

SR 99

S. HOLGATE STREET to S. KING STREET VIADUCT REPLACEMENT PROJECT

Environmental Assessment
and Draft Section 4(f) Evaluation



SR 99: S. HOLGATE STREET TO S. KING STREET VIADUCT REPLACEMENT PROJECT

Environmental Assessment and Draft Section 4(f) Evaluation

Submitted pursuant to:

The National Environmental Policy Act (NEPA),
(42 U.S.C. 4322(2)(c)) and 23 C.F.R. Part 771 and
Section 4(f) of the Department of Transportation Act
(49 U.S.C. 303(c))

Submitted by:

FEDERAL HIGHWAY ADMINISTRATION

and

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

Cooperating Agency:

CITY OF SEATTLE

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The S. Holgate Street to S. King Street Viaduct Replacement Project is one in a series of six independent safety and mobility projects under the larger Alaskan Way Viaduct and Seawall Replacement Program.

In compliance with the National Environmental Policy Act, this Environmental Assessment (EA) describes the plan to replace the existing Alaskan Way Viaduct (State Route 99) between S. Holgate Street and S. King Street with a structure capable of withstanding earthquakes and to ensure that people and goods can travel safely and efficiently through the project corridor. The analysis concludes that the project would not have a significant adverse effect on the environment.

Copies of this EA may be purchased for \$25.00, which does not exceed the cost of reproduction. The EA is also available for review through the Seattle Public Library, Downtown Neighborhood Service Center, and online:

<http://www.wsdot.wa.gov/Projects/Viaduct/Library.htm>.

Comments must be received or postmarked by August 11, 2008, and should be directed to:

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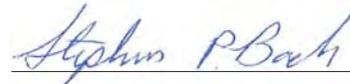
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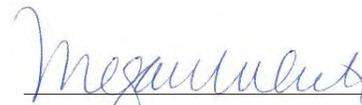
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Lead for National Environmental Policy Act (NEPA)



Date of Approval

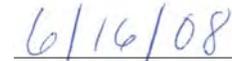


Megan White

Director of Environmental Services

Washington State Department of Transportation

Lead for State Environmental Policy Act (SEPA)



Date of Approval





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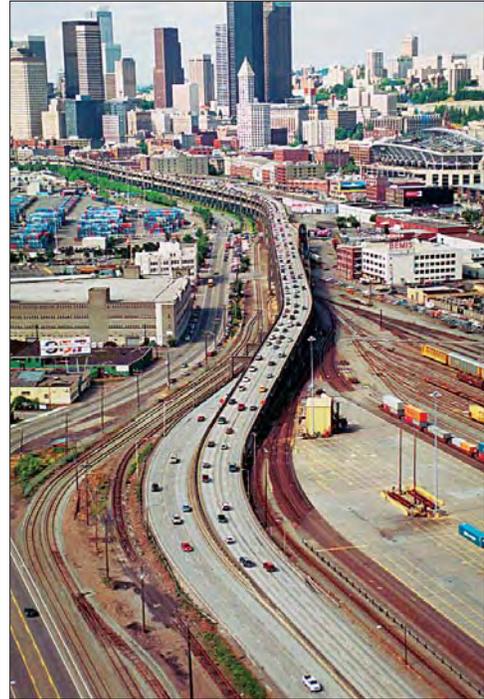
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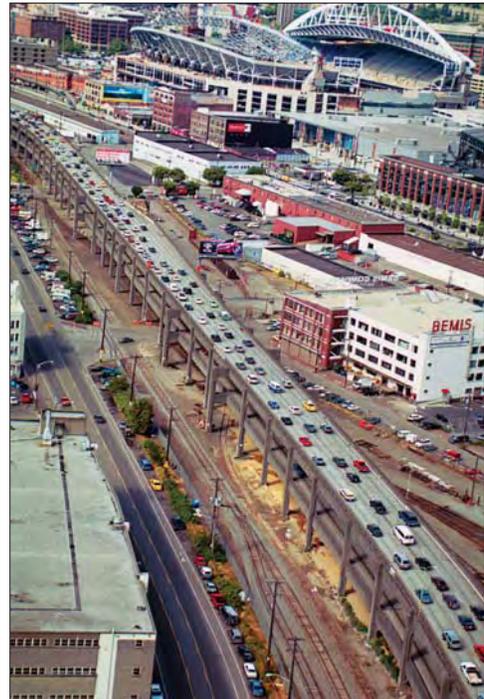


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*SR 99: S. HOLGATE STREET TO S. KING STREET
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Project Area Map



EXECUTIVE SUMMARY

1 What is the SR 99: S. Holgate Street to S. King Street Viaduct Replacement Project and where is it located?

This project involves replacing about one mile of the State Route (SR) 99 mainline (also known as the Alaskan Way Viaduct) located between S. Holgate Street and S. King Street, as shown in Exhibit S-1. The project would take about 4 years and 4 months to construct, beginning in mid-2009. Construction is expected to be completed in fall 2013.

