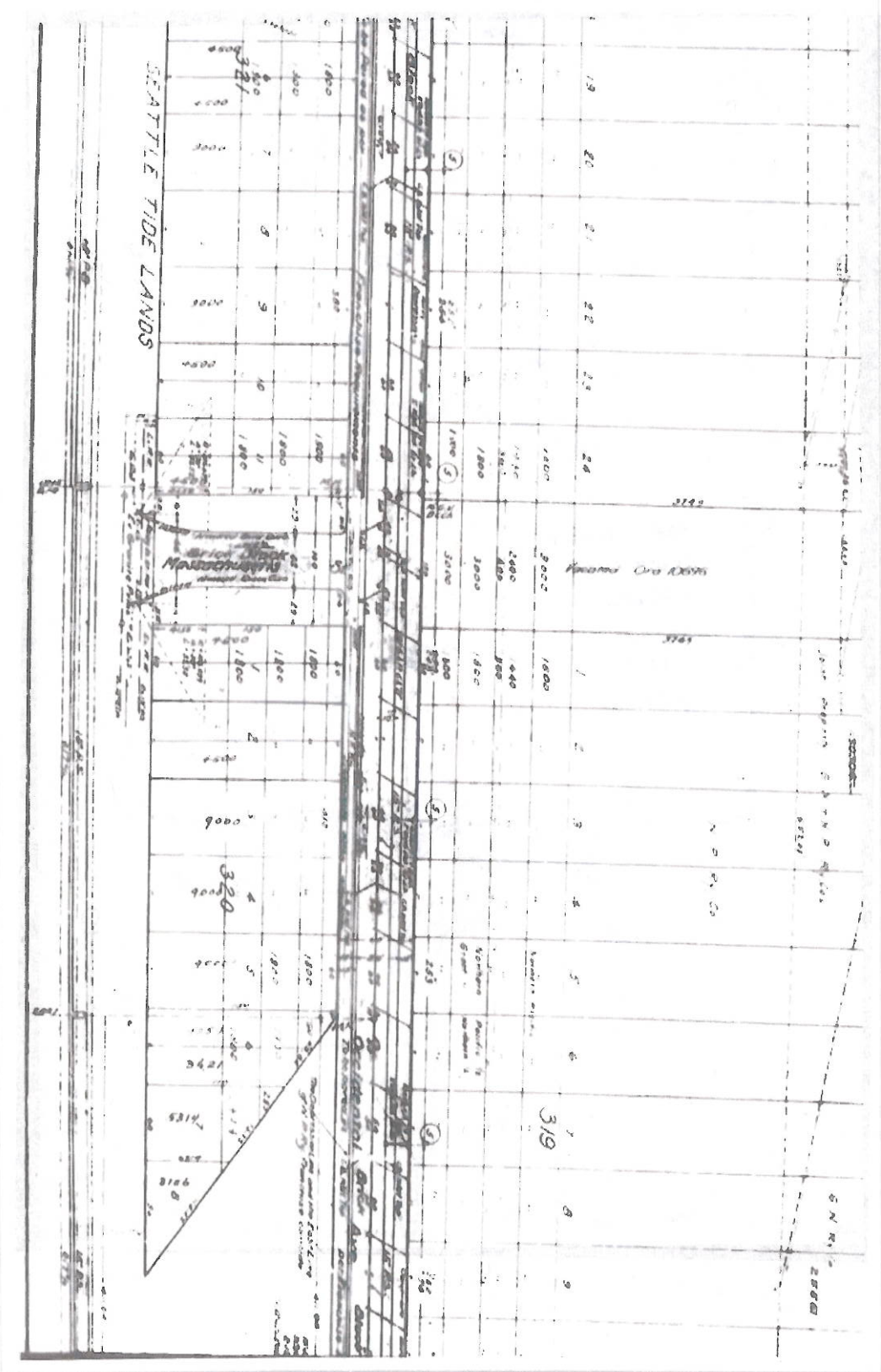
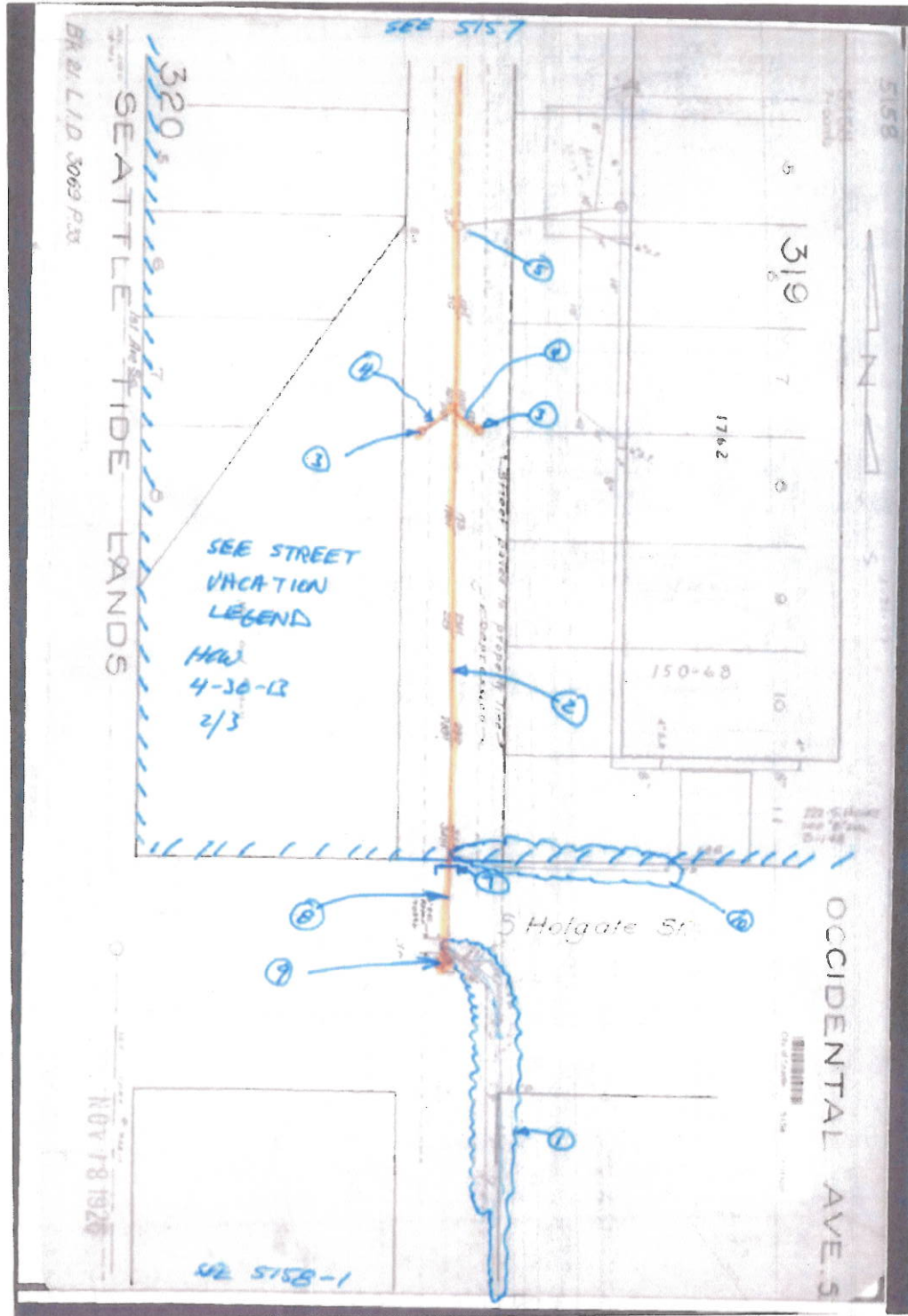


Exhibit "B"



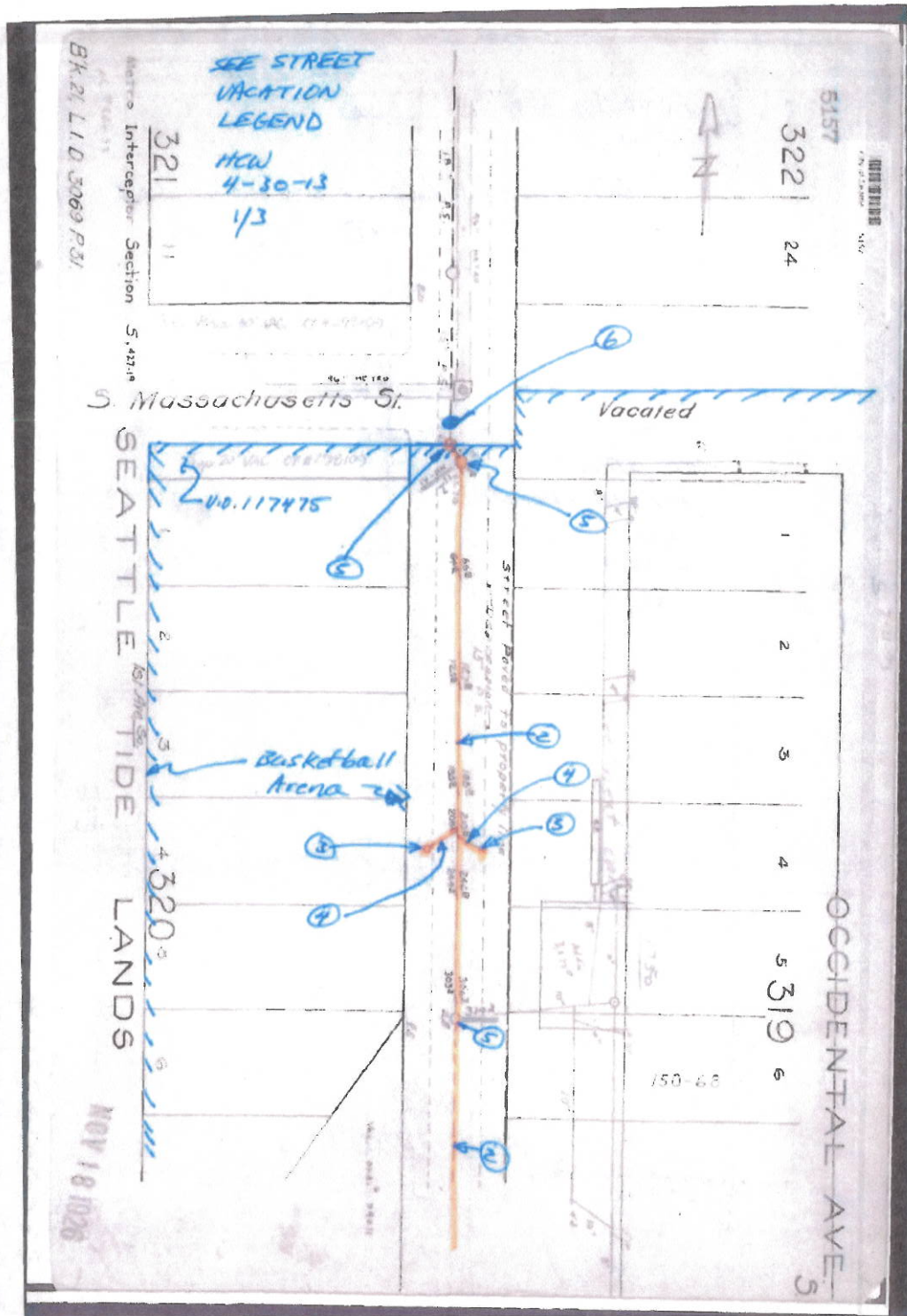
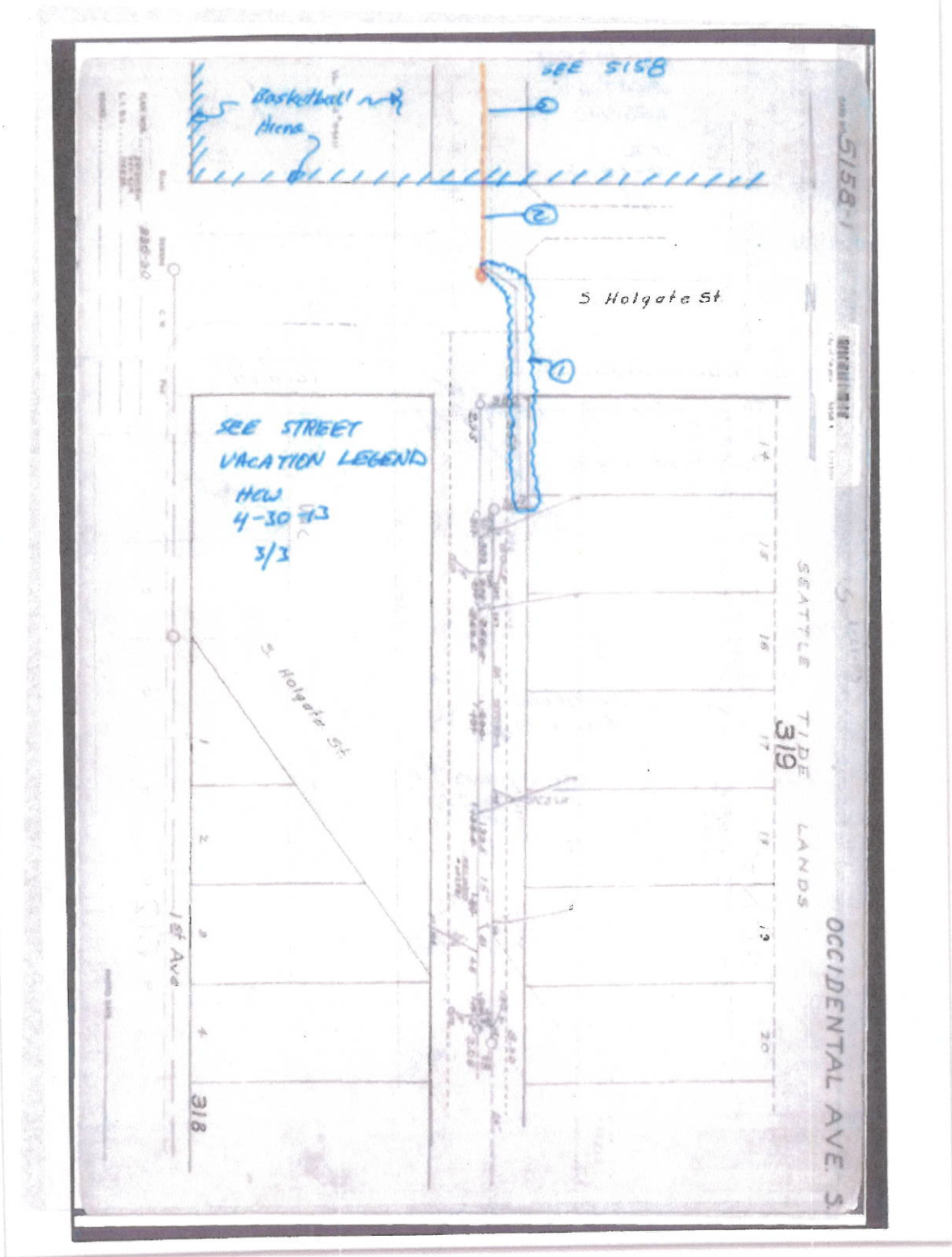


Exhibit "B"





City of Seattle
Seattle Public Utilities

DATE: June 16, 2015
TO: Moira Gray, Street Vacation Office
FROM: Carolyn Johnson, Senior Real Property Agent;
Seattle Public Utilities Street Vacation Reviewers

**VACATION:
REVIEWED** Proposed Vacation of Occidental Avenue South; Clerk File 312905 –request
for updated comments after FEIS

Seattle Public Utilities (SPU) has been asked to review the Final Environmental Impact Statement (FEIS) for the proposed Arenaco Sports Arena, which includes a proposal to vacate Occidental Avenue South between South Holgate Street and South Massachusetts – The FEIS is located on the DPD website: <http://web6.seattle.gov/dpd/edms/> to access the FEIS, enter the project number #3014195. The FEIS is listed under “Other”, capture date 5/7/15.

SPU has reviewed the FEIS in relation to the SPU infrastructure impacted by the street vacation and we find that SPU’s comments presented to SDOT on May 30, 2013, will remain the same.

THERE ARE NO NEW COMMENTS OR RECOMMENDATIONS.

Cj\SPU Reviewers

Ray Hoffman, Director
Seattle Public Utilities
700 5th Avenue, Suite 4900
PO Box 34018
Seattle, WA 98124-4018

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April 25, 2013

Moira Gray
Seattle Department of Transportation
Street Use & Urban Forestry Division
700 Fifth Avenue, Suite 2300
PO Box 34996
Seattle, WA 98124-4996

RE: Vacation of a Portion S between S Massachusetts St and S Holgate St in the SODO Industrial area for a proposed professional basketball arena.

Dear Ms. Gray,

This letter is in response to the notice for all of the above referenced proposals. Please be advised that **Qwest Corporation (d/b/a CenturyLink) currently has facilities in the area(s) addressed by these actions. These facilities and our needs have been identified by our Engineer with the Arena Development Team.**

At this time, Qwest (d/b/a CenturyLink) has no issues with the proposed vacations **so long as provisions are made to incorporate our requests by either PUE or private easement to cover our existing & future facilities.**

Please feel free to contact me as needed; I can be reached at 206-345-0333 or R.Lawrey@CenturyLink.com. Thank you for your time.

Sincerely,

Qwest Corporation d/b/a CenturyLink QC

A handwritten signature in blue ink, appearing to read "R. Jeff Lawrey", written over a horizontal line.

R. Jeff Lawrey
Manager, Right-of-Way
Western Washington
1208 NE 64th St. Rm 401
Seattle, WA 98115

1208 NE 64th Street, 4th Floor
Seattle, WA 98115-6722
www.centurylink.com

Gray, Moira

From: Ash, Jennifer <Jennifer.Ash@kingcounty.gov>
Sent: Monday, October 26, 2015 8:17 AM
To: Gray, Moira
Subject: Proposed Vacation of Occidental Avenue South; Clerk File 312905

Follow Up Flag: Follow up
Flag Status: Flagged

Regarding the vacation of Occidental Ave S between S Massachusetts and S Holgate Streets in support of the arena project, King County Metro Transit has reviewed the petition for vacation and related information and has no concerns regarding this vacation. We appreciate the opportunity to review.

If you have any questions or any additional information becomes available for review, please feel free to contact Jennifer Ash, Real Property Agent in Transit Design & Construction/Real Estate and Environmental Planning, and I will coordinate review with the rest of the agency.

Thanks!

Jennifer

Jennifer Ash, Real Property Agent
Transit Design & Construction
206-477-5975

Gray, Moira

Subject: FW: SDOT- Occidental Ave S street vacation for arena

From: Maristela, Kristine [<mailto:Kristine.Maristela@kingcounty.gov>]

Sent: Tuesday, October 27, 2015 9:43 AM

To: Gray, Moira

Subject: RE: SDOT- Occidental Ave S street vacation for arena

Moira,
King County WTD does not anticipate any impact to our existing rights and facilities.
Thank you,
Kristine

KRISTINE MARISTELA

Real Property Agent III
King County DNRP- Wastewater Treatment Division
201 S. Jackson St., Suite 0505
Seattle, WA 98104-3855
(o) 206.477.6221

Notice: This communication may contain privileged or other confidential information. If you have received this information in error, please advise the sender by reply email and immediately delete the message and any attachments without copying or disclosing the contents. Thank you.

Gray, Moira

From: Altschuler, Jennifer L. [Jennifer.Altchuler@pse.com]
Sent: Tuesday, April 30, 2013 11:37 AM
To: Gray, Moira
Subject: CF No. 312905 (WSA Properties / Occidental Ave S)

Moira,

PSE has conducted a review of its existing gas facilities in the subject portion of Occidental Ave S. as described in Clerk File No. CF 312905. The subject vacate is being requested by WSA Properties. According to PSE's records, there is an existing 3" steel wrapped intermediate pressure natural gas main in 6" conduit located longitudinally along the full length of the proposed vacate area of Occidental Ave S. Our maps also indicate the main feeds several properites abutting Occidental.

PSE will require an easement in order to protect this natural gas main and allow for its safe and continuous operation in its current location.

Please let me know if you have any questions, and thank you for providing PSE the opportunity to comment.

Jennifer Altschuler
Supervisor Real Estate, Central Region
Mail: PO Box 97034 / EST-06W
Bellevue, WA 98009-0868
Direct: (425) 462-3054 / 81-3054

"Vision without action is merely a dream. Action without vision just passes the time. Vision with action can change the world." ~ Joel A. Barker

Gray, Moira

Subject: FW: Occidental Ave South Street Vacation request for updated Comments

From: Malesis, Alex [<mailto:Alex.Malesis@pse.com>]
Sent: Monday, June 01, 2015 9:53 AM
To: Gray, Moira
Subject: Occidental Ave South Street Vacation request for updated Comments

Moira,

Previous comments from Puget Sound Energy were located in the FEIS appendices A-D document published May 7, 2015. These comments appear accurate and consistent with the facilities located at the project site.

Please contact me in the future for any other changes or reviews associated with this project.

Regards,

Alex Malesis
Real Estate Representative, Central Region
Puget Sound Energy
P. O. Box 97034 / EST-06W (AEM)
Bellevue, WA 98009
425-462-3436

NITZE-STAGEN & CO., INC.

STARBUCKS CENTER
2401 Utah Avenue South, Suite 305
Seattle, Washington 98134

May 21, 2013

Ms. Moira Gray, SDOT Street Vacation Office
700 5th Avenue, Suite 2300
PO Box 35996
Seattle, WA 98124-4996

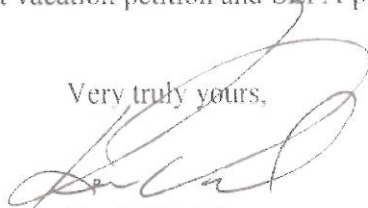
Re: New Arena Street Vacation Petition, City Clerk CF # 312905

Thank you for the information on the proposed street vacation submitted by WSA Properties, LLC, et al., for a portion of Occidental Avenue South for the proposed sports arena. We have been following the process with great interest.

While the proposal has the potential for many positive contributions, we hope the public benefit requirements of any street vacation approval will consider opportunities for pedestrian connections that enhance the SODO and Pioneer Square neighborhood. Also, the issues of traffic and parking will require special attention during the State Environmental Policy Act (SEPA) review, particularly the traffic at 1st and Edgar Martinez Way. Currently Occidental plays an important commute role in the AM commute (even if its unintended) and the increased additional flow south onto First Avenue South caused by this proposal will need to be improved over what exists today. We understand the Draft EIS is expected to be out in June and hope that the information will assist with the analysis of the impacts associated with this area. We will reserve further comments until then.

Please make us a party of record for the request, so that we may receive future notifications regarding the street vacation petition and SEPA process. Once again, thank you for the opportunity to comment.

