Alaskan Way Viaduct & Seawall Replacement Program

Special Committee on the Viaduct and Seawall Replacement Program

May 17, 2010

U.S. Department of Transportation Federal Highway Administration

WSDOT

King County

Port of Seattle

City of Seattle

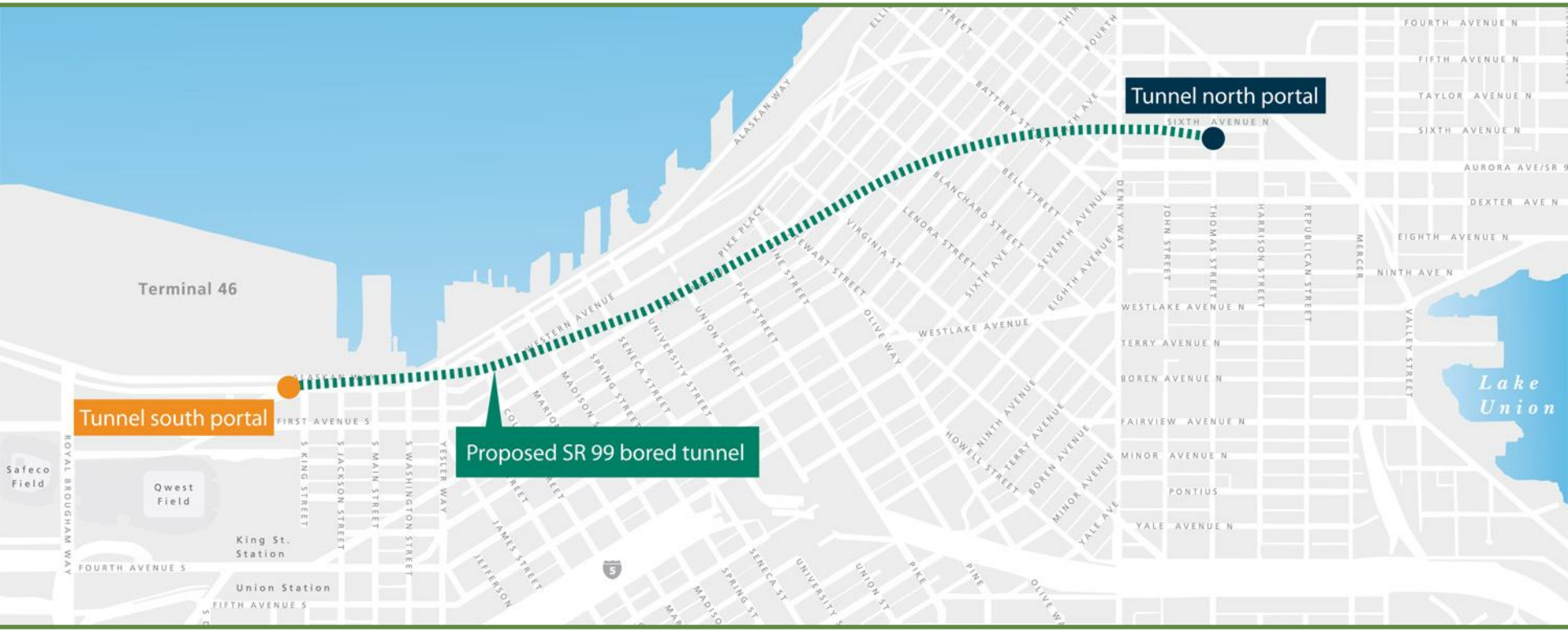
Presentation Overview

- Proposed SR 99 Bored Tunnel Request for Proposals
  - Design-build contracting
  - Design-build contracting timeline
  - Components of RFP
- State-City agreements and utilities coordination
  - SDOT – WSDOT agreement
  - SPU – WSDOT agreement
  - SCL – WSDOT agreement
- Program update

Moving Forward With Proposed SR 99 Bored Tunnel

- State is moving forward to take down viaduct north of S. King Street in 2016, which requires opening new SR 99 to traffic in 2015.
- RFP release this month necessary to stay on schedule and budget.
- City is interested in:
  - How traffic, noise, urban design and existing infrastructure is managed during construction.
  - Streets and sidewalks constructed as part of project at the north and south portals ultimately will be owned and operated by the City.
  - City utility relocation commitments at the north and south tunnel portals.
- City's interests addressed in agreements with State and incorporated into RFP.