2 What would the project accomplish?

The project would replace the seismically vulnerable portion of SR 99 (shown in Exhibit S-2) between approximately S. Holgate Street and S. King Street with a seismically sound structure that is designed to current roadway and safety standards. The new SR 99 facility would maintain or improve access to, from, and across SR 99 for general purpose vehicles, transit, and freight.

This section of SR 99 and E. Marginal Way S./Alaskan Way S. interacts with the Port of Seattle, railyards, two sports stadiums, and the Seattle Ferry Terminal. The transportation system in the area plays a crucial role in the movement of goods and services for the entire state and the Pacific Northwest region. The new structure would benefit the transportation system by improving safety for vehicles and freight traveling on the structure. The new grade-separated access associated with the project, just north of S. Atlantic Street, would reduce conflicts and delays with rail traffic when the tail track is in use.

3 How does this project fit in the Alaskan Way Viaduct and Seawall Replacement Program?

The larger Alaskan Way Viaduct and Seawall Replacement Program covers a variety of planned improvements in the SR 99 corridor located between S. Spokane Street and Roy Street. In March 2007, Governor Christine Gregoire, Seattle Mayor Greg Nickels, and King County Executive Ron Sims

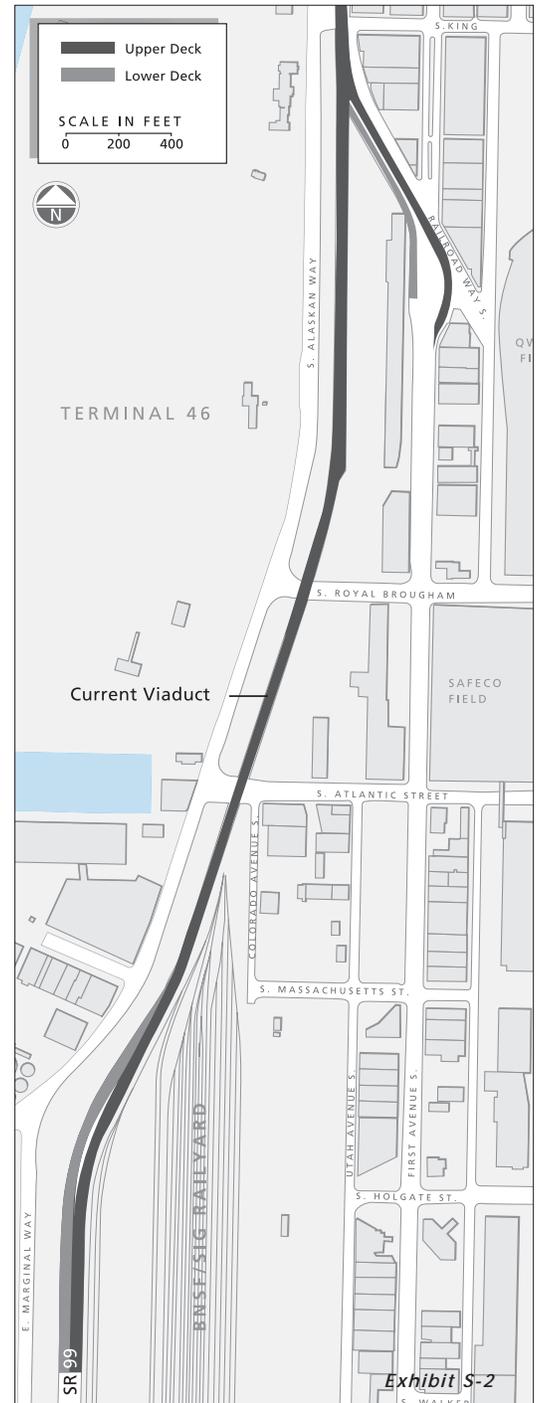


Exhibit S-2

identified six safety and mobility projects in the SR 99 corridor that could be developed and constructed independently. This project is one of the six projects to address earthquake vulnerabilities and improve and enhance mobility as part of the larger Alaskan Way Viaduct and Seawall Replacement Program.