Very truly yours,



Kevin Daniels
Vice President



May 31, 2013

Ms. Moira Gray
Seattle Department Transportation
PO Box 34996
Seattle, WA 98124
Email: moira.gray@seattle.gov

Re: Port of Seattle Early Comments on Proposed Vacation of Occidental Avenue South;
Clerk File 312905

Dear Ms. Gray:

Thank you for the opportunity to review the proposed package for the vacation of Occidental Avenue South. In addition to drawing on a century of marine cargo operations in the Duwamish Manufacturing and Industrial Center (MIC), our comments are based on review of:

- "Seattle Arena, Seattle Design Commission, Occidental Ave Street Vacation, Urban Merit" 5/2/13
- Memorandum, "Proposed Vacation of Occidental Avenue South: Clerk File 312905," Gray, 4/17/13
- "Seattle Arena Street Vacation Petition," 3/12/13
- Port of Seattle Commission motion concerning siting of a sports facility in SoDo, adopted 8/7/12
- Seattle Planning Commission's "Review of the Proposed Sports Arena in the Duwamish Manufacturing and Industrial Center." 7/27/12
- City of Seattle Container Port comprehensive plan element, adopted 4/2/12

Our international gateway serves imports and exports by providing container port facilities for cargo transfers from ships to truck or train, using the very system where capacity would be reduced if the vacation of Occidental Avenue South were approved. The Duwamish/SoDo neighborhood is a symbiotic network of businesses and infrastructure that supports this economic driver.

The Port of Seattle is on record supporting the return of NBA basketball to our region. The Port, however, has raised concerns about the impacts of the proposed SoDo arena development on port operations and the economic vitality of the Duwamish industrial area.

The information provided by the applicant does not justify a street vacation and the loss of transportation capacity. The application does not demonstrate that the vacation is in the public interest, nor that its impacts can be addressed. The vacation would exacerbate the traffic operations in the Duwamish/SoDo neighborhood in ways that the proponents have not disclosed nor sufficiently analyzed. Further analysis of the concerns laid out below must be completed before a decision about the proposal can be made. Effective mitigation measures must be in place before any vacation could occur.

1. Occidental Avenue S between SR 519 (Edgar Martinez Drive) and S Holgate Street functions as a relief valve for the 1st Avenue S and S Atlantic Street intersection, serving through traffic in addition to adjacent properties. This intersection is the primary gateway for

traffic between this neighborhood and Interstates 5 and 90. Losing the traffic carrying capacity afforded by Occidental Avenue will divert this traffic to adjacent streets, exacerbate congestion in the area, and affect access to and from the interstates.

2. The proposed vacation of Occidental risks adverse land use effects which are inconsistent with city policies.
3. Other street proposals presented in these documents further weaken the capacity of the street network in the Duwamish Manufacturing & Industrial Center (e.g., lane reductions on 1st Avenue, festival street uses), yet there is no corresponding discussion of viable and effective mitigation measures.

The following paragraphs provide additional information and examples of these three concerns.

1. **Through traffic on Occidental:** Occidental Avenue S is one of only three north-south streets located between the BNSF Railway mainline railroad tracks and the SIG Railyard, and is an important part of the limited grid of streets in this neighborhood. It currently serves traffic destined beyond the adjacent properties, among SR519 (Atlantic/Edgar Martinez Drive), S Holgate Street, and 1st Avenue S, in addition to providing local access to adjacent properties. Some of the street vacation documentation refers to Occidental Avenue S as an alley, which it is not—it serves a much broader role for through trips as well, given the existing capacity deficiencies of the surrounding street system.
 - Occidental Avenue S carries through traffic between SR 519 and S Holgate Street throughout the day, but its capacity is even more important during peak periods when the intersection at 1st Avenue South and Atlantic Street operates under failing (LOS F) conditions. In the morning, vehicles on westbound SR 519 will turn onto southbound Occidental to bypass this congested intersection, and in the afternoon, northbound vehicles will use Occidental instead of 1st Avenue S to access the interstate ramps.
 - The Port understands that Occidental plays an important role for access to the Mariners garage as well. Impacts and delays compared to current operations due to the proposed vacation have not been analyzed (ref p. 9, Street Vacation Urban Merit, 5/2/13).
 - When trains crossing Holgate block eastbound vehicle traffic, Occidental provides a through route to the SR519 (Edgar Martinez Drive) overpass which provides grade-separated access over the tracks.

Further data and analysis are needed to determine the volume of traffic that would be diverted to other streets, and to evaluate the impacts of those diversions due to the proposed street vacation. We do not see how these impacts can be mitigated given the current street configuration, existing structures, limited land availability and lack of funding. Yet, effective mitigation measures must be in place before any vacation could occur. Mitigation measures will likely be necessary at locations such as 1st and Atlantic, 1st and Massachusetts, 1st and Holgate, as well as Occidental and Holgate, 4th and Holgate, Massachusetts and Atlantic, and at train crossing blockages. We note that Washington State Convention Center was built elevated over the freeway, to allow traffic to continue to flow.

2. **Inconsistency with City Policies:** The proposed vacation of Occidental is inconsistent with city policies as it risks adverse transportation impacts that the city's Container Port Element of the Comprehensive Plan is seeking to prevent, and to the City's Manufacturing

and Industrial Center, resulting in increasing gentrification pressure and a negative impact on the city's economy.

- Approval of this proposed street vacation is inconsistent with the Container Port element of the City's comprehensive plan because it would impair the vital cargo transportation corridors that serve the Port's marine cargo terminals and put redevelopment pressure on nearby industrial lands. Among the policies in that element, Policy CP3 speaks directly to this situation: CP3: Discourage non-industrial land uses, such as retail and residential, in industrially zoned areas to minimize conflicts between uses and to prevent conversion of industrial land in the vicinity of cargo container terminals or their support facilities."
- In 2007, the City held extensive study and stakeholder outreach regarding industrial lands as a city resource. It concluded that development of intense commercial uses near and within the industrial zones threatens the viability of industrial centers and their living wage jobs. At year end, the council passed Ordinance 122601 imposing significant limitations on developing commercial uses on industrially-zoned land. The proposed street vacation and the resulting development will put additional pressure on the remaining industrial lands base, which this ordinance was intended to prevent.
- The Seattle Planning Commission's "Review of the Proposed Sports Arena in the Duwamish Manufacturing and Industrial Center" (7/27/12), also notes that the proposed arena is likely to put further conversion pressure on nearby manufacturing and industrial businesses, as the additional non-industrial traffic makes industrial transportation to and from the area less efficient and more congested, weakening the long-term prospects for industrial growth.
- Further, from the same document, the potential loss of tax revenue and jobs from the Manufacturing and Industrial Sector puts at risk 36% of the City's total revenue from all sales tax receipts and 38% of the City's total business and occupation (B&O) tax revenue annually.

These impacts are not consistent with long-term public benefit.

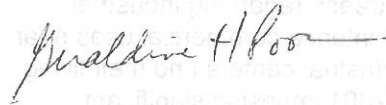
3. **Accounting for cumulative proposed street changes**: Other street proposals presented in these documents further weaken the capacity of the street network in the Duwamish MIC, yet there is no corresponding discussion of viable and effective mitigation measures.

- The petition's First Avenue Street Section ("Street Vacation Petition," 3/12/13, p. 84) shows 1st Avenue reduced from three lanes in each direction (including parking) to 2 lanes (including parking) with a center turn lane. Adding this to the proposal to vacate Occidental must be thoroughly analyzed and mitigated.
- Festival Street use on Occidental, between Edgar Martinez Drive and Massachusetts, and on Massachusetts, between 1st and Occidental, must be part of the transportation analysis and mitigation planning, as well.
- An additional scenario to consider in the cumulative changes to the street use is how the proposed tolling of the SR99 Bored Tunnel will increase the traffic at the south portal to the tunnel, in this same SoDo/Duwamish neighborhood.

Upon close review of the proponent's documents, we suggest some technical edits in the Technical Addendum below.

While we have expressed concerns about the proposal of a Seattle Arena in the Duwamish MIC, we support the concept of NBA basketball in the region and recommend alternate sites for the reasons which will become apparent when thorough transportation analysis is completed. We look forward to more information becoming available. Please do not hesitate to contact me at 206-787-3778 or Poor.G@PortSeattle.org with any questions or concerns regarding this letter.

Sincerely,



Gerri Poor, AICP
Manager, Regional Transportation
Port of Seattle

Cc: Styryk, Merritt, Gellings, Goodwin, Wolf

TECHNICAL ADDENDUM – recommended edits to proponent's graphics

- p. 22 (Street Vacation Petition): Graphics showing "interstate access" (beginning on p. 22 of Street Vacation Petition and continuing throughout) reflect only the access to I-90 at the throat of the highway above Airport Way. In fact, those ramps connect to the city street system at 4th Avenue South (north of Royal Brougham), and at 3rd and 4th Avenues with SR519 (Edgar Martinez Drive). These locations, which are much more proximate to the proposed street vacation, should be shown.
- p. 22 (Street Vacation Petition and ensuing): Base map graphics showing "BNSF Yard" (between Occidental and 3rd Avenue South on either side of Holgate), (beginning on p. 22, and as well p 34/35, of Street Vacation Petition, and p. 11 Urban Merit, 5/2/13) should reflect that this is a passenger train maintenance yard (Sounder, Amtrak) with heavy traffic crossings as well as the mainline rail through Seattle. There are frequent closures at the 14 Holgate rail crossings.
- p. 16 (Urban Merit): Service Connections provided for PM peak, but given the permanency of the street vacation, AM and mid-day analysis is needed as well.



P.O. Box 1209
Seattle, WA 98111-1209
Tel: (206) 787-3000

www.portseattle.org

May 20, 2015

Via e-mail and U.S. Mail

Mr. Shannon Loew
Chair, Seattle Design Commission
PO Box 34019
Seattle, WA 98124-4019

Re: **Street vacation request submitted for the Seattle Arena (Clerk File 312905)**

The Port of Seattle appreciates the opportunity to provide comment on the proposed vacation of Occidental Avenue South in conjunction with the Seattle Arena proposal. We understand that the Design Commission cannot recommend approval of the street vacation without first concluding that the impacts to the transportation system are fully balanced by new public benefits created by the project.

The Port shares in the excitement of seeing NBA or NHL return to our region. However, after review of the FEIS our position is unchanged: The proposed location at Holgate and 1st Ave. is the wrong site because of its potential impact on the Duwamish MIC, the state's largest and most productive manufacturing industrial center. After more than three years, the developer still has no prospect of acquiring a basketball team. The Port and the maritime industrial community have said repeatedly we would like to work with the developer and the City to find a site that does not bring with it the significant impacts on an industry that supports so many middle-class job opportunities in our community. In simple terms, the siting of the arena is wide-open while the siting of the Port is not.

Street Network

Vacating Occidental Avenue S would cause irrevocable negative impacts to the transportation system in SoDo and the region. Occidental Avenue S. provides a variety of functions, around the clock 24/7, every day of the year, only some of which are addressed in the FEIS Section 3.8.2.10:

- a. Route to bypass 1st Ave S. and Atlantic during congestion. Occidental Ave S today serves as a bypass route throughout the day—there is no “potential” about it. In heavily congested conditions during the pm peak, even a small number of vehicles using this alternative make a big difference. It also serves an emergency access and egress route for both Safeco and Century Link Fields and provides pedestrian access to parking south of the two existing stadia
- b. Detour route for eastbound traffic blocked at railroad crossing
- c. Pedestrian route for stadia crowds
- d. Local access for adjacent businesses and events
- e. Staging for events at existing stadia

The Port takes exception to the reasoning that Occidental was vacated for Safeco Field, therefore there's no harm in vacating an additional block of Occidental for the arena.

- a. **1st and Atlantic:** Subsequent to Safeco construction and the reconceptualized State Route 519, with interstate freeway access only on Atlantic, the intersection of 1st Avenue S. and Atlantic took on a bigger role: the crossroads of North/South traffic to/from downtown and East/West access to the waterfront, the Port and the Duwamish MIC. As a result, 1st and Atlantic operates at LOS F for many hours of the day. Occidental Ave. S. serves as a "relief valve" for that intersection. The FEIS Section 3.8.2.10 presents the traffic information, but does not address additional traffic flowing to that intersection, nor improvements and design necessary on Massachusetts if the vacation were made.¹
- b. **Railroad Crossings of Holgate:** The FEIS does not address the role of Occidental Ave S. from Holgate to Atlantic as a detour when eastbound vehicles are stopped by a train blocking Holgate. There's no description of increases in traffic detouring back to 1st Avenue S. to access the SR519 Atlantic Overpass.
- c. **Sidewalk spillover:** The FEIS simply states that since a sidewalk exists on 1st Avenue S, pedestrian safety would be unlikely to be noticeably impacted. This overlooks the DEIS comment of the Port regarding the platoons of event-goers leaving the stadia en masse, and the potential for their spilling into 1st Avenue S. from the sidewalk.

It is clear to the Port that the proposed vacation of Occidental Ave S has negative impacts on the public good. The FEIS has not defined or quantified these impacts sufficiently. It, and other supporting documents to date, have also not clearly defined the public benefit derived from the proposed street vacation. Yet, it will be essential to understand both these impacts to ensure that there is no double counting of the benefits of any future mitigation measures. Mitigation measures addressing the impact of the street vacation must be accounted for separately, and in addition to, any mitigation measures necessary for impacts due to the operation of the proposed arena.

Permit Timing Issues

There are two aspects of the timing of the street vacation process that we find very alarming. First, the Design Commission previously asked the applicant to identify transportation mitigation measures in conjunction with the EIS process. The FEIS was released May 7th, and does not demonstrate that proposed mitigation will remedy the impacts, does not commit to mitigation, and, further, says the proponent will not commit until "a future substantive action" such as approval of the Master Use Permit (page CR-1, Appendix G of FEIS). This is a dangerous proposition with the potential to cause irreparable harm. How can the City ensure that mitigation measures are adequate if there is no clear commitment on the part of the project proponent regarding these measures, and if we do not know enough to even attempt to determine whether they are indeed sufficient to mitigate the proposed development's negative impacts?

Second, promises made to the industrial community as part of the MOU signed by the City Council in September 2012 have not been fulfilled. Specifically, no new protections for industrial land have been adopted, there is no

¹ Regarding the role of Occidental for vehicles to bypass the LOS F intersection of 1st and Atlantic, the FEIS notes 500 vehicles per hour (vph) in the AM peak on Occidental just south of SR99, and traffic on Massachusetts between Occidental and 1st goes from 85 to 260 vph if vacated, resulting in the 1st and Massachusetts intersection degrading. There is no FEIS mitigation proposed for that intersection, and no commitment to ensuring Massachusetts can accommodate that demand.

Mr. Shannon Loew
May 20, 2015

Page 3

heavy-haul corridor for the harbor, and no framework has been identified for the use of the \$40 million transportation mitigation fund. Each of these promises remains unfulfilled today.

The City of Seattle's Street Vacation public trust policies require that a "[v]acations may be approved only if they do not result in negative effects on both the current and future needs for the City's vehicular, bicycle, or pedestrian circulation systems or on access to private property, unless the negative impacts can be mitigated." See Street Vacation Policies, Public Trust Policy 1, CF 310078. For the reasons stated above, the proposed street vacation negatively affects the street network capacity in the vicinity of the proposal in a manner that is not adequately mitigated by the proposal. The street vacation is therefore in conflict with adopted street vacation public-trust policies which require mitigation of adverse impacts upon these public trust functions and must not be recommended for approval.

In closing, we would like to reiterate that it is imperative that the public have the transparency to distinguish the project proponent's proposals for "mitigation to remedy the arena impacts" from the proposals for "amenities provided to demonstrate public benefit" of the street vacation. For practical purposes, when the Design Commission forms a recommendation on street vacation public benefits package it will serve as the trigger point for setting the scale of mitigation as envisioned by the above-cited FEIS statement.

Thank you for this opportunity to voice our concerns regarding this application. If you have any questions please contact Joseph Gellings at (206) 787-3368, gellings.j@portseattle.org or Geri Poor at (206) 787-3778, poor.g@portseattle.org.

Sincerely,



Stephanie Jones Stebbins
Director, Seaport Division Environmental and Planning



June 22, 2015

Via e-mail and U.S. Mail

Ms. Beverly Barnett
Supervisor, Street Vacations
Seattle Department of Transportation
700 Fifth Avenue, Suite 3900
Seattle, WA 98124-4996

Re: **Street vacation request submitted for the Seattle Arena (Clerk File 312905)**

Dear Ms. Barnett:

The Port of Seattle appreciates the opportunity to comment on the proposed vacation of Occidental Avenue South in conjunction with the Seattle Arena proposal.

The Port shares in the excitement of seeing NBA or NHL return to our region. However, after review of the FEIS our position is unchanged: The proposed location at South Holgate Street and 1st Avenue South is the wrong site for the arena because of the arena's potential impact on the Duwamish MIC, the state's largest and most productive manufacturing industrial center. The Port and the maritime industrial community have said repeatedly we would like to work with the developer and the City to find a site that does not bring with it the significant impacts on an industry that supports our state, regional and local economy as well as so many middle-class job opportunities in our community.

The street vacation proposal should not be advanced unless and until the impacts to the transportation system are fully balanced by public benefits created by the project. Further, the street vacation proposal should not be advanced until the application can show that it can properly mitigate the impacts. And, the street vacation should not be consummated unless the arena receives all other necessary regulatory approvals.

Street Network

Vacating Occidental Ave S would cause irrevocable negative impacts to the transportation system in SoDo and the region. Occidental Ave S provides a variety of functions, around the clock, every day of the year, only some of which are addressed in the FEIS Section 3.8.2.10. The issues that have not yet been addressed include:

- a. **1st and Atlantic, Intersection Level of Service:** Occidental Ave S is the relief-valve for congestion on 1st Ave S and on S Atlantic St. Loss of Occidental Ave S's capacity will exacerbate congestion on 1st Ave S, S

Atlantic St and the intersection of the two. That impact will be irrevocable, and will affect conditions seven days per week, 24 hours per day. Yet, the intersection of 1st Ave S and S Atlantic St has no known remedies and operates at LOS F. The FEIS Section 3.8.2.10 presents the traffic information, but does not address additional traffic flowing to that intersection, nor improvements and design necessary on S. Massachusetts St if the vacation were made.¹

- b. **1st and Atlantic, Regional Implications:** Vacation of Occidental Ave S has regional implications, not just local. Subsequent to Safeco construction and a revised State Route 519 (SR519) configuration that consolidated both interstate freeway access and egress on S Atlantic St, the intersection of 1st Ave S and S Atlantic St took on a bigger role: the crossroads of North/South traffic to/from downtown and East/West access to the waterfront, the Port and the Duwamish MIC. The 1st Ave S and S Atlantic St corridor is the most critical connection for traffic entering or exiting the city at the southern edge of downtown, affecting freeway connections (SR519 traffic between I-5/I-90 and SR99 and the waterfront) and access to the freeway system from both the Duwamish MIC and downtown. This includes trucks moving between the region's freeways and the Port or the BNSF intermodal yard. As a connection between Seattle's core and the regional freeway system, it is only rivaled by the Mercer Corridor to the north of downtown.
- c. **S Holgate St Rail crossings:** Occidental Ave S provides an escape route for vehicles that are blocked by long trains on S Holgate St. It provides the route that vehicles can use to access Edgar Martinez Drive to pass over the railroad tracks between 1st and 4th Avenues S. The FEIS does not address the role of Occidental Ave S from Holgate to Atlantic as a detour when eastbound vehicles are stopped by a train blocking Holgate. There's no description of increases in traffic detouring back to 1st Ave S. to access the SR519/S Atlantic St grade separation.
- d. **Pedestrian Use of Occidental:** Occidental Ave S is an important south-bound egress route for pedestrians after Mariners and Seahawks games. If it is vacated, those pedestrians would be forced out to 1st Ave S, where sidewalks cannot feasibly be widened to accommodate the load without eliminating vehicular capacity on 1st Ave S. Further encroachment onto the vehicle carrying capacity of 1st Ave S would further exacerbate the already congested conditions along this corridor. The FEIS simply states that since a sidewalk exists on 1st Avenue S, pedestrian safety would be unlikely to be noticeably impacted. The FEIS overlooks the DEIS comment of the Port regarding the platoons of event-goers leaving either stadium en masse, and the potential for their spilling into 1st Ave S from the sidewalk.
- e. **Egress from the Mariners' garage after events:** The proposed vacation would force south-bound vehicles exiting that garage to use the emergency lane between the garage, future arena and the railroad tracks. That creates a potentially dangerous situation in case of an actual emergency and there has been no evidence of how the system would operate during a train crossing closing Holgate.

¹ Regarding the role of Occidental for vehicles to bypass the LOS F intersection of 1st and Atlantic, the FEIS notes 500 vehicles per hour (vph) in the AM peak on Occidental just south of SR99, and traffic on Massachusetts between Occidental and 1st goes from 85 to 260 vph if vacated, resulting in the 1st and Massachusetts intersection degrading. There is no FEIS mitigation proposed for that intersection, and no commitment to ensuring Massachusetts can accommodate that demand. To the contrary, the proposed redesign and use of Massachusetts exacerbates that issue, it narrows the street at the intersection with 1st Ave S. This makes the turning movements of large vehicles (emergency vehicles and large trucks) more difficult than they are today while eliminating all other existing options for access.

- f. **Vehicle Staging Area:** Occidental Ave S is often used by trucks staging for events at the stadiums. No alternative for this function has been proposed.

The Port takes exception to the reasoning that Occidental was vacated for Safeco Field, therefore there's no harm in vacating an additional block of Occidental for the arena. The previously vacated section did not have the same function in the transportation system provided by this section.

It is clear to the Port that the proposed vacation of Occidental Ave S has negative impacts on the public health, welfare, and safety. The FEIS identifies the loss of Occidental as a significant unavoidable, adverse impact on page 2-268 of the FEIS, Appendix E. The FEIS has not defined or quantified these likely adverse impacts sufficiently, nor identified mitigation measures needed to address potential impacts. It, and other supporting documents to date, have also not clearly defined the public benefit for the proposed street vacation. Mitigation measures addressing the project impacts—including pedestrian, traffic, and parking improvements for the arena and the street vacation—must be accounted for separately, and in addition to, any mitigation measures necessary for impacts of operation of the proposed arena.

Undefined mitigation

The FEIS released May 7th does not demonstrate that proposed mitigation will remedy the impacts, does not commit to mitigation, and, further, says the proponent will not commit until “a future substantive action” such as approval of the Master Use Permit (page CR-1, Appendix G of FEIS). This is a dangerous proposition with the potential to cause irreparable harm. How can the City ensure that mitigation measures are adequate if there is no clear commitment on the part of the project proponent regarding these measures, and if we do not know enough to even attempt to determine whether they are indeed sufficient to mitigate the proposed development's negative impacts?

MOU commitments unfulfilled

Moreover, the promises made to the industrial community as part of the MOU signed by the City Council in September 2012 have not been fulfilled. Specifically, no new protections for industrial land have been adopted, there is no heavy-haul corridor for the harbor, and no framework has been identified for the use of the \$40 million transportation mitigation fund. The street vacations should not be approved by the Council unless the Council first fulfills these actions to protect industrial uses.

