

Project funding

The state, county, and city are working to fund the projects assigned to them. The Port of Seattle is also committed to funding a portion of the replacement of the viaduct's southern mile, which is a project that will improve port terminal operations.

The following funding sources, which are subject to approval by the state legislature, local legislatures and/or the Port of Seattle Commission, have been identified for each jurisdiction's projects.

State - \$2.82 billion

- 2005 Gas Tax (Transportation Partnership Program) - \$1.6 billion
- 2003 Gas Tax (Nickel Funding) - \$251.4 million
- 2005 Federal Earmark Funds - \$209.4 million
- Federal Bridge Funds - \$72.6 million
- Other Funds - \$256.6 million
- *Source to be determined* - \$430 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 - \$957 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?

Visit: www.alaskanwayviaduct.org
E-mail: 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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Alaskan Way Viaduct & Seawall Replacement Program

Central Waterfront

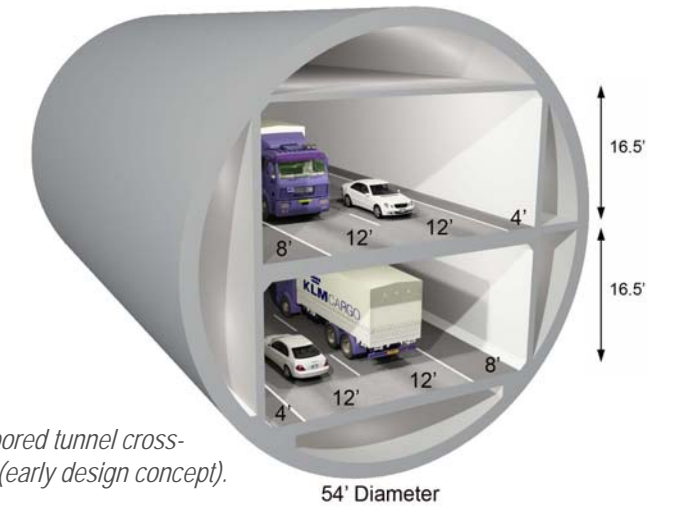


03.09



Understanding the cost and funding for the bored tunnel hybrid alternative

WSDOT, King County and the City of Seattle plan to replace the central waterfront portion of the Alaskan Way Viaduct and Seawall with an approximately two-mile-long bored tunnel beneath downtown, a new waterfront surface street, transit investments, and downtown city street and waterfront improvements.



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

54' Diameter

To implement this recommendation, the governor, county executive and mayor signed a letter of agreement that assigns projects to each jurisdiction. Each jurisdiction will be responsible for their own projects' management, environmental work, design and construction, and any cost overruns.

The state is responsible for building the largest part of the recommendation – the new SR 99 bored tunnel. While we are in the early design phase for this project, we have taken steps to ensure our tunnel cost estimate accounts for risk and inflation. We are also benefiting from experts with local and international tunneling experience and lessons learned from other tunnel projects.



Project cost and responsibility

The state, county and city are responsible for the following projects that are part of the bored tunnel hybrid alternative.

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 safety repairs.
- Build the bored tunnel beneath downtown from the stadium area to Aurora Avenue N.
- Take down the existing viaduct structure.
- Provide a new Alaskan Way surface street that connects to Elliott and Western avenues in the north and to SR 99 and city streets near the stadiums.
- Construction mitigation.
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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 along the central waterfront.
- Replace the seawall between Colman Dock and Pine Street.
- Add a new streetcar line along First Avenue between Pioneer Square and Seattle Center.
- Build the new central waterfront promenade.

Project Responsibility	State	King County**	City of Seattle	Port of Seattle	Cost
Moving Forward Program and Prior Expenditures	\$600 million			\$300 million	\$900 million*
SR 99 Bored Tunnel	\$1.9 billion				\$1.9 billion
Alaskan Way Surface Street and Promenade	\$290 million		\$100 million		\$390 million
Central Seawall			\$255 million		\$255 million
Public Utility Relocation			\$250 million		\$250 million
City Streets and Transit Pathways		\$25 million	\$190 million		\$215 million
Transit Infrastructure and Services		\$115 million	\$135 million		\$250 million
Construction Mitigation	\$30 million	\$50 million			\$80 million
Total	\$2.82 billion	\$190 million	\$930 million	\$300 million	\$4.24 billion

* Reflects cost savings from the Moving Forward projects by not repairing the viaduct between Lenora Street and the Battery Street Tunnel and reducing Battery Street Tunnel improvements.

** Authorization for new local option tax needed.

Bored tunnel cost estimate

While the total cost of the bored tunnel alternative is \$4.24 billion, we estimate the bored tunnel itself will cost \$1.9 billion. The design for the tunnel is very preliminary, however, and there are things we do not know yet. To account for this in the cost estimate, we estimated the risks and identified a potential cost if some of the risks materialize and a potential cost if more of the risks materialize. Our estimate also accounts for seven years of inflation from now until the tunnel is complete in 2015.

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 the expression of project cost and schedule as ranges rather than as single numbers. These ranges show the effect of risks if they occur and help develop risk management plans to better control costs. In part because of the CEVP® process, WSDOT has a strong record of delivering projects on time and on budget. For example, almost 90 percent of the Transportation Partnership and Nickel gas tax projects have been completed under or on budget.

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
TOTAL	\$1,913

The current cost estimate for the bored tunnel has also been reviewed by experts with local and international tunneling experience. When our first estimate was developed, some experts thought the costs were too high. After sitting down together and going through the costs, we realized that we had general agreement on the construction cost but our differences were more for other costs such as construction management and design that are not typically born by the contractor, but by the agency. Those costs are required to complete the environmental review process, complete the preliminary design so it can be turned over to the contractor, and manage the contractor's work during construction.

As the tunnel's design progresses, we have a number of resources available to help us. Industry veterans lending their expertise to this project include Harvey Parker, past president of the International Tunneling Association; John Reilly, past president of the American Underground Construction Association; and Hatch Mott MacDonald, a consulting firm that has engineered more than 1,600 miles of tunnels worldwide.