4 What are the alternatives?

Two alternatives are evaluated in this Environmental Assessment (EA): the Build Alternative and the No Build Alternative.

The Build Alternative would replace the existing viaduct between S. Holgate Street and S. King Street, as shown in Exhibit S-1. This is approximately 40 percent of the existing viaduct structure located between S. Holgate Street and the Battery Street Tunnel.

In addition to replacing the existing viaduct between S. Holgate Street and S. King Street, the Build Alternative would:

- Add a new SR 99 southbound on-ramp and northbound off-ramp near S. King Street.
- Provide a new grade-separated access for freight and general purpose traffic north of S. Atlantic Street.
- Improve Colorado Avenue S. between S. Massachusetts Street and S. Atlantic Street.
- Provide northbound and southbound frontage roads that would provide access between Alaskan Way S. and E. Marginal Way S.
- Provide access from the northbound frontage road to the new remote holding area for the Seattle Ferry Terminal.
- Reconfigure the intersections on S. Atlantic Street that are west of First Avenue S.
- Relocate the BNSF tail track.

The No Build Alternative assumes that the existing viaduct between S. Holgate and S. King Streets would continue to remain in operation with routine maintenance until Washington State Department of Transportation (WSDOT) determines that the structure is too unsafe to use, possibly as early as 2012.

What is the 2030 No Build Alternative?

We know it is highly unlikely that the viaduct would remain operational until 2030. However, we studied what traffic would be like if the existing facility were operational in 2030 because it provides a baseline that can be compared with traffic conditions for the proposed Build Alternative.

The 2030 No Build Alternative takes into account future population growth and other funded transportation projects, such as the SR 519 Intermodal Access Project Phase 2.

What is the tail track?

The tail track is a single railroad track that connects the BNSF Seattle International Gateway (SIG) Railyard on the east side of SR 99 to the Whatcom Railyard located west of SR 99. The tail track is used to assemble and sort railroad cars for both railyards.

5 What is the project area like today?

Today the project area is in a highly developed commercial, warehouse, and industrial district just south of downtown Seattle. Safeco Field, Qwest Field, and the Qwest Field Event Center are located along the east side of the project. The project area also has a few residential uses and the St. Martin de Porres Shelter, located at S. Massachusetts Street and Alaskan Way S., which serves homeless men. This area south of downtown Seattle was first developed in the 1870s through the early 1900s and has a long and varied land use history. However, before the land was settled and developed, the region was shaped by glacial events and other geologic forces such as earthquakes.

The project area is located in the central portion of the Puget Sound Basin, an elongated, north-south depression carved by glacial events, situated between the Olympic Mountains and the Cascade Range. The project area is located in a region where numerous small to moderate earthquakes and occasional strong shocks have occurred in recorded history. The project area lies just north of the Seattle Fault Zone.

Long before the city of Seattle developed, Native American communities whose descendants are now members of the Duwamish Tribe, Muckleshoot Indian Tribe, Snoqualmie Indian Tribe, Suquamish Tribe, Tulalip Tribes, and the Confederated Bands and Tribes of the Yakama Nation occupied the project vicinity. No historic-era properties or locations are known from historical references to be in the project area.

Tideflats covered the project area when the city of Seattle was founded. The City started to regrade hills and fill in the tideflats to create room for industrial plants in the 1870s. By the early 1900s, over 1,400 acres of tideflats were reclaimed.

In the 1880s, piers and trestles were built along the waterfront to accommodate both local and national rail lines. Today the Whatcom and BNSF SIG Railyards operate in the project area and transport freight across the region and country. A large amount of freight also travels by truck in and out of the nearby terminals, such as Terminal 46. The railroad, freight, and industrial activities in the area have created some areas that are contaminated. Contaminants include elements of petroleum, oil and gas, and metals. In addition, the buried piles and timbers used to build piers and trestles were probably treated with creosote, which likely has leached into the adjoining soil and groundwater.

The project is located within two City of Seattle neighborhood planning areas, the Greater Duwamish Manufacturing and Industrial Center and the Pioneer Square neighborhood. The project is also adjacent to the Pioneer Square-Skid Road Historic District. There are two nearby buildings listed in the National Register of Historic Places (NRHP). Six nearby industrial buildings, which now have primarily nonindustrial uses, have been identified as eligible for listing in the NRHP. In addition, the Alaskan Way Viaduct itself has been determined eligible for the NRHP.

