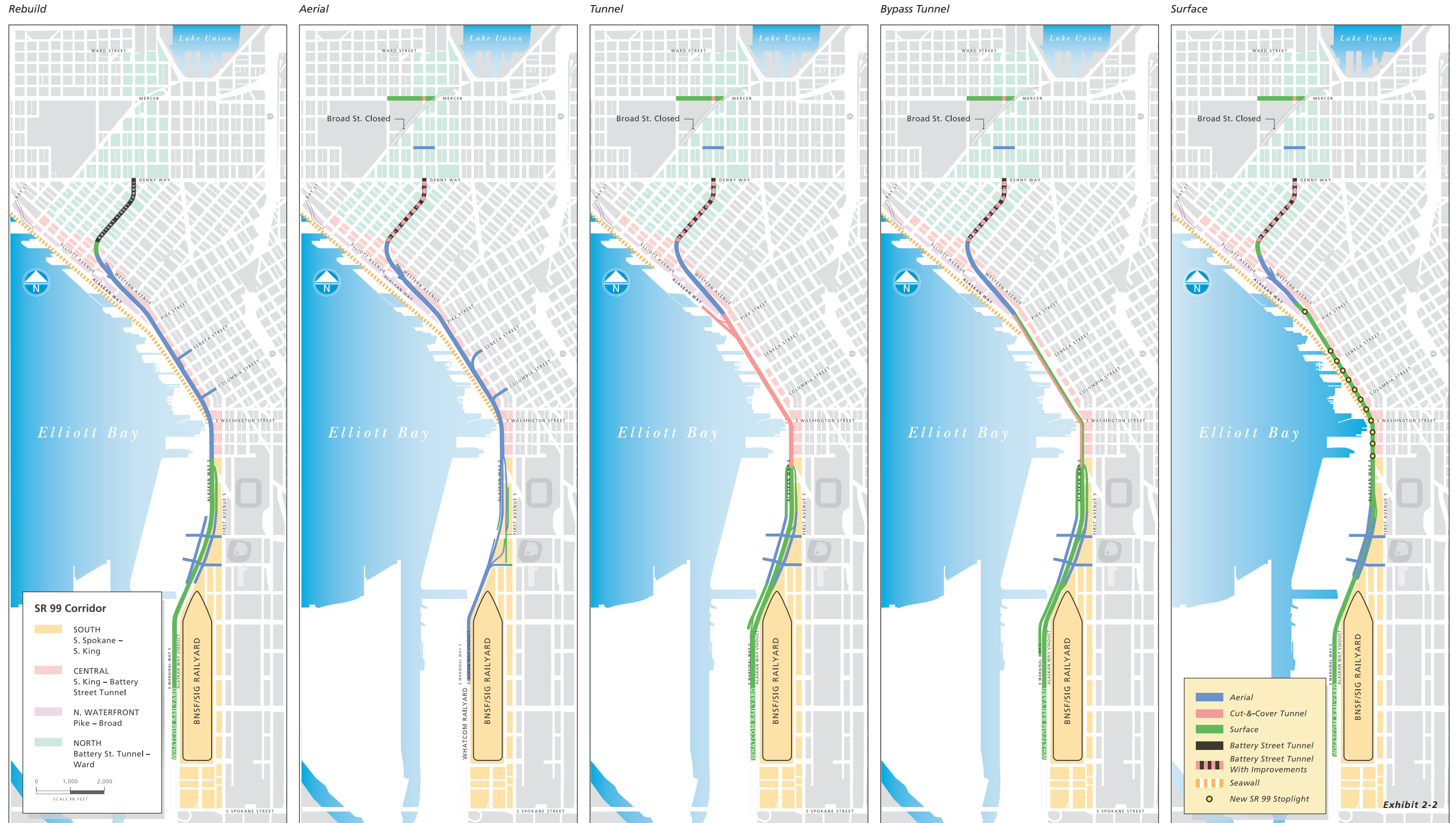


### Alternatives Evaluated in the 2004 Draft EIS



## CHAPTER 2 - ALTERNATIVES DEVELOPMENT

### What is in Chapter 2?

This chapter describes the project's history, explains how the alternatives were developed, and describes public coordination efforts.

#### 1 What is the history of this project?

Exhibit 2-1 summarizes the history of this project and the alternatives evaluated through the environmental impact statement (EIS) process. Interest in replacing the viaduct began in 1995 when a study conducted by Washington State Department of Transportation (WSDOT) and the University of Washington determined that the viaduct was vulnerable to soil liquefaction in the event of an earthquake.<sup>1</sup> In early 2001, a team of design and seismic experts began work to consider various options for the viaduct. In the midst of this investigation, a 6.8-magnitude earthquake, called the Nisqually earthquake, shook the Puget Sound region on February 28, 2001.

The earthquake demonstrated the urgent need for replacing the viaduct with a seismically safe facility. As a result, the Federal Highway Administration (FHWA), WSDOT, and the City of Seattle (City) initiated the process to evaluate viaduct replacement alternatives by publishing a Notice of Intent (NOI) on June 22, 2001<sup>2</sup> as required by the National Environmental Policy Act (NEPA). The 2001 NOI established that the proposed action would involve improving or replacing the 2 mile-long viaduct structure. At that time, the project did not include replacing the seawall, and project limits were established as the First Avenue South Bridge to north of the Battery Street Tunnel.

