



SR 520 Bridge Replacement and HOV Program



I-5 to Medina: Bridge Replacement and HOV Project

ESSB 6392 Workgroup: Transit Planning and Financing Findings and Recommendations Report

DRAFT - November 30, 2010



Developed by:



Draft Transit Planning and Financing Findings and Recommendations
Report | **Table of Contents**

Introduction _____ 1

Transit Planning and Financing Technical Coordination Team _____ 2

2008 SR 520 High Capacity Transit Plan _____ 3

Factors affecting HCT service implementation _____ 6

SR 520 HCT potential funding sources _____ 9

Key findings _____ 11

Recommendations _____ 13

Exhibit 2: SR 520 HCT Plan and phasing _____ 15

Introduction

During the 2010 legislative session, the Washington State Legislature passed Engrossed Substitute Senate Bill (ESSB) 6392. Section 1.(4).b.iv of the bill directed the Washington State Department of Transportation (WSDOT) to work with Sound Transit and King County Metro to study and make recommendations regarding options for planning and financing high capacity transit (HCT) along the State Route (SR) 520 corridor. Representatives from these agencies formed the Transit Planning and Financing Technical Coordination Team (Transit TCT) to study options in detail and provide recommendations to the ESSB 6392 Workgroup for review. The bill requires that WSDOT submit HCT planning and financing recommendations by January 1, 2011, to the Governor and the Transportation Committee of the Legislature.

This report describes how transit planning and financing topics were identified and how recommendations were developed. It also summarizes each of the recommendations, and provides an overview of possible funding sources to implement transit improvements in the future.

SR 520 Corridor

As a major link between Seattle and the Eastside, the SR 520 corridor connects business and residential centers, as well as major institutions such as the University of Washington and regional health care facilities. Each weekday, 115,000 vehicles and 15,000 transit passengers travel on SR 520. Among the weekday transit trips, 10,000 of the rides occur during peak commute periods. On an average weekday between 7:00 and 8:00 a.m., approximately 25 percent of people traveling westbound across Lake Washington use transit service, the equivalent of 1,200 cars.

By 2020, the population in the Puget Sound region is expected to reach 4.1 million, and climb to over 4.5 million by 2030. In the same period, employment is expected to increase by about 700,000 jobs. These increases are expected to result in 40,000 additional trips on SR 520 each day.¹

The public depends on transit to accommodate much of the increase in travel demand associated with expected growth in business and population. Transit service improves the capacity and efficiency of existing highways by moving more people in fewer vehicles. The SR 520 Bridge Replacement and HOV Program includes high occupancy vehicle (HOV) lanes, transit/HOV direct-access ramps, freeway stations and other elements that improve the speed and reliability of transit service. These improvements in the state's highway infrastructure align with the region's transit needs as identified in the Puget Sound Regional Council's (PSRC) Transportation 2040 action plan adopted in May 2010.

The SR 520 program will replace the floating bridge and other vulnerable structures and replace the existing four-lane roadway with a six-lane configuration, including two general-purpose lanes and one HOV/transit lane in each direction. The program also includes complementary HOV/transit investments such as direct-access ramps and new transit facilities. To improve transit reliability compared to a no action (or no build) alternative, the SR 520 program also includes dedicated arterial HOV/transit lanes on Montlake Boulevard between the SR 520 interchange and the Pacific Street intersection and the addition of transit signal priority.

Regional employment centers (2010 employee estimates)²

Bellevue Central Business District	48,800
Overlake	54,500
Redmond Central Business District	29,600
Seattle Central Business District	149,700
University District	26,300
Totem Lake	16,100

1 SR 520 Bridge Replacement and HOV Project Supplemental Draft Environmental Impact Statement, January 2010.

2 Puget Sound Regional Council 2006 Forecasts of Population, Households, and Employment, 2006.

Transit Planning and Financing Technical Coordination Team

The ESSB 6392 Workgroup was tasked with evaluating recommendations for planning and financing of high capacity transit in the SR 520 corridor. WSDOT, King County Metro and Sound Transit formed the Transit TCT to develop initial recommendations for the 6392 Workgroup to consider. The Transit TCT followed a comprehensive workplan that included reviewing previous plans and recommendations, and exploring known projects and programs that affect the delivery of transit service in the SR 520 corridor today and into the future. The Transit TCT also considered and evaluated recommendations and action items from past plans and ongoing implementation efforts.