Trails that pass through the neighborhoods in the project area include the E. Marginal Way Bicycle/Pedestrian Facility and Waterfront Bicycle/Pedestrian Facility, and the planned Mountains to Sound Greenway Trail. These facilities are primarily considered transportation facilities but are also used for recreation. The Jack Perry Memorial Viewpoint is also located along the water on Pier 36.

Typical of an urban environment, the project area contains a number of utilities, including electrical lines, water, sewer, natural gas, and telecommunications services. Stormwater runoff from the project area currently discharges directly into Elliott Bay and the Duwamish River or to the combined sewer system. Approximately 60 percent of the stormwater runoff from the project area is combined with sanitary sewer flows in the City of Seattle and King County wastewater conveyance systems for treatment at the West Point Wastewater Treatment Plant prior to discharge into Puget Sound. During a large storm event, stormwater in the combined sewer system is sometimes discharged directly to Elliott Bay as a combined sewer overflow.

Noise in the project area is also typical of urban and major downtown metropolitan areas. Arterial traffic is the primary noise source in the area.

The project is entirely located in a carbon monoxide (CO) maintenance area, and the area just south of the existing viaduct is a particulate matter (PM₁₀) maintenance area. These areas were previously not in compliance with the National Ambient Air Quality Standards, established by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act, but have since demonstrated attainment and are classified as maintenance areas. The study area is designated as being in attainment for all other EPA-regulated pollutants.

6 How would the completed project change access?

The project would change access and improve transportation connections by:

- Building an undercrossing to eliminate vehicle and rail conflicts near S. Atlantic Street.
- Adding an SR 99 southbound on-ramp and northbound off-ramp near S. King Street.
- Providing new frontage roads on Alaskan Way S. between S. Atlantic Street and Railroad Way S.
- Improving Colorado Avenue S.
- Reconfiguring intersections along S. Atlantic Street between Alaskan Way S. and Utah Avenue S.
- Widening bike lanes on Alaskan Way S., E. Marginal Way S., and S. Atlantic Street and adding bike lanes on the northbound and southbound Alaskan Way S. frontage roads.
- Providing a new 14-foot-wide shared-use bicycle and pedestrian path along the east side of SR 99 between the remote ferry holding area and SR 99. The existing Waterfront Bicycle/Pedestrian Facility would be replaced on the west side of the tail track adjacent to Terminal 46.
- Providing access to the new remote ferry holding area via the northbound Alaskan Way S. frontage road. Ferry traffic in the holding area would connect to the two-way Alaskan Way S. near S. King Street at a signalized intersection. Ferry traffic would share Alaskan Way S. with general purpose traffic as it does today.
- Providing transit with access via the new ramps near S. King Street. This would provide transit with new options for routes using SR 99 to access downtown farther south near S. King Street.
- Providing freight access via the new ramps near S. King Street. This would provide freight with improved access in the project area. Additionally, building the new undercrossing would allow freight to travel east and west under the tail track when the track is in use.

7 How would the completed project affect the surrounding area?

The new SR 99 structure would generally have a minimal effect on resources in the area, because it would occupy approximately the same footprint as the existing Alaskan Way Viaduct. The project would not affect any cultural resources, wildlife, vegetation, habitat, hazardous materials, or low-income or minority people. The project would not change the

Why are freight connections and movements important considerations?

SR 99, Alaskan Way S., and E. Marginal Way S. are important freight routes that provide direct access to the Port of Seattle and the Duwamish Manufacturing and Industrial Center, which is a major hub for international and interstate freight in the Puget Sound region.

character of the surrounding neighborhood or of any park and recreational resources.

One historic resource would be permanently affected, the existing viaduct. Demolition of a portion of the existing viaduct structure would potentially affect the viaduct’s eligibility for the NRHP. Mitigation for effects to historic resources, including the viaduct, is being addressed in a Memorandum of Agreement.

A total of seven properties would be affected by partial property acquisitions and/or utility easements. The project would not displace any residents or businesses or change the existing land use designations.

The project would permanently remove approximately 1,267 parking spaces as shown in Exhibit S-3. About 418 free long-term spaces would be removed. Surrounding businesses could be affected by reduced parking if their customers and employees have to pay or park farther away. However, south of S. Atlantic Street, there is free parking with 1- and 2-hour limits along First Avenue S. In addition, several blocks of free parking with no time limits are currently located near the project south of S. Massachusetts Street on Utah Avenue S. and Occidental Avenue S. Pay parking lots are also available near the businesses. Therefore, businesses are not expected to lose patrons.