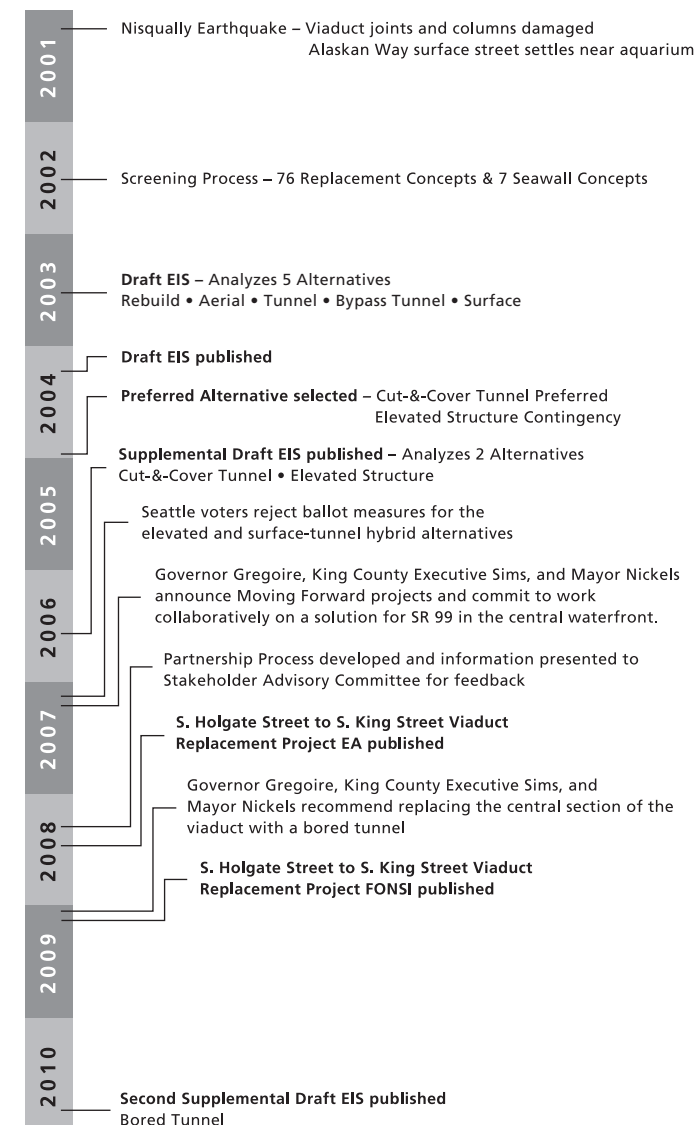
As the initial study for the project was underway, concerns were raised about the condition of the Elliott Bay Seawall, which holds back the soil that the viaduct's foundations are embedded in. Because of these concerns, the 2001 NOI was revised on September 26, 2003.<sup>3</sup> The revised NOI included replacing the seawall and moving the southern terminus north from the First Avenue S. Bridge to S. Spokane Street. As a result, 76 viaduct replacement concepts and seven seawall concepts were organized into six groups:

- Viaduct improvements from S. Holgate Street to the Battery Street Tunnel
- Battery Street Tunnel improvements
- Roadway improvements outside of the corridor
- Multi-modal solutions – transit, bicycle, and pedestrian opportunities
- Related improvements
- Seawall improvements

Then, the best ideas from these six groups were shaped into the five build alternatives evaluated in the 2004 Draft EIS: the Rebuild, Aerial, Tunnel, Bypass Tunnel, and Surface Alternatives.

In late 2004, after the public comment period for the Draft EIS, these five build alternatives were narrowed down to two: a Cut and-Cover Tunnel and an Elevated Structure. Between 2004 and 2006, design changes were made to the Cut-and-Cover Tunnel and Elevated Structure Alternatives; the project was extended farther north to improve access to and from SR 99 and improve local street connections as documented in an NOI<sup>4</sup> on August 3, 2005; and different construction approaches were considered in

Exhibit 2-1  
Project Timeline



#### Appendix W, Screening Reports

Information about how design concepts were screened is provided in *Appendix W*.

1 WSDOT 1995.

2 Federal Register 2001.

3 Federal Register 2003.

4 Federal Register 2005.

response to public comments received on the 2004 Draft EIS. These changes required further evaluation in a Supplemental Draft EIS that was published in July 2006.

In December 2006, Governor Gregoire called for an advisory vote for Seattle residents. The Seattle City Council responded by authorizing a vote and placing the Elevated Structure Alternative and a Surface-Tunnel Hybrid Alternative on the ballot. The four-lane Surface-Tunnel Hybrid Alternative differed from the six-lane Cut-and-Cover Tunnel Alternative evaluated in the 2006 Supplemental Draft EIS. The Surface-Tunnel Hybrid Alternative was a four-lane cut-and-cover tunnel that proposed to use safety shoulders as exit-only lanes and reduce the speed limit during rush hours. On March 13, 2007, the citizens of Seattle voted against both alternatives.