The Transit TCT was led by WSDOT, Sound Transit, and King County Metro, and included representatives from the City of Seattle and the University of Washington (UW). The group met regularly during fall 2010, and developed a series of key findings and recommendations for the 6392 Workgroup to review. A draft recommendations report was released for public review and comment on December 1, 2010, and public comments were received from December 1 through December 15, 2010.

Public comments received

XXX public comments were received on the Transit Planning and Financing Findings and Recommendations Report. [more after public comment].

2008 SR 520 High Capacity Transit Plan

In coordination with King County Metro, Sound Transit and UW, WSDOT published the SR 520 High Capacity Transit Plan (HCT Plan) in 2008 as requested by ESSB 6099. The HCT Plan outlines a strategy for meeting cross-Lake Washington travel demand with incremental implementation of bus rapid transit (BRT) service connecting employment, residential areas and activity centers on both sides of Lake Washington. The Transit TCT used the HCT Plan as a starting point for their effort, and completed a review of the HCT Plan to:

- Review the transit capital and operating improvements.
- Consider a range of financing sources for operating and capital plan elements and discuss current funding strategies used by transit agencies.
- Consider the effect of existing projects on short-, mid- and long-term transit demand and operations, including:
 - United States Department of Transportation's (USDOT) Urban Partnership Agreement (UPA)-funded improvements.
 - SR 520 I-5 to Medina project's preferred alternative and construction schedule.
 - Voter-approved Sound Transit 2 (ST2) package.
- Update the phasing timeline and milestones to reflect current plans for SR 520 corridor improvements as follows:

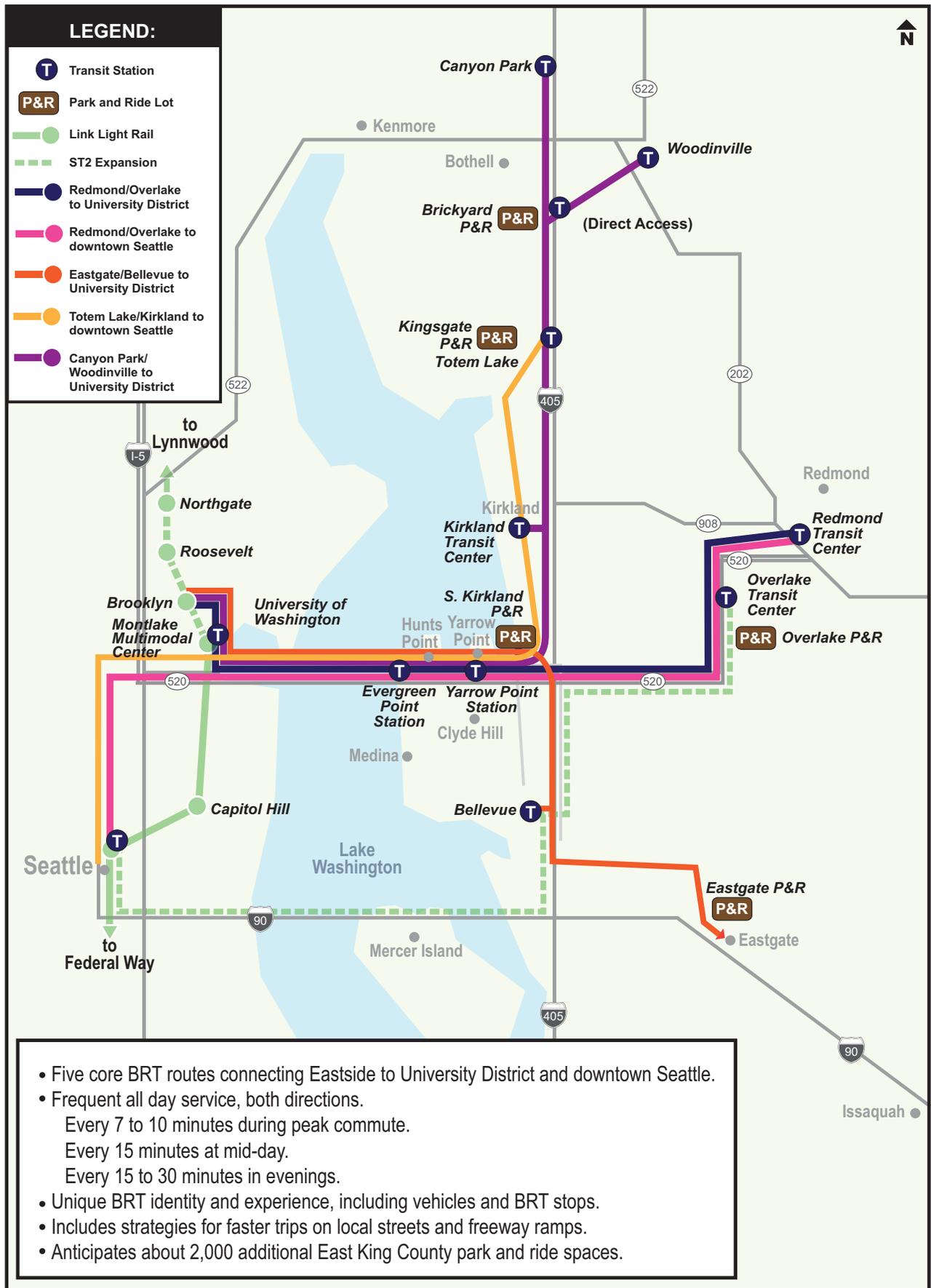
Short-range. Improvements occurring during the anticipated SR 520 corridor construction period, between approximately 2011 and 2018. The estimated SR 520 construction schedule is based on the best available information and is dependent on funding. This period includes several discrete activities, including:

- Tolling of existing corridor (spring 2011).
- Construction of the SR 520 Eastside Transit and HOV Project and new floating bridge (2011-2014).
- Construction of the Seattle portion of the I-5 to Medina project including the west approach, Montlake interchange, Portage Bay Bridge and lids (2012-2018 pending funding).
- Opening of Sound Transit's University Link station (2016).

Mid-range. Improvements occurring between approximately 2018 and 2023, which is following SR 520 corridor construction and before East Link light rail service operation.

Long-range. Improvements targeted for implementation beyond 2023 after East Link light rail service begins.

Exhibit 1. HCT Plan BRT Network



SR 520 High Capacity Transit Plan, December 2008.

The HCT Plan provides an outline for meeting future growth in travel by building on investments identified for the SR 520 Bridge Replacement and HOV Program and substantially increasing transit service and improving on- and off-corridor transit paths and facilities. The HCT Plan envisions a network of five BRT routes connecting Woodinville, Kirkland, Redmond, and Bellevue on the Eastside of the SR 520 corridor, and downtown Seattle and the University of Washington on the west side (see exhibit 1). The HCT Plan includes a range of transit speed and reliability capital improvements at freeway entrances and on arterials that together with a significant service investment would make the BRT service effective and efficient.

The HCT Plan partner agencies (WSDOT, Sound Transit, King County Metro and UW) identified that BRT service could be implemented incrementally to meet transit demand as it increases in the SR 520 corridor through the year 2030. The HCT Plan proposes a phased implementation approach for delivering HCT service in the SR 520 corridor, and identifies 2016 as the start of BRT service. This start date allows BRT service to take advantage of the continuous HOV lanes planned for SR 520 and Sound Transit's extension of North Link to University station. HCT Plan partner agencies also considered other HCT technologies for the corridor, such as LRT, that could be further evaluated in the ST2 planning effort. The HCT Plan prioritizes the following BRT lines:

- Redmond/Overlake to downtown Seattle.
- Redmond/Overlake to the University District.
- Eastgate/Bellevue to the University District.

Although primarily a service initiative, the HCT Plan also suggests capital investments to improve operating efficiency, speed and reliability of service. It includes cost estimates for service and capital investments, and identifies potential funding sources. The HCT Plan also identifies funding gaps that need to be addressed to bring BRT service to the SR 520 corridor.

The 2008 HCT Plan identifies the following next steps for high capacity transit implementation:

- Add transit service to mitigate for eliminating the Montlake Flyer stop.
- Operate construction-period transit.

- Complete SR 520 transit and HOV lanes.
- Complete the BRT financial strategy and detailed service plan.
- Complete revised Sound Transit SR 520 high capacity transit study.
- Implement SR 520 bus rapid transit service in 2016; adjust with service demand.
- Re-evaluate BRT service levels in preparation for 2021 East Link start-up Seattle/Overlake Transit Center.
- Expand SR 520 BRT lines and service levels as demand increases.
- Implement supporting capital investments.

The Transit TCT recommended next steps for HCT service implementation on page 13. Exhibit 2 provides a review of the capital elements recommended in the 2008 SR 520 HCT Plan, including:

- Developing the Montlake Multimodal Center.
- Increasing bus rapid transit service operations.
- Increasing layover capacity.
- Expanding park and ride capacity.
- Implementing arterial BRT improvements in existing right of way.
- Increasing maintenance base capacity.
- Adding bus zones.
- Implementing transit shoulder or arterial BRT treatment with widening.
- Expanding the bus fleet.
- Implementing low-cost interchange or freeway improvements.

