Alaskan Way Viaduct Replacement Program

Lynn Peterson  
Secretary of Transportation

Linea Laird  
Assistant Secretary

Todd Trepanier  
Program Administrator

Roger Millar  
Deputy Secretary

Chris Dixon  
Project Manager, Seattle Tunnel Partners

Joint Transportation Committee  
October 22, 2015
Today’s Agenda

• Program overview
• SR 99 Tunnel Project overview
• Program budget update
• Other construction progress
• Next steps
Program History

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>Nisqually earthquake damages viaduct.</td>
</tr>
<tr>
<td>2004</td>
<td>Draft EIS analyzes five alternatives.</td>
</tr>
<tr>
<td>2006</td>
<td>Supplemental Draft EIS analyzes two alternatives.</td>
</tr>
<tr>
<td>2007</td>
<td>No/no advisory vote leads to new approach.</td>
</tr>
<tr>
<td>2009</td>
<td>Governor signs bill endorsing bored tunnel alternative.</td>
</tr>
<tr>
<td>2010</td>
<td>Supplemental Draft EIS analyzes bored tunnel.</td>
</tr>
<tr>
<td>2011</td>
<td>Final EIS and Record of Decision issued. Design-build contract signed.</td>
</tr>
</tbody>
</table>
Building a new SR 99 Corridor
Completed Work

Map of state-led/funded improvements

<table>
<thead>
<tr>
<th>South-end replacement</th>
<th>Start</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical line relocation</td>
<td>2008</td>
<td>2009</td>
</tr>
<tr>
<td>Hoigate to King (Stage 1)</td>
<td>2009</td>
<td>2009</td>
</tr>
<tr>
<td>Hoigate to King (Stage 2)</td>
<td>2010</td>
<td>2012</td>
</tr>
<tr>
<td>Hoigate to King (Stage 3)</td>
<td>2012</td>
<td>2014</td>
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<table>
<thead>
<tr>
<th>SR 99 tunnel</th>
<th>Start</th>
<th>End</th>
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</thead>
<tbody>
<tr>
<td>SR 99 tunnel main contract</td>
<td>2011</td>
<td>TBD</td>
</tr>
<tr>
<td>North Access Project</td>
<td>2014</td>
<td>TBD</td>
</tr>
<tr>
<td>North Surface Street Connections</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>South Access Project</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>South Access (drilled shafts)</td>
<td>2014</td>
<td>2014</td>
</tr>
</tbody>
</table>

Mitigation projects

- SR 519 Phase 2                        | 2008  | 2010|
- Spokane Street Viaduct Fourth Ave. off-ramp* | 2009  | 2010|
- I-5 active traffic management         | 2009  | 2010|
- I-5 active traffic management sign bridges | 2009  | 2009|
- I-5 travel time signs                 | 2009  | 2009|
- City street intelligent transportation systems | 2009  | 2010|
- SR 99 intelligent transportation systems | 2010  | 2011|
- Enhanced transit/demand management**  | 2010  | 2014|
- Parking mitigation for central waterfront | 2011  | 2018|

Miscellaneous projects

- Tracer Building demolition            | 2007  | 2007|
- Viaduct column stabilization near Yesler Way | 2007  | 2008|
- WOSCA Building demolition             | 2009  | 2009|
- Pier 48 warehouse demolition          | 2010  | 2010|
- Automated viaduct closure gates       | 2010  | 2011|
- Western Building structural work      | 2011  | 2015|
- SR 99 south-end facility replacement  | 2011  | 2011|
- Alaskan Way widening                 | 2012  | 2012|
- Cedarstrand Building demolition       | 2012  | 2012|
- Waterfront viaduct removal           | TBD   | TBD |
- Battery Street Tunnel decommissioning | TBD   | TBD |
- New Alaskan Way                       | TBD   | TBD |
Budget Overview

- Other project contracts: $1.08 billion
- Four other SR 99 tunnel related projects: $703 million
- WSDOT’s contract with Seattle Tunnel Partners: $1.35 billion

= $3.1 billion
The path forward

Additional projects will begin after the tunnel opens to traffic

Viaduct will be demolished and Battery Street Tunnel will be decommissioned and filled in

Reconnecting surface streets near the north portal

City of Seattle rebuilds Alaskan Way along the waterfront
Working with our partners

The Alaskan Way Viaduct Replacement Program includes projects led by the Washington State Department of Transportation, City of Seattle, King County and Port of Seattle.
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The SR 99 tunnel contract ensures that:

- Majority of work will be completed for a fixed cost.
- Better predictability of final cost at the onset.
- Allows contractor to determine final design and construction methods.
- WSDOT and contractor staff located together.
Repairing Bertha

Aerial view of access shaft
February 2015
Repairing Bertha

Bertha’s breakthrough
Feb. 19, 2015

Photo: WSDOT
Repairing Bertha

Outer shield pieces are removed
March 23, 2015
Repairing Bertha

Lifting Bertha’s cutterhead and main drive unit
March 30, 2015

Photo: WSDOT
Repairing Bertha

Aerial view of SR 99 tunneling machine repairs May 8, 2015
Repairing Bertha

Installing the inner seal ring
June 4, 2015
Replacing and adding Bertha’s cutting tools
July 29, 2015