After the March 2007 vote, Governor Gregoire, former King County Executive Sims, and former Seattle Mayor Nickels chose to move forward with critical safety and mobility improvement projects at the north and south ends of the Alaskan Way Viaduct. The letter dated March 14, 2007, is provided in the reference materials at the end of this Final EIS. These projects, called the Moving Forward projects, could proceed because they provide useful improvements that are needed regardless of other decisions, including how to replace State Route (SR) 99 on the central waterfront. These projects were advanced while the Governor, former County Executive, and former Mayor worked together through a collaborative public process to develop a solution for replacing the viaduct along the central waterfront that would have broad consensus among the lead agencies, cooperating agencies, tribes, and the public.

The Moving Forward projects consist of the following improvements:

- Column safety repairs on the existing viaduct in the Pioneer Square area
- Electrical line relocation along the viaduct's south end
- Replacement of the viaduct (SR 99) between S. Holgate Street and S. King Street in the south end

- Battery Street Tunnel maintenance and repairs
- Transit enhancements and other improvements

Originally, there was a sixth project that focused on replacing SR 99 between Lenora Street and the Battery Street Tunnel. However, this section was later included as part of the central waterfront's collaborative process discussed below.

Following the March 2007 vote, Governor Gregoire, former King County Executive Sims, and former Seattle Mayor Nickels committed to a collaborative effort, referred to as the Partnership Process, to forge a solution for replacing the viaduct along Seattle's central waterfront. The Partnership Process occurred as part of the NEPA process for the Alaskan Way Viaduct Replacement Project as documented in an NOI published in the Federal Register on July 16, 2008.<sup>5</sup>

The Partnership Process looked at how improvements to the broader transportation system (including Seattle surface streets and I-5) could work with various ways to replace the viaduct, including surface streets, a new elevated structure, or a tunnel. The Partnership Process began evaluating eight scenarios or comprehensive solutions to learn what elements worked best together. This evaluation led to the development and analysis of three hybrid scenarios described below:

- **I-5, Surface, and Transit Hybrid** – SR 99 would be replaced with a pair of north- and southbound one-way streets near Seattle's central waterfront. This scenario included a high level of transit investment and extensive I-5 improvements.
- **Elevated Bypass Hybrid** – SR 99 would be replaced with two side-by-side, elevated roadways along Seattle's central waterfront. Each structure would have two lanes in each direction. This scenario included some additional transit investments and improvements to I-5 and Alaskan Way.

- **Twin Bored Tunnel Hybrid** (later refined to a single bored tunnel) – SR 99 would be replaced with two 2-lane bored tunnels between approximately S. Royal Brougham Way and Harrison Street. Evaluation of this hybrid led to the development of a single large-diameter bored tunnel. This scenario included some additional transit investments and improvements to I-5 and Alaskan Way.

In January 2009, Governor Gregoire, former King County Executive Sims, and former Seattle Mayor Nickels recommended replacing the central waterfront portion of the Alaskan Way Viaduct and Seawall with a single, large-diameter bored tunnel. The executives also identified improvements that would complement the bored tunnel. These improvements included a restored seawall; a new waterfront surface street and connection from the waterfront to Western and Elliott Avenues; a waterfront promenade; transit enhancements; and a streetcar on First Avenue. The letter of agreement between Washington State, King County, and the City dated January 13, 2009, is provided in the reference materials at the end of this Final EIS. Their recommendation was based on the following considerations:

- The potential for a bored tunnel to meet the six guiding principles established as part of the Partnership Process
- The results of technical analysis for the scenarios and additional work to determine the viability of a single, large diameter bored tunnel
- The support of diverse interests (community groups, businesses, and cause-driven organizations) for the bored tunnel
- The willingness of the partners, with the support of the Port of Seattle, to develop a funding program that supplements the state's committed contribution of up to \$2.8 billion

#### 2010 Supplemental Draft EIS Appendix S, Project History Report

A description of the project's development from 2006 through 2009 and details of the scenarios evaluated in the Partnership Process are provided in the *2010 Supplemental Draft EIS Appendix S, Project History Report*.

#### What were the six guiding principles for the Partnership Process?

To create a shared vision, the Partnership Process developed the following six guiding principles:

- Improve public safety
- Provide efficient movement of people and goods now and into the future
- Maintain or improve downtown, regional, port, and state economies
- Enhance Seattle's waterfront, downtown, and adjacent neighborhoods as a place for people
- Create solutions that are fiscally responsible
- Improve the health of the environment

<sup>5</sup> Federal Register 2008.

## 2 What alternatives were evaluated in the 2004 Draft EIS?

The five build alternatives that were analyzed in the 2004 Draft EIS, in addition to the required No Build Alternative, are listed below and shown previously in Exhibit 2-2:

- **Rebuild** – Replace the viaduct in its existing location with a structure similar to the existing one. Replace the seawall.
- **Aerial** – Replace the viaduct in its existing location with a structure that meets roadway standards for lane widths and shoulders where feasible. Replace the seawall.
- **Tunnel** – Replace the viaduct and seawall with a cut-and-cover tunnel along the central waterfront. The tunnel would have three lanes in each direction, and the western wall of the tunnel would replace the seawall.
- **Bypass Tunnel** – Replace the viaduct and seawall with a cut-and-cover tunnel along the central waterfront. The tunnel would have two lanes in each direction, and the western wall of the tunnel would replace the seawall.
- **Surface** – Replace the viaduct with an at-grade roadway along the central waterfront. The roadway would have three lanes in each direction with turn pockets between Yesler Way and Pike Street. Replace the seawall.