Project Delivery - Proposed Bored Tunnel



South portal area
One design-bid-build contract for surface street improvements and connections to SR 99 and city street grid.

Design-build contract / RFP
Includes boring machine, tunnel roadway and systems, operations buildings, cut-and-cover sections of tunnel and settlement mitigation.

North portal area
Three design-bid-build contracts for:
1) Connections to SR 99 and city street grid
2) Surface street improvements
3) Utility relocations

Design-Build vs. Design-Bid-Build

Design-Bid-Build Contract – a project delivery method in which the owner provides a complete design, advertises for bids, and awards a contract to the lowest responsive bidder who is responsible for completing the construction of the project.

Design-Build Contract –a project delivery method in which the owner develops a conceptual design and project standards and requests proposals from pre-qualified contractor/designer teams. The contract is awarded to the team with the best value responsive proposal. The team is responsible to complete the design and construct the project in accordance with the standards.

Tacoma Narrows Bridge design-build project.

2010 SR 99 Replacement Cost Estimate

SR 99 Projects	2010 cost estimate (millions)
Proposed SR 99 bored tunnel, portals, and systems	$1,960
S. Holgate Street to S. King Street viaduct replacement	$483
Other Moving Forward Projects** and prior program expenditures	$345
Alaskan Way roadway and viaduct removal	$290
Central waterfront construction mitigation	$30
Total cost estimate	**$3,108**

** All costs are in year of expenditure dollars*

*** Moving Forward Projects include: repairs to viaduct columns near Yesler Way, relocating electrical lines from the viaduct's south end, Battery Street Tunnel maintenance, and construction mitigation for the S. Holgate Street to S. King Street viaduct replacement.*

2010 Proposed Bored Tunnel Cost Estimate

SR 99 Bored Tunnel Project	2010 Cost Estimate (millions)*
Construction (including construction management)	$1,224
Right of way	$152
Preliminary and final design	$169
Risk and escalation	$415
Total cost estimate	**$1,960**

** All costs are rounded in year of expenditure dollars.*

SR 99 Bored Tunnel RFP – Example Scope Items

Scope Items	Preliminary Construction Cost Estimate (millions)
Bored tunnel (8,800 linear feet)	$350
Double deck interior sections including travel lanes, shoulders and pedestrian refuge areas	$100
Systems installation: fire/life safety, ventilation, electrical, mechanical and lighting	$180
Tunnel operations buildings (north and south)	$60
Cut and cover sections at either end of the bored tunnel	$180
Tunnel settlement mitigation (buildings, utilities, street)	$60

The cost of the design-build contract is estimated between $1 billion and $1.2 billion.

Lessons Learned from Other Tunnel Projects

- Sound Transit's Beacon Hill LINK Light Rail Tunnel
- King County's Brightwater Conveyance Tunnels
- King County Metro's Downtown Transit Tunnel
- City of Seattle's Mercer Street Wastewater Tunnel
- Spain's Madrid M30 Tunnel
- Germany's Fourth Elbe River Tunnel
- Boston's Central Artery Project
- Boston Harbor Cleanup

Design-Build Best Apparent Value

- WSDOT reviews design-build proposals in two phases.
  - Phase 1: Technical proposal which evaluates risk management strategies, schedule, construction plans, environmental protection measures, quality control, public outreach and safety.
  - Phase 2: Cost proposal.
- Two scores are combined to form the best value score.

Design-Build Best Apparent Value

- May include credits for exceeding criteria in certain areas. For example:
  - Management
  - Roadway configuration
  - Settlement management
  - Schedule
- Process allows owner to balance the contractor's approach to managing and delivering the project with a cost estimate. For example:
  - A contractor with a cost that is not the low bid may have the best apparent value because approach to managing settlement earns a high score.