Street vacation conflicts with public trust policies

The City of Seattle's Street Vacation public trust policies require that a '[v]acations may be approved only if they do not result in negative effects on both the current and future needs for the City's vehicular, bicycle, or pedestrian circulation systems or on access to private property, unless the negative impacts can be mitigated.” See Street Vacation Policies, Public Trust Policy 1, CF 310078. For the reasons stated above, the proposed street vacation negatively affects the street network capacity in the vicinity of the proposal in a manner that is not adequately mitigated by the proposal. The street vacation is therefore in conflict with adopted street vacation public-trust policies which require mitigation of adverse impacts upon these public trust functions, it must not be recommended for approval.

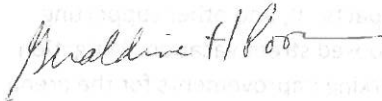
In closing, we reiterate that it is imperative that the public process distinguish the project proponent's proposals for “mitigation to remedy the arena impacts” from the proposals for “amenities provided to demonstrate public benefit” of the street vacation. SDOT's recommendation on the street vacation will set a tone for the scale of mitigation as envisioned by the above-cited FEIS statement. The City must not approve a street vacation without a

Ms. Beverly Barnett
June 22, 2015

better understanding of the likely, significant, unavoidable adverse impacts. Transportation and other impacts should be mitigated. In addition, the applicant should demonstrate that sufficient public benefit will result from approval of the street vacation to warrant the loss of the public's use of its property.

Thank you for this opportunity to voice our concerns regarding this application. If you have any questions please contact Joseph Gellings at (206) 787-3368, gellings.j@portseattle.org or myself at (206) 787-3778, poor.g@portseattle.org.

Sincerely,



Geraldine Poor, AICP
Manager, Regional Transportation

cc: City of Seattle: Sugimura, Kubly
Port of Seattle: Collins, Styrk, Jones Stebbins, Merritt, Gellings

From: [Ron Jay](#)
To: [Gray, Moira](#)
Subject: Re: Street vacation informaton for Occidental Ave S proposed sports arena
Date: Wednesday, April 17, 2013 2:43:05 PM

I am in favor of the new arenas location. I would ask that if Occidental is going to be vacated, there needs to be some concessions.

Third Ave north from Holgate to Royal Brougham needs to be brought up to city street standards. Holgate east from 1st. to Airport and Lander east from 1st. Airport is in need of desperate repair.

I feel the Port of Seattle needs to get involved since they are the major loads on these streets and the reason they are in the condition they are.

Its the same old problem, the people the beat-up the streets don't have to get involved in maintaining them. Lanes are being taken away and given to the bicycles who pay nothing to use them.

Thats my two-bits

Ron Jay
Vice President
Process Heating Company

A manufacturing buisness in the SODO area since 1947.

----- Original Message -----

From: [Rick Jay](#)
To: [Ron Jay](#)
Sent: Wednesday, April 17, 2013 1:37 PM
Subject: Fw: Street vacation informaton for Occidental Ave S proposed sports arena

Not sure if you got this.....

----- Original Message -----

From: [Gray, Moira](#)
To: [Gray, Moira](#)
Cc: [Barnett, Beverly](#)
Sent: Wednesday, April 17, 2013 1:18 PM
Subject: Street vacation informaton for Occidental Ave S proposed sports arena

Hello, SDOT has received a petition from WSA Properties et al for the vacation of Occidental Ave S between S Massachusetts St and S Holgate St in the SODO Industrial area for a proposed professional basketball arena. Attached is the initial project information regarding the vacation for your preliminary review and comments. We are asking for comments prior to our forwarding a recommendation to the City Council. We would like to receive your comments by May 31st, however comments are accepted throughout the review period.

Thank you, Moira

MOIRA GRAY



City of Seattle

Mike McGinn, Mayor

*Seattle
Freight
Advisory
Board*

Warren Aakervik, Chair

Linda Anderson

Bar Bookout

Katharine Casseday

Terry Finn

Anne Goodchild

Timothy Hills

David Mendoza

Mike Sheehan

Robert Smith

Cameron Williams

The Seattle Freight Advisory Board shall advise the City Council, the Mayor, and all departments and offices of the City in development of a functional and efficient freight system and on all matters related to freight and the impact that actions by the City may have upon the freight environment.

City Council Resolution
31241

July 23, 2013

Ms. Moira Gray
Seattle Department Transportation
PO Box 34996
Seattle, WA 98124
Email: moira.gray@seattle.gov

Re: Seattle Freight Advisory Board Comments on the Proposed Vacation of Occidental Avenue South; Clerk File 312905

Dear Ms. Gray:

Seattle's Freight Advisory Board would like to submit the following comments on the proposed vacation of Occidental Avenue South. We trust that our input will be considered in the next stages of the decision process.

After review of the information provided by the applicant to date, we must conclude that the public benefits outlined by the proponent do not justify a street vacation due to the resulting loss of transportation, and in particular, freight capacity. Our conclusion is based on the following:

Occidental Avenue S, between SR 519 (Edgar Martinez Drive) and S Holgate Street, serves as a critical alternative connection to the region's freeways. It essentially functions as a relief valve for the 1st Avenue S and S Atlantic Street intersection, which is often overloaded. The 1st Avenue S and S Atlantic Street intersection is the primary gateway for traffic between the Duwamish Manufacturing Industrial Center (MIC) and Interstates 5 and 90 freeways. Occidental Ave also allows east-bound traffic on Holgate St. blocked by a train to get to reroute to the Atlantic St. overpass and avoid a long wait. Occidental Ave supports through traffic as well as access to adjacent properties. Losing Occidental Avenue's relief-valve function will divert traffic to adjacent streets, worsen congestion in the area, and negatively affect access to and from the interstates.

The analysis of the traffic impacts of street vacation in the proposal is limited and does not address the impacts of the loss of through-capacity. In one instance, the proposal even calls Occidental Avenue an "alley", which is patently incorrect considering its double relief-valve function. The vacation of Occidental Ave would worsen traffic in the Duwamish MIC in ways that the proponents have not sufficiently described or analyzed. Further evaluation is needed to understand the amount of traffic that would be diverted to other streets, and the impacts of that diversion.

Seattle Municipal Tower, 700 5th Avenue, Suite 3800, PO Box 34996, Seattle, WA 98124-4996
Tel: (206) 684-4103 Tel: (206) 684-5000 Fax: (206) 684-5180

Web: www.seattle.gov/sfab/

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Further evaluation is also needed related to the proposal to reduce traffic lanes on 1st Avenue and operation of Occidental Avenue as a Festival Street. The proposal that 1st Avenue be reduced from three lanes in each direction (including parking) to 2 lanes (including parking) with a center turn lane is expected to reduce vehicle capacity. The proposed Festival Street operation on Occidental between Edgar Martinez Drive and Massachusetts, and on Massachusetts between 1st and Occidental would likewise constrain capacity in the area. Any decision on the street vacation must also consider the cumulative impacts of the entire proposal. We expect that the EIS analysis currently underway will address at least some of these questions and inform both your recommendation to Council and the Council's decision.

Our conclusion that the public benefits to be derived from the proposed street vacation do not outweigh the negative impacts is based on our knowledge of the area and its existing transportation infrastructure. We cannot see how its impacts can be mitigated given already existing congestion, the current street and rail network and other structures, the limited availability of land for additional transportation infrastructure, and a profound lack of funding. The value of this block of Occidental Avenue is difficult to assess, however it currently functions as an important relief-valve for freeway access and industrial area circulation. Effective mitigation measures must be identified, developed, funded, and built before any vacation of Occidental Avenue can occur, in order to maintain the critical balance of public mobility and function of the street network.

As representatives of the industrial community we are also concerned about the increasing land use pressures on the Duwamish MIC. Gentrification pressures are likely to follow the development of the proposed arena and its ancillary entertainment district. There is a limited amount of industrial land remaining within the City, and we should do everything we can to keep it viable for manufacturing, warehousing and other industrial uses. We fear that increasing congestion that makes deliveries more difficult, combined with increased pressure to up-zone close-by land, will pose a further threat to the remaining industrial base in the Duwamish MIC.

In closing we would like you to know that, while we have concerns about the proposal of a Seattle Arena in the Duwamish MIC, we support the concept of NBA basketball in the region and suggest selection of an alternate site. We look forward to more information becoming available in the future. Please do not hesitate to contact me at 206-783-0241 with any questions or concerns regarding this letter.

Sincerely,



Warren Aakervik
Chair, Seattle Freight Advisory Board

May 23, 2013

Via Email

Ms. Moira Gray
SDOT Street Vacation Office
Seattle Department of Transportation
700 Fifth Avenue, 39th Floor
Seattle, Washington 98104-5043

Re: *Comments on Arena Street Vacation Petition, City Clerk CF # 312905*

Dear Ms. Gray:

On behalf of the Seattle Mariners, we offer the following comments on the Occidental Avenue South street vacation petition submitted in March, 2013, by WSA Properties, LLC, et al., for the proposed arena.

As outlined in this letter, the proposed vacation will have significant adverse impacts on traffic circulation that must be mitigated. Without very specific mitigation imposed as a condition of street vacation approval, the vacation would adversely affect: 1) access to and from the Safeco Field garage, surface parking lot, and service road; 2) emergency access to the ballpark and areas north; 3) use of the plaza west of the Safeco Field garage and Occidental Avenue north of the arena, for staging and other activities for the ballpark and Century Link.

In addition to requiring mitigation for loss of the street, we have two primary concerns regarding the review process for the street vacation:

- The information presented in the street vacation petition is based on an inadequate understanding of current traffic conditions in the area. Basic data is lacking on how the streets are actually used. Traffic associated with the interplay of Safeco Field, Century Link, and the Exhibition Hall creates a complicated and unique situation. There must be careful consideration of the existing conditions and that information will not be available until an Environmental Impact Statement is prepared and vetted through a public process. In the absence of such critical information, action on the street vacation (by either SDOT or the Design Commission) is premature. We urge SDOT to obtain the needed information prior to issuance of a recommendation on the vacation.
- A number of our concerns with the proposed vacation could be addressed if a scheduling agreement was worked out with the arena ahead of time. A scheduling agreement is essential that avoids or eliminates events in the arena that

are concurrent with major events at Safeco Field or Century Link. The street vacation approval for the ballpark, and the permit approval for Century Link, both required the venues to coordinate their scheduling. If the arena street vacation is to be approved, a scheduling agreement must be required. In fact, this is so intrinsic to review of the arena proposal and street vacation, such an agreement should be required prior to issuance of SDOT's recommendation on the vacation.

Occidental and Massachusetts are Critical to Safeco Field and Related Uses

The Mariners have been active participants in the public process related to the new arena. The Mariners have appeared and made constructive comments and suggestions at every design review meeting. Many of those suggestions have been incorporated to improve the arena design elements. Even before the petition was filed, the Mariners met with the applicants and SDOT on February 4, 2012 to explain existing conditions in the area so that planning for the arena could properly account for those existing conditions. The Mariners presented a significant amount of information explaining the use of the portion of Occidental Avenue that is south of Massachusetts Street that would become part of the arena site ("Occidental South"), the use of Occidental Avenue north of Massachusetts Street adjacent to the Safeco Field plaza and parking garage ("Occidental North"), and the use of Massachusetts Streets and the functioning of the Safeco Field garage and the adjacent plaza during the various events at Safeco Field and Century Link. A multi-colored chart summarizing the information was provided to the applicants and SDOT at the meeting. *See* enclosed chart.

The chart summarizes the various street functions over the period of a year, and for each use assigns a color indicator of how necessary the streets are per month for a given use, with red being the most critical. As you can easily see, the streets are used *regularly* throughout the year for daily operation of Safeco Field for baseball games and other events. Occidental South and Occidental North, as well as Massachusetts Street, are critical for access to the Safeco Field garage. Based on permits and covenants, the garage serves as the required parking for Safeco Field and Century Link about 169 days per year. In addition, the immediate streets provide emergency vehicle access to the ballpark, and critical access to the surface parking area east of the garage, and to the service road and service compound on the southeast corner of the ballpark, that is essential for all the "back of house" functions (such as broadcast truck access, deliveries and loading docks, trash and recycling facilities, and security) for daily operation of Safeco Field.

The plaza area adjacent to the Safeco Field garage is committed as a staging area at least 100 days per year for events at Safeco Field and Century Link. Portions of the plaza provide essential charter bus parking (often for school children or seniors), and the curb side area of Occidental North is used for ADA and senior drop off. Massachusetts and Occidental North are the necessary access streets for substantial truck and other vehicle activity associated with those uses. In sum, use of the streets is critical year round.

Ms. Moira Gray
May 23, 2013
Page 3 of 5

After having provided this detailed information to the applicant, however, we are surprised to find that none of it was included in or factored into the Street Vacation Petition. Among other things, we found particularly curious the statement on Page 21 of the Street Vacation Petition that “the only parcels that utilize this portion of Occidental are parcels that will become part of the development. Therefore, vacation will not impact direct access for any other property not included as part of the development.” This statement is erroneous. It is similarly erroneous for the Street Vacation Petition on Page 39 to assert that Occidental and Massachusetts serve a “Minor” right of way vehicle circulation function.

As made clear in the information previously provided to the applicants, Occidental South, Occidental North, and Massachusetts are vitally important to Safeco Field and its related uses and functions year round. Information on existing conditions must be considered as part of the street vacation petition analysis; SDOT should insist on receiving accurate and complete information from the applicants. We also note from the City’s Street Vacation Policies that: “[v]acation requests may be approved only when they are clearly in the public interest. Rights-of-way will be retained unless it can be shown that they are not required for a current or foreseeable public use.” Street Vacation Policies, as contained in Clerk File No. 310078 (“Policies”), Framework Policy – Public Interest, Page 6.

In order to have adequate information for SDOT’s analysis, we urge you to consider information in the Draft and Final Environmental Impact Statement (“EIS”). In February 2013, in order to inform the EIS, we provided to DPD’s John Shaw and to the outside consultant, Transpo, information relating to the traffic and parking needs of Safeco Field. *See* enclosed February 11, 2013 letter to John Shaw. The information in the EIS will be critical to the City’s street vacation impact analysis and recommendations on mitigation. Therefore, we urge SDOT to consider the EIS information before making a recommendation on the vacation. We would also note that the City Council may not consider the petition until the Final EIS has been published. Policies, Section II, Policy 4, Guideline 4.2.C, Page 19.

Access Road Mitigation

Loss of Occidental South will cause significant impacts to Safeco Field and its related uses. Such impacts will require mitigation. In recognition of the adverse effects of the proposed vacation, the arena applicant has been amenable to providing a private access road along the east side of the arena property to make up for the loss of right of way function due to the vacation. We appreciate the applicant’s cooperation in that regard. Provision of an acceptably-designed access road, with appropriate operational safeguards, will go a long way toward mitigating the loss of Occidental South.

It is critical that this private access road be made a permanent requirement of the vacation for mitigation purposes, as the road is essential to the usability of the Safeco Field south garage entry/exit, surface parking area, service and operations compound, and service road. The private access road needs to be established as a perpetual easement granted to the ballpark property for access to and from Holgate. This access road will need to be

continuously available to the ballpark, on a 24/7, 365 day basis, with full clearance for highway trucks and appropriate security provisions.

This requirement is consistent with the Policies: "Vacations may be approved only if they do not result in negative effects on both the current and future needs for the City's vehicular, bicycle, or pedestrian circulation systems or on access to private property, unless the negative effects can be mitigated." Policies, Section I, Policy 1, Page 7. The private access road is critical mitigation for loss of Occidental South, and an agreement and easement for its use must be worked out prior to action on the proposed street vacation.

Mitigation for Impacts to Massachusetts Street

The function of Massachusetts Street will significantly change due to the arena. The arena's main entrance is off that street, and the proposal clearly intends for that area (including the street itself) to be a gathering space. Massachusetts Street is also critical for access to the Safeco Field garage.

The arena proposes to develop a small open space area on the arena-owned parcel on the north side of Massachusetts Street. However, more recently, it has been suggested (and supported by the arena applicant) that the Massachusetts Street right of way between Occidental and 1st Avenue South be moved north onto this arena-owned parcel, thereby squaring off the arena site on the north. Such a move would allow the arena's on-site plaza to accommodate a larger contiguous open space area in the critical location of the main entrance to the arena, thereby relieving pedestrian overflow that might otherwise have been forced into a busy street. It is an important safety improvement. This realignment would also improve the flow of traffic into and out of Massachusetts Street and the Safeco Field garage, and better align the right of way with Massachusetts street west of First Avenue. The Mariners support this proposal and suggest it be required as mitigation, should the street vacation be approved.

Closure of Additional Streets as "Festival Streets"

In addition to the proposed street vacation, the applicant proposes in connection with arena events to close Occidental North and Massachusetts to traffic in order to create a public plaza and pedestrian circulation for thousands of people, under a so-called "Festival Street" permit. Street Vacation Petition, Pages 57 - 58. Such a closure would be an additional loss of right of way function with a direct and severe effect on ballpark operations that cannot be mitigated.

We also note that this particular proposal is not compliant with the rules for Festival Street permits. Such permits are not allowed for activities with "anticipated attendance of over 300 people." SDOT DR 2-2012, Section 6.3.

Ms. Moira Gray
May 23, 2013
Page 5 of 5

Conclusion

Thank you for considering our comments, and we would be happy to work with SDOT and the arena team regarding these issues and concerns.

Very truly yours,



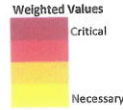
Melody B. McCutcheon

MBM:vh
Enclosures

cc: Seattle Mariners

ND: 15284.013 4818-2762-5492v1

Safeco Field, Occidental and Massachusetts Streets - Use and Access Overview



Key:
 X--at all times/continuous
 D=Daily use
 I= Intermittent as needed for activity
 R=required
 P=permanent agreement for access

Garage	Use	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	
Daily parking for staff, vendors	150	X	X	X	X	X	X	X	X	X	X	X	X	24/7
Staff reserved parking - 1South	50													Other times as needed
Secured Parking - 1North	100	X	X	X	X	X	X	X	X	X	X	X	X	24/7
Baseball only per MUP	2000													Restricted to game use on game days
Non-baseball events at SF	varies													Varies by event type and size
CLINK event parking	2000	X	X	X	X	X	X	X	X	X	X	X	X	By covenant for all football, soccer, concerts, flat shows
Outside events	varies													Seafair, marathons, etc.
Lease - adjacent office buildings	50	X	X	X	X	X	X	X	X	X	X	X	X	Except during baseball games
SPD Training	level 6													Approximately 6 day per year/level 6

Plaza and Adjacent Right of Way

Baseball game charter buses	70%			X	X	X	X	X	X	X	X			varies by total lengths but usually about 30-35 buses
Overflow parking	10%			X	X	X	X	X	X	X	X			As needed
ADA assisted staging	10%			X	X	X	X	X	X	X	X			Every game, end of game
Traffic police marshalling and staging	5%	I	I	X	X	X	X	X	X	X	X	I	I	Every game or major event requiring a Traffic Control Plan
Non-baseball charters	varies													By event
Blink EV Chargers	5%	X	X	X	X	X	X	X	X	X	X	X	X	24/7, north end only
Safeco Field Events	varies													Fan Fest, private events
CLINK Events	varies													For all football, soccer, concerts, flat shows
Other events	varies													As contracted
SF Projects	varies													Construction parking, SF events staging
Marshalling area emergency evacuation	100%													Must meet attendance threshold to activate
Metro to the Mariners														

Service Road, Surface Lot and Compound

Truck deliveries of food and supplies		D	D	D	X	X	X	X	X	X	D	D	D	550-600 trucks per month; higher at beginning of season; about 200 per month during offseason
Armored car deliveries					D	D	D	D	D	D				
Mail deliveries	3-5/day	D	D	D	D	D	D	D	D	D	D	D	D	varies
Equipment deliveries														varies
Event rentals														cranes, lifts, etc.
Oversized items														At peak 4 Trucks per day
Trash, recycling and composting					D	D	D	D	D	D				2 Trucks per week
Gas tank and gas cylinders														Sod and other field bulk materials, events materials
Door 6 access to Field (west side access)	varies													when requested
Special security														as needed
Police response marshalling														
Player Parking Access					X	X	X	X	X	X				
Family Parking Access					X	X	X	X	X	X				
Aramark and Centerplate parking access	20				X	X	X	X	X	X	X	X	X	
Security Check-in														
Police parking	25				X	X	X	X	X	X	X	X	X	
Night Access to Security					X	X	X	X	X	X	X	X	X	
Team Buses/TSA Screening					X	X	X	X	X	X	X	X	X	
Secured Parking Access					X	X	X	X	X	X	X	X	X	
Television Trailer														
TV Trucks	2 to 4				D	D	D	D	D	D				
Media Parking	25				D	D	D	D	D	D				
South Entrance to Garage	500				D	D	D	D	D	D				
South Entrance to Plaza (routing plan)					D	D	D	D	D	D				
Marshalling area														

Fire Lane (service road)

Emergency access via Occidental and Massachusetts	R	R	R	R	R	R	R	R	R	R	R	R	R
Mis, CP and ARA employee ingress/egress	D	D	D	X	X	X	X	X	X	X	D	D	D
Emergency egress	R	R	R	R	R	R	R	R	R	R	R	R	R

Covenants and Easements

First and Goal Covenant	P	P	P	P	P	P	P	P	P	P	P	P	P	garage and plaza parking
State of Washington DOT Easements	P	P	P	P	P	P	P	P	P	P	P	P	P	entire service road to overpass in security compound
BNSF Easement	P	P	P	P	P	P	P	P	P	P	P	P	P	entire length from RB to Massachusetts east of fence 14'
Overhead Utility Easement	P	P	P	P	P	P	P	P	P	P	P	P	P	overhead utility line along south service road east-west orientation
EBI Cabinet Easement	P	P	P	P	P	P	P	P	P	P	P	P	P	King County equipment on plaza



February 11, 2013

John Shaw
Department of Planning and Development
City of Seattle

BY EMAIL TO: john.shaw@seattle.gov

Dear John,

Your email of January 22 listed five information requests from Transpo, the firm preparing the transportation section of the arena EIS. This letter, with its attachments, provides our responses.

Subsequent to your email, SDOT set up a meeting with SDOT staff, the Mariners, and arena representatives. The purpose of the meeting (held February 4, 2013) was for us to provide information on the use of Occidental and Massachusetts Streets, and the Safeco Field Plaza for the various events at Safeco Field and Century Link. A summary of that information (in the form of a multi-colored chart) was presented at the February 4 meeting with SDOT. A copy of that chart is also attached for use by you and the EIS consultants.

Please note that the attachments presented in response to Transpo's requests focus almost exclusively on Major League Baseball games, rather than the full range of events at Safeco Field. To understand the full traffic, parking, loading, and access needs associated with Safeco Field and its garage, plaza, and internal access road, please refer to the attached multi-colored chart.

The request from Transpo was for the following information:

- 1) Historic schedule and attendance for the last three years;
- 2) Information, perhaps from ticket scanners, that show pedestrian arrival patterns by hour prior to events;
- 3) Effective garage capacity for events and any information on special parking requirements internal to the garage (e.g., club level parking);
- 4) Vehicle arrival patterns by hour for vehicles parking in the garage;
- 5) A distribution of season ticket holders by zip code

With regard to (1), we have included all years of attendance at Major League Baseball games from 1999-2012. As you will see, data for the 3 most recent years is not representative of historical attendance levels and should not be used unless all years are used. Any analysis or assumptions made regarding future attendance at Major League Baseball games at Safeco Field must be based upon all historic information as there is every reason to expect that future annual attendance levels will fall between the highest and lowest watermark years.