## 3 Why were the 2004 Draft EIS alternatives narrowed from five to two?

The lead agencies reduced the number of alternatives from five to two based on information presented in the 2004 Draft EIS, public comments, and further study and design.

As preliminary engineering progressed in 2004, the Tunnel Alternative was refined and elements of the Rebuild and Aerial Alternatives were combined to form an Elevated Structure Alternative. The Bypass Tunnel

and Surface Alternatives were dropped from further consideration.

### Reasons the Rebuild and Aerial Alternatives Were Combined

The Rebuild and Aerial Alternatives were combined to optimize the benefits offered by each alternative. The Rebuild Alternative proposed to replace the existing structure with a rebuilt structure that would be similar to the current viaduct. It also proposed a construction method that would rebuild SR 99 with lane and ramp restrictions while traffic continued to use it.

The lead agencies determined that it would not be wise to make such a substantial investment to build a narrow roadway that would not meet today's safety standards for the SR 99 mainline; however, they determined that it could make sense to replace the structure with a similar-width structure in certain areas, such as the Columbia Street and Seneca Street ramps, to minimize the footprint of the structure.

The Aerial Alternative evaluated in the 2004 Draft EIS had lane and shoulder widths that would meet today's safety standards, but it also proposed to replace the existing Seneca and Columbia Street ramps with structures that would be much wider than they are today. The Aerial Alternative also proposed to build a large temporary structure next to the existing viaduct as a detour route for traffic during construction. The Elevated Structure Alternative combined elements of the Rebuild and Aerial Alternatives and proposed replacing the viaduct with a new structure that would meet today's safety standards, while minimizing the footprint of the roadway for certain connections, such as the ramps at Columbia and Seneca Streets. The Elevated Structure Alternative also proposed to use a similar construction approach as proposed with the Rebuild Alternative, which would rebuild SR 99 with lane and ramp restrictions while traffic continued to use it.

### Reasons the Bypass Tunnel Alternative Was Dropped

The Bypass Tunnel Alternative was eliminated from further study because traffic information presented in the

2004 Draft EIS demonstrated that by 2030, the Bypass Tunnel would increase travel times for some through trips. In addition, the number of hours each day that SR 99 was expected to be congested would have increased by 1 to 2 hours per day by 2030.

For these reasons, the Bypass Tunnel Alternative was found to not meet the project's purpose, which was to "maintain or improve mobility, accessibility, and traffic safety for people and goods along the existing Alaskan Way Viaduct Corridor."

### Reasons the Surface Alternative Was Dropped

The Surface Alternative was eliminated because traffic information presented in the 2004 Draft EIS demonstrated that it reduced roadway capacity, which didn't meet the project's purpose as defined in the 2004 Draft EIS. The Surface Alternative proposed to replace the viaduct with a six-lane surface street on Alaskan Way. A six-lane surface street would reduce roadway capacity on SR 99 through downtown by 40 to 50 percent by 2030, leading to projections of increased travel times and congestion for drivers on SR 99 and other parallel roadways such as city streets and I-5. For some trips, travel times with the Surface Alternative would double, and traffic on Alaskan Way itself would have increased nearly sevenfold.

## 4 What alternatives were evaluated in the 2006 Supplemental Draft EIS?

Between 2004 and 2006, design changes were made to the Cut and-Cover Tunnel and Elevated Structure Alternatives, the project purpose and need was revised to include access and safety improvements to SR 99 and local streets north of the Battery Street Tunnel, and different construction approaches were considered. These changes required further evaluation in a Supplemental Draft EIS that was published in July 2006.

Two alternatives were evaluated in the 2006 Supplemental Draft EIS—the Elevated Structure Alternative and the Cut-and-Cover Tunnel Alternative, as shown in Exhibit 2-3. These alternatives were advanced because they best met the project's purpose, which was to "maintain or improve