Factors affecting HCT service implementation

Multiple factors will influence the delivery of HCT service through the SR 520 corridor, including changes in ridership demand, agency finances and future funding projections, as well as existing partnership agreements.

Changing ridership demand

Demand for high frequency cross-lake transit service will vary depending on tolling implementation, SR 520 project construction, and operating conditions after SR 520 construction is complete. Transit demand on SR 520 may also change after East Link light rail transit service begins across I-90 between downtown Seattle and Bellevue and Overlake.

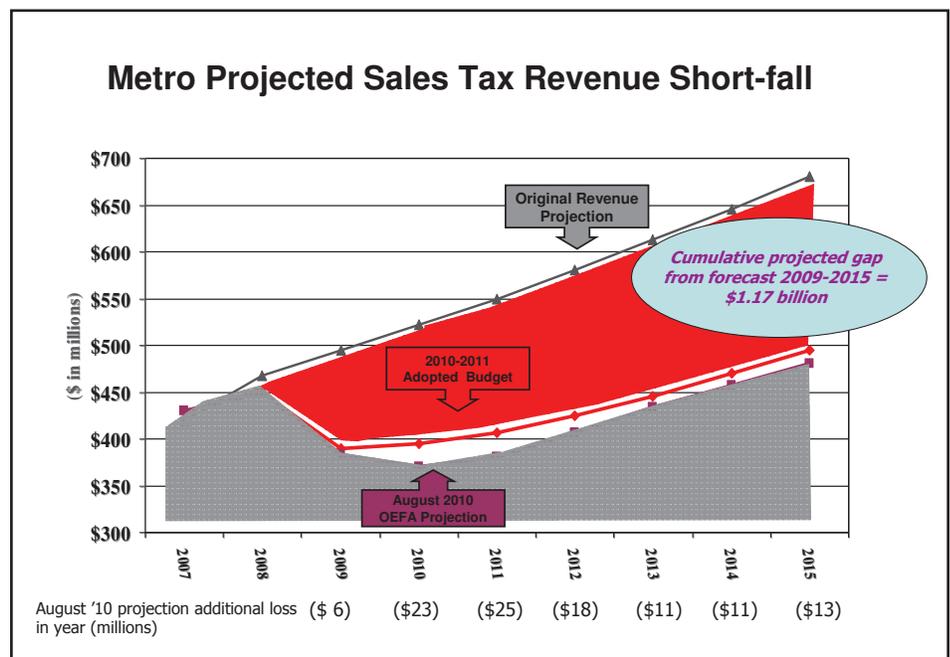
The HCT Plan was completed in 2008 just after voter approval of the ST2 package, which funds the East Link light rail extension. As a result, the HCT Plan did not assume the presence of East Link light rail service when evaluating transit demand through the SR 520 corridor. It is expected that light rail transit on the I-90 corridor will accommodate some of the area person-trips that the HCT Plan considered to be served on SR 520.

Agency finances

Since the completion of the HCT Plan, there has been a severe decline in the national and Puget Sound economy, resulting in diminished transportation and transit agency revenues. Due to the longer-term impacts expected from this decline in revenue, a sustainable funding source is needed for service and capital improvements recommended in the HCT Plan. In addition, WSDOT needs to secure an additional \$2 billion in funding to complete improvements included in the SR 520 program.

King County Metro

Transit Now was approved by voters in November 2006. The program's intent is to expand transit service in King County by up to twenty percent between 2007 and 2016, keeping pace with regional growth and demand for service throughout King County. King County Metro delivered the first service additions just three months after voters approved the initiative, and by the end of 2009 Metro expanded service by 135,000 annual hours.



Declining revenues forced Metro to postpone Transit Now investments, though Metro's 2010 and 2011 biannual budget maintained RapidRide and service partnership elements of Transit Now. Other elements are deferred to 2017 or beyond. The decline in revenue has put transit service at risk and made it difficult to sustain existing services or allow for service growth.

Compared to 2008 forecasts, King County Metro revenues are expected to decline by \$1.17 billion between 2009 and 2015. Metro has a gap of nearly \$334 million to maintain current service levels and deliver on services promised in 2006 as part of voter-approved Transit Now. Without additional resources, King County Metro is facing potential service cuts of approximately 470,000 hours or about 15 percent of the system. These service cuts could impact service levels on SR 520.