We have included photocopies of 9 years of "magnetic schedules". This information is presented this way as an easy means to see the variability of Major League Baseball scheduling from year to year. While we could provide lists of schedules, they do not readily show differences in scheduling which are so visible by lining up the various schedules next to each other. It should also be noted that a major change is occurring in 2013 with the Houston Astros joining the American League West which is impacting all of major league baseball scheduling.

In response to question (2) we have included data and a graph of our baseline year (2001) for pedestrian entries at our ballpark gates for Major League Baseball games. This data was collected by ticket scanners. The graph shows a fairly consistent arrival pattern for evening games while arrivals for day games, whether weekday or weekend day, tends to be less consistent with more ticket holders arriving late and even past game time. All subsequent years are compared to 2001. The significant amount of highway construction around the ballpark over several years plus the continuing loss of parking around the ballpark has skewed information every year. The next chart "Gate Usage by Year" is data also collected by ticket scanners showing the relative density of usage of the various gates. It has been noted on the chart that there is a fairly significant cross over of pedestrians – people who do not use the closest gate to the arrival point. This can be due to a variety of reasons including a personal preference for a certain gate, the location of the ticket holder's seat inside the ballpark, or other factors such as a desire to go directly to a specific activity or point of interest inside the ballpark. This cross over behavior has also been studied for postgame egress and also shows a significant amount of cross over foot traffic outside the ballpark after games.

The next sheet shows effective garage capacity for event and non-event conditions, specifically addressing baseball use. Again it should be noted that while special ticket groups may be provided parking as part of a ticketing package, ticket holders are not provided specific reserved spaces, they are only guaranteed that they will have a space to park on one or more levels of the garage. Usage for private events is individually contracted and may include highly specific agreements or requirements not included here.

With regard to question 4, we are not able to supply the requested data. We have not historically used scanners in our garage except for pre-purchased parking so we have no arrival data for vehicles. However, ballpark entry gate data is highly reflective of vehicle arrival patterns, except for early arrivals (more than 2 hours before a game). People arriving more than 2 hours prior to a game are not able to enter the ballpark since the gates are not open, but, this normally is a relatively small number of people and does not significantly impact the overall numbers. People arriving once the gates are open are not likely to go to a secondary destination between parking and entering the ballpark.

We have not provided data in response to question 5 as we do not believe data by zip code is necessarily representative of traffic and parking conditions. Many of our season ticket holders purchase ticket

packages that they share with family members, business associates, customers and others. Consequently the zip code of the purchaser is infrequently representative of who is using season tickets.

We have included an ingress distribution chart updated for 2013 showing where vehicles are coming from. This has changed very little since the original study was done before the ballpark opened except that construction on SR520 and SR99 has skewed this information recently. In the case of SR520, arrivals on weekends are more likely to use I-90 to get to the ballpark without paying a toll while on weeknights they are more likely to pay the toll and use SR520 to avoid heavy westbound traffic on I-90.

Thank you for providing this information to the EIS consultant team. If there are any questions, please let me know as we would be happy to meet and share further information so that the EIS reflects an accurate assessment of conditions in and around Safeco Field.

Sincerely,



Susan Ranf
Senior Director of Transportation Planning
and Neighborhood Relations

cc: Bart Waldman, Mariners
Melody McCutcheon, HCMP

Attendance by Year

The following data shows attendance for every year played at Safeco Field. Based upon industry history and experience future attendance in any year is likely to fluctuate between the highest and lowest of these years, not just the past three years.

1999	2946346 (this is for the entire season, only the second half was played at Safeco Field)
2000	3150034
2001	3507976
2002	3540182
2003	3269268
2004	2942054
2005	2725549
2006	2481375
2007	2672485
2008	2332530
2009	2196461
2010	2085630
2011	1896936
2012	1722001



SEATTLE MARINERS

2003 SCHEDULE



SUN	MON	TUE	WED	THU	FRI	SAT
March 25 & 26 vs. Oakland at Tokyo, Japan		FSN 1 OAK 7:05	FSN 2 OAK 7:05	3	TEX 4 11:05	TEX 5 5:05
FSN 6 TEX 12:05	7	FSN 8 ANA 2:05	FSN 9 ANA 7:05	FSN 10 ANA 7:05	FSN 11 TEX 7:05	FSN 12 TEX 7:05
FSN 13 TEX 1:05	FSN 14 OAK 7:05	FSN 15 OAK 7:05	FSN 16 OAK 7:05	FSN 17 ANA 1:35	FSN 18 ANA 7:05	FSN 19 ANA 7:05
FSN 20 ANA 1:05	21	FSN 22 CLE 7:05	FSN 23 CLE 7:05	FSN 24 CLE 7:05	FSN 25 DET 7:05	FSN 26 DET 7:05
FSN 27 DET 1:05	28	FSN 29 NYY 4:05	FSN 30 NYY 4:05	APRIL		

SUN	MON	TUE	WED	THU	FRI	SAT
MAY						FSN 1 NYY 4:05
				FSN 2 CWS 5:05	FSN 3 CWS 4:05	FSN 4 CWS 7:05
E 4 CWS 5:05	5	FSN 6 NYY 7:05	FSN 7 NYY 7:05	FSN 8 NYY 7:05	FSN 9 CWS 7:05	FSN 10 CWS 7:05
FSN 11 CWS 1:05	12	FSN 13 CLE 4:05	FSN 14 CLE 4:05	FSN 15 CLE 4:05	FSN 16 DET 4:05	FSN 17 DET 10:05
FSN 18 DET 10:05	19	FSN 20 KC 7:05	FSN 21 KC 7:05	FSN 22 KC 1:35	FSN 23 MIN 7:05	FSN 24 MIN 7:05
E 25 MIN 5:05	26	FSN 27 KC 5:05	FSN 28 KC 11:05	FSN 29 MIN 5:05	FSN 30 MIN 5:05	FSN 31 MIN 1:05

SUN	MON	TUE	WED	THU	FRI	SAT
FSN 1 MIN 11:05	2	FSN 3 PHI 4:05	FSN 4 PHI 4:05	FSN 5 PHI 4:05	FSN 6 NYM 4:10	FSN 7 NYM 4:10
FSN 8 NYM 10:10	9	FSN 10 MON 7:05	FSN 11 MON 7:05	FSN 12 MON 7:05	FSN 13 ATL 7:05	FSN 14 ATL 12:15
E 15 ATL 5:05	FSN 16 ANA 7:05	FSN 17 ANA 7:05	FSN 18 ANA 7:05	FSN 19 ANA 7:05	FSN 20 ANA 1:35	FSN 21 SD 7:05
FSN 22 SD 2:00	23	FSN 24 ANA 7:05	FSN 25 ANA 7:05	FSN 26 ANA 7:05	FSN 27 SD 7:05	FSN 28 SD 7:05
FSN 29 SD 1:05	30	JUNE				

Home Road **FSN** FOX Sports Net **11** UPN11/KSTW-TV **F** FOX **E** ESPN Subject to change
 Listen to the Mariners all season long on KOMO 1000 News

SUN	MON	TUE	WED	THU	FRI	SAT
		FSN 1 OAK 7:05	FSN 2 OAK 7:05	OAK 3 12:35	TEX 4 5:05	TEX 5 5:05
FSN 6 TEX 5:05	7	FSN 8 BAL 7:05	FSN 9 BAL 7:05	FSN 10 BAL 7:05	FSN 11 TB 7:05	FSN 12 TB 7:05
FSN 13 TB 1:05	14	All-Star Game at Comiskey Park		FSN 17 KC 5:05	FSN 18 KC 5:05	FSN 19 KC 4:05
FSN 20 KC 11:05	FSN 21 MIN 5:05	FSN 22 MIN 5:05	FSN 23 OAK 7:05	FSN 24 OAK 7:05	FSN 25 TEX 7:05	FSN 26 TEX 1:05
FSN 27 TEX 1:05	FSN 28 TEX 7:05	FSN 29 DET 7:05	FSN 30 DET 7:05	FSN 31 DET 1:35	JULY	

SUN	MON	TUE	WED	THU	FRI	SAT
AUGUST						FSN 1 CWS 7:05
FSN 3 CWS 1:05	4	FSN 5 CLE 4:05	FSN 6 CLE 4:05	FSN 7 CLE 4:05	FSN 8 NYY 4:05	FSN 9 NYY 10:20
FSN 10 NYY 10:05	FSN 11 TOR 7:05	FSN 12 TOR 7:05	FSN 13 TOR 7:05	FSN 14 TOR 7:05	FSN 15 BOS 7:05	FSN 16 BOS 1:05
FSN 17 BOS 1:05	18	FSN 19 TOR 4:05	FSN 20 TOR 4:05	FSN 21 TOR 4:05	FSN 22 BOS 4:05	FSN 23 BOS 10:20
FSN 24 BOS 1:05	25	FSN 26 TB 7:05	FSN 27 TB 7:05	FSN 28 TB 1:35	FSN 29 BAL 7:05	FSN 30 BAL 1:05

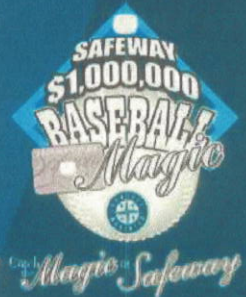
SUN	MON	TUE	WED	THU	FRI	SAT
		1 TB 4:15	2 TB 4:15	3 TB 4:15	4 BAL 4:05	5 BAL 4:05
FSN 7 BAL 10:35	8	FSN 9 TEX 7:05	FSN 10 TEX 7:05	FSN 11 TEX 7:05	FSN 12 ANA 7:05	FSN 13 ANA 7:05
FSN 14 ANA 1:05	FSN 15 TEX 5:05	FSN 16 TEX 5:05	FSN 17 TEX 5:05	FSN 18 TEX 5:05	FSN 19 OAK 7:05	FSN 20 OAK 1:05
FSN 21 OAK 1:05	FSN 22 ANA 7:05	FSN 23 ANA 7:05	FSN 24 ANA 1:05	25	FSN 26 OAK 7:05	FSN 27 OAK TBA
FSN 28 OAK 1:05	29	30	SEPTEMBER			

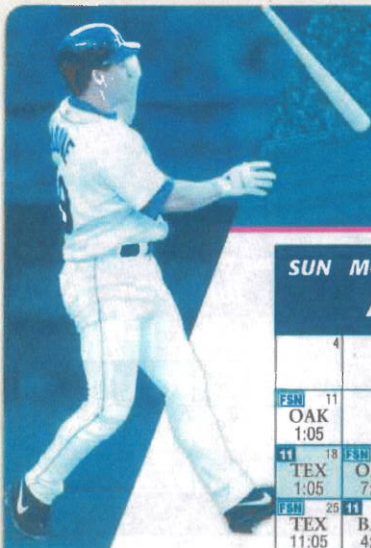
Home Road **FSN** FOX Sports Net **11** UPN11/KSTW-TV **F** FOX **E** ESPN Subject to change
 Listen to the Mariners all season long on KOMO 1000 News TBA=Game time to be announced

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www.SeattleMariners.com
 206-622-HITS
 Any TicketMaster Ticket Center

- Mariners Team Stores:
- SAFECO Field
 - Bellevue Square
 - Downtown Seattle (4th & Stewart)
 - Southcenter Mall
 - Alderwood Mall
 - Capital Mall (Olympia)
 - Bellis Fair Mall (Bellingham)
 - Northtown Mall (Spokane)





SEATTLE MARINERS

2004 SCHEDULE

SUN	MON	TUE	WED	THU	FRI	SAT
APRIL						
				1	2	3
		ANA 2:05	ANA 7:05	ANA 1:35	OAK 7:05	OAK 1:05
OAK 1:05		ANA 7:05	ANA 7:05	ANA 7:05	TEX 7:05	TEX 7:05
TEX 1:05	OAK 7:05	OAK 7:05	OAK 7:05	OAK 1:35	TEX 5:05	TEX 5:05
TEX 11:05	BAL 4:05	BAL 4:05	BAL 4:05	BAL 12:05	DET 4:05	

SUN	MON	TUE	WED	THU	FRI	SAT
JULY						
				TEX 1:35	STL 5:10	STL 1:05
STL 11:15		TOR 4:05	TOR 4:05	TOR 4:05	CWS 5:05	CWS 4:05
CWS 12:05		CLE 7:05	CLE 7:05	CLE 7:05	CLE 7:05	CLE 7:05
CLE 1:05	BOS 7:05	BOS 1:35	OAK 7:05	OAK 7:05	ANA 7:05	ANA 7:05
ANA 1:05	OAK 7:05	OAK 7:05	OAK 12:35	ANA 7:05	ANA 7:05	ANA 1:05

Tickets

- * 206-622-HITS
- * Any TicketMaster Ticket Center
- * SeattleMariners.com
- * Mariners Team Stores
 - Safeco Field
 - Bellevue Square
 - Downtown Seattle (4th & Stewart)
 - Southcenter Mall
 - Alderwood Mall
 - Capital Mall (Olympia)
 - Bellis Fair Mall (Bellingham)
 - Northtown Mall (Spokane)



SUN	MON	TUE	WED	THU	FRI	SAT
MAY						
						DET 10:05
DET 10:05		MIN 7:05	MIN 7:05	MIN 7:05	MIN 7:05	NYN 7:05
NYN 1:05		MIN 5:10	MIN 5:10	MIN 10:10	NYN 4:05	NYN 10:05
NYN 10:05		BAL 7:05	BAL 7:05	BAL 7:05	DET 7:05	DET 7:05
KC 11:05	DET 11:05	CLE 4:05	CLE 4:05	CLE 4:05	BOS 4:05	BOS 10:20

SUN	MON	TUE	WED	THU	FRI	SAT
AUGUST						
ANA 1:05		BAL 4:05	BAL 4:05	TB 4:15	TB 4:15	TB 3:15
TB 10:15		MIN 7:05	MIN 7:05	MIN 1:35	NYN 7:05	NYN 1:05
NYN 1:05		KC 5:10	KC 5:10	KC 5:10	DET 4:05	DET 4:05
DET 10:05	TB 7:05	TB 7:05	TB 7:05	KC 7:05	KC 7:05	KC 1:05
KC 1:05		TOR 4:05				

SUN	MON	TUE	WED	THU	FRI	SAT
JUNE						
		TOR 7:05	TOR 7:05		CWS 7:05	CWS 1:05
CWS 5:05	HOU 7:05	HOU 7:05	HOU 7:05		MON 7:05	MON 7:05
MON 1:05		MIL 5:05	MIL 5:05	MIL 11:05	PIT 4:05	PIT 4:05
PIT 10:35		TEX 5:05	TEX 5:05	TEX 11:05	SD 7:05	SD 7:05
SD 1:05	TEX 7:05	TEX 7:05	TEX 7:05			

SUN	MON	TUE	WED	THU	FRI	SAT
SEPTEMBER						
		TOR 4:05	TOR 4:05	CWS 5:05	CWS 4:05	
CWS 12:05	CLE 7:05		CLE 7:05	BOS 7:05	BOS 7:05	BOS 7:05
BOS 1:05	ANA 7:05	ANA 7:05	ANA 7:05	ANA 7:05	OAK 7:05	OAK 1:05
OAK 1:05	ANA 7:05	ANA 7:05	ANA 7:05		TEX 5:05	TEX 5:05
TEX 1:05	OAK 7:05	OAK 7:05	OAK 7:05	OAK 12:35	TEX 7:05	TEX 7:05

Home
 Road
 FSN FOX Sports Net
 11 LPN11-KSTW
 F FOX
 E ESPN
 TBA = Game time to be announced
 Subject to change

Listen to the Mariners all season long on KOMO 1000 News



SEATTLE MARINERS 2007 SCHEDULE



SUN	MON	TUE	WED	THU	FRI	SAT
1	OAK 3:35	OAK 7:05	OAK 7:05		CLE 1:05	CLE 4:05
8	CLE 10:05	CLE 4:05	BOS 11:05	BOS 4:05	BOS 7:05	TEX 12:55
15	TEX 1:05		MIN 7:05	MIN 7:05	MIN 3:35	LAA 6:05
22	LAA 12:35	TEX 5:05	TEX 11:05	OAK 7:05	OAK 12:35	KC 6:05
29	KC 1:05					

APRIL

SUN	MON	TUE	WED	THU	FRI	SAT
TOR 1:05	KC 5:10	KC 5:10	KC 5:10	OAK 7:05	OAK 7:05	OAK 1:05
11	OAK 1:05		All-Star Game at San Francisco		DET 7:05	DET 7:05
15	DET 1:05	BAL 7:05	BAL 7:05	BAL 7:05		TOR 4:07
22	TOR 10:07	TEX 5:35	TEX 5:35	TEX 5:35	OAK 7:05	OAK 1:05
29	OAK 1:05	LAA 7:05	LAA 7:05			

JULY

SUN	MON	TUE	WED	THU	FRI	SAT
MAY						
		CWS 7:05	CWS 7:05		NYN 4:05	NYN 12:55
6	NYN 10:05	NYN 4:05	DET 4:05	DET 4:05	DET 10:05	NYN 7:05
13	NYN 1:05		LAA 7:05	LAA 7:05	LAA 7:05	SD 7:05
20	SD 1:05		TB 4:10	TB 4:10	TB 12:10	KC 4:10
27	KC 11:10	LAA 6:05	LAA 7:05	LAA 7:05	TEX 7:05	

SUN	MON	TUE	WED	THU	FRI	SAT
AUGUST						
			LAA 7:05		BOS 7:05	BOS 7:05
5	BOS 1:05		BAL 4:05	BAL 4:05	BAL 4:05	CWS 5:11
12	CWS 11:05	MIN 7:05	MIN 7:05	MIN 1:35		CWS 7:05
19	CWS 1:05	MIN 5:10	MIN 5:10	MIN 10:10	TEX 5:35	TEX 5:35
26	TEX 5:35	LAA 7:05	LAA 7:05	LAA 1:35		TOR 4:07

SUN	MON	TUE	WED	THU	FRI	SAT
JUNE						
					TEX 7:05	TEX 7:05
3	TEX 1:05	BAL 7:05	BAL 7:05	BAL 1:35		SD 7:05
10	SD 1:05		CHC 5:05	CHC 5:05	CHC 11:20	HOU 4:05
17	HOU 11:05		PIT 7:05	PIT 7:05	PIT 7:05	CIN 7:05
24	CIN 1:05	BOS 7:05	BOS 7:05	BOS 1:35		TOR 7:05

SUN	MON	TUE	WED	THU	FRI	SAT
SEPTEMBER						
						TOR 10:07
2	TOR 10:07	NYN 10:05	NYN 4:05	NYN 4:05		DET 4:05
9	DET 10:05	OAK 7:05	OAK 7:05	OAK 7:05	TB 7:05	TB 6:05
16	TB 1:05	OAK 7:05	OAK 7:05	OAK 12:35	LAA 7:05	LAA 6:05
23	LAA 1:05		CLE 7:05	CLE 7:05	CLE 7:05	TEX 7:05

Home
 Road
 FOX Sports Net
 CW11
 FOX
 TBA = Game time to be announced
 Subject to change

Tickets
 206-622-HITS
 Any TicketMaster
 Ticket Center
 Mariners.com
 Mariners Team Stores
 Safeco Field
 Bellevue Square
 Downtown Seattle
 (4th & Stewart)
 Southcenter Mall
 Alderwood Mall
 Capital Mall (Olympia)



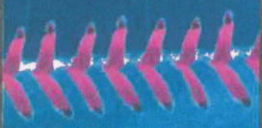
Listen to the Mariners
 all season long on
 KOMO 1000 News



2008 SCHEDULE



Tickets
 206-622-HITS
 Any TicketMaster
 Ticket Center
 Mariners.com
 Safeco Field Box Office
 Mariners Team Stores
 Bellevue Square
 Downtown Seattle
 (4th & Stewart)
 Southcenter Mall
 Alderwood Mall



Listen to the Mariners
 all season long on
 KOMO 1000 News Radio

SUN	MON	TUE	WED	THU	FRI	SAT
	Mar 12:35	TEX 7:10	TEX 7:10	TEX 7:10	BAL 4:05	BAL 4:05
FSN 6	FSN 7	FSN 8	FSN 9	FSN 10	FSN 11	FSN 12
BAL 10:35	BAL 12:05	TB 4:10	TB 4:10	TB 9:40	LAA 7:10	LAA 6:10
FSN 13	FSN 14	FSN 15	FSN 16	FSN 17	FSN 18	FSN 19
LAA 1:10	KC 7:10	KC 3:40	OAK 7:07	OAK 7:07	LAA 7:05	LAA 6:05
FSN 20	FSN 21	FSN 22	FSN 23	FSN 24	FSN 25	FSN 26
LAA 12:35		BAL 7:10	BAL 7:10	BAL 7:10	OAK 7:10	OAK 6:10
FSN 27	FSN 28	FSN 29	FSN 30	APRIL		
OAK 1:10		CLE 4:05	CLE 4:05			

SUN	MON	TUE	WED	THU	FRI	SAT
MAY				FSN 1	FSN 2	FSN 3
				CLE 4:05	NYN 4:05	NYN 10:05
FSN 4	FSN 5	FSN 6	FSN 7	FSN 8	FSN 9	FSN 10
NYN 10:05	TEX 7:10	TEX 7:10	TEX 7:10	TEX 7:10	CWS 7:10	CWS 10:05
FSN 11	FSN 12	FSN 13	FSN 14		FSN 16	FSN 17
CWS 1:10	TEX 5:05	TEX 5:05	TEX 11:05		SD 7:10	SD 7:10
FSN 18	FSN 19	FSN 20	FSN 21	FSN 22	FSN 23	FSN 24
SD 1:10		DET 4:05	DET 4:05	DET 10:05	NYN 4:05	NYN 10:05
FSN 25	FSN 26	FSN 27	FSN 28		FSN 30	FSN 31
NYN 10:05	BOS 7:10	BOS 7:10	BOS 7:10		DET 7:10	DET 12:55

SUN	MON	TUE	WED	THU	FRI	SAT	
FSN 1	FSN 2	FSN 3	FSN 4		FSN 6	FSN 7	
DET 1:10	LAA 7:10	LAA 7:10	LAA 7:10		BOS 4:05	BOS 12:55	
FSN 8	FSN 9	FSN 10	FSN 11		FSN 13	FSN 14	
BOS 10:35	TOR 4:07	TOR 4:07	TOR 9:37		WAS 7:10	WAS 7:10	
FSN 15	FSN 16	FSN 17	FSN 18		FSN 20	FSN 21	
WAS 1:10	FLA 7:10	FLA 7:10	FLA 7:10		ATL 4:35	ATL 4:10	
FSN 22	FSN 23	FSN 24	FSN 25		FSN 27	FSN 28	
ATL 10:35	NYM 4:10	NYM 4:10	NYM 4:10		SD 7:05	SD 7:05	
FSN 29	FSN 30	JUNE					
SD 1:05	TOR 7:10						