2006 Supplemental Draft EIS Alternatives

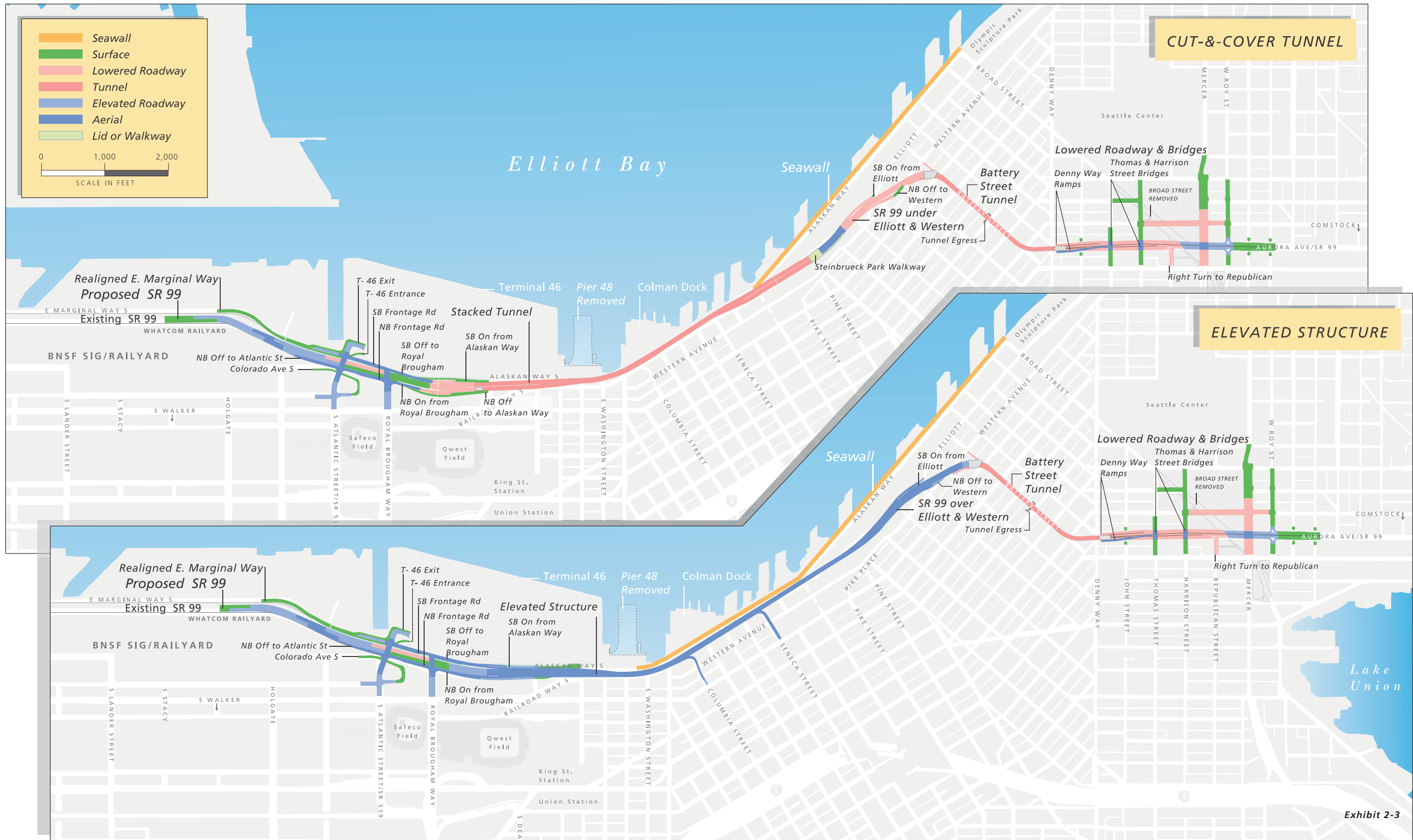


Exhibit 2-3

mobility, accessibility, and traffic safety for people and goods along the existing Alaskan Way Viaduct Corridor.”

**5 What’s happened after the 2006 Supplemental Draft EIS was published?**

After the Supplemental Draft EIS was published in July 2006, several studies, evaluations, and events led to the development of the Bored Tunnel Alternative:

- 2006 Supplemental Draft EIS Comments
- 2006 Expert Review Panel Recommendations
- 2006 Updated Project Costs
- 2006 Governor Gregoire’s Findings
- 2007 Advisory Vote Results
- 2008 Partnership Process
- 2008 Partnership Process Scenarios Evaluated
- 2008 Stakeholder Advisory Committee Suggestions
- 2009 Recommendation from the Governor, County Executive, and Mayor

**2006 Supplemental Draft EIS Comments**

About 178 comment items (letters, e-mails, comment forms, and oral testimonies) were submitted in response to the Supplemental Draft EIS published in 2006. The comments covered a wide variety of topics, but two key themes were:

- Continued comments and questions about other possible concepts not considered as build alternatives in the EIS. These concepts include retrofit, other types of elevated structures, and surface street concepts.
- Concern about the duration and intensity of construction effects. The build alternatives evaluated in the 2006 Supplemental Draft EIS required a 7- to 10-year construction period, with extensive closures and roadway restrictions on SR 99 and Alaskan Way. Members of the public, business owners and managers, and government agency officials all were interested in finding better ways to avoid and minimize the extensive construction effects that were anticipated.

These comments, as well as the events described in the following text, explain the process the lead agencies undertook to address these key themes and other concerns raised by the public as part of the 2006 Supplemental Draft EIS process.

**2006 Expert Review Panel Recommendations**

In early 2006, the Washington State Legislature passed new legislation<sup>6</sup> that required an expert review panel to provide an independent financial and technical review of the Alaskan Way Viaduct and Seawall Replacement Project’s financial and implementation plan. The expert review panel was selected by the Governor, the chairs of the State Senate and House Transportation Committees, and WSDOT’s Secretary of Transportation. The panel’s study included a review of the project’s costs, risks, design plans, and environmental process.

The expert review panel reported its findings and recommendations to the Governor on September 1, 2006.<sup>7</sup> The panel found the Project’s overall financial plan to be sound and reasonable; however, they were concerned about the Project’s 2005 cost estimates. As a result, WSDOT updated the 2005 cost estimates in September of 2006.

**2006 Updated Project Costs**

In September 2006, WSDOT updated the Project cost estimates to meet the expert review panel’s request. The results showed that the costs had increased for both the Elevated Structure and Cut-and-Cover Tunnel Alternatives, as shown in Exhibit 2-4.

**Exhibit 2-4**  
**2006 Updated Project Costs**  
*in billions*

	Cut-&-Cover Tunnel	Elevated Structure
Cost range estimated in October/November 2005	\$2.98 – \$3.63	\$1.99 – \$2.36
Updated cost estimated in September 2006	\$4.63	\$2.82

Source: WSDOT 2006b  
Note: These cost estimates have changed since 2006 and are not directly comparable to the cost estimates for the current build alternatives, because they were based on a different project definition.