Exhibit S-3

Project Parking Effects

	Approximate Parking Spaces Removed
On-street short-term	29
On-street long-term	418
Off-street	820
Total	1,267

According to the Puget Sound Regional Council¹, about 37 percent of the off-street parking spaces in the stadium area are used on an average non-event weekday. This means that on an average weekday, about 4,100 off-street parking spaces are available within a quarter-mile of the project. In addition, there is free or metered on-street parking on the streets surrounding the project area. However, during events, parking spaces are often very full, and many private lots charge a premium for parking.

The City of Seattle’s policy is to provide enough parking for mobility and economic needs, while limiting parking to

What is on-street parking?

There are two types of on-street parking, short-term and long-term. On-street short-term parking includes metered spaces, time-restricted public parking spaces (such as 1-hour parking and loading zones), bus/taxi zones, and spaces reserved for police parking. On-street long-term parking includes unmetered, unrestricted on-street public parking spaces.

What is off-street parking?

Off-street parking includes parking garages and lots where people pay to park. Most off-street parking is privately owned and operated.

¹ PSRC 2006

encourage people to use other modes of transportation. This project is consistent with the policies listed in Seattle's Comprehensive Plan (section C-3).

Typical urban and city noise levels range from 65 to 80 dBA. With the project, noise levels are expected to remain the same or decrease by 1 to 2 dBA. A change of 1 to 2 dBA would be barely perceptible to most people.

The project would not substantially change views to and from the new SR 99 roadway. Since the new roadway has some at-grade sections, views to the northeast of Elliott Bay and the Olympic Mountains from the at-grade SR 99 roadway are likely to be more obstructed by stacked shipping containers and other Port of Seattle structures. The lower portions of the new roadway would be less intrusive for viewers looking towards SR 99.

The new undercrossing near S. Atlantic Street and new access ramps to and from SR 99 near S. King Street would improve access and generally maintain or improve response times for both emergency and non-emergency police and fire services in the surrounding area.

The project would retrofit reconstructed surface streets and SR 99 with Best Management Practices (BMPs) to treat or detain stormwater runoff and reduce pollutants in the runoff from the project area. The reduced pollutant load would improve water quality and the nearshore sediments compared to existing conditions.

For the new SR 99 structure to meet current earthquake standards, the soils on which the project is built would be strengthened. This would help protect the new SR 99 structure, and potentially other adjacent structures, from liquefaction in the event of an earthquake.

8 How would the project be built?

We expect construction to take about 4 years and 4 months beginning in mid-2009. After 8 months of utility relocations, construction activities have been organized into five stages that include distinct traffic restrictions or detours, as shown in Exhibit S-4. Construction would typically take place 5 days per week, 10 hours per day, but may occur up to 24 hours per day, 7 days per week at times. Construction over and above the typical 50-hour work week would only occur when needed to keep the project on schedule. Some night or weekend work

What is dBA?

Sound levels are expressed on a logarithmic scale in units called decibels (dB). A-weighted decibels (dBA) are the commonly used frequency that measures sound at levels that people can hear.

To the human ear, a 1- to 3-dBA change is hard to distinguish, but a 5-dBA change in noise levels is readily noticeable. A 10-dBA decrease would sound like the noise level has been cut in half.

What is liquefaction?

Liquefaction is what can happen to loose soils when shaking motion from an earthquake causes the soils to turn into a quicksand-like material. This can cause foundations to fail.

may also be required for roadway crossings, tail track relocation, or other critical construction phases.

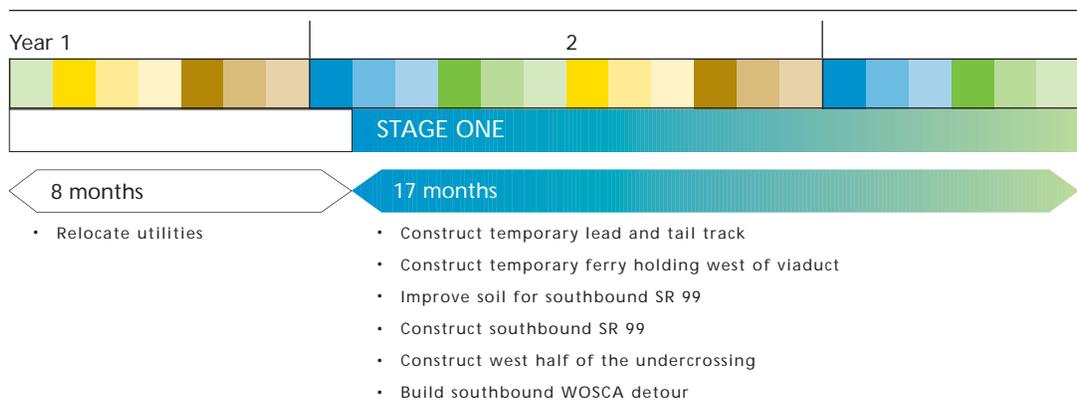
Construction would occur simultaneously at several locations throughout the project area, and the intensity of construction at each location would vary. Construction activities would progress throughout the project area so that a specific location would not experience intense activities outside their front door for the entire construction duration. Construction is likely to pass by properties located in the construction zone more than once. The duration of each construction activity would vary greatly, ranging from a few days to several months depending on the type of activity.