SUN	MON	TUE	WED	THU	FRI	SAT
JULY						FSN 5
						DET 7:10
FSN 6	FSN 7	FSN 8	FSN 9	FSN 10	FSN 11	FSN 12
DET 1:10	OAK 7:07	OAK 7:07	OAK 7:07	OAK 12:37	KC 5:10	KC 4:10
FSN 13					FSN 16	FSN 17
KC 11:10		All-Star Game at Yankee Stadium			CLE 7:10	FOX 12:55
FSN 20	FSN 21	FSN 22	FSN 23		FSN 25	FSN 26
CLE 1:10	BOS 7:10	BOS 7:10	BOS 1:40		TOR 4:07	TOR 10:07
FSN 27	FSN 28	FSN 29	FSN 30	FSN 31		
TOR 10:07	TEX 5:05	TEX 5:05	TEX 5:05	TEX 5:05		

SUN	MON	TUE	WED	THU	FRI	SAT
AUGUST						FSN 1
						BAL 7:10
FSN 3	FSN 4	FSN 5	FSN 6	FSN 7	FSN 8	FSN 9
BAL 1:10	MIN 7:10	MIN 7:10	MIN 1:40	TB 7:10	TB 7:10	TB 7:10
FSN 10		FSN 12	FSN 13		FSN 15	FSN 16
TB 1:10		LAA 7:05	LAA 7:05		MIN 5:10	FOX 12:55
FSN 17	FSN 18	FSN 19	FSN 20	FSN 21	FSN 22	FSN 23
MIN 11:10	CWS 5:11	CWS 5:11	CWS 11:05	OAK 7:10	OAK 7:10	OAK 7:10
FSN 24	FSN 25	FSN 26	FSN 27		FSN 29	FSN 30
OAK 1:10	MIN 7:10	MIN 7:10	MIN 1:40		CLE 4:05	CLE 12:55

SUN	MON	TUE	WED	THU	FRI	SAT
	FSN 1	FSN 2	FSN 3		FSN 5	FSN 6
	TEX 5:05	TEX 5:05	TEX 11:05		NYN 7:10	NYN 6:10
FSN 7		FSN 9	FSN 10	FSN 11	FSN 12	FSN 13
NYN 1:10		TEX 7:10	TEX 1:40	LAA 7:05	LAA 7:05	FOX 12:55
FSN 14	FSN 15	FSN 16	FSN 17	FSN 18	FSN 19	FSN 20
LAA 12:35	KC 5:10	KC 5:10	KC 5:10	KC 11:10	OAK 7:07	OAK 1:07
FSN 21	FSN 22	FSN 23	FSN 24	FSN 25	FSN 26	FSN 27
OAK 1:07	LAA 7:10	LAA 7:10	LAA 7:10	LAA 7:10	OAK 7:10	OAK TBA
FSN 28	FSN 29	FSN 30	SEPTEMBER			
OAK 1:10						

■ Home □ Road TBA = Game time to be announced

Subject to change



2011 Schedule

Safeco Insurance™
Member of Liberty Mutual Group

SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	
APRIL							JULY						1	2
					1	2						1	2	
					OAK 7:07	OAK 6:07						SD 7:10	SD 7:10	
3	4	5	6	7	8	9	3	4	5	6	7	8	9	
OAK 1:07	TEX 5:05	TEX 5:05	TEX 11:05		CLE 7:10	CLE 6:10	SD 1:10	OAK 1:07	OAK 7:07	OAK 12:37	LAA 7:05	LAA 7:05	LAA 6:05	
10	11	12	13	14	15	16	10	11	12	13	14	15	16	
CLE 1:10	TOR 7:10	TOR 7:10	TOR 12:40	KC 5:10	KC 5:10	KC 10:10	LAA 12:35		All-Star Game at Arizona		TEX 7:10	TEX 7:10	TEX 7:10	
17	18	19	20	21	22	23	17	18	19	20	21	22	23	
KC 11:10	DET 7:10	DET 7:10	DET 12:40	OAK 7:10	OAK 7:10	OAK 6:10	TEX 1:10		TOR 4:07	TOR 4:07	TOR 9:37	BOS 4:10	BOS 4:10	
24	25	26	27	28	29	30	24	25	26	27	28	29	30	
OAK 1:10		DET 4:05	DET 4:05	DET 10:05	BOS 4:10	BOS 4:10	8:05 10:35 TB 1:10	NYN 4:05	NYN 4:05	NYN 10:05		TB 7:10	TB 1:10	
1	2	3	4	5	6	7	1	2	3	4	5	6		
BOS 10:35		TEX 7:10	TEX 7:10	TEX 7:10	CWS 7:10	CWS 6:10		OAK 7:10	OAK 7:10	OAK 12:40		LAA 7:05	LAA 6:05	
8	9	10	11	12	13	14	8	9	10	11	12	13		
CWS 1:10		BAL 4:05	BAL 4:05	BAL 4:05	CLE 4:05	CLE 10:05	LAA 12:35	TEX 5:05	TEX 5:05	TEX 5:05		BOS 7:10	BOS 7:10	
15	16	17	18	19	20	21	15	16	17	18	19	20		
CLE 10:05	MIN 7:10	MIN 7:10	LAA 7:10	LAA 12:40	SD 7:05	SD 7:05	BOS 1:10	TOR 7:10	TOR 7:10	TOR 7:10		TB 4:10	TB 1:10	
22	23	24	25	26	27	28	22	23	24	25	26	27		
SD 1:05	MIN 5:10	MIN 5:10	MIN 10:10		NYN 7:10	NYN 7:10	TB 10:40	CLE 4:05	CLE 4:05	CLE 9:05		CWS 7:10	CWS 7:10	
29	30	31	MAY				29	30	31	AUGUST				
NYN 1:10	BAL 1:10	BAL 7:10					CWS 1:10	LAA 7:10	LAA 7:10	LAA 7:10				
1	2	3	4	5	6	7	1	2	3	4	5	6		
JUNE							SEPTEMBER							
			1	2	3	4								
			BAL 12:40	TB 7:10	TB 7:10	TB 1:10								
5	6	7	8	9	10	11	5	6	7	8	9	10		
TB 1:10	CWS 5:10	CWS 5:10	CWS 5:10	DET 4:05	DET 4:05	DET 4:05	OAK 1:07	LAA 6:05	LAA 7:05	LAA 7:05	KC 7:10	KC 7:10	KC 7:10	
12	13	14	15	16	17	18	12	13	14	15	16	17		
DET 10:05	LAA 7:10	LAA 7:10	LAA 7:10		PHI 7:10	PHI 7:10	KC 1:10	NYN 7:10	NYN 7:10	NYN 7:10		TEX 7:10	TEX TBA	
19	20	21	22	23	24	25	19	20	21	22	23	24		
PHI 1:10		WAS 4:05	WAS 4:05	WAS 10:05	FLA 7:10	FLA 7:10	TEX 1:10		MIN 5:10	MIN 5:10	MIN 10:10	TEX 5:05	TEX 5:05	
26	27	28	29	30			26	27	28	29	30			
FLA 7:10	ATL 7:10	ATL 7:10	ATL 12:40				TEX 12:05	OAK 7:10	OAK 7:10	OAK 7:10				

□ HOME ■ ROAD ■ MARINERS WILL BE HOME TEAM AT SAFECO FIELD IN BOLD

TEA - GAME TO BE ANNOUNCED

SCHEDULE SUBJECT TO CHANGE

TICKETS

Mariners.com | 1-888-SEA-HITS
Safeco Field Box Office | TicketMaster Ticket Center
Mariners Team Stores
Bellevue Square, Downtown Seattle (4th & Stewart),
Southcenter Mall, Alderwood Mall

BROADCAST INFORMATION

TV: All regular-season games can be seen on **ROOT SPORTS™** in standard and high definition (except Saturday games carried by **FOX ★** and 6/4 and 9/3; check local listings).
RADIO: All regular-season games can be heard on **710 ESPN Seattle** and the Mariners Radio Network.





2012 SCHEDULE

APRIL

SUN	MON	TUE	WED	THU	FRI	SAT
The Mariners opened the 2012 season in Japan vs. Oakland on March 28 & 29						
					OAK 7:07	OAK 6:07
	TEX 5:05	TEX 5:05	TEX 5:05	TEX 11:05	OAK 7:10	OAK 6:10
OAK 1:10		CLE 7:10	CLE 7:10	CLE 7:10	CWS 7:10	CWS 1:05
CWS 1:10		DET 4:05	DET 4:05	DET 10:05	TOR 4:07	TOR 1:07
TOR 10:07	TB 4:10					

MAY

SUN	MON	TUE	WED	THU	FRI	SAT
MAY						
		TB 4:10	TB 4:10	TB 10:10	MIN 7:10	MIN 6:10
MIN 1:10	DET 7:10	DET 7:10	DET 7:10		NYN 4:05	NYN 1:05
NYN 10:05	BOS 4:10	BOS 1:05	CLE 4:05	CLE 9:05	COL 5:40	COL 1:10
COL 12:10	TEX 7:10	TEX 7:10	TEX 12:40	LAA 7:10	LAA 7:10	LAA 4:15
LAA 1:10	TEX 5:05	TEX 5:05	TEX 5:05			

JUNE

SUN	MON	TUE	WED	THU	FRI	SAT
JUNE						CWS 5:10
					CWS 1:10	
CWS 11:10	LAA 7:05	LAA 7:05	LAA 7:05		LAD 7:10	LAD 4:15
LAD 1:10		SD 7:10	SD 7:10	SD 7:10	SF 7:10	SF 7:10
SF 1:10	ARI 6:40	ARI 6:40	ARI 12:40		SD 7:05	SD 7:05
SD 1:05	OAK 7:10	OAK 7:10	OAK 12:40	BOS 7:10	BOS 7:10	BOS 7:10

JULY

SUN	MON	TUE	WED	THU	FRI	SAT
JULY						LAA 1:05
BOS 1:10	BAL 7:10	BAL 7:10	BAL 1:10		OAK 7:07	OAK 7:10
OAK 1:07		ALL-STAR GAME AT KC			TEX 7:10	TEX 6:10
TEX 1:10	KC 5:10	KC 5:10	KC 5:10	KC 11:10	TB 4:10	TB 4:10
TB 10:40	NYN 7:10	NYN 7:10	NYN 12:40	KC 7:10	KC 7:10	KC 1:10
KC 1:10	TOR 7:10	TOR 7:10				

AUGUST

SUN	MON	TUE	WED	THU	FRI	SAT
AUGUST						NYN 10:05
			TOR 7:10		NYN 4:05	NYN 10:05
NYN 10:05	BAL 4:05	BAL 4:05	BAL 4:05		LAA 7:05	LAA 6:05
LAA 12:35	TB 7:10	TB 7:10	TB 12:40		MIN 7:10	MIN 6:10
MIN 1:10	CLE 7:10	CLE 7:10	CLE 12:40		CWS 5:10	CWS 4:10
CWS 11:10	MIN 5:10	MIN 5:10	MIN 5:10	MIN 10:10	LAA 7:10	

SEPTEMBER

SUN	MON	TUE	WED	THU	FRI	SAT
SEPTEMBER						LAA 1:05
LAA 1:10	BOS 1:10	BOS 7:10	BOS 12:40		OAK 7:10	OAK 6:10
OAK 1:10		TOR 4:07	TOR 4:07	TOR 4:07	TEX 5:05	TEX 5:05
TEX 12:05	BAL 7:10	BAL 7:10	BAL 7:10		TEX 7:10	TEX 1:10 or 6:10
TEX 1:10		LAA 7:05	LAA 7:05	LAA 7:10	LAA 12:35	OAK 7:07
OAK 1:07	LAA 7:10	LAA 7:10	LAA 7:10			OAK 1:07

SCHEDULE SUBJECT TO CHANGE HOME ROAD

*Subject to TV selections

Safeco Insurance
A Liberty Mutual Company



Tickets

- Mariners.com
- 1-888-SEA-HITS
- Any TicketMaster Ticket Center
- Safeco Field Box Office
- Mariners Team Stores
 - Bellevue Square
 - Downtown Seattle (4th & Stewart)
 - Southcenter Mall
 - Alderwood Mall

Mariners On-The-Air

Mariners on TV: All regular-season games can be seen on *ROOT SPORTS* (except Saturday games carried by FOX and 7/28, 9/29; check local listings).

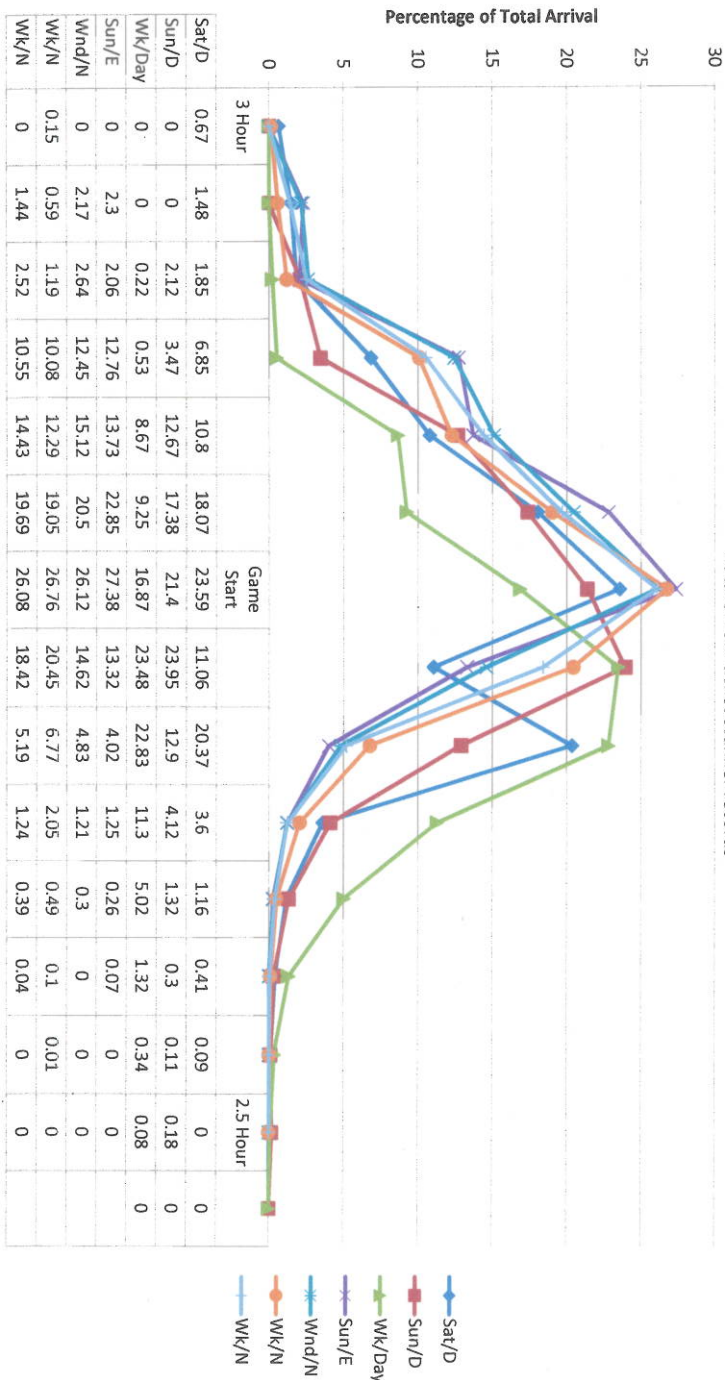
Mariners on radio: All regular-season games can be heard on 710 ESPN Seattle and the Mariners radio network.

Connect with the Mariners
 Facebook.com/Mariners
 @Mariners

	Game Start										2.5 Hour									
Sat/D	0.67	1.48	1.85	6.85	10.8	18.07	23.59	11.06	20.37	3.6	1.16	0.41	0.09	0	0.09	0				
Sun/D	0	0	2.12	3.47	12.67	17.38	21.4	23.95	12.9	4.12	1.32	0.3	0.11	0.18	0.11	0				
Wk/Day	0	0	0.22	0.53	8.67	9.25	16.87	23.48	22.83	11.3	5.02	1.32	0.34	0.08	0.34	0.08				
Sun/E	0	2.3	2.06	12.76	13.73	22.85	27.38	13.32	4.02	1.25	0.26	0.07	0	0	0	0				
Wnd/N	0	2.17	2.64	12.45	15.12	20.5	26.12	14.62	4.83	1.21	0.3	0	0	0	0	0				
Wk/N	0.15	0.59	1.19	10.08	12.29	19.05	26.76	20.45	6.77	2.05	0.49	0.1	0.01	0	0	0				
Wk/N	0	1.44	2.52	10.55	14.43	19.69	26.08	18.42	5.19	1.24	0.39	0.04	0	0	0	0				

2001 Arrival Pattern By Game Day and Time

Data is from ticket scanner records



Garage Capacity

Baseball game days: Approximately 1500

Non-event days/small event days: Approximately 1900

The variability is due to changing daily needs for internal use and small event days where only a few spaces to a few hundred spaces may be needed

Special Parking Allocations on Game Days

While certain levels of the public portions of the garage are allocated to certain parking pass groups or to disabled parking needs no ticket holder is provided a specific reserved space, only a guarantee of the right to park in a space. Individual parking pass holders are not required to use a specific entrance to access the garage even if they are assigned to a specific level.

Seasonal Average Ingress Distribution

Game Ingress Trip Distribution - Person Trips

	Percentage
From the East Via I-90	19 %
From the East Via SR-520	8 %
From the East Via Dearborn St, Yesler Way	3 %
From the Northeast Via Madison St.	1 %
From the North Via I-5	15 %
From the North Via SR-99	6 %
From the South Via I-5	13 %
From the South Via SR-99	1 %
From the South Via 1 st Ave., 4 th Ave., Airport Way	6 %
From the Southeast via Beacon, Rainier Avenues	3 %
From the West via West Seattle Freeway	5 %
From CBD, Mt. Baker, Other "Local", Ferries	20 %
TOTAL	100 %

Note: This is a seasonal average. There is considerable variability on a game-to-game basis for day of week and time of day.

Gate Usage By Year

The following information is from data collected by ticket scanners and is only for baseball games. The gate selected for entry may be related to the direction traveled to reach the ballpark, the seat location in the ballpark or to other factors such as locations of points of interest within the ballpark.

Before SR519 Completed

Gate/ Year	EIS	99	00	01	02	03	04	05	06	07	08	09
Left Field*	50	32	32	34	34	36	36	34.6	36	38	38	36.6
Home Plate*	40	25	28	30	29	30	31	32.2	34	33	32	32.0
Center Field*	5	20	24	25	25	21	17.7	16.3	16	13	16	15.8
Bull Pen Market	0	5	5	4.5	3	2.5	2.2	2.6	0*	0*	0*	0*
Right* Field	5	3	4	2.5	3	3.5	5	5.8	6	6	6	6.8
Miscell- aneous	0	15	7	4	6	7	8.1	8.5	8	9	8	8.8

*gates identified in original FEIS

After SR519 Completed

Gate/ Year	EIS	10	11	12								
Left Field*	50	35	34.7	37.4								
Home Plate*	40	31	33.6	33.7								
Center Field*	5	14	15.1	16.6								
The 'Pen Market (2011 on)	0*	0*	2.4	2.8								
Right* Field	5	9	6.6	6.6								
Miscell- aneous	0	11	7.6	2.9								

*gates identified in original FEIS

June 22, 2015

Via Email

Beverly Barnett
Supervisor, Street Vacations
SDOT
700 Fifth Avenue, Suite 3900
Seattle, WA 98124-4996

Re: Comments on the Arena's Proposed Vacation of Occidental Avenue

Dear Beverly:

The Seattle Mariners strongly support the return of the NBA to the Seattle area and the possibility of adding an NHL team. We are excited that viable alternatives to a SODO arena are being discussed by highly-respected ownership groups and developers in Bellevue and Tukwila, alternatives that we anticipate will have fewer adverse impacts than a SODO arena. The Mariners support those efforts.

At the same time, the Mariners recognize that SDOT is charged with evaluating the proposal to vacate Occidental Avenue to build the arena in SODO. Because the arena proponent suggests building the arena only one block from Safeco Field and immediately adjacent to the Safeco Field parking garage, the Mariners must be vigilant about impacts on fan access to the ballpark and garage, and maintaining the daily operation of Safeco Field. The arena proposes to vacate a street that provides critical access to the ballpark garage and to the service road for all Safeco Field back of house functions. Key issues remain unresolved, such as added parking capacity, event scheduling limitations, pedestrian safety, and how the access road on the east side of the arena site will replace the loss of Occidental Avenue. Because of these factors, which we will explain more fully, the SODO location for an arena presents many difficult challenges. This letter will offer detailed suggestions on what minimum conditions are necessary to limit the adverse impacts, even as we recognize that the co-location of three major sports venues in SODO will bring inevitable scheduling, traffic and parking conflicts that will mean that all facilities will be operating at less than optimal levels.

We look to SDOT's recommendation to help resolve these issues.

A. The SODO Site Needs Continued Scrutiny.

An arena at the SODO site is only possible if the street vacation is approved. The City's Street Vacation Policies require the City to make a judgment call as to what is in the public interest. The fact that zoning allows a use does not mean that a vacation must or

Beverly Barnett
June 22, 2015
Page 2 of 10

should be approved. As the Policies state, "There is no right under the land use code or elsewhere to vacate or to develop public right-of-way." Policies, p. 4.

The arena proponent has argued that establishment of the Stadium Transition Area Overlay District 15 years ago was a specific endorsement of adding more spectator sports facilities, such as a new arena, at the SODO site. The Mariners and I were deeply involved with creation of that District and followed it every step of the way. There was never any contemplation of a third sports venue as a desired or preferred use.

In fact, as evidenced by statements made by the Mayor, City Council, and DPD at that time, the purpose of the District was "to make the area around the two stadiums more pedestrian friendly and to encourage pedestrian connections to Pioneer Square." Councilmember Richard Conlin, Chair, Committee on Neighborhoods, Sustainability and Community Development, May 1, 2000 and June 28, 2000. The singular focus for the new District was on creating a complementary and appropriate buffer around the two existing venues, not accommodating a third venue.

It is also worth noting that the southern boundary of the District was initially proposed at Massachusetts Street. The reasons for extending it to Holgate Street had nothing to do with accommodating a third venue. The extension to Holgate was in recognition that 1st, Occidental and Holgate were important pedestrian routes for patrons of the football and baseball stadia, and thus the area between Massachusetts and Holgate should be subject to the new pedestrian-friendly standards of the District zoning.

Council documents and statements establish that reason and also show that Council assumed the current arena site would actually be developed with an office building (the use put forward by ArenaCo if the vacation is not granted), further providing a buffer between the two existing venues and industrial uses to the south. Neighborhoods, Sustainability and Community Development Committee, February 25, 2000.

This history is important to counter any impression that the City has already decided that the Stadium District is a suitable location for additional sports facilities. A third sports venue was never part of the conversation when the Stadium District was debated and established.

B. Adverse Effects of the Vacation Cannot Be Fully Mitigated.

After the Final EIS was issued, the message given the media was "No fatal flaws to SODO arena." We urge the City to look deeper. Even with its information gaps that underestimate environmental impacts, the Final EIS identifies that the vacation and arena will cause significant adverse traffic impacts.