The cost estimates were higher than reported in 2005 because construction costs rose at a higher rate than

inflation between 2005 and 2006 due to increasing global demand for materials and rising commodity costs.

**2006 Governor Gregoire’s Findings**

After receiving updated cost information and the expert review panel’s findings, the Governor determined that the financial plan for the Elevated Structure Alternative was feasible and reasonable, but that the financial plan for the Cut-and-Cover Tunnel Alternative was not. The Governor also found that the project costs and a lack of consensus surrounding a preferred alternative were contributing to a political stalemate. In an effort to move the project forward, Governor Gregoire called for an advisory vote in December 2006. The advisory vote was intended to allow the citizens of Seattle to provide input on selection of a preferred alternative.<sup>8</sup>

**2007 Advisory Vote Results**

The City held the advisory vote on March 13, 2007. The ballot included an Elevated Structure Alternative and a Surface-Tunnel Hybrid Alternative. The four-lane Surface-Tunnel Hybrid Alternative differed from the six-lane Cut-and-Cover Tunnel Alternative evaluated in the 2006 Supplemental Draft EIS. The Surface-Tunnel Hybrid Alternative was a four lane, cut-and-cover tunnel that proposed to use safety shoulders as exit-only lanes and reduce the speed limit during rush hours. The citizens voted against both alternatives.

After the March 2007 vote in Seattle, Governor Gregoire, former King County Executive Sims, and former Seattle Mayor Nickels chose to move forward with critical safety and mobility improvement projects at the north and south ends of the Alaskan Way Viaduct. These projects were called the Moving Forward projects because they could proceed while the Governor, County Executive, and Mayor worked together through a collaborative public process to develop a viaduct replacement solution for the central waterfront that would have broad consensus among the lead agencies, cooperating agencies, tribes, and the public.

**The Partnership Process and NEPA**

The Project’s NOI was updated July 16, 2008, informing people of the work being done as part of the Partnership Process to reconsider and develop various replacement concepts for the viaduct. The purpose of updating the NOI was to update the public, invite their participation, and incorporate the work done within the Partnership Process as part of expanded scoping under NEPA. After the Partnership Process, an updated NOI was published on June 4, 2009.

6 ESHB 2871.

7 WSDOT 2006a.

8 Gregoire 2006.

**2008 Partnership Process**

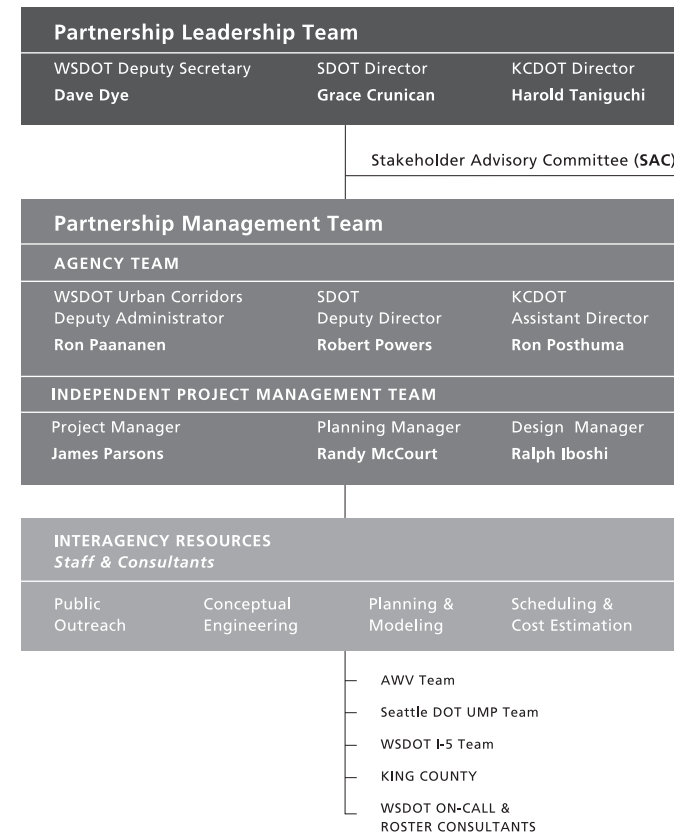
Following the March 2007 vote, Governor Gregoire, former King County Executive Sims, and former Seattle Mayor Nickels also committed to a collaborative effort to forge a solution for replacing the viaduct along Seattle’s central waterfront. This collaborative effort, referred to as the Partnership Process, was created to resolve the longstanding needs of the Alaskan Way Viaduct, seawall, and related projects in a manner that could be broadly supported and implemented. The three parties formalized this effort in a Memorandum of Understanding in December 2007.

The Partnership Process occurred as part of the NEPA process for the Alaskan Way Viaduct Replacement Project as documented in an NOI published in the Federal Register on July 16, 2008.<sup>9</sup> The Partnership Process looked at how improvements to the broader transportation system could work with different ways to replace the function of the viaduct. To guide the Partnership Process, the agencies implemented the management structure displayed in Exhibit 2-5. This structure supported coordinated decision-making among the agencies and provided multiple opportunities and resources to identify and resolve potential roadblocks. In addition, a 29-member Stakeholder Advisory Committee reviewed and commented on materials and presentations produced by the Partnership Process. The Stakeholder Advisory Committee included representatives from business and economic stakeholders, neighborhoods, and public interest groups.

