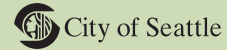


# Alaskan Way Viaduct & Seawall Replacement Program



10.09



## Understanding the program's cost and funding

In January 2009, Governor Gregoire, then-King County Executive Sims and Seattle Mayor Nickels recommended replacing the viaduct's waterfront section, between S. King Street and the Battery Street Tunnel, with a bored tunnel beneath downtown. As part of this recommendation, the City of Seattle would build a new roadway (funded by the State) and new public open space along the waterfront once the viaduct is removed, improve other city streets and replace the central waterfront seawall, and King County would seek new funding sources to invest in transit.



*Proposed SR 99 bored tunnel cross section (early design concept).*

The Federal Highway Administration, WSDOT and the City of Seattle are developing a second Supplemental Draft Environmental Impact Statement (SDEIS) that examines the bored tunnel alternative and builds upon the previous analysis of a cut-and-cover tunnel and an elevated structure. The SDEIS will be published for public review in early 2010.

To implement this recommendation, the governor, county executive and mayor signed a letter of agreement that assigns projects to each jurisdiction. Each jurisdiction would be responsible for their own projects' management, environmental work, design and construction. The state would be responsible for building the largest part of the recommendation – the proposed SR 99 bored tunnel.



*Removing the Alaskan Way Viaduct would create a more inviting destination along Seattle's downtown waterfront.*

## Proposed projects and costs

The state, county and city would be responsible for the following projects that are part of the bored tunnel recommendation.

### State projects:

- Complete the Alaskan Way Viaduct program's Moving Forward projects:
  - Electrical line relocation between S. Massachusetts Street and Railroad Way S.
  - Viaduct replacement between S. Holgate Street and S. King Street.
  - Battery Street Tunnel maintenance.

- Build the bored tunnel beneath downtown from the stadium area to Aurora Avenue N., and connections to the portals.
- Take down the existing viaduct structure.
- Fund a new Alaskan Way surface street (to be designed and built by the City) which connects to Elliott and Western avenues in the north and to SR 99 and city streets near the stadiums.
- Construction mitigation.

State projects	Cost	Funding
Bored tunnel and systems, including vent buildings and north and south portals	\$1.9 billion	
Central waterfront construction mitigation	\$30 million	
S. Holgate Street to S. King Street viaduct replacement (including utility relocation and construction mitigation) and prior program expenditures	\$900 million	
Viaduct removal and funding for new Alaskan Way surface street and connection to Elliott and Western avenues	\$290 million	
State gas tax and federal funding		\$2.4 billion
Tolling		\$400 million
Port of Seattle funding (subject to port commission approval)		\$300 million
<b>Total</b>	<b>\$3.1 billion</b>	<b>\$3.1 billion</b>

City of Seattle projects	Cost	Funding
Seawall replacement between Colman Dock and Pine Street	\$225 million	\$927 million funding commitment by the City of Seattle
Public utility relocation	\$248 million	
Two-way Mercer Street, Spokane Street Viaduct widening and transit pathways	\$191 million	
Potential implementation of First Avenue streetcar	\$140 million	
Public space along the waterfront	\$123 million	
<b>Total</b>	<b>\$927 million</b>	<b>\$927 million</b>

King County projects	Cost	Funding
Transit investments and construction mitigation	\$190 million*	Funding authority needed for King County

<b>Total</b>	<b>\$4.2 billion</b>
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\* Amount does not include \$15 million in annual operating costs for enhanced transit services.

### King County projects:

- Add RapidRide and peak express bus service to downtown.
- Add a new RapidRide line (Burien-Delridge).
- Simplify downtown trolley bus service.
- City street improvements related to improved bus operations.

### City of Seattle projects:

- Improve major east-west city streets:
  - Make Mercer Street two-way between Elliott Avenue and I-5.
  - Widen and improve the S. Spokane Street Viaduct.
- Relocate public utilities.
- Replace the seawall between Colman Dock and Pine Street.
- Evaluate a new streetcar line along First Avenue between Pioneer Square and Seattle Center.
- Build the new central waterfront public space.

### Bored tunnel cost estimate

While the total cost of the viaduct replacement program is estimated at \$4.2 billion, we estimate the proposed SR 99 bored tunnel itself, including vent buildings and north and south portals, would cost \$1.9 billion. The design for the tunnel is currently between 10-15 percent. There are some elements that we cannot completely quantify yet and, therefore, cannot estimate with certainty. To account for this, we use allowances and identify events that, if they occur, would result in costs above (risks) or below (opportunities) what we call the “base cost.”

This method of cost estimating is consistent with WSDOT’s Cost Estimate Validation Process (CEVP®). A key difference between conventional estimating and CEVP® is the combination of a base cost (if all goes as planned) plus a risk cost (if risk events occur) and opportunity costs (if events go better than anticipated). This shows the effect of risks, if they occur, and helps us develop risk management plans to better control costs.

The process involves participation by external subject matter experts in order to review and quantify the quantities, unit costs, risks and opportunities associated with the project. Updated cost estimates for construction of the bored tunnel are to be submitted to the Legislature and Governor by Jan. 1, 2010.

### Independent cost review

The Washington State Legislature, in its legislation endorsing the bored tunnel recommendation, required an independent review of the project’s cost estimate. WSDOT has asked qualified cost and risk professionals to conduct this review. These individuals are familiar with large, complex tunnels and underground construction, but have not been associated with the tunnel project and have not participated in the definition of cost or risk for the project.

Current bored tunnel cost estimate	Cost (millions)
Construction	\$944
Right of way costs	\$149
Preliminary and final design	\$118
Construction management and administration	\$118
Risk	\$418
Escalation (per Global Insight)	\$166
<b>TOTAL</b>	<b>\$1,913</b>



## Program funding

The State, County, and City are working to fund the viaduct replacement program. The Port of Seattle is also committed to funding a portion of the replacement.

The following proposed funding sources, which are subject to approval by the state legislature, local officials and/or the Port of Seattle Commission, have been identified for each jurisdiction's projects. In 2009, the Washington Legislature passed legislation that endorses the bored tunnel recommendation and provides funding for the state's projects.

### State - \$2.8 billion

- 2005 Gas Tax (Transportation Partnership Program) - \$1.6 billion
- 2003 Gas Tax (Nickel Funding) - \$253.1 million
- 2005 Federal Earmark Funds - \$257.8 million
- Federal Bridge Funds - \$72.6 million
- Other State Funds - \$247.4 million
- Tolling - up to \$400 million
- Local funding - \$8.4 million

### King County - \$190 million plus \$15 million in annual operating costs

- New local option tax needed
- Federal grants
- Federal economic recovery funds

### City of Seattle - \$927 million

- Local Infrastructure Financing Tool (LIFT) and/or Local Improvement District (LID)
- Utilities
- Parking tax
- Federal economic recovery funds
- Transportation benefit district
- Federal grants
- Transportation Improvement Board

### Port of Seattle - \$300 million *(source to be determined)*

## Comments or questions?

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E-mail: [viaduct@wsdot.wa.gov](mailto:viaduct@wsdot.wa.gov)

Call: 1-888-AWV-LINE

Write: Alaskan Way Viaduct and Seawall Replacement Program  
c/o Washington State Department of Transportation  
999 Third Ave, Suite 2424, Seattle, WA 98104

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