Construction activities would be staged within the existing right-of-way for SR 99 and affected local streets, where possible. Once utilities are relocated, construction of the bridge structure, street-level facilities, and retained cuts that would compose the new SR 99 roadway and ramps would require the following construction activities:

- Demolishing and removing the existing viaduct and support structures
- Soil improvements
- Building bridge foundations
- Retained cut-and-fill construction
- At-grade roadway construction

Exhibit S-4

Construction Activities



9 How would construction affect traffic?

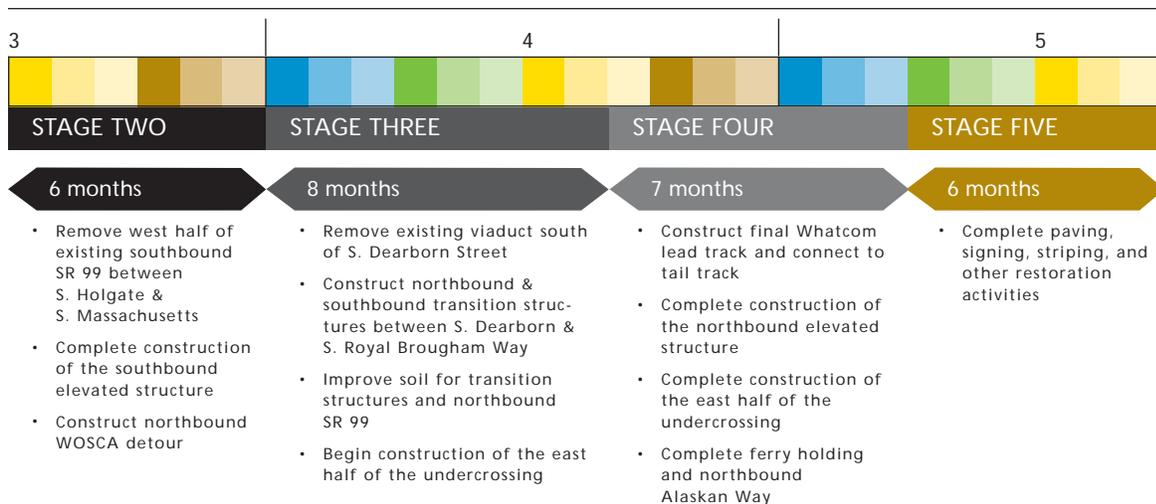
Distinct traffic restrictions or detours would occur during each stage of construction, as shown in Exhibit S-5. Traffic would be restricted on SR 99 by major construction activities for approximately 2 years and 3 months. On Alaskan Way S., traffic would be restricted for about 2 years and 9 months due to construction for the undercrossing as well as SR 99.

Vehicles would experience the most traffic disruption on SR 99 during Stage 3, when both directions of traffic on the SR 99 mainline are detoured onto the Washington-Oregon Shippers Cooperative Association (WOSCA) property for approximately 8 months. Congested conditions and changes in travel times during the construction period could result in more trips being made midday than normal.

Traffic disruptions caused by construction would also affect traffic conditions on nearby local streets. Some drivers would choose alternate routes. In particular, First and Fourth Avenues S. offer direct, alternate routes to SR 99 in the project area.

During all stages of construction, WSDOT would make it a priority to maintain traffic capacity on SR 99 as much as possible, minimize effects to First Avenue S., and maintain access to and from area businesses and the stadiums. These priorities would be accomplished by:

- Maintaining a minimum of two lanes of SR 99 traffic in each direction during peak traffic hours or providing a comparable detour.
- Allowing full closures of SR 99 only during nights and weekends.



- Maintaining access to and from the North SIG Railyard and the Port of Seattle’s Terminal 46 at all times.
- Keeping the railroad tracks and the Whatcom Railyard in service, except for short periodic closures of 8 hours or less to facilitate construction activities. Any closures would be coordinated with BNSF and Union Pacific Railroad.