For example, the Final EIS notes that the portion of Occidental Avenue proposed for vacation currently accommodates 3,700 vehicles per day and 460 vehicles during the morning

peak hour alone. Final EIS, Appendix E, p. 2-255¹. That portion of Occidental is recognized as a very important parallel “relief valve” given traffic conditions on 1st Avenue S. The Final EIS identifies the loss of Occidental as a Significant Unavoidable Adverse Impact. *Id.* at p. 2-268.

The phrase “Significant Unavoidable Adverse Impact” is a specific term of art under the State Environmental Policy Act. It means that *even with mitigation measures*, the loss of Occidental is a significant adverse impact on the community.

The inability to mitigate significant impacts is especially important to note in light of the Street Vacation Policies that guide City decision-making. The Policies state:

Vacations may be approved only if they do not result in negative effects on both the current and future needs for the City’s vehicular, bicycle, or pedestrian circulation systems or on access to private property, unless the negative effects can be mitigated.

Street Vacation Policies, Section I, Policy 1, page 7. Loss of Occidental is a significant impact on the City’s traffic circulation system (affecting not only ballpark traffic, but normal City rush hour and Port operations) that cannot be mitigated.

Certain other impacts can perhaps be mitigated, and the minimum level of necessary mitigation is described below.

C. If the Vacation Is Nonetheless Approved, Extensive Mitigation is Necessary.

A discussion of arena impacts and mitigation needs to start from an understanding of existing conditions. Space is already very tight around Safeco Field and CenturyLink, and careful choreography takes place to allow that space to work for both of the existing venues.

The Safeco Field parking garage and surface parking area contain approximately 2,200 spaces. The garage is accessed from Edgar Martinez Drive on the north, and the garage and surface parking area are accessed from Massachusetts Street on the south. Access to Massachusetts Street relies substantially on the portion of Occidental to be vacated, and on 1st Avenue S. to a much lesser extent. Massachusetts Street has a short length and it terminates into a driveway on the ballpark property. Massachusetts Street and the ballpark driveway border the arena site. **SEE EXHIBIT 1.**

In addition to accessing the ballpark garage and surface parking area, Massachusetts Street and the ballpark driveway provide the principal access to the service road and service

¹ As significant as these figures are, they are a gross under-estimate of vehicles on Occidental. The vehicle counts on Occidental, and analysis of the impacts of vacation, were based on traffic counts in December 2013. Final EIS, Appendix E, p. 2-264. December is the least busiest time of the year.

compound on the eastern portion of the ballpark property. That road and related area is essential for all the back of house functions for daily operation of Safeco Field, such as broadcast truck access, deliveries and loading docks, trash and recycling facilities, fuel deliveries and storage, security, staff entrances, and most importantly, emergency access and services.

We ask you to refer to the extensive information we provided in a letter to Moira Gray of SDOT, dated May 23, 2013. One of the attachments to that letter was a color-coded chart showing the extensive use of the streets and access points to the ballpark. For example, that document noted **there are 550 to 600 trucks per month during the baseball season that use the portion of Occidental to be vacated, Massachusetts Street, and the ballpark driveway.** Outside the baseball season itself, there are still about 200 trucks per month that depend on those streets and access points in order for Safeco Field to function. Vehicles needing access range up to 53 feet in length and may be overheight.

The Safeco Field plaza adjoins Occidental Avenue, north of Massachusetts Street. The plaza, curb lane on Occidental next to the plaza, and Occidental travel lanes are essential not only to events at Safeco Field, but also events at the CenturyLink football/soccer stadium and Event Center ("CenturyLink"). **These areas are used for event staging at the two existing venues at least 100 days every year.** The portion of Occidental to be vacated also provides critical access to these areas, given the sheer number of trucks involved and the need to enter these areas from the south, rather than from the north.

EXHIBITS 2, 3 and 4 all show examples of how the plaza, curb lane, and Occidental north of Massachusetts Street are extensively used at least 100 days per year. The photos show staging for events at both Safeco Field and CenturyLink. Use of these areas by truck and auto traffic is extensive and occurs all year long. Although the arena proposes to use the curb lane along Occidental north of Massachusetts Street for buses and loading for its events, that could only be workable if those areas were not already needed and in use for events at Safeco Field and CenturyLink.

The above information and attached Exhibits clearly demonstrate that the portion of Occidental to be vacated provides critical access to the ballpark, Massachusetts Street provides critical access to the ballpark driveway and service road, and the portion of Occidental north of Massachusetts Street can only accommodate arena vehicles on limited occasions.

1. Massachusetts Must Remain Open for Ballpark Traffic at All Times.

If the vacation is approved, Massachusetts Street would be the only public street left open for direct access from the south to the ballpark garage/surface parking area and service road. Massachusetts Street is essential for ballpark deliveries and load in and load out truck traffic at all hours of the day and night, often days before or after events at Safeco Field or CenturyLink. It is also the essential street for emergency vehicle access to the ballpark, access to ballpark ADA parking north of Massachusetts Street, and access to ADA/senior drop off locations for Safeco events. **It is essential that Massachusetts Street remain open to**

vehicles at all times, with no exceptions. If the vacation is recommended for approval, we ask that this be included as a clear and absolute condition of approval.

In that regard, some of the arena materials describe Massachusetts Street as a “shared use” street (See **EXHIBIT 1**) and the meaning of that phrase has not been made clear. Under no circumstance can Massachusetts Street be closed off due to arena events.

2. An Alternative Access Road to the Ballpark Must Be Provided.

Loss of Occidental due to the vacation is a significant impact on the ballpark and its operations. In recognition of that impact, ArenaCo has proposed that the access road on the eastern portion of its site, which the arena depends on for all of its own truck and auto access, can also be used by the ballpark. That proposal is much appreciated. However, there has been no binding commitment to make it available to the ballpark at all necessary times of day and night, and no details have been provided. Moreover, whether that access road is sufficient to handle the anticipated load of ballpark trucks and cars, along with arena trucks and cars, is not yet known because the analysis has not yet been conducted.

As the access road is an essential part of the arena mitigation, we ask that appropriate traffic analysis be conducted to address use of that access road with both arena and ballpark traffic, before SDOT issues its recommendation to Council. That analysis would help inform all of us as to whether that access road would actually function as mitigation, and the details of how the access road would work. If two single family neighbors are sharing a driveway easement, that is easily worked out. However, when two large sports venues share the same narrow road, that is a much more complicated matter. For example, the analysis must consider sell-out and possible dual event conditions, unless dual events are otherwise prohibited.

From the available information we have at present, ArenaCo needs to commit to meeting the following minimum criteria in order for the access road to have at least basic functionality for ballpark traffic, given the loss of Occidental:

- A permanent easement would need to be granted to the ballpark property by ArenaCo to guarantee use of this mitigation road, and the easement would need to include the particulars of that use.
- The access road must have two lanes, with a driving surface at least 20 feet wide.
- The access road must be clear of obstacles and vehicles and fully open from at least three hours before until at least two hours after any event at the ballpark or CenturyLink that is anticipated to generate 500 or more cars in the ballpark garage/surface parking area, and by pre-arrangement at any other times that access to Holgate Street is reasonably required.

- The vehicle access and loading for the arena must be designed to ensure the road is available to the ballpark property on the terms described above.

Please note that although these are minimum conditions to partially mitigate impacts to the ballpark, these measures do nothing to address the loss of Occidental for other vehicles, such as those vehicles which routinely use Occidental to access industrial and Port of Seattle facilities. This is true because the access road cannot be open for general public traffic and still maintain its functionality for the arena and ballpark.

3. Additional Traffic Mitigation Is Needed.

The loss of Occidental for access will add substantial traffic to the intersection of 1st Avenue and Edgar Martinez Drive, as westbound vehicles on Edgar Martinez Drive will no longer have the option of using Occidental as the "relief valve" to 1st Avenue S. congestion. The Mariners are concerned that westbound traffic on Edgar Martinez Drive will back up from the light at 1st Avenue S. and obstruct the north entrance to the ballpark garage. We ask the City to study the timing of traffic lights or identify other measures that will make this intersection function without degradation of the Level of Service or impairment of access to the ballpark garage. If the vacation is to be approved, such measures should be imposed as conditions of approval.

In addition to ensuring that Massachusetts Street always remains open, if an arena is built in SODO it becomes essential that Holgate Street never be permanently closed to vehicle traffic. We are aware that such a closure has been debated from time to time. First Avenue is not sufficient for south-exiting traffic, and vehicles need to be able to turn east on Holgate in order to access the highway system and allow for the Safeco Field traffic control plan. This need is exacerbated by the addition of another facility.

The Final EIS hints that if traffic signals are timed appropriately, the arena may not have to provide traffic control for events. Given the Mariners extensive knowledge of pre-and post-event vehicle and pedestrian movements, that seems completely implausible. Traffic control plans with in-the-field implementation by officers was a requirement of both Safeco Field and CenturyLink, and the same should be required of the arena. It is a matter of public safety. And in case of conflict, the arena's traffic control plan will need to be subordinate to the already-approved traffic control plans for Safeco Field and CenturyLink.

The street vacation approval for Safeco Field detailed the elements required for the ballpark Transportation Management Plan ("TMP"). The Arena Final EIS only identifies possible elements that could be included in a TMP. Now is the time to identify the details. Again, given the Mariners practical knowledge of event conditions and how the immediate area operates, they believe in particular that the TMP must include specialized measures to reduce traffic for any arena event with an anticipated attendance over 5,000.

4. **The Arena Should Be Required to Build Necessary Parking.**

The arena has not yet committed to a specific location for its parking. ArenaCo says it prefers not to build a parking garage, but if it has to, it would be located south of Holgate Street. ArenaCo continues to suggest that its main sources of parking are the ballpark garage and CenturyLink garage, or other unidentified lots somewhere else.²

At this stage of review, more specifics must be required and defined as conditions of mitigation. The arena faces two separate hurdles: identifying the parking it must have to meet Land Use Code requirements, and mitigating the demand it creates for 6,000 to 7,000 spaces.

In terms of relying on the ballpark or CenturyLink garages, it is critical to note that those garages are already committed by permits and covenants for events at those two venues. Events at the ballpark require committed parking at the ballpark garage and also at the CenturyLink garage; events at CenturyLink require committed parking at the CenturyLink garage, North Lot and also in the ballpark garage. In recent years, the ballpark garage has been fully committed to Safeco Field and CenturyLink approximately 160 to 180 days per year (fully committed about 110 days and partially committed 50 to 70 days). That number of days is likely to increase with future years, with the exact dates each year determined with varying amounts of lead time.

The ballpark garage could be available for some events at the arena when those events do not conflict with ballpark or CenturyLink events. Unfortunately, however, neither garage has the degree of availability required by the City's Land Use Code for those garages to meet the arena's Code parking requirement. (The arena is required by Code to provide 1,700+ spaces that are guaranteed to be available to the arena three hours before the start time of any event in the arena, and one hour after the end of the event.). Therefore neither the ballpark garage nor the CenturyLink garage can fulfill the arena's Code-required parking, and one or more other sites would need to fulfill that requirement. This should be new parking, additive to the existing inventory, and not simply a pledge of parking that currently serves the other facilities.

Turning from Code requirements to actual demand, the arena's estimated parking demand is 6,000 to 7,000 spaces. The arena proposes to meet that demand with ballpark and CenturyLink parking and other existing spaces within walking distance. However, that parking is only available if there are not events at Safeco Field or CenturyLink filling those parking

² Even a small project like a new house or neighborhood restaurant is required by the City at the front end of the permit process to identify and commit to the location of its Land Use Code-required parking. That's a basic component of project feasibility. Here, the arena is two years into the permit process and still fails to commit to a specific location for its Code-required parking. The Final EIS suggests that sites other than a new garage south of Holgate Street could be secured for the arena's Code-required parking, but ArenaCo has declined to identify those sites. It seems apparent that those sites are simply part of the existing parking inventory, which is already severely tested by events at Safeco Field and CenturyLink.

spaces. The available parking inventory in the area has declined over time and a capacity event at Safeco Field or CenturyLink fully exhausts that parking inventory.

It is not feasible for the arena to build 6,000 to 7,000 new spaces, nor would it be desirable for them to do so given the unacceptable levels of traffic that would result. Thus, the arena can only mitigate its parking demand if the arena's scheduling agreement commits to not holding major events at the arena when there are major events at Safeco Field or CenturyLink.

The City required each of the existing sports venues to identify its parking and to build it as part of its stadium proposal. There is no legitimate basis to treat the arena differently and continue to postpone a commitment to a specific off-site location that meets Code requirements and a commitment to measures that mitigate the arena parking demand. We urge SDOT to address those issues fully prior to issuing a recommendation to City Council.

5. The Arena's Required Event Scheduling Agreement Must Respect the Rights of the Existing Sports Venues.

There has been a long history of event coordination between the existing sport franchises. Of course, such coordination was essential when the Mariners and Seahawks both occupied the Kingdome. Then, when the Mariners moved across the street to the new ballpark south of Royal Brougham, the City required new event coordination agreements as part of the Safeco Field and CenturyLink permitting. The City established certain baseline limitations on event scheduling and time-specific dual events. Then the Mariners and First & Goal Inc. implemented those limitations by entering into their own two-party Agreement on Event Scheduling Principles in 1998. That Agreement was modified and Restated in 2004 and 2009, and continues in effect currently and into the future. The City is not a party to that Agreement.

The arena has acknowledged that a "new" event scheduling agreement is needed with the existing venues, and moreover, that an arena only works at the SODO site if such an agreement is reached with the existing venues. The Final EIS mentions such an agreement but provides no details.

The arena will indeed need to have a scheduling agreement with the Mariners and First & Goal in order to mitigate traffic and parking impacts. However, the arena's agreement needs to respect the stadium permits and scheduling rights already in place. The arena cannot change those permits or scheduling rights.

An additional component is that the permits and approvals for the ballpark establish certain use rights that cannot be modified or abrogated by the arena or the arena's permits and approvals. The current venues are the existing conditions to which the arena must respond; not vice versa.

In noting the need for the arena to have its own event scheduling agreement, we do not mean to suggest that dual events between the ballpark and arena are impossible. Overlapping small events in both venues would not create unacceptable traffic and parking impacts. However, if the arena street vacation is approved, then to avoid unacceptable levels of impact, a condition of approval must be that the arena not schedule major events in the arena (say, with projected attendance over 5,000) when a major event (such as a game or concert) has been scheduled in the ballpark or CenturyLink based on the existing priorities of ballpark and CenturyLink events as historically allowed under those facilities' permits.

SDOT's recommendation on the ballpark street vacation, and DPD's Master Use Permit decision on CenturyLink, identified specific event scheduling limitations to be incorporated into the event scheduling agreement between the Mariners and First & Goal. SDOT's recommendation on the arena vacation should specify the scheduling limitation on arena events that is described above.

6. Pedestrian Safety Measures Should Be Required.

Safeco Field was required by the City to build substantial off-site pedestrian infrastructure improvements and to contribute to new grade-separated pedestrian crossings at Royal Brougham Way and Edgar Martinez Drive. The SODO site presents unique challenges for pedestrian safety due to the proximity of the large number of railroad tracks at Holgate Street immediately adjacent to sidewalks that will be used by arena patrons. If a SODO site is authorized, it is imperative to ensure safe passage over the railroad tracks, and safe and comfortable pedestrian access on nearby streets.

An ArenaCo representative has verbally committed that ArenaCo will pay for the design and construction of a pedestrian bridge over the railroad tracks. That commitment should be formalized in a specific condition of vacation approval. In addition, we endorse the position of the Seattle Design Commission that this bridge must be constructed and available for use by arena attendees prior to issuance of a Final Certificate of Occupancy for the arena. The bridge is that important as an essential element of project mitigation.

In addition to the bridge, we urge SDOT to consider what sidewalk and lighting improvements are necessary in the vicinity as a matter of pedestrian safety and comfort. If the SODO site is authorized, patrons will be pushed further into areas of the industrial neighborhood where there are no sidewalks and only minimal pedestrian lighting. Safeco Field was required to make pedestrian improvements beyond the boundary of its site, and the same would logically apply to the arena.

The Final EIS does not provide the City with sufficient information on the full extent of likely pedestrian paths for those accessing the arena. First, of course, the arena's code-required parking must be identified with certainty. This should be an absolute requirement before the SDOT recommendation is issued. Only when a specific parking location is identified and committed to can the streets be identified that will serve as pedestrian access to the arena. The existing conditions of those specific streets should then be evaluated to

Beverly Barnett
June 22, 2015
Page 10 of 10

determine what pedestrian improvements are needed to mitigate arena impacts or what improvements are desirable or necessary to obtain street vacation approval.

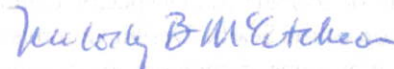
That analysis is already long overdue and we believe it cannot be put off further. The Final EIS needs to be augmented so that SDOT has sufficient information to identify what specific streets need to be improved, with the specific improvements identified, in order to determine the mitigation measures that should be required for vacation approval.

C. Conclusion.

The SODO site is clearly very challenging. Even after extensive study, many questions remain unanswered. What is clear is that if Occidental Avenue is vacated in favor of an arena, there will be significant negative effects on local traffic and parking, on the operation of the Port of Seattle and the local maritime industry, and on the functioning of the existing sports venues, even with mitigation to address some of the impacts. We have made many suggestions in this letter in an effort to identify how best to try to make this work; i.e., what conditions should be placed on the street vacation to minimize the negative impacts and maximize the chances of success. At the same time, we don't underestimate the challenges that will exist if the street vacation is approved. Even if all of these mitigation measures are implemented, the result will be far from optimal for either the arena or its neighboring facilities.

We appreciate your consideration of our comments. As always, the Mariners and I are happy to meet with you to review issues and information, or to help evaluate other ideas or alternatives.

Very truly yours,



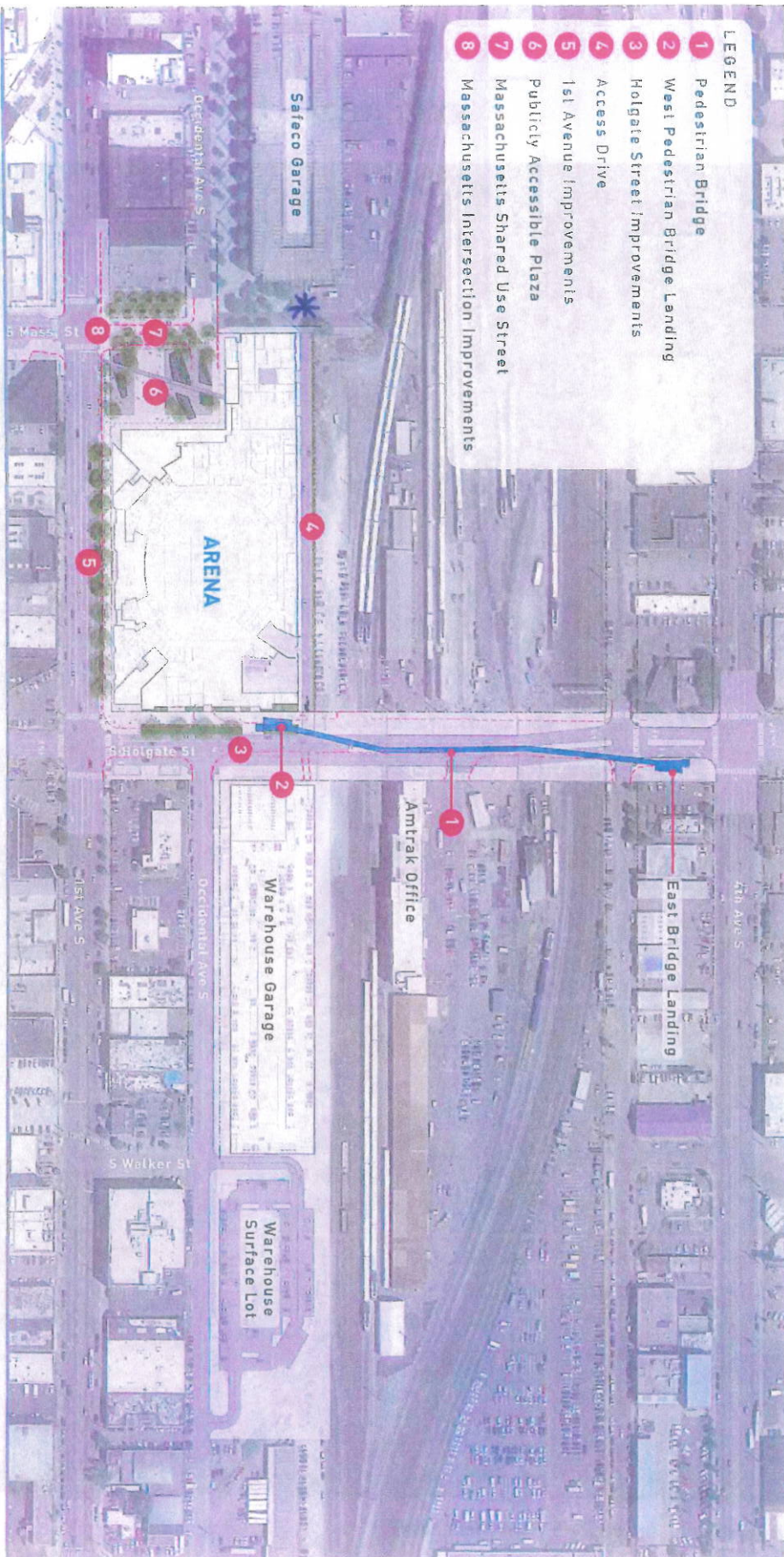
Melody B. McCutcheon

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Enclosures

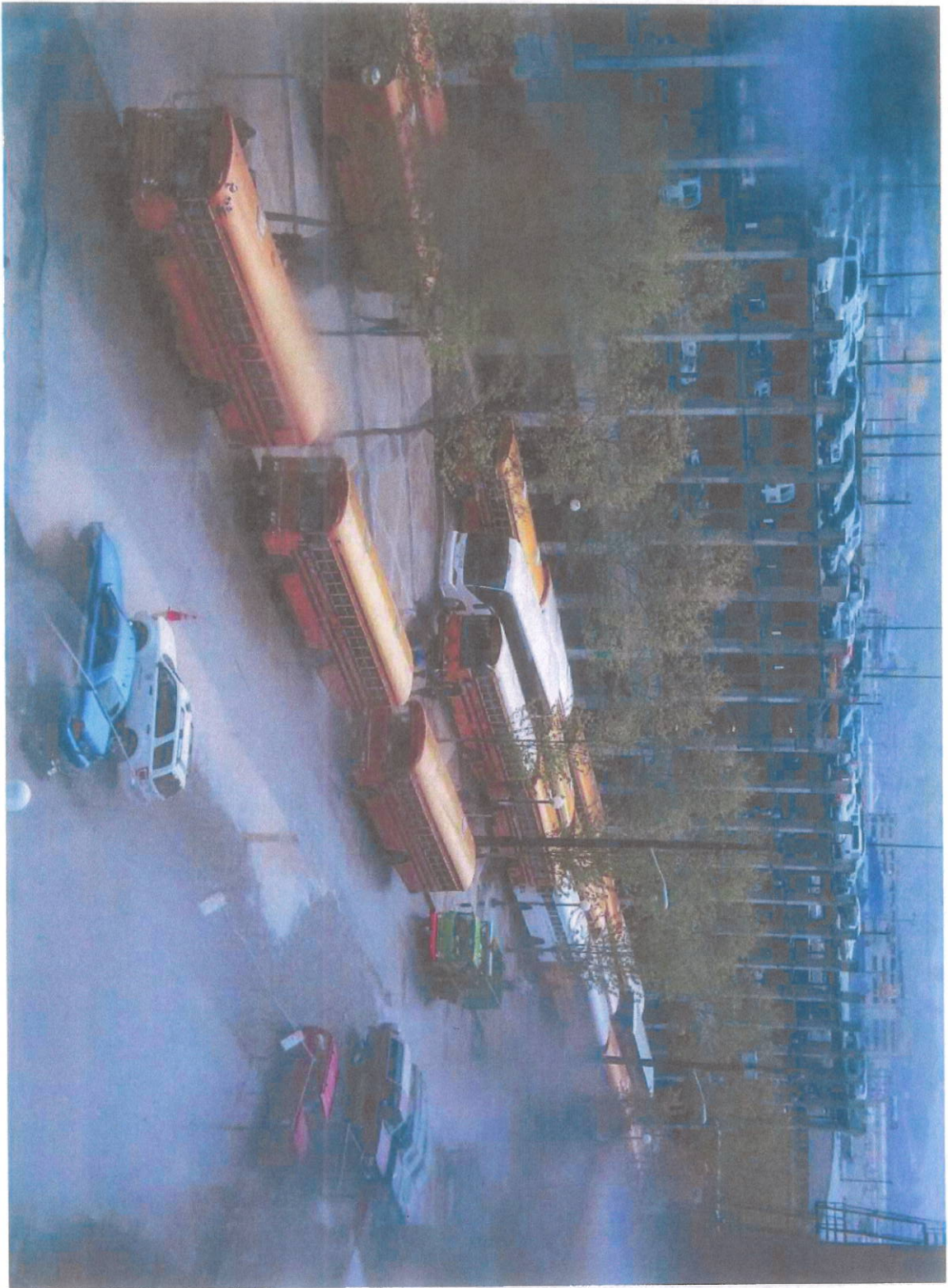
cc: Seattle Mariners (w/enc.)
Washington State Major League Baseball Stadium Public Facilities District (w/enc.)
John Shaw, DPD (w/enc.)
Cristina VanValkenburgh, SDOT (w/enc.)