Sound Transit

In November 2008, voters approved Sound Transit's ST2 program that includes near-term expansions of regional express bus service, and mid-term increases in Sounder commuter rail service. The program also includes extension of Link light rail east, north and south to form a 55-mile regional system that includes light rail between downtown Seattle and Overlake via I-90. In the SR 520 corridor, ST2 includes expanded park and ride capacity at the Overlake Transit Center as well as new regional bus service along SR 520 between Redmond and the University District.

Similar to transit agencies across the country that rely on sales tax or other revenue sources that are sensitive to changes in the economy, Sound Transit's long-term revenue forecasts show ST2 funding levels down by about 25 percent, or \$3.9 billion through 2023. The shortfall has forced the agency to adjust the delivery of the ST2 plan, which has included eliminating much of the financial reserves built into the ST2 capital construction plans and examining all agency spending. The agency may also need to reduce project scope, extend project timelines and reduce operating and administrative costs.

In response to Sound Transit's budget concerns, the 2011 Service Implementation Plan (SIP) outlines almost \$7.5 million in savings from the ST Express bus program. The SIP continues existing service levels on Link light rail, Sounder commuter rail and higher-demand ST Express routes; reduces service on some under-performing

ST Express routes; defers planned expansions on other routes; and achieves savings through more efficient scheduling.

WSDOT's SR 520 Bridge Replacement and HOV Program

Just as transit agency revenues are declining, so too are the gas tax revenues that WSDOT depends on to help make Washington's highway system operate safely and reliably. To date, WSDOT has identified just over half of the needed \$4.65 billion in funding required to complete all of the improvements included in the SR 520 program. WSDOT continues to work with the state Legislature to meet the remaining \$2 billion gap. A 2009 legislative workgroup directed under ESSB 2211 identified the following recommendations for full financing of the SR 520 program:

- Pursue early high-occupancy toll (HOT) lane tolling on I-90 as soon as practicable.
- Pursue filling the funding gap through federal and state revenue to be identified.
- Pursue general tolling of I-90 no sooner than 2014.

Lake Washington Urban Partnership Agreement

The Lake Washington UPA between USDOT and its Seattle-Area Urban Partner, comprised of WSDOT, PSRC, and King County, funds infrastructure for tolling, technology and transit improvements. Transit service and transportation demand management actions are funded locally. Under this agreement, the Urban Partner agrees to:

- Implement variable pricing on SR 520 between I-5 and I-405 to manage demand, with the goal of relieving congestion.
- Use advanced technologies to employ "active traffic management" (Smarter Highways) along SR 520 and the Lake Washington corridor.
- Increase transit capacity along SR 520 by enhancing bus service (at least 90 one-way peak period trips), improving passenger amenities and expanding park and ride capacity.
- Work to increase the use of telecommuting, flexible scheduling, and employer-based alternative commute programs.

In exchange for federal funding, the Seattle-Area Urban Partner agrees to implement tolling, active traffic management and enhanced bus services through the SR 520 corridor no later than June 30, 2011.

For the Urban Partner to deliver these commitments, USDOT agrees to allocate \$154.5 million in federal grant funding for project elements. The funding can be used for new buses and identified transit facility improvements, but does not provide operating revenues for service expansion. The funding cannot be used for telecommuting, flexible scheduling, and employer-based alternative commute programs.

SR 520 HCT potential funding sources

The Transit TCT considered HCT funding sources suited to capital and operating funding. The Transit TCT considered both current and potential new revenue sources, their present use (if any) and sustainability. A number of sources currently fund the region's existing transit services and related facilities, and these sources are fully subscribed. Besides grants, all potential funding sources, whether an increase in existing source authority or new sources, require legislative action. Some examples of funding sources include, but are not limited to the following:

- **Toll revenue.** Monies collected from tolling the SR 520 bridge could be appropriated for use by transit agencies to provide improvements to transit service. The current financial plan fully obligates all of the projected SR 520 toll revenue to construct corridor improvements and does not include any funding for transit operations in the corridor. The general tolling policy bill (ESHB 1773) lists the purposes for which toll revenue may be used, which includes "to provide for the operations of conveyances of people or goods." Though state law allows toll revenue to be used for transit operations, the legislature would need to specifically obligate the use of toll revenue from SR 520 for transit operations.
- **Increased local property tax authority.** An increase in the local property tax authority for transit could be implemented to fund transit service and facility improvements. Metro currently levies a one cent property tax to fund service to support the UPA and an additional five and a half cents to support other bus improvements. Although this is a stable tax source, property tax generally brings in less revenue compared to other potential sources.
- **Increase in sales and use tax for transit.** Sales tax provides the majority of resources for transit operating and capital costs. King County Metro and Sound Transit each collect 0.9 percent or 0.9 cents per dollar spent on a taxable item, the maximum amount authorized by the Washington State Legislature. Increases in sales tax could apply to a district that would receive benefits from expenditures of the tax collected. Revenue from sales and use tax can be used for construction of high capacity transit systems, but a program that relies on sales tax revenues can be vulnerable to economic decline. As noted earlier, the economic decline beginning in 2008 had a significant impact on Metro and Sound Transit sales tax revenues.
- **Local option motor vehicle excise tax (MVET).** This funding source would require legislative authority and local approval of a MVET in a district that would receive benefits from expenditures of the tax collected. In the past, the legislature has directed revenue from this source to be used for construction of high capacity transit systems. The MVET could be presented as part of a larger state transportation funding package that includes multiple sources.
- **Local sales tax on motor fuels.** A local sales and use tax on motor fuels could be used to fund transit improvements. Similar to a sales tax on any product, a sales tax on motor fuels would be based on a percentage of the fuel purchase price and would be affected by fuel demand.

- **Transit commute mobility tax.** A fee or tax could be levied on businesses that benefit by improved transit commuting options for their employees, via a flat fee per employee or percentage of payroll. The amount collected from this tax would fluctuate based on employment levels in the taxing district.
- **Other federal funds.** Other federal programs may be available to primarily fund capital facility improvements. When considering BRT service operations, these funds have generally been used to fund limited-duration operations costs for demonstration projects.

Federal grants

There are a range of federal grants that could fund HCT service-related capital improvements in the SR 520 corridor. In most cases, federal funds are restricted to capital improvements and are not available to fund operating costs. Some of the major funding programs that could support transit improvements include:

- **FTA Section 5307.** These funds are distributed to regions through an urbanized area formula, and large urbanized area formula funds can generally be used for transit capital purposes only. Distribution of these funds in the Puget Sound region are defined through an inter-jurisdictional process managed by the PSRC.
- **FTA Section 5309.** Bus and Bus Facilities, New Starts and Small Starts, and Fixed Guideway Modernization grant programs are discretionary and approved by Congress based on competitive rankings of projects from Federal Transit Administration (FTA). FTA Section 5309 Bus and Bus Facilities funds can be used for capital projects such as replacement or expansion of buses or bus facilities. FTA Section 5309 New Starts funds can be used for implementing bus rapid transit projects.
- **Surface Transportation Program Regional Grant.** These funds are managed by the Federal Highway Administration, and can be used to support transit capital projects. This grant program is administered by the PSRC for projects in the Seattle/Tacoma metropolitan area.
- **Congestion Mitigation and Air Quality Regional Grant.** This program provides funding for surface transportation and other related projects that contribute to air quality improvements and reduce congestion. Recent policy changes allow funds to be allocated for bus rapid transit projects using HOV lanes. This grant program is administered by the PSRC for projects in the Seattle/Tacoma metropolitan area.

Funding summary

There are numerous potential revenue sources that could fund enhanced HCT service on SR 520. All of the potential sources outlined in this report can be used for capital improvements. Options for funding transit operations are primarily limited to sources that are both continuous and produce adequate resources.

Key findings

The following are the Transit TCT's findings for transit planning and financing for the ESSB 6392 Workgroup's consideration.

1. The conclusions and recommendations contained in the HCT Plan are valid; a program of phased service improvements and capital improvements to provide bus rapid transit service on the SR 520 corridor is still necessary. There remains a funding gap to implement these improvements.
2. The voter-approved 2008 ST2 package includes funding for a long-range high capacity transit study that will evaluate light rail as a potential transit mode on SR 520 in the future. At this time, the anticipated date to begin work on this plan is 2016 or later.
3. Some of the early milestones identified in the HCT Plan have been completed, including:
 - a. Defining the first phase of Montlake Multimodal Center improvements through the Montlake Triangle Charrette process in 2010, resulting in the Montlake Triangle Project planned for construction in September 2011 to coincide with Sound Transit's North Link extension to University station construction.
 - b. Increasing cross-lake service in corridors identified in the HCT Plan, as part of the Lake Washington Urban Partnership:
 - i. **Sound Transit** added peak period service (13,000 annual hours) between Redmond and the University District in October 2010 (Sound Transit 542 service) with operations funded by ST2.
 - ii. **King County Metro** increased service frequencies and added trips in October 2010 between Kirkland and downtown Seattle/First Hill and between Eastgate/downtown Bellevue and the University District. Additional improvements are planned for spring 2011 that will increase bus service frequency throughout the day between Kirkland, Totem Lake and downtown Seattle, as well as improve peak period commuter service between the Woodinville Park and Ride, Brickyard Park and Ride, and Kingsgate Park and Ride and downtown Seattle. These enhancements to Metro routes (totaling about 28,000 annual hours) are funded by a property tax for transit, authorized by the Washington State Legislature in 2009 for counties with a population of 1.5 million or more and assessed by the King County Council in 2010 (RCW 84.52.140).

