

*The proposed SR 99 bored tunnel would have two lanes in each direction with a wide shoulder on each level.*

## All tunnels are not the same: SR 99 deep bored tunnel vs. the waterfront tunnel

The Federal Highway Administration, WSDOT and the City of Seattle are developing a second Supplemental Draft Environmental Impact Statement for the viaduct replacement. This document will build on previous environmental analysis of a cut-and-cover tunnel and an elevated structure and focus on the various elements in the bored tunnel alternative. The bored tunnel alternative would move SR 99 into a bored tunnel beneath downtown Seattle, reconnect the street grid at the ends of the tunnel and remove the viaduct along the waterfront.

While this proposed bored tunnel and the cut-and-cover tunnel considered by Seattle voters in March 2007 are both tunnels, they are vastly different in their construction methods, length and degree of public disruption, and environmental effects.

### Location and depth

The proposed bored tunnel would be located several blocks in from the waterfront under First Avenue, bypassing the Battery Street Tunnel. The cut-and-cover tunnel would have roughly followed the path of the existing viaduct.

The bored tunnel would be at depths of 60-200 feet, while the cut-and-cover

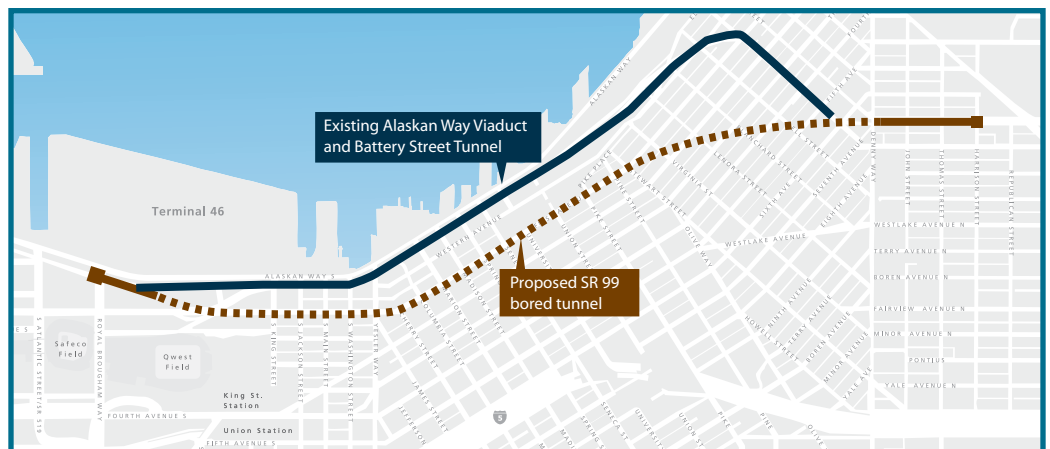
tunnel would have required excavation of 30-50 feet of soil.

### Construction method and timeline

The proposed bored tunnel would be built by a large tunnel boring machine, and most of the construction operations would occur from one location near the

### Other central waterfront fact sheets include:

- Comparison of the Big Dig and the Alaskan Way Viaduct and Seawall Replacement Program
- Learning and listening: How the bored tunnel recommendation was developed
- Learning from local and international tunnel projects
- Public safety a top priority in bored tunnel



*The proposed SR 99 bored tunnel would be located mostly under First Avenue.*



## For More Information:

### Visit the Web site at:

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### Call the hotline:

1-888-AWW-LINE

### Send an e-mail to:

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

### Send a letter to:

Alaskan Way Viaduct and Seawall  
Replacement Program  
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Department of Transportation  
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stadiums. The tunnel boring machine would be a new machine built specifically for this proposed tunnel. Constructing the cut-and-cover tunnel would have meant digging up the entire street along Alaskan Way, temporarily rebuilding the street surface, then excavating beneath using conventional construction equipment. The time needed to excavate the deep bored tunnel would also be less than for the cut and cover tunnel.

## Disruptions to the public

With cut-and-cover tunnel construction, we would have to demolish the viaduct first and reroute traffic to city streets for several years.

The public would experience much less disruption during bored tunnel construction, since the only openings to the surface would be at the ends of the tunnel. The proposed bored tunnel would also allow traffic on the viaduct while the tunnel is being constructed.

King County and the City of Seattle envision other improvements as part of the viaduct replacement program. The City would build a new boulevard (funded by the State) and new public open spaces along the waterfront once the viaduct is removed, improve other city streets and replace the central waterfront seawall. The County would invest in expanded

transit service. The City and County are responsible for managing these projects, including their environmental review.

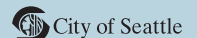
Overall, the bored tunnel would result in substantially less traffic disruption both in length of time and intensity.

## Environmental and archaeological impact

Because of its depth, the environmental and potential archaeological impact of a bored tunnel should be considerably less than that associated with a cut-and-cover tunnel.

Since cut-and-cover requires excavating the upper soils, we would have likely encountered difficult ground conditions along the tunnel's entire length. These conditions would have included very soft soils, miscellaneous man-made rubble, abundant old timbers, and a considerable volume of contaminated soil and groundwater.

We would expect the tunnel boring machine to encounter uncontaminated dense natural glacial soils throughout most of the proposed bored tunnel's length. Construction activities would encounter challenging soil conditions primarily at the bored tunnel's south entrance, which would have been true for the cut-and-cover tunnel as well.



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