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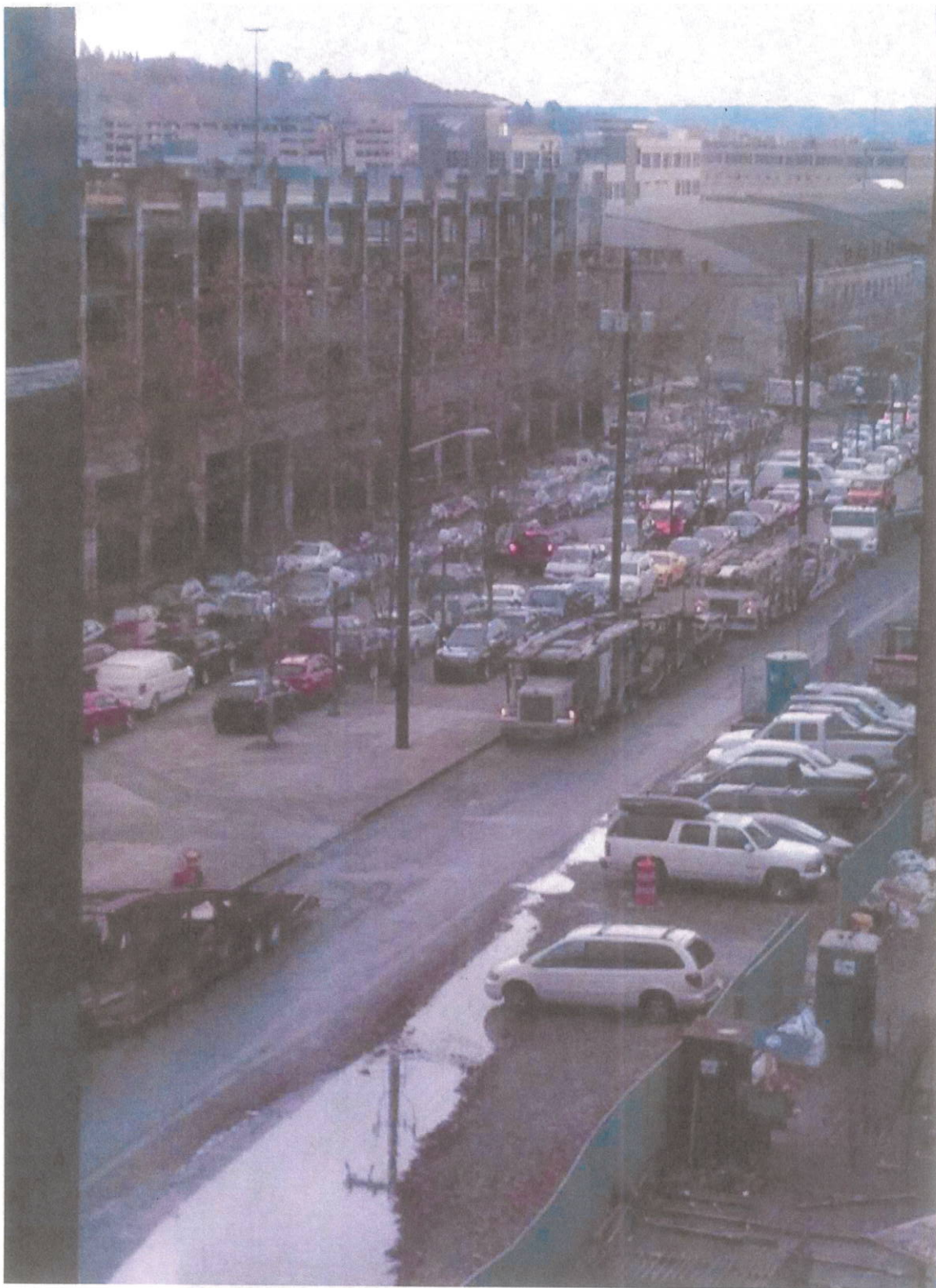
*Ballpark Driveway

EXHIBIT 2



School bus parking at Safeco for Safeco Field event

EXHIBIT 3



Auto show staging at Safeco for CenturyLink Exhibition Hall event

EXHIBIT 4



First day of RV show staging at Safeco for CenturyLink Exhibition Hall event



**WASHINGTON STATE
MAJOR LEAGUE BASEBALL STADIUM
PUBLIC FACILITIES DISTRICT**

110 Edgar Martinez Drive South
P.O. Box 94445
Seattle, WA 98124
(206) 664-3076

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May 31, 2013

Seattle Department of Transportation
Attention: Moira Gray, Street Vacation Specialist
700 Fifth Avenue, Suite 2300
P.O. Box 34996
Seattle, WA 98124-4996

Re: Preliminary Comments on WSA Properties' Petition for the Vacation of a Portion of
Occidental Avenue South, Clerk File No. 312905

Dear Ms. Gray:

The Washington State Major League Baseball Stadium Public Facilities District (PFD) appreciates the opportunity to comment on the petition for the vacation of Occidental Avenue S. for the proposed arena project. The ballpark PFD is the public entity that developed and owns Safeco Field. The PFD is responsible for overseeing this public asset and for ensuring that the public's investment in Safeco Field is not compromised. Safeco Field and its parking garage are located immediately to the north of the proposed SODO site for the arena, which includes the portion of Occidental Avenue S. to be vacated.

The PFD leases Safeco Field to The Baseball Club of Seattle, LLP (Seattle Mariners), which is our sole tenant. The Seattle Mariners are fully responsible for the operation and maintenance of the ballpark, and they have submitted a separate comment letter expressing their issues and concerns with the proposed street vacation. As detailed in their letter, Occidental Avenue S. currently serves as a major access point for ballpark fans and patrons, and its vacation will have significant adverse impacts that must be mitigated. The PFD has reviewed the Mariners' comment letter and joins in all of the issues raised by the team.

In addition to the team's comments, the PFD is concerned with the completeness of the street vacation petition and the timing of the City's review. Until environmental review of the arena proposal is complete—including an opportunity for public and agency comment—the true impacts of the street vacation will remain unknown and alternatives to the vacation will remain unexplored. Any City recommendation on the street vacation petition will be premature until the environmental process is finished, as described in more detail below. Accordingly, we urge that any staff recommendation on the street vacation petition be deferred until the final environmental documents for the arena project are completed.

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If the City elects to proceed with the vacation after the environmental review is complete and the impacts of the vacation are fully disclosed, then we want to remind the City of important conditions imposed on the PFD and Safeco Field as part of the street vacation process that accompanied the development of Safeco Field. These conditions can provide a baseline for the conditions that should be evaluated as part of the arena street vacation. Establishing similar conditions for both venues will help ensure operational consistency among these adjacent venues and will minimize conflicts in managing dual (overlapping) events in these adjacent venues.

Finally, we are concerned that the existing street vacation petition is not complete, because it does not fully address all the elements required for a petition. We encourage the City to ask the petitioner to supplement its application so that it addresses all of the City policies and guidelines for street vacations, and then circulate that supplement for additional public and agency review. All of these concerns are addressed in more detail below.

Any Recommendation on the Street Vacation Petition Should be Deferred Until the Arena Environmental Review is Complete.

Under the City's Street Vacation Policies (C.F. 31.0078; "Policies"), proposed street vacations may be approved only after considering all of the following:

1. the impact of the vacation on the "public trust functions" of the right-of-way,
2. the "land use impacts" of the vacation, and
3. the "long-term benefits to the general public."

(See Policies, pp. 5-6). For major projects such as the arena proposal, a "significant public benefit must be provided." (Policy 5.D.)

In reviewing a street vacation petition, the City must ultimately determine whether the vacation is in the public interest. In making this determination, the City is directed to weigh the public trust and land use impacts of the vacation, potential mitigating measures, and the public benefit provided by the vacation. (Policies, p. 7). This weighing process cannot proceed without first understanding the impacts of the proposal and potential mitigating measures.

The public trust and land use elements of a street vacation decision expressly require the consideration of project impacts. In evaluating the effect of the street vacation on Public Trust Functions, the City's Policies direct it to consider impacts on all of the following: "circulation, access, utilities, light, air, open space, and views provided by the right of way." (Policies, p. 5). These impacts are given "primary importance" in evaluating a vacation proposal, and specific policies are devoted to each impact area. (Policies, pp. 7-17). The Policies expressly require "mitigation of adverse effects on [each of] these public trust functions." (Id.). Similarly, the Policies require the City to consider the "land use impacts" of the proposed vacation and its consistency with City land use policies. (Policies, p. 6).

Unfortunately, at this stage in the arena review process, very little information has been provided regarding the project's impacts or proposed mitigation measures. We understand that this analysis is underway, with a draft environmental impact statement (EIS) scheduled to be issued for public comment this summer and a final EIS to be issued this fall. But until the environmental analysis is complete and all the impacts of the proposal are known, it will be difficult for the City to conduct

further meaningful review of the street vacation petition, or to conduct the required weighing to determine whether the vacation is in the public interest.

Similarly, any evaluation or analysis of the “public benefits” of the proposal is premature before the environmental review is complete. Under the City’s Policies, public benefit review must begin with an understanding of project impacts, recognizing “the loss of benefits provided by the right-of-way” being vacated and the “gains achieved” by the vacation. (Policy 5.C.). The public benefit must “balance what the public loses through the vacation with what the public will gain through the project.” (Id.) While the petitioner has outlined the public benefits of the proposal, there is no analysis yet of project impacts and the public loss that will result from the vacation. As a result, the public benefit analysis cannot proceed, because only part of the benefits equation is known.

Without a final EIS it is also impossible for the City to fully evaluate the effects of a ‘no vacation’ alternative. Under the City’s street vacation policies, the petitioner is required to evaluate both a vacation and no-vacation alternatives. (Policies, p. 19). While some details of the no-vacation alternative have been provided by petitioner, there is no impact analysis of the no-vacation alternative, which may include analysis of off-site alternatives. We understand that this analysis is forthcoming in the EIS, and we look forward to being able to review and comment on it once published.

Finally, we note that the sequence that we propose for further City review (environmental review first, followed by street vacation and permit review) is consistent with the approach used for the street vacation that was required to develop Safeco Field, and it need not result in project delays. For Safeco Field, the PFD completed the EIS process in nine months, including extensive public and agency comments on the draft EIS. The final EIS was published *before* the street vacation petition was submitted to the City, and prompt City review immediately followed. We encourage the City to follow a similar course here and to defer any recommendation on the street vacation petition until the environmental review process is complete.

If the Vacation is Granted, it Should be Subject to Conditions that Ensure the Safe and Smooth Operation of the Arena and its Neighbor Facilities, Safeco Field and CenturyLink Field and Exhibition Center

Development of Safeco Field in the 1990s also required the vacation of a portion of Occidental Avenue South. As noted above, the PFD completed its EIS on the ballpark project before submitting its street vacation petition to the City. In the course of the City’s review of the petition, careful consideration was given to the impacts of constructing and operating a major sports and event venue in this neighborhood, and appropriate mitigation measures were developed and imposed as conditions of the street vacation. Many of these conditions were later carried forward and imposed as requirements for CenturyLink Field and Exhibition Center. The PFD believes that the public would be well-served if similar conditions are also included as part of the street vacation for the arena project.

We know that City staff has copies of all of the Safeco Field street vacation materials and can use that information in conducting its analysis, but we want to call out a number of conditions that have served the ballpark well and that are essential to smooth event operations. We believe that these conditions in particular would be essential to a well-operated arena functioning efficiently in the neighborhood:

- Provide a Community Liaison during the construction of the facility
- Prepare a Security and Emergency Access Plan and fund the additional public services required for events, including traffic and crowd control, security, and emergency response

- Prepare a Clean-up Plan for post-games and events and fund its implementation
- Provide route signing improvements, including variable and changeable message signs
- Work with project partners to ensure the construction of a pedestrian overcrossing of the BNSF tracks adjacent to the facility
- Provide traffic signals where warranted
- Study area-wide pedestrian improvements and help fund their implementation (\$1.2M in 1996 dollars)
- Develop a Parking Management Plan to minimize the impact of event parking
- Develop a “dual events” scheduling agreement to help effectively manage and coordinate event scheduling and transportation management among the stadium venues. (Note: This is also a requirement of the City/County MOU for the arena project)
- Impose specific hour restrictions for events of a certain size, and limitations on daytime events.
- Require a Transportation Management Plan (TMP), including specific targets designed to reduce and manage traffic and parking demand along with accountability mechanisms for ensuring compliance. Require annual review and approval (with an opportunity for revisions) by SDOT and DPD.
- Provide support to the neighborhoods during construction (\$90K/year for two years) and the three opening years of operation (\$60K/year) (1996 dollars).

Given the certainty of overlapping events at Safeco Field and a SODO arena, it is essential that both facilities share similar operating requirements so that the cost of implementation is borne by the appropriate facility. If one venue is required to undertake these tasks and the other is not, then the burdened venue is likely to carry a disproportionate load. Common conditions should also make it easier for the venues to discuss efficiencies in operations and shared workloads. Accordingly, we urge that street vacation conditions similar to the conditions identified above be evaluated for the proposed arena.

The Vacation Petition is Not Yet Complete

In addition to the absence of the environmental impact analysis, the street vacation petition appears to be missing a number of key elements. For example, under the City’s “Circulation and Access” policies, the petitioner is required to show that necessary on-street public parking will be replaced. (Policies, Guideline 1.4). The street vacation petition notes that the vacation will result in the loss of on-street parking along Occidental Avenue S., but no provisions for public replacement parking are described. Instead, the petition states that “No new parking facilities are proposed for the project.” (Petition, p. 2). This position on replacement parking also appears to be inconsistent with the City’s own traffic study conducted in May 2012, which assumed that the project would develop “approximately 1,500 spaces new to the arena.”

Another example of missing information or analysis relates to the issue of vehicular access. Guideline 1.6 of the City’s street vacation policies provides that vehicular traffic functions may *not* be provided by agreement across private property. The PFD supports the need to mitigate the loss of vehicle access to the Safeco Field parking garage caused by the vacation by creating a private access way across the arena property. But this alternative access may also need to be supported by the re-location of a portion of Massachusetts Avenue S. as described in the Mariners’ comment letter. In any event, petitioner needs to better explain how this mitigation is consistent with City Policies.

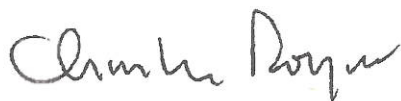
Finally, an example of misleading information comes from the March 12, 2013, Street Vacation Petition packet submitted to the Seattle Design Review Board. The public benefits matrix on p. 57 of

that packet, and the public benefit diagram on p. 58, both count as part of the project's public benefit the private replacement roadway that will likely be required in order to mitigate the circulation and access impacts that would result from the vacation of Occidental Ave. S. Under the City's Policies, mitigation of the adverse effects of a vacation do *not* constitute a public benefit. (Policies, p. 29). This is no small error, as the proposed access road represents a significant percentage of the proposed public open space on the project site. While later vacation documents do not appear to count this area as a public benefit, the record should be reviewed and revised to ensure that it is accurate. In addition, the petition should be corrected to delete the claimed public benefit for 'festival streets', which we understand have been deleted from the proposal.

While we have not completed a detailed review of petition as compared against all of the City's street vacation policies and guidelines, we suggest that it may be helpful if the City asks petitioner to supplement its petition to better respond to all of the elements of the City's policies and guidelines, including a demonstration of public interest and public benefit. If such a supplement is prepared, we would appreciate the opportunity for additional public and agency review and comment.

Again, we appreciate the opportunity to submit these preliminary comments. We look forward to submitting additional comments to the City as the environmental review for the arena proposal proceeds, and as additional detail regarding the proposed street vacation become available, including any agreements on event scheduling or parking. If you have any questions, please call our Executive Director, Kevin Callan, at (206) 664-3076 or (206) 767-7800.

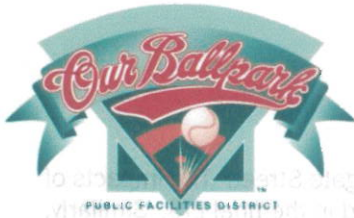
Sincerely,



Charles Royer
Board Chair

Cc: Via Email

Moira Gray: Moira.Gray@seattle.gov
Beverly Barnett, SDOT: Beverly.Barnett@seattle.gov
PFD Board Members
Kevin Callan, Executive Director
Tom Backer, Legal Counsel
Bart Waldman, Seattle Mariners
Susan Ranf, Seattle Mariners
Melody McCutcheon, HCMP Law Offices



WASHINGTON STATE
MAJOR LEAGUE BASEBALL STADIUM
PUBLIC FACILITIES DISTRICT

110 Edgar Martinez Drive South
P.O. Box 94445
Seattle, WA 98124
(206) 664-3076

www.ballpark.org

June 22, 2015

Seattle Department of Transportation
Attention: Moira Gray, Street Vacation Specialist
P.O. Box 34996
Seattle, WA 98124-4996

Re: Updated Comments on the Proposed Vacation of a Portion of Occidental Avenue South,
Clerk File No. 312905

Dear Ms. Gray:

Thank you for the opportunity to update our comments on the proposed street vacation of a portion of Occidental Avenue S. for the potential new SODO arena. The Washington State Major League Baseball Stadium Public Facilities District (PFD) previously submitted comments regarding the vacation on May 31, 2013. (A copy of our prior letter is attached, for your convenience).

In our earlier comments, we urged you to defer acting on the street vacation proposal until after the final environmental impact statement (EIS) was complete and project impacts and mitigation measures were known. We also urged you to consider using the street vacation conditions required for the development of Safeco Field as a model for the proposed arena vacation. Finally, we urged you to obtain from petitioner ArenaCo more definite information on parking agreements and multiple-event scheduling agreements. In the absence of such agreements, we cautioned that the impacts of the arena could be significant and that appropriate mitigation would be necessary as part of the street vacation process.

We appreciate that the EIS process was completed in May 2015, and that it more fully describes many of the impacts of constructing and operating an arena in SODO. As documented in the EIS, some of those impacts are significant. While the EIS identifies potential mitigation measures, the EIS does not answer the question of what mitigation will be required of the arena to address project impacts. Instead, the EIS notes only potential mitigation measures, and in many places it suggests alternative mitigation measures that could be imposed. This leaves open the possibility that some impacts of the arena may go unmitigated.

The final EIS also does not resolve (or fully address) the impacts of the alternative parking arrangements that the arena proponent is suggesting, which include either use of covenanted parking

BOARD OF DIRECTORS

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Dale Sperling, Vice-Chair
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Charles V. "Tom" Gibbs
Craig Kinzer
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Updated PFD Street Vacation Comment Letter
June 22, 2015
Page 2 of 2

or construction of a stand-alone, 2,000+ stall parking garage South of Holgate Street. The impacts of these alternatives are very different, and they are not adequately addressed in the final EIS. Similarly, the EIS does not describe in detail the role that a multiple-event scheduling agreement could play in reducing project impacts. We believe that these items merit continued study, concurrent with your evaluation of the street vacation petition.

The PFD also notes that the Seattle Mariners have submitted a detailed comment letter on the proposed street vacation. As the operators of Safeco Field for more than 15 years, the Mariners have a complete understanding of both ballpark operations and of local conditions, including traffic, parking, and pedestrian access. The Mariners have submitted a separate comment letter expressing their concerns with the proposed street vacation and the need for further scrutiny. Their letter also suggests mitigation measures that should be imposed if the vacation proceeds. The PFD has reviewed the Mariners' comment letter and joins in the issues raised by the team.

Thank you for the opportunity to submit these additional comments. If you have any questions or would like to set up a meeting to discuss, please call our Executive Director, Kevin Callan, at (206) 767-7800 or our Legal Counsel, Tom Backer, at (206) 499-9987.

Sincerely,



Charles Royer
Board Chair

Cc: Via Email

Moira Gray: Moira.Gray@seattle.gov

Beverly Barnett, SDOT: Beverly.Barnett@seattle.gov

PFD Board Members

Kevin Callan, Executive Director

Tom Backer, Legal Counsel

Bart Waldman, Seattle Mariners

Susan Ranf, Seattle Mariners

Melody McCutcheon, HCMP Law Offices

Attachment: PFD Preliminary Street Vacation Comment Letter, dated May 31, 2013



800 Occidental Avenue S. #700
Seattle, WA 98134



800 Occidental Avenue S. #200
Seattle, WA 98134

June 4, 2013

Ms. Moira Gray
Seattle Department of Transportation
700 Fifth Ave., Suite 2300
P.O. Box 34996
Seattle, WA 98124

Re: Initial Comments regarding Proposed Vacation of Occidental Avenue South;
Clerk File 312905

Dear Ms. Gray:

The Washington State Public Stadium Authority ("PSA") and First & Goal Inc. ("FGI"), submit this joint initial comment letter regarding WSA Properties' ("WSA") petition to vacate Occidental Avenue South (Clerk File 312905). The PSA is the public owner of CenturyLink Field and Event Center (collectively "CenturyLink Field"), and FGI is the master tenant and facility operator for CenturyLink Field. As explained herein, the PSA and FGI believe that the City and all stakeholders should have better information regarding the impacts of the proposed street vacation and subsequent arena development *before* the City takes any action related to the vacation proposal. As those impacts are disclosed, the PSA's and FGI's goals are to ensure that the public's investment in CenturyLink Field is protected, and that the area surrounding the stadiums continues to function efficiently and develops to the benefit of all three major sports facilities.

