
1.0 Project Description

The AWVSRP is a joint effort by the Washington State Department of Transportation (WSDOT), the Federal Highway Administration (FHWA) and the City of Seattle to replace two critical elements of Seattle's infrastructure: the Alaskan Way Viaduct (SR 99) and the city's seawall.

Constructed in the 1950s, the double-tiered viaduct is nearly two miles long and parallels Alaskan Way. The viaduct, which is partially supported by the seawall, is a vital local and regional transportation link and carries about 110,000 vehicles each day. The seawall, built from concrete and timber in the 1930s, extends along Seattle's waterfront and supports the soil behind it.

Studies in the 1990s showed that the viaduct was nearing the end of its useful life, apparent by its exposed rebar and weakened columns. The 2001 Nisqually earthquake caused further damage to the viaduct, forcing WSDOT to temporarily close it for inspection and limited repairs. The viaduct and nearby seawall are vulnerable in another earthquake and continue to show signs of age and deterioration.

In early 2009, Governor Gregoire, King County Executive Sims and Seattle Mayor Nickels recommended replacing the central waterfront portion of the Alaskan Way Viaduct with a two-mile-long bored tunnel beneath downtown, a new waterfront surface street, transit investments, and downtown waterfront and city street improvements (see **Figure 1**). The central waterfront seawall between Colman Dock and Pine Street will also be replaced. The recommendation was based on the results of an in-depth technical analysis; work with a 29-member Stakeholder Advisory Committee representing **communities, economic interests and cause-driven organizations**; eight public meetings, and hundreds of public comments during the past year.

The state, county and city, along with the Port of Seattle, have all agreed to make the bored tunnel alternative a reality by working with their legislative bodies to fund portions of the project. Construction of the bored tunnel is expected to begin in 2011, and it will be open to drivers in 2015.

The bored tunnel, to be located under First Avenue, will have access at a southern portal near Qwest and Safeco Fields and will connect in the north to Aurora Avenue. The bored tunnel will be in a stacked configuration with southbound lanes on the upper level and northbound lanes on the lower level (see **Figure 2**). Starting as a cut-and-cover section 40 to 90 feet deep just south of Railroad Way South, the bored portion of the tunnel would begin south of King Street and pass under First Avenue at a depth of 90 to 130 feet from the crown of the tunnel to the surface. The tunnel would pass under Seattle's central business district on a northwesterly heading beneath First Avenue. Crossing at or near Stewart Street, the alignment would change, with the tunnel gently turning and heading north, extending beyond and diagonal to the street grid of Seattle's Belltown neighborhood at depths ranging from 120 to 210 feet. Upon reaching a crossing with Denny Way, the tunnel would gently turn again to align with Aurora Avenue N. and transition to a cut-and-

cover section approximately 100 feet deep from the ground surface to the roadway near John Street. The cut-and-cover section would transition (unbraid) the tunnel's stacked northbound and southbound roadways to match existing grades of Aurora Avenue N. at or near the Thomas Street Crossing. The bored tunnel section will be approximately 1.7 miles in length and 54 feet in diameter. The bored tunnel will be at depths of 90 – 210 feet, while the cut-and-cover tunnel would be at depths of 40 – 90 feet. Two lanes of traffic in each direction are expected to carry approximately 85,000 vehicles when the tunnel opens. Eight-foot and four-foot shoulders will allow disabled vehicles to safely stop and will improve access for emergency vehicles.

With the bored tunnel alternative we will:

- Create a seismically safe replacement for the viaduct. Structural engineers agree that tunnels can be designed as one of the safest places to be during an earthquake.
- Provide capacity in the transportation system for today and the future. Travel times in 2030 are expected to be similar to today, even with predicted regional growth.
- Provide more travel choices and improve access and mobility to and through downtown Seattle by investing in transit and city streets.
- Maintain the economic strength of the region by minimizing construction impacts to businesses and the traveling public and creating jobs. The bored tunnel allows us the option of building the new corridor while SR 99 remains open to traffic.
- Create a world-class destination on Seattle's waterfront for residents and visitors. Moving SR 99 underground will improve the waterfront's contribution to the economy and reconnect downtown with the natural environment in Elliott Bay.

For more information: www.alaskanwayviaduct.org

Figure 1. AWWSRP Bored Tunnel Alternative



Figure 2. Bored Tunnel Cross Section