- c. Capital improvements funded by the Lake Washington UPA:
 - i. Purchase of 41 new hybrid-electric diesel buses for use on the SR 520 corridor.
 - ii. Passenger facility improvements to enhance the waiting environment for transit patrons (currently scheduled to be completed in summer 2011).
 - iii. Completion of the parking garage at the Redmond Transit Center and Park and Ride, and preliminary plans for expansion of the South Kirkland Park and Ride.
- 4. Funding for King County Metro, Sound Transit, and WSDOT has been significantly impacted by slow economic conditions in the region. These conditions have led to a decline in revenue for transportation and transit agencies, making it difficult to sustain existing services or allow for service growth and related capital improvements.
- 5. Both King County Metro and Sound Transit rely on sales tax revenue for a significant portion of their operating and capital revenue, a funding source that is vulnerable to economic fluctuations. King County Metro and Sound Transit have levied sales and use tax to the maximum authorized, leaving few options to fund existing and planned transit service in the SR 520 corridor.³

While there are numerous potential sources to fund transit capital and service improvements, all would require legislative action to implement. Examples of potential funding sources include, but are not limited to, tolls, local option MVET, an increase in sales tax authority or property tax authority, a local sales tax on motor fuels and a transit commute mobility tax.

³ Sound Transit, with voter approval, could collect a MVET of up to 0.8 percent and an Employer tax of up to \$2.50 per employee per month. It could also raise a rental car sales tax from its existing level of 0.8 percent to 2.172 percent. These revenues must be expended on a program of regional transit improvements.

Recommendations

The Transit TCT recommends the following for SR 520 high capacity transit planning and financing:

1. New sustainable revenue sources are needed to support the remaining high capacity transit capital and service improvements in the corridor.
2. In the short-term, funding is needed for an enhanced planning effort to identify and refine the short- and mid-term transit needs identified in the HCT Plan. This effort should also evaluate how expected changes in transit demand due to tolling, construction and completion of the SR 520 program will affect the phasing and implementation of transit improvements. This work would identify transit service and capital improvement needs and associated conceptual level cost estimates. Some of this evaluation can occur as part of the transit agencies' periodic assessment of service levels, capital needs and system structure.
3. Conduct a study that examines the long-term demand for and feasibility of light rail and other HCT technologies along the SR 520 corridor. This study — an element of the HCT Plan and a funded project within the voter-approved 2008 ST2 package — may not occur until 2016 or later depending on the ST2 implementation schedule.
4. Transit service on SR 520 should be monitored, evaluated and adjusted as transit ridership changes. Following the start of Sound Transit's East Link service across I-90, BRT service may need to be modified to meet demand.
5. Any high capacity plans developed for SR 520 must complement the planned infrastructure improvements in the SR 520 program.

This page intentionally left blank.

Exhibit 2. SR 520 HCT Plan elements and phasing

Following is a review of the 2008 HCT Plan elements, including proposed priority for implementation, potential cost, and funding status.

Montlake Multimodal Center

Priority: Short-range

Potential cost: \$\$\$

Status: Funded

The HCT Plan includes the partner agencies' vision for developing a multimodal center adjacent to the UW campus, UW Medical Center and the planned UW Link light rail station to accommodate the volume of people traveling to and through the Montlake area. Not only will the Montlake Multimodal Center improve access to the University District, it will be a major transfer point between rail, proposed SR 520 BRT lines and existing local transit service. In their October 1, 2010 report, *ESSB 6392 Workgroup: Design Refinements and Transit Connections Recommendations* the ESSB 6392 Workgroup outlined recommendations for the Montlake Multimodal Center developed through the Montlake Triangle Charrette. WSDOT, the Seattle Department of Transportation, King County Metro, Sound Transit and UW are moving forward with the design of the Montlake Boulevard overcrossing, with construction expected to begin in September 2011.