1. City's Street Vacation Policies and Priorities.

The City's street vacation policies call for the City to consider three principal issues when reviewing a street vacation proposal. First, the City must consider the impact of the proposed street vacation on the right-of-way's public trust functions, including impacts to circulation and access. This includes ensuring that "circulation to properties on neighboring streets is retained," and replacing all lost public parking spaces. Street Vacation Policies, p. 8, 11. The City's Street Vacation Policies require applicants to mitigate all adverse effects on these "public trust functions," and further provide that "[w]hat constitutes adequate mitigation will be determined ultimately by the City Council." *Id.* at 6.

Second, the City considers the land use impacts of the proposed development enabled by the street vacation. The proposed development must be consistent with the City land use policies for the area in which the right-of-way is located.

Third, the City considers the public benefit of the proposed street vacation and subsequent development. The City's street vacation policies require applicants to provide long term benefits to the general public above and beyond offsets and mitigation. The City's policies call for "significant public benefit from major projects, that is those that are large in scale, . . . or those where the vacation contributes a significant increase in the scale of the project." (Street Vacation policies, p. 29) Due to size of the proposed arena project and the relative importance of the street vacation to arena development, the City should apply this policy to the arena.

The PSA and FGI ask that the City evaluate the WSA's street vacation petition against each of these policies and ensure that the WSA provides appropriate mitigation and public benefits commensurate with the scale of the arena proposal and its impacts on the surrounding area, including the operation of CenturyLink Field.

2. Too Little Is Known About the Impacts of the Proposed Street Vacation and Subsequent Development for the City to Proceed with a Recommendation or Decision at this Time.

The WSA's initial street vacation petition does not provide adequate information to make an informed recommendation or decision regarding its street vacation proposal. The City's street vacation application checklist requires the applicant to "describe the transportation impacts and address both the impacts from the loss of the right-of-way currently and in the future as well as the transportation impacts from the new development." It goes on to require the applicant to "describe any impacts on the transportation system, which includes impacts to pedestrians, bicycles, transit and vehicles," and to "describe impacts to the street grid." WSA has not yet provided information responsive to these application requirements. The PSA and FGI acknowledge that WSA has stated it intends to provide this information with the Environmental Impact Statement (EIS) for the arena project. That is an acceptable approach provided the City (Planning Commission, SDOT or City Council) defer any recommendation or decision regarding the street vacation proposal until the EIS is complete.

The WSA's intended reliance on the EIS to meet its application requirements for the street vacation petition highlights the need to ensure that the EIS analysis is complete and accurate. It is not possible to complete the necessary EIS analysis without complete information regarding: (i) the terms of a coordinated events scheduling agreement as required by the City/Arena MOU; (ii) how the WSA intends to meet the parking requirement for the arena. **To date, WSA has not initiated discussions with the PSA or FGI regarding events coordination. Similarly, the street vacation petition does not include any information regarding how the WSA intends to coordinate events with CenturyLink Field and Safeco Field. The addition of the WSA is not contemplated by the current Scheduling Agreement between Safeco Field and CenturyLink Field. Adding an arena and additional events will require a new approach to scheduling and traffic mitigation that needs to be resolved before the City makes any recommendation or decision regarding WSA's street vacation petition. The City should facilitate the parties initiating negotiations on this agreement.**

Further, the WSA appears to have represented that it will use the Safeco Field Garage to meet its parking obligations for the new arena. The Safeco Field Garage, however, is already subject to parking agreements, including one with the PSA and FGI, that significantly limits the available parking in the Garage at any given date/time. The PSA and FGI are committed to ensuring that CenturyLink Field patrons continue to have safe and convenient access to the Safeco Field Garage consistent with its existing agreement with the Mariners and the Washington State Major League Baseball Stadium Public Facilities District (“PFD”). The City should require the WSA to provide complete and accurate information regarding how it intends to meet its parking requirements, including replacing the parking spaces lost as a result of the street vacation.

Until the WSA has provided a complete application and description of its proposal, including the completed EIS, it is not possible for the PSA or FGI to evaluate and comment fully regarding the street vacation proposal. Consequently, the PSA and FGI anticipate that we will submit one or more additional comment letters as more complete information becomes available. More importantly, until there is a complete proposal, it is not possible for the City to adequately assess the impacts and the benefits of the proposed arena and apply the City’s Street Vacation Policies.

3. The City Should Ensure that the WSA and Arena Provide Comprehensive Mitigation and Appropriate Public Benefits as Conditions of Any Street Vacation Approval.

The WSA’s proposed arena would be the third professional sports facility to be constructed in the South Downtown neighborhood in the last fifteen years. The prior approvals for CenturyLink Field and Safeco Field provide useful templates in considering what types and amounts of mitigation and public benefit should be provided by the WSA as part of constructing the arena. We have attached a list of the conditions imposed by the City on the PFD when constructing Safeco Field and the PSA when constructing CenturyLink Field. These requirements have contributed to the successful development and operation of the existing facilities and should be considered as a starting point for mitigation and public benefit requirements for the arena. Furthermore, such requirements are needed to ensure that the arena development does not adversely affect the existing facilities.

The City should also consider the new Stadium District Concept Plan in determining the scope of mitigation and public benefits required for the new arena. The Stadium District Concept Plan, adopted by the PSA and PFD in December 2012, presents a vision for the Stadium District over the next decade intended “to dramatically and positively impact the neighborhood.” Particularly relevant to the proposed street vacation and arena proposal, the Stadium District Concept Plan calls for enhanced pedestrian and bicycle connections within the Stadium District, including way-finding signage and lighting to connect the District and events facilities to key parking facilities. Consistent with these objectives, the February 22, 2013, Design Review packet for the arena references a pedestrian bridge over the railroad tracks on Holgate. The Design Review packet, however, anticipates that this pedestrian overcrossing will be “constructed by others.” The City’s approvals for both CenturyLink Field and Safeco Field included obligations on the PSA and PFD to contribute to similar pedestrian overcrossings. The City should consider imposing a condition on the street vacation approval to require the WSA to contribute to the

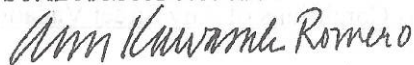
Ms. Moira Gray
June 4, 2013
Page | 4

Holgate pedestrian bridge and other pedestrian improvements in the District. Further, the City should consider where the additional parking required for the arena would be located. The Stadium District Concept Plan calls for the development of an additional 2,000 parking spaces in the Stadium District to meet current and future demand even *before* the addition of the proposed arena.

Thank you for the opportunity to provide initial comments regarding the WSA's street vacation petition. The PSA and FGI look forward to the opportunity to comment further once the EIS for the arena development is completed, including an analysis of the impacts of the street vacation. Until then, we urge the City to defer any recommendations or decisions regarding the street vacation petition as premature. If you have any questions regarding the content of this letter, please feel free to contact us.

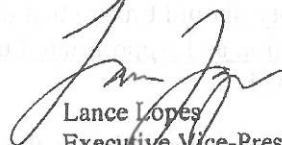
Sincerely,

WASHINGTON STATE PUBLIC
STADIUM AUTHORITY



Ann Kawasaki Romero
Executive Director

FIRST & GOAL INC.



Lance Lopes
Executive Vice-President and
General Counsel

cc: Beverly Barnett, Seattle Department of Transportation
PSA Board Members
Roger Pearce, Foster Pepper, PLLC
Molly Lawrence, Van Ness Feldman GordonDerr

Mitigation/public benefit conditions imposed on CenturyLink Field and Safeco Field as part of their approvals:

- 1) Public outreach and interaction with community:
 - a. Regular meetings with community representatives before, during and following construction to address impacts of construction and operation of facility on surrounding communities.
 - b. Fully funded neighborhood liaisons. Allowed community organizations to have a consistent point person to represent their interests.
 - c. Newsletter containing information regarding project milestones and updates from permitting and design through construction and initial operation.
 - d. 24 hr construction hotline; website to obtain information and submit comments.
 - e. Partial funding of South Downtown Construction Coordinator position at DPD. Ensure coordination with other projects ongoing in south downtown neighborhoods.
 - f. Other community briefings prior to and during construction. Multiple languages to meet diverse populations.

- 2) Construction mitigation:
 - a. Demolition plan
 - b. Construction transportation management plan – e.g., hours of construction, access routes for construction workers, haul routes, etc.
 - c. Construction parking management plan – e.g., parking for construction workers, impacts to other private (3rd party) parking.
 - d. Noise mitigation plan – e.g., limited hours of construction and other noise producing activities, monitoring of sound levels during construction, and corresponding construction plan modifications and/or mitigation
 - e. Water quality BMPs
 - f. Air quality BMPs
 - g. Cultural resources management plan
 - h. Hazardous materials management plan

- 3) Operational mitigation:
 - a. Annual reports to City and stakeholders regarding the adequacy of mitigation efforts.
 - b. Replace any/all parking spaces eliminated by street vacation.
 - c. Hire special events coordinator
 - d. Compensate all City police officers and parking enforcement personnel utilized for activities at the facility.
 - e. Post event clean up; minimum of 500 foot radius around the perimeter of the facility; wider radius following larger events.
 - f. Security and Emergency Access Plan
 - g. Traffic Management Plan
 - h. Traffic/parking signage – e.g., variable message signs, parking availability signs.

- i. Other transportation improvements – e.g., signal warrant (tbd with additional analysis).
- j. Pedestrian Circulation Plan. Triggers pedestrian improvements, including pedestrian overcrossings.



800 Occidental Avenue S. #700
Seattle, WA 98134



800 Occidental Avenue S. #200
Seattle, WA 98134

May 20, 2015

Mr. Michael Jenkins, Director
Seattle Design Commission
700 Fifth Avenue, Suite 2000
Seattle, WA 98124-4019

Re: Comments regarding Proposed Vacation of Occidental Avenue South;
Clerk File 312905

Dear Seattle Design Commission Members:

The Washington State Public Stadium Authority ("PSA") and First & Goal Inc. ("FGI"), submit this joint comment letter regarding WSA Properties' ("WSA") petition to vacate Occidental Avenue South (Clerk File 312905). The PSA is the public owner of CenturyLink Field and Event Center (collectively "CenturyLink Field"), and FGI is the master tenant and facility operator for CenturyLink Field. While the PSA and FGI support the return of NBA basketball, we continue to have significant unresolved questions and corresponding concerns regarding WSA's Arena proposal and the requested street vacation.

The PSA and FGI previously submitted a comment letter regarding this street vacation proposal, dated June 4, 2013. In that letter, we expressed our concern about the number of ambiguities and "unknowns" regarding the likely impacts of the Arena and corresponding mitigations that we believe must be resolved before the City can take action on the street vacation proposal. It was anticipated that the EIS regarding the Arena would resolve many of our questions and concerns. Unfortunately, after reviewing the FEIS and the most current version of the Arena proposal, we continue to be troubled that the Arena has not yet disclosed and the City does not yet know how the proposed Arena will fit within the existing Stadium District or how it will mitigate many of its potential effects.

For example, the FEIS identifies several "either/or" choices that remain to be made, rather than a final and complete Arena proposal: either a pedestrian bridge over the train tracks on Holgate to accommodate the pedestrians entering/exiting the Arena on Holgate, *or* a shuttle system from Holgate to the King Street Station; and, either parking within the existing garages via agreement with FGI and the Mariners, *or* construction of a new 2,025 space parking garage across Holgate from the proposed Arena. These are not mere details, but critical components of the Arena project that need to be determined before the City takes action on the proposal.

Further, while the MOU between the Arena and City expressly requires the Arena to coordinate with the Mariners, Sounders and Seahawks to minimize the number of conflicting and overlapping events held at the existing stadiums and proposed Arena, the proposed mitigation measures identified in the EIS have become increasingly diluted over time. See MOU, Section 21, p. 28. Although the DEIS Summary of Potential Mitigation Measures, Table 1-2, expressly contemplated an Updated Event Scheduling Agreement, the FEIS reduces this to:

[T]he City *could work with* the venues to establish a protocol for scheduling to minimize the conflicts with events among the three major Stadium District venues. This protocol *would strive to work* with major tenants and franchises to minimize the occurrence of simultaneous and closely scheduled major events.

Section 3.8.4.2, FEIS, p. 3.8-212 (emphasis added). Finally, many of the important transportation mitigation measures identified in the FEIS are framed as voluntary or discretionary through words and phrases such as “could”, “may”, and “if applicable.”

In the Response to Comments, FEIS Appendix G, DPD declines to mandate any mitigation, except for those mitigation measures volunteered by the Arena. Comment Response #5, Mitigation Measures, provides: “Except for mitigation measures that ArenaCo has agreed to implement as part of its project, decisions establishing mitigation measures, including the nature, amount and responsibility for mitigation, are made when substantive actions regarding the proposed project occur following issuance of this FEIS, such as issuance of development permits.” FEIS, Appendix G, p. CR-1.

As a result, the current street vacation process provides the first opportunity to establish the mitigation requirements for the Arena proposal. Consistent with our prior letter, the PSA and FGI request that the City develop complete mitigation measures, including scope, timing and responsibility, as part of any decision regarding the requested street vacation. In particular, the PSA and FGI request that the Design Commission establish mitigation conditions regarding:

- Multiple Events Scheduling Agreement. We understand that the Arena has attempted to initiate discussions with the existing stadiums and teams, but to our knowledge, these discussions have not been substantive and the parties are not yet on a path to develop a revised agreement. Without such an agreement, it is unclear whether or how the Arena might (be required to) address conflicts with pre-existing facilities and events. It would be irresponsible for the Arena or the City to approve the Arena without clarity regarding how the three facilities will function *together*. It is not enough to assume that event scheduling can be worked out after the Arena is already approved and underway. Further, the details of the event scheduling protocol set out in the FEIS (quoted above) signal that the City is unfamiliar with the process that teams and leagues use when scheduling events, making us weary of the proposed mitigation condition process.
- Location of Parking. The location of parking serving the proposed Arena will affect vehicular traffic, as well as pedestrian circulation in the Stadium District. The extent of the analysis contained in the FEIS regarding an alternative parking location (a new

garage for 2,025 vehicles south of Holgate) is minimal (see Section 2.12, FEIS Appendix E), and the FEIS still largely assumes that the Arena will be able to negotiate shared parking agreements with FGI and the Mariners. Like the multiple events agreement, however, we are not aware of any substantive progress on shared parking agreements with either the Mariners or FGI. This needs to be resolved *before* the City makes any decisions regarding the Arena proposal. Further, determining the final location of the Arena parking is also necessary to establish the transportation operation mitigation measures that the Arena will be required to install or fund. Several additional and/or different intersections will operate at LOS E or F if parking is located in a new garage south of Holgate as compared to the shared parking scenario.

- Pedestrian Bridge on Holgate. The FEIS contemplates two scenarios to address the 6,000+ pedestrians that are anticipated on Holgate following an event at the Arena: the Arena would either construct a pedestrian bridge east over the several railroad tracks, or would provide a shuttle service from Holgate to the King Street Station and surrounding area. See Figure 2-57, FEIS Appendix E. While a shuttle option may be a viable interim solution, it is not an acceptable or viable long term solution to transporting *thousands of people* across the railroad tracks. Before the City takes any further action regarding the Arena, the Arena needs to produce verifiable evidence that SDOT and the two rail providers, BNSF and Amtrak, agree to the proposed pedestrian bridge solution. Absent that, WSA needs to develop a different long term plan – not dozens of shuttle buses – to transport patrons across the Holgate tracks.
- Other Pedestrian Improvements. The FEIS identifies the several routes that patrons are expected to use walking to and from the proposed Arena and documents the varying degrees of deficiencies along these routes (lack of sidewalks and inadequate illumination). See Figure 2-48 and Figure 2-53, FEIS Appendix E. The only pedestrian improvement required of WSA as part of the Arena in the FEIS, however, is the Holgate pedestrian bridge. Section 3.8.4.2, FEIS, p. 3.8-207. No entity is identified as responsible for the improvements at S. Atlantic. *Id.* And the several pedestrian scale street lighting improvements are listed only as “potential mitigation” “identified for consideration by DPD and SDOT.” Section 3.8.4.2, FEIS, p. 3.8-209. These discretionary, ambiguous mitigation suggestions need to be transformed into concrete mitigation requirements to improve the pedestrian routes to/from the Arena – particularly considering that the majority of significant events at the Arena are anticipated to occur during winter after dark.
- At-Grade Way-Finding. The FEIS also documents that the existing at-grade way-finding system is inadequate to assist pedestrians and bicyclists trying to come to or leave from the Arena. As mitigation, the FEIS provides: “In coordination with other Stadium District Stakeholders, ArenaCo would be required to contribute to development of a way-finding system. . . .” Both the PSA and Washington State Major League Baseball Public Facilities District (“PFD”) were required to install and/or fund significant pedestrian improvements to support their stadiums. The same

should be required of the Arena, without purporting to burden existing facilities that have previously met their mitigation and public benefit obligations.

- Traffic Operations. The FEIS explains how the addition of the Arena to the Stadium District will cause a number of intersections to fall below LOS E, and will worsen the delay at several intersections that already function at LOS F. In response to these deficiencies, the FEIS provides: “The Arena would be required to make a pro-rata contribution to projects such as the ITS Next Generation project list”; and “ArenaCo would work with WSDOT to upgrade traffic control equipment at signalized intersection” Section 3.8.4.2, FEIS, p. 3.8-206. It is unclear whether, when and who would be expected to finance the balance of the ITS upgrade. Similarly, an obligation to “work with SDOT” does not mandate the necessary outcome. These conditions must be clarified and solidified to ensure that WSA mitigates the impacts created by its Arena.

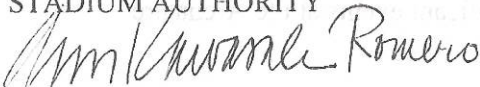
The above discussion refers exclusively to WSA’s mitigation obligations. These measures may not be considered as part of the public benefit that WSA must also provide to the City in exchange for the requested street vacation.

As we mentioned in our previous letter, the prior approvals for CenturyLink Field and Safeco Field provide useful templates in considering what types and amounts of mitigation and public benefit should be provided by the WSA as part of constructing the proposed Arena. These requirements have contributed to the successful development and operation of the existing facilities and should be considered as a starting point for mitigation and public benefit requirements for the Arena. Such requirements are needed to ensure that the Arena development contributes its fair share to the neighborhood and does not adversely affect the existing facilities and other improvements in the Stadium District.

Thank you for the opportunity to provide additional comments regarding the WSA’s street vacation petition. If you have any questions regarding the content of this letter, please feel free to contact us.

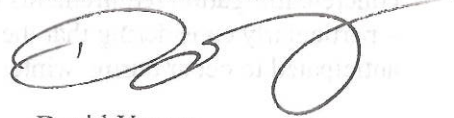
Sincerely,

WASHINGTON STATE PUBLIC
STADIUM AUTHORITY



Ann Kawasaki Romero
Executive Director

FIRST & GOAL INC.



David Young
Vice President/
General Manager

cc: Moira Gray, Seattle Department of Transportation
PSA Board Members
Molly Lawrence, Van Ness Feldman

Mitigation/public benefit conditions imposed on CenturyLink Field and Safeco Field as part of their approvals:

- 1) Public outreach and interaction with community:
 - a. Regular meetings with community representatives before, during and following construction to address impacts of construction and operation of arena on surrounding communities.
 - b. Fully funded neighborhood liaisons. Allowed community organizations to have a consistent point person to represent their interests.
 - c. Newsletter containing information regarding project milestones and updates from permitting and design through construction and initial operation.
 - d. 24 hr construction hotline; website to obtain information and submit comments.
 - e. Partial funding of South Downtown Construction Coordinator position at DPD. Ensure coordination with other projects ongoing in south downtown neighborhoods.
 - f. Other community briefings prior to and during construction. Multiple languages to meet diverse populations.

- 2) Construction mitigation:
 - a. Demolition plan
 - b. Construction transportation management plan – e.g., hours of construction, access routes for construction workers, haul routes, etc.
 - c. Construction parking management plan – e.g., parking for construction workers, impacts to other private (3rd party) parking.
 - d. Noise mitigation plan – e.g., limited hours of construction and other noise producing activities, monitoring of sound levels during construction, and corresponding construction plan modifications and/or mitigation
 - e. Water quality BMPs
 - f. Air quality BMPs
 - g. Cultural resources management plan
 - h. Hazardous materials management plan

- 3) Operational mitigation:
 - a. Annual reports to City and stakeholders regarding the adequacy of mitigation efforts.
 - b. Replace any/all parking spaces eliminated by street vacation.
 - c. Hire special events coordinator
 - d. Compensate all City police officers and parking enforcement personnel utilized for activities at the facility.
 - e. Post event clean up: minimum of 500 foot radius around the perimeter of the facility; wider radius following larger events.
 - f. Security and Emergency Access Plan
 - g. Traffic Management Plan
 - h. Traffic/parking signage – e.g., variable message signs, parking availability signs.

- i. Other transportation improvements – e.g., signal warrant (tbd with additional analysis).
- j. Pedestrian Circulation Plan. Triggers pedestrian improvements, including pedestrian overcrossings.

Gray, Moira

From: Barnett, Beverly
Sent: Wednesday, May 22, 2013 2:15 PM
To: Gray, Moira
Subject: FW: Street vacation informaton for Occidental Ave S proposed sports arena
Attachments: Occidental Street Vacation Information.pdf

For the file.

From: Holly Houser [<mailto:hollyhouser@pugetsoundbikeshare.org>]
Sent: Wednesday, April 17, 2013 1:33 PM
To: Barnett, Beverly
Subject: FW: Street vacation informaton for Occidental Ave S proposed sports arena

Seems like the perfect opportunity for a bike share station...

From: Gray, Moira [<mailto:Moira.Gray@seattle.gov>]
Sent: Wednesday, April 17, 2013 1:18 PM
To: Gray, Moira
Cc: Barnett, Beverly
Subject: Street vacation informaton for Occidental Ave S proposed sports arena

Hello, SDOT has received a petition from WSA Properties et al for the vacation of Occidental Ave S between S Massachusetts St and S Holgate St in the SODO Industrial area for a proposed professional basketball arena. Attached is the initial project information regarding the vacation for your preliminary review and comments. We are asking for comments prior to our forwarding a recommendation to the City Council. We would like to receive your comments by May 31st, however comments are accepted throughout the review period.

Thank you, Moira



MOIRA GRAY
Street Vacation Specialist
Seattle Department of Transportation
Street Use & Urban Forestry Division
700 Fifth Avenue, Suite 2300
PO Box 34996
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206-684-8272 (Tel)

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