Contract Pricing

- Combination of fixed price, unit bids and allowance estimates.
  - Minimizes the need for the contractor to price unknown risk into their fixed price bid.
  - Provides incentives for good management of risk.
- The pricing strategy will allow bidders to appropriately price 70% of the project at fixed prices. The State and design builder will jointly manage risk associated with tunneling.
- Contractor bids number of days (schedule).

City's Role in RFP Development

- Comments on draft contract and technical requirements.
- Provided standard draft street use permit conditions.
- Design Commission review and development of design guidelines for tunnel operations buildings and portal area urban design.
- Assisted with development of footprint.
- Agreements negotiation informs RFP content.

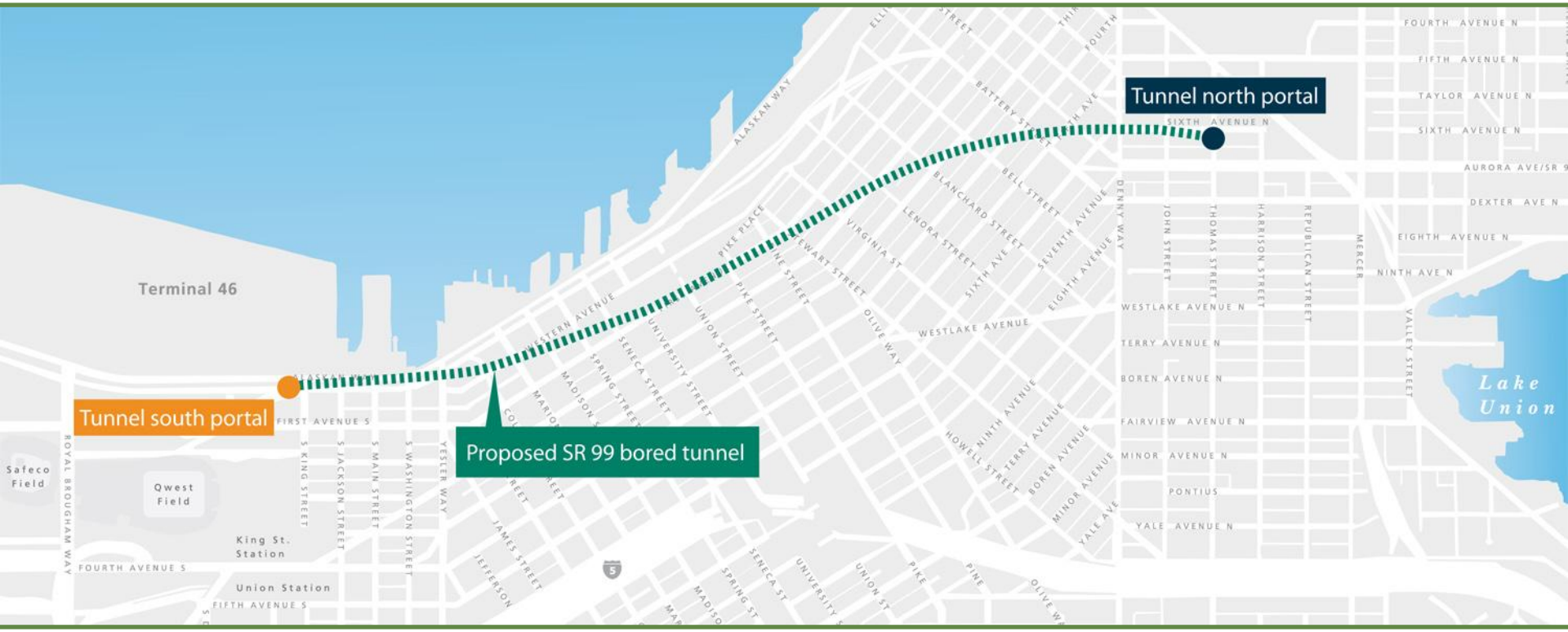
Proposed SR 99 Bored Tunnel Contracting Schedule

Issue Request for Qualifications	September 15, 2009
Statement of Qualifications due	November 23, 2009
Teams qualified	December 23, 2009
Issue draft Request for Proposals	February 26, 2010
Contractor meetings and other comments	March/April 2010
Issue final Request for Proposals	May 26, 2010
Addendums	June/July 2010
Proposals due	October 28, 2010
Second Supplemental Draft EIS	Fall 2010
Announce apparent best value	January 2011
Phased notice to proceed – Phase 1 (preliminary design)	Late January 2011
Final EIS/Record of Decision	June/July 2011
Phased notice to proceed – Phase 2 (final design and construction)	August 2011