Up to \$125 million has been set aside for funding enhancements and improvements to keep traffic moving during construction. This could include additional transit service hours and capital equipment (i.e., buses), transit speed and reliability improvements, traveler information systems, improving arterial and street traffic operations, and supporting demand management efforts and other projects. These improvements will also benefit projects in the overall Alaskan Way Viaduct and Seawall Replacement Program.

10 How would construction affect nearby areas?

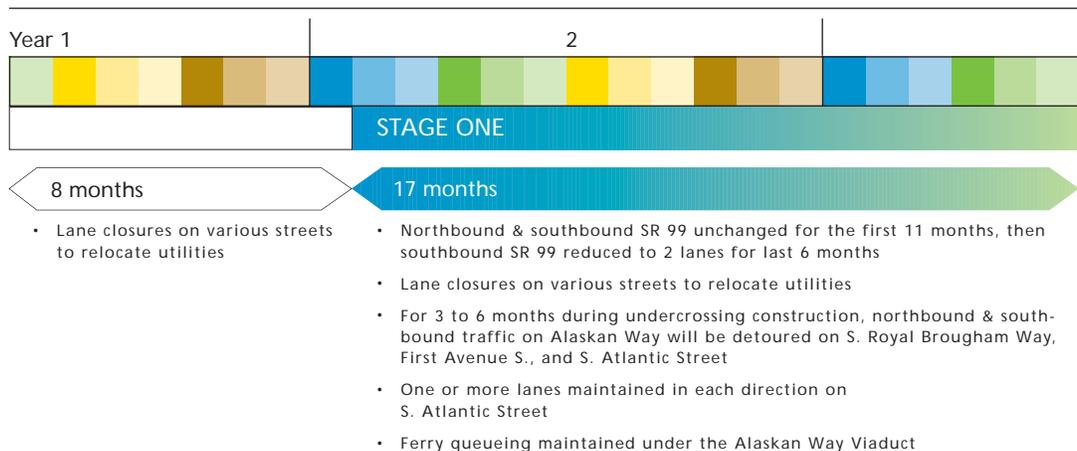
Construction would cause temporary disruptions. Construction noise would be bothersome to nearby businesses and residents. The loudest construction activity would be the demolition of the existing viaduct, which would take approximately 3 months. The most common noise source near construction work zones would be engine noise from the construction equipment. Construction noise could last for several weeks in any one area. Construction noise would be intermittent, occurring at different times and locations during the construc-

Appendix F Transportation Discipline Report

Appendix F contains supporting traffic information that explains how the construction traffic analysis was conducted and documents the conclusions contained within the text of this EA.

Exhibit S-5

Construction Roadway Closures, Restrictions, and Detours



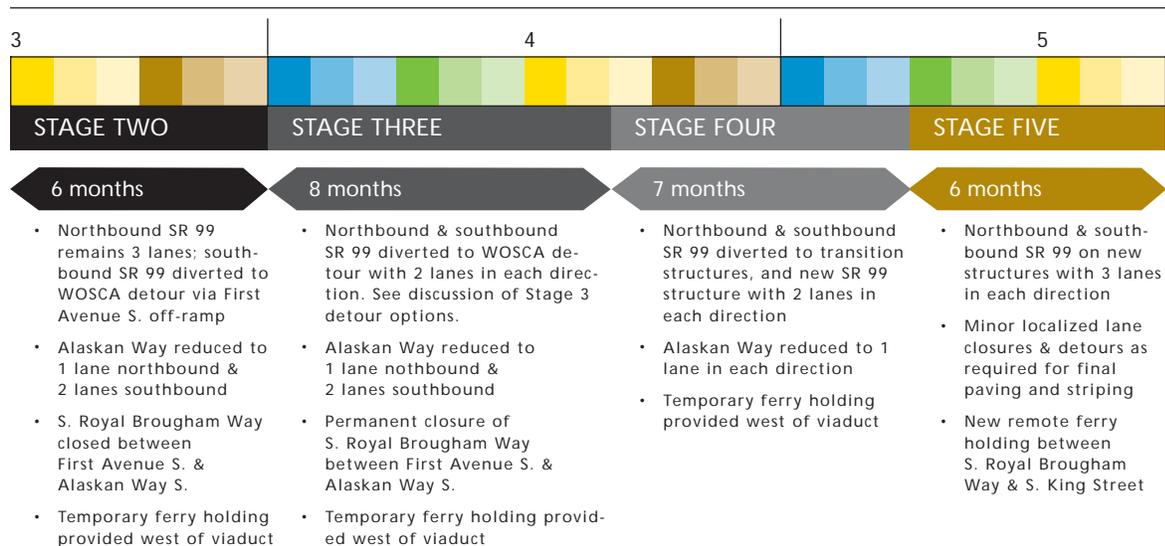
tion. Temporary noise variances would need to be obtained prior to any nighttime construction work.