Bus rapid transit service operations

Priority: Short/Mid-range

Potential cost: \$\$

Status: Unfunded

The HCT Plan proposed an increase in service of approximately 130,000 service hours in the SR 520 corridor, which exceeds available and future transit funding from existing sources. The estimated cost of providing these service hours will increase over time as more service is added to the network and will be an annual recurring cost for the duration of the service.

Layover capacity

Priority: Short/Mid-range

Potential cost: \$

Status: Unfunded

To accommodate higher volumes of buses throughout the day, additional layover storage and bus bays are required at stations or terminal sites. The number and specific location of layover capacity may shift with changes in transit service in the short, mid, and long-range time periods.

Park and ride expansion

Priority: Short/Mid-range

Potential cost: \$-\$\$

Status: Unfunded

New park and ride capacity may be needed during SR 520 construction and prior to East Link light rail service opening. Many of the park and ride lots used by transit riders crossing the SR 520 corridor are at or near capacity. Expansion of park and ride lots could occur through partnerships with existing land owners or the acquisition of land and construction of new surface lots or parking garage structures.

Arterial BRT improvements in existing right of way

Priority: Short/Mid-range

Potential cost: \$

Status: Unfunded

Speed and reliability of BRT services can be improved with transit treatments such as transit signal priority, queue jump lanes, or business access and transit (BAT) lanes. Arterial BRT improvements can be made on roadways with wider cross-sections by converting a travel lane or parking lane into a BAT lane, eliminating the need for roadway widening.

LEGEND

Priority

Short-range: 2011-2018 (SR 520 corridor construction)

Mid-range: 2018-2023 (Post SR 520 construction and pre-East Link opening)

Long-range: post 2023 (post East Link opening)

Potential cost

\$ = \$0.5-5 million

\$\$ = \$5-25 million

\$\$\$ = \$25 million or greater

New maintenance base facility

Priority: Short/Mid-range

Potential cost: \$-\$\$\$

Status: Unfunded

Adequate maintenance capacity is necessary to operate BRT lines. For service in 2016-2018, maintenance capacity for 45 to 90 transit vehicles may be required. More study is needed by Sound Transit and King County Metro to determine the long-term maintenance base capacity needs for bus transit service through the SR 520 corridor and in their respective transit service areas. Sound Transit is studying this need as part of ST2 and Metro conducts ongoing evaluations of the need for additional transit base capacity based on future fleet plans.

Bus zones

Priority: Short/Mid-range

Potential cost: \$

Status: Unfunded

The addition of new arterial BRT services will require new stops or stations along routes and at transit centers. According to the HCT Plan, approximately 30 BRT bus zone or station facilities would be needed in 2016-2018. Some station facilities are already in place and would only require signage to identify BRT service. The station structure for King County Metro RapidRide includes a number of passenger amenities; major stations would include passenger information and security enhancements. These improvements could be implemented in several phases over time as BRT service increases through the SR 520 corridor.

Transit shoulder or arterial BRT treatment with widening

Priority: Short/Mid-range

Potential cost: \$\$-\$\$\$\$

Status: Unfunded

Transit speed and reliability is greatly improved with the presence of a transit-only or a shared transit/HOV lane, especially in heavily traveled corridors. The conversion of an existing general purpose travel lane or parking lane to transit use may not be feasible in some instances, due

to prevailing public, political, and operational constraints. In these situations, widening of a roadway would be necessary, which is generally an expensive undertaking. Some jurisdictions have expanded the use of transit-only shoulders during peak periods to ensure transit is a competitive transportation option.

Bus fleet expansion (45 additional buses)

Priority: Mid/Long-range

Potential cost: \$\$\$

Status: Unfunded

The HCT Plan outlined the need for a BRT fleet of 90 vehicles by 2016. Recently, the Lake Washington Urban Partnership acquired 41 new buses, but 45 additional buses would be required to meet the service levels described in the HCT Plan.

Low-cost interchange or freeway improvements

Priority: Mid/Long-range

Potential cost: \$

Status: Unfunded

Minor improvements to interchanges and freeways can improve transit speed and reliability, such as adding an HOV bypass lane or expanding the length of an on-ramp to improve access. Generally, these improvements are occurring where right of way is available and outside of major urban centers. These improvements would supplement the direct-access HOV interchanges included in the SR 520 program at 108th Avenue NE and Montlake Boulevard.

LEGEND

Priority

Short-range: 2011-2018 (SR 520 corridor construction)

Mid-range: 2018-2023 (Post SR 520 construction and pre-East Link opening)

Long-range: post 2023 (post East Link opening)

Potential cost

\$ = \$0.5-5 million

\$\$ = \$5-25 million

\$\$\$ = \$25 million or greater