Relationship Between RFP and Agreements

- Agreements are an important component in the RFP, and address City's interests and commitments.
- Agreements:
  - Add requirements and explain the interagency process.
  - Provide information to design-builder about city approval process and relationship with WSDOT to inform cost estimate.
  - Mitigate concern of potential delays.
  - Promote better pricing certainty.
- WSDOT schedule: Draft agreements will be incorporated into the RFP this month and any changes will be added by addendum this summer.

Scope of Agreements



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Need for City-State Agreements

- Project is in a dense urban environment with impacts to City traffic, noise, urban design, existing City infrastructure and private property.
- Project will use City street right of way.
- Streets and sidewalks constructed as part of project at the north and south portals ultimately will be owned and operated by the City.
- City is responsible for utility relocations at north and south tunnel portals and will own and operate utilities relocated as part of project.
- Provisions for State's responsibility for infrastructure protection and remedying damage if it occurs.

Goals for City-State Agreements

- The agreements with WSDOT (SCL, SPU and SDOT) are similar to previous agreements (Electrical Line Relocation and S. Holgate Street to S. King Street Viaduct Replacement projects).
- Goals:
  - Clarify and implement tunnel project commitments made in the City/State programmatic Memorandum of Agreement (Oct. 2009).
  - Determine terms, roles and responsibilities between the City and State in the proposed bored tunnel project.
  - Inform prospective design-build contractors about the City-State relationship.

Agreement Content

- General responsibilities.
- Public and private utility coordination.
- Cost/funding responsibilities.
- Mutual work authorization and reimbursement procedures.
- Design review, inspection and design change procedures.
- Permitting and City right-of-way use.
- Urban design.
- Construction management.
- Environmental remediation and property provisions.
- Provisions for indemnification, warranty of work, insurance, dispute resolution and other standard topics.

SDOT Agreement

- Has provisions that apply to all three agreements.
- Covers general responsibility for design and construction.
- Significant policy agreement and core responsibilities:
  - State is responsible for preventing damage to private property and public infrastructure and will remedy damage if it occurs.
  - City and State will jointly develop urban design expectations which will include provisions for SDOT and Seattle Design Commission review and approval.
  - The City will not be liable for permitting activities, assistance with the project or delay.
  - Property not used for permanent highway or street purposes will be surplused within two years of project end.

SDOT Agreement

- Significant policy agreement and core responsibilities, continued:
  - The parties will contract with each other for services using a Task Order process.
  - City and State will develop shared procedures for construction activities such as protection of City infrastructure, access to City utilities, maintenance of traffic, public outreach.
  - Design and construction of City infrastructure will comply with City codes, rules, regulations and standards.
  - City will authorize use of City right of way through street use permits obtained by the State.

Utilities Coordination

Agreements reflect ongoing coordination between WSDOT and public utilities, and are consistent with state law.

Coordination at the tunnel portals includes:

- City is responsible for relocating utilities that intersect the final configuration of the proposed SR 99 bored tunnel portals.
- Relocation costs related to bored tunnel project were estimated in 2009 budget at $55 million.
- The State is identifying conflicting utilities and determining the conceptual relocation plan with City participation.
- SPU and SCL are identifying opportunities for betterments (Example: potential 230 kV transmission lines in tunnel)
- SPU and SCL will authorize the portions of the relocation work to be designed and constructed by WSDOT.

Utilities Coordination

Coordination along the tunnel bore includes:

- The State is responsible for damage to City facilities, including City-owned utilities.
- The State is identifying City-owned utilities that might be subject to damage and determining the mitigation plan with City participation.
- The State is developing an instrumentation and monitoring plan to track potential impacts to private property and City infrastructure, including pre/post surveying of utilities. The City is an active participant in this exercise.