Dust from demolition, excavation, and truck-hauling activities and emissions from heavy-duty construction equipment could affect air quality in the immediate vicinity of construction activities. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Six properties would require construction easements. Only one easement would be used for the duration of construction. The other easements would be needed for approximately 1 to 4 months for sidewalk or sewer line construction.

During construction, a total of 1,472 to 1,633 parking spaces would be removed, depending on the stage of construction. This is approximately 205 to 366 more spaces than would be permanently removed. About 37 percent of the off-street parking spaces in the stadium area are utilized on an average non-event weekday, according to the Puget Sound Regional Council². This means that on an average weekday, about 4,100 off-street parking spaces are available within a quarter-mile of the project. During events such as Seahawks and Mariners games, parking is in high demand, and many private lots charge a premium for event parking. During construction, it could become more difficult to find parking during an event. As they are today, event-goers would be encouraged to use bus and rail service and to carpool to the stadiums.

During construction, the Waterfront Bicycle/Pedestrian Facility along Alaskan Way S. would not be available for use in the



project area. Until the new pathway is complete, bicyclists and pedestrians would use alternate routes such as First Avenue S. People using the proposed route for the Mountains to Sound Greenway Trail along S. Atlantic Street west of First Avenue S. would also be required to use an alternate route during construction. Temporary sidewalks, bike lanes, and detour routes would be signed. The experience of bicyclists and pedestrians on the alternative routes would likely be less scenic and perhaps less conducive to recreational walking and bicycling than the existing pathways.

Police and fire services would be affected by traffic delays and detours caused by construction activities. Construction could require additional police support services to direct and control traffic and pedestrian movements and could result in increased response times to certain destinations. Law enforcement services outside of the project area may be affected due to changes in traffic patterns on local roads. During construction, fire hydrants may need to be relocated, which could temporarily affect water supplies used for fire suppression. The City of Seattle and Port of Seattle police and fire departments will be closely coordinated with to ensure that general emergency management services are not compromised.

Soil excavation and soil improvement activities may affect unknown, important pre-contact and historic-era archaeological deposits potentially located on the former tideflats of Elliott Bay and in historic-era fill layers. There is a moderate to high probability that construction could affect historic-era archaeological resources associated with industrial, commercial, and residential development of the Elliott Bay tideflats in the 1890s through early twentieth-century development. Because the project could have an adverse effect on significant, eligible sites, mitigation measures will be described in a Memorandum of Agreement among WSDOT, the Federal Highway Administration (FHWA), the Washington State Department of Archaeology and Historic Preservation (DAHP), Advisory Council on Historic Preservation (ACHP), affected tribes, and the City of Seattle.

The project has the potential to generate approximately 222,000 cubic yards of excavated soil, materials, and spoils. This amount of material would bury a football field just over 100 feet deep. Approximately 204,000 cubic yards of the material is potentially contaminated. Contaminated soil and material would require special handling and would be treated and disposed of according to State regulations.

The single indirect adverse effect from construction activities on a historic resource would be to the Bemis Building. Construction would prevent use of their primary loading dock at some periods. Because preventing use of the loading dock would potentially affect the economic viability of the building, it is considered an adverse effect. This effect would be mitigated by improvements to an alternative loading dock facing the south parking lot, which will allow business operations to continue.



11 How can you be involved?

There are several ways you can be involved and submit your comments on this EA.

1. You are invited to attend any of the public hearings listed below:

Town Hall

Thursday, July 10, 2008
 1119 8TH Avenue, Seattle, WA 98101
 4:00 - 7:00 p.m.

Madison Middle School

Tuesday, July 15, 2008
 3429 45TH Avenue SW, Seattle WA 98116
 5:00 - 8:00 p.m.

2. You may submit your comments on this document by email or in writing.

Email: southviaductEA@wsdot.wa.gov

In Writing: Angela Freudenstein
 WSDOT
 999 Third Avenue, Suite 2424
 Seattle, WA 98104-4019

Your comments on the EA must be emailed or postmarked by Monday, August 11, 2008.