Repairing Bertha
Repairing Bertha

The new main bearing and bull gear form an outer ring around the new center pipe
Aug. 10, 2015

Photo: WSDOT
Repairing Bertha

Placing the bearing block
Aug. 15, 2015
Repairing Bertha

Drive motors in place
Aug. 21, 2015

Photo: WSDOT

Washington State Department of Transportation
Repairing Bertha

Lowering the machine’s front end
Aug. 24, 2015

Photo: WSDOT
Repairing Bertha

Welding reinforcing steel
Sept. 17, 2015

Photo: WSDOT
Repairing Bertha

Fine-tuning cutterhead position
Sept. 18, 2015

Photo: WSDOT
Repairing Bertha

Reconnecting cables and hoses
Sept. 18, 2015
Repairing Bertha – Video

https://youtu.be/j4sHZzcDqIU
Repairing Bertha

STP’s next steps

• Complete welding, reconnect cables and hoses
• Phase 1: Measurements
• Phase 2: No-load test
• Backfill access pit
• Phase 3: Load test
• Mine to planned maintenance stop (Safe Haven 3)
Building the South Portal

[Image: Aerial view of the construction site with the text “South portal Sept. 14, 2015”]

Photo: WSDOT
Southbound roadway

Southbound roadway emerging from the bored tunnel section
Aug. 3, 2015
Southbound roadway

Photo: WSDOT

Southbound roadway deck platform construction
July 2015
Northbound roadway

Future northbound mainline tunnel entrance
Oct. 2, 2015

Photo: WSDOT
Northbound roadway

Northbound tunnel on-ramp from Atlantic Street Oct. 2, 2015

Photo: WSDOT
Building the receiving pit

Receiving pit
July 15, 2015

Photo: WSDOT
Building the receiving pit

Receiving pit and north cut and cover section
Oct. 1, 2015
North operations building

Photo: WSDOT

North operations building
Oct. 1, 2015
Building the north portal
STP’s current schedule

Key dates in STP’s current schedule (September 2015)

• Late December 2015: Resume tunneling
• Late January 2016: Reach planned maintenance site (Safe Haven 3)
• March 2016: Tunnel under viaduct
• January 2017: Complete tunneling
• June 2017: Final concrete pour
• April 2018: Complete testing and commissioning
• April 2018: Tunnel ready for traffic
DBE progress

August 2015:
$69 million or 6.1%

KEY
- Contract DBE requirement: $96 million
- STP’s qualified payments: $69 million or 6.1 percent
## Change order update

<table>
<thead>
<tr>
<th>Current change orders</th>
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<tbody>
<tr>
<td>Requested by STP</td>
<td>$227.5 million*</td>
</tr>
<tr>
<td>Executed</td>
<td>$23.8 million**</td>
</tr>
<tr>
<td>Denied by WSDOT</td>
<td>$175.1 million*</td>
</tr>
<tr>
<td>Under review</td>
<td>$28.6 million</td>
</tr>
</tbody>
</table>

* Includes $125.3 million claim for costs associated with tunneling machine stoppage
** Includes $11.8 million from the Port of Seattle Fund, per contract
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Funding overview

Funding sources (shown in millions)

- Gas Tax: $1849.3
- Port of Seattle: $267.7
- Toll: $200
- Other state: $4.8
- Federal: $787.2
- Local: $28.4

= $3.1 billion
Tolling update

- Toll Division planning to prepare investment grade analysis in 2016
- Washington State Transportation Commission will use analysis to guide rate setting discussions
- Plan to seek toll bond authorization from Legislature in 2017
Budget and expenditures

Figures based on 2015-2017 Legislative Budget (shown in millions)

- SR 99 Tunnel Project: $2,053.2
- SR 99 South Holgate to King Street Project: $351.0
- Viaduct Removal and New Alaskan Way: $291.7
- Parking Mitigation: $29.7
- Other Moving Forward Projects: $173.2
- Program Management Expenditures: $75.0
- Prior Expenditures: $163.7

Remaining Expenditures

Expenditures through September 2015
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**Other construction progress**

- Next steps
Envisioning the North Portal

- Northbound SR 99 off-ramp to Republican Street
- Southbound SR 99 on-ramp from new Sixth Avenue N.
- Southbound SR 99 off-ramp to Aurora Avenue
- New Sixth Avenue N.
- New two-way Mercer Street
Building the North Access Project

Out with the old...

...in with the new

Photo: WSDOT
Building the North Access Project

Future northbound mainline and off-ramp to Republican Street
Oct. 1, 2015
Building the North Access Project

Future northbound mainline and off-ramp to Republican Street
Oct. 1, 2015

Photo: WSDOT
How to reach us

Website: www.AlaskanWayViaduct.org

Twitter: @BerthaDigsSR99

Email: viaduct@wsdot.wa.gov

Hotline: 1-888-AVV-LINE

Our information center, Milepost 31, is located at 211 First Ave. S. in Seattle’s Pioneer Square neighborhood.