SCL & SPU Agreements

- SCL and SPU will have separate agreements with the State that will be substantially similar in form and content.
- Significant policy agreement and core responsibilities:
  - State will identify utility relocation plan with City participation.
  - State will perform portions of utility relocation work to City design and construction standards with City reimbursement.
  - State will implement portions of SPU and SCL utility relocation obligations with City authorization and reimbursement.

SCL & SPU Agreements

- Provisions for settlement limits are included.
- The City and State will work to minimize customer service impacts during construction.

Next Step for Agreements

- May 26: Draft agreements incorporated into final bored tunnel Request for Proposals.
- Late May: Agreements transmitted.

Project Update

- Strategic Technical Advisory Team
- Additional traffic analysis
- S. Holgate to S. King Street Viaduct Replacement Project
- Automated Viaduct Closure Gates
- North and south portal working groups
- Mercer West contract award
- Public outreach

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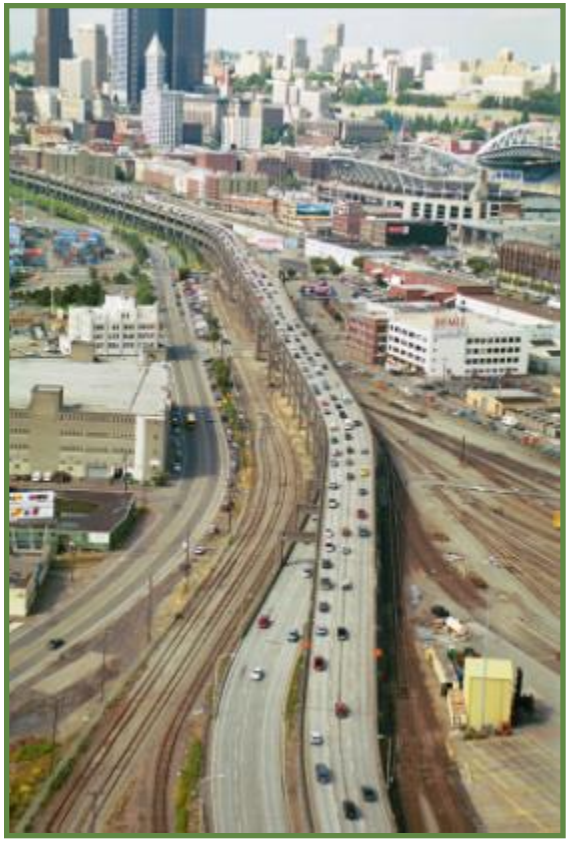

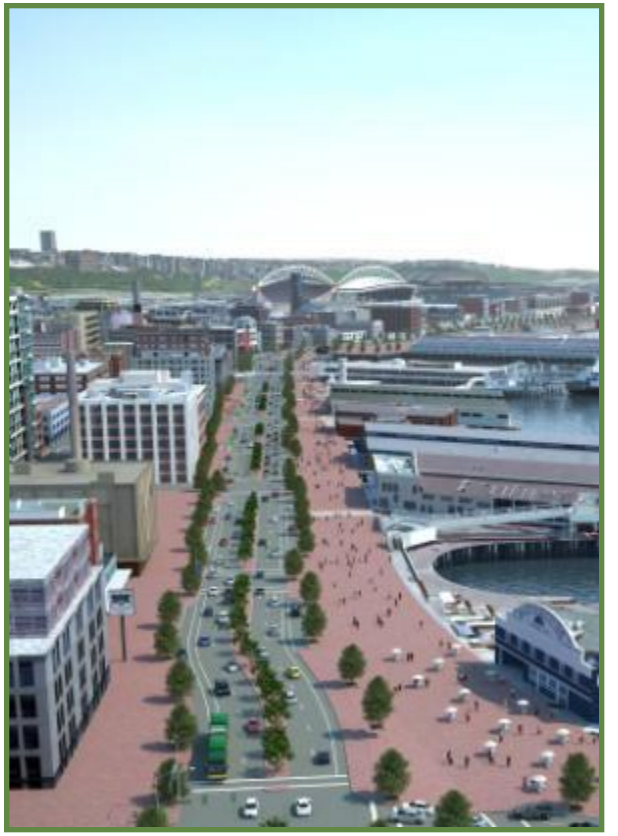

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