**2008 Partnership Process Scenarios Evaluated**

The Partnership Process embraced a new approach that looked more broadly at the Puget Sound region to identify innovative strategies for moving people and goods in and through Seattle. The strategy employed a systems approach and considered a broader study area than just the SR 99 corridor, which had been the focus for developing alternatives through the EIS process that began in 2001. The study area was broadened to an area more or less bounded by the Seattle city limits to the south,

Exhibit 2-5 Partnership Process Leadership Chart



N. 85<sup>th</sup> Street to the north, Elliott Bay to the west, and Lake Washington to the east, as shown in Exhibit 2-6.

The systems approach allowed the Partnership Process to develop and analyze a range of capital and operating improvements for the entire transportation network. The systems approach considered not only SR 99, but also I-5, Seattle’s city streets, public transit, and policies and management actions designed to influence transportation choices and demand. The approach also expanded the set of potential solutions to include a combination of transit, bicycle, and pedestrian improvements.

Eight scenarios were created to test the performance of various combinations of SR 99, I-5, surface street, transit, and transportation demand management elements. The intent of this step was not to select a particular scenario, but rather to learn which elements worked best together.

**Partnership Process Study Area**



Exhibit 2-6

The eight scenarios evaluated as part of the Partnership Process are listed below.

**Scenarios Without SR 99 as a Limited-Access/Bypass Facility**

- Scenario A: Demand Management and Low Capital Investment
- Scenario B: Surface Boulevard and Transit
- Scenario C: Alaskan Way and Western Avenue One-Way Couplet

**Where can I find more information on the Partnership Process?**

2010 Supplemental Draft EIS Appendix S, Project History Report, describes the Partnership Process.

<sup>9</sup> Federal Register 2008.

**Scenarios With SR 99 as a Limited-Access/Bypass Facility**

- Scenario D: Independent Elevated
- Scenario E: Integrated Elevated
- Scenario F: Twin Bored Tunnel
- Scenario G: Cut-and-Cover Tunnel
- Scenario H: Lidded Trench

Because the systems approach included improvements to the entire transportation network (not just SR 99), the limited-access bypass scenarios that were considered in the Partnership Process proposed to replace SR 99 with a four-lane bypass facility rather than the six-lane facilities evaluated in previous EISs. For most of the four-lane bypass scenarios, improvements were needed outside of the SR 99 corridor to provide for the efficient movement of people and goods through Seattle. The scenarios were evaluated based on their ability to meet the six guiding principles.

**Hybrid Scenarios Developed**

After evaluating the eight systems scenarios, it was clear that substantial tradeoffs existed among the various choices. As a result, two classes of hybrids were developed: an I-5, surface, and transit hybrid without a limited-access bypass and hybrids with a limited-access bypass in the SR 99 corridor. The following three hybrid scenarios were developed by assembling the best-performing combinations from the original eight systems scenarios, based on the findings of the evaluation.

- Scenario L: I-5, Surface, and Transit Hybrid
- Scenario M: Elevated Bypass Hybrid
- Scenario O: Twin Bored Tunnel Hybrid

**2008 Stakeholder Advisory Committee Suggestions**

The Partnership Leadership Team concluded that only two of the three hybrid scenarios were affordable with WSDOT's \$2.8 billion budget: Scenario L: I-5, Surface, and Transit Hybrid and Scenario M: Elevated Bypass Hybrid. Scenario O: Twin Bored Tunnel Hybrid had many attractive features, but based on the information available, its total costs would exceed the state's \$2.8 billion contribution. The Stakeholder Advisory

Committee spent many hours in several meetings discussing the systems scenarios, hybrid scenarios, and what to recommend. When the Partnership Leadership Team presented its recommendations, the following broad themes were generated by the Stakeholder Advisory Committee:

- The state's contribution should be limited to \$2.8 billion, and other partners and the region should identify funding sources able to cover costs associated with transit service, improvements to city streets, and other aspects.
- Any solution should reliably meet the area's mobility needs now and in the foreseeable future, but the City should take advantage of this rare opportunity to reconnect the central waterfront with downtown.
- While many members saw the I-5, Surface, and Transit Hybrid as an attractive approach, and possibly a first phase of an ultimate recommendation, there was also interest in taking a bored tunnel forward for further consideration. Many felt that the tunnel's costs might be reduced as a result of evolving technology and that additional funding might be found for a scenario with such broad appeal. At the urging of some members of the Stakeholder Advisory Committee, a panel of independent tunnel experts was convened and reported that with a single bore and new techniques a bored tunnel would likely be less expensive than originally thought.
- There was support from only a handful of Stakeholder Advisory Committee members for an elevated solution.

**2009 Recommendation from the Governor, County Executive, and Mayor**

In January 2009, Governor Gregoire, former King County Executive Sims, and former Seattle Mayor Nickels recommended replacing the central waterfront portion of the Alaskan Way Viaduct with a large-diameter, single-bore

tunnel. In addition, they recommended a package of improvements that includes replacing Alaskan Way with a new waterfront surface street and also making other improvements, including a promenade, transit investments, a streetcar on First Avenue, a restored seawall, a one percent motor vehicle excise tax for transit, and downtown city street improvements. Their recommendation was grounded in the potential for a bored tunnel and other improvements to meet the project's six guiding principles; technical analysis; strong support of diverse interests; and the willingness of the partners, with the support of the Port of Seattle, to develop a funding program that supplements the state's contribution of up to \$2.8 billion.

In April 2009, the legislature passed Engrossed Substitute Senate Bill (ESSB) 5768, which urged the state to expedite environmental review and authorized state funds to build a replacement tunnel and remove the existing structure. On May 12, 2009, Governor Gregoire signed 5768, which commits no more than \$2.8 billion in state funding to the project.

**6 What happened after the bored tunnel was recommended?**

After the bored tunnel was recommended by the Governor, former County Executive, and former Mayor, the following activities occurred:

- Notice of Intent Updated
- Purpose and Need Statement Updated
- Design Concepts Reevaluated and Screened
- Additional Traffic Analysis Completed for the Surface and Transit Hybrid Concept
- Alternatives Defined for the 2010 Supplemental Draft EIS

**Notice of Intent Updated**

On June 4, 2009, an updated NOI was published to replace the 2008 NOI informing the public that an additional Supplemental Draft EIS would be prepared. The 2009 NOI<sup>10</sup> reestablished the intent of the FHWA to continue the NEPA process that began with the NOI

**Stakeholder Advisory Committee Members****ECONOMIC INTERESTS**

Warren Aakervik – Interbay/BINMIC  
 Bob Donegan – Seattle Historic Waterfront Commission  
 David Freiboth – King County Labor Council  
 John Odland – Manufacturing Industrial Council  
 Peter Philips – Seattle Marine Business Coalition  
 Susan Ranf – Sports Stadiums  
 Rob Sexton – Downtown Seattle Association  
 Herald Ugles – International Longshore & Warehouse Union  
 Tayloe Washburn – Greater Seattle Chamber of Commerce

**COMMUNITIES**

Jeff Altman – Northwest County  
 Carol Binder – Pike Place Market  
 Mahlon Clements – Ballard/Fremont  
 John Coney – Uptown/Queen Anne  
 Mary Hurley – Ballard/Fremont  
 Don Newby – Southwest County  
 Jim O'Halloran – Northeast Seattle  
 Vlad Oustimovitch – West Seattle  
 John Pehrson – Belltown  
 Earl Richardson – Southeast Seattle  
 Pete Spalding – West Seattle  
 Sue Taoka – International District

**CAUSE-DRIVEN ORGANIZATIONS**

Chuck Ayers – Cascade Bicycle Club  
 Kathy Fletcher – People for Puget Sound  
 Gene Hoglund – Working Families for an Elevated Solution  
 Rob Johnson – Transportation Choices Coalition  
 Mary McCumber – Futurewise  
 Cary Moon – People's Waterfront Coalition  
 Mike O'Brien – Sierra Club  
 Todd Vogel – Allied Arts



published on June 22, 2001. The 2009 NOI announced an important change, which was that the Supplemental Draft EIS would consider one or more alternatives that did not include replacing the seawall located along Elliott Bay. The 2009 NOI also explained that possible design concepts would be reevaluated in light of the updated purpose and need statement to identify alternatives that would be evaluated in the Supplemental Draft EIS. It also explained that at least one new alternative, a bored tunnel, would be introduced and considered. Finally, the 2009 NOI announced dates and locations for NEPA scoping meetings.

#### **Purpose and Need Statement Updated**

The project's purpose and need statement was updated to reflect the following new information:

- The revised definition of the proposed action, which is to replace SR 99 between S. Royal Brougham Way and Roy Street.
- Current state and local priorities as expressed through the Partnership Process.
- Comments received from the public, agencies, and tribes following publication of the 2006 Supplemental Draft EIS.

The following primary changes were made to the project's purpose and need statement for reasons identified below:

- The project limits were modified in the south from S. Holgate Street to S. Royal Brougham Way, which is located three blocks farther north. The project limits were moved north because replacing the viaduct in this area was identified as a separate, independent project called the S. Holgate Street to S. King Street Viaduct Replacement Project. The S. Holgate Street to S. King Street Viaduct Replacement Project was identified by Governor Gregoire, former King County Executive Sims, and former Seattle Mayor Nickels as part of the Moving Forward projects that would improve safety and

mobility on SR 99. The Moving Forward projects are proceeding independently because they provide useful improvements that are needed regardless of other decisions, including how to replace SR 99 north of S. King Street.

- Replacing the seawall was removed as a purpose of the project because the seismic stability of a viaduct replacement along Seattle's central waterfront does not necessarily require that the seawall be rebuilt or replaced.
- The project's purposes and needs were updated to reflect current state and local priorities as expressed through the Partnership Process.
- Goals and objectives were eliminated and were made part of the project's purposes and needs.

#### **Design Concepts Reevaluated and Screened**

After the purpose and need statement was updated, design concepts were reevaluated and screened to determine the alternatives that would be evaluated in the 2010 Supplemental Draft EIS. The purpose of the screening analysis was to:

- Screen the three hybrid design concepts developed as part of the Partnership Process for replacing the Alaskan Way Viaduct.
- Rescreen the five alternatives evaluated in the 2004 Draft EIS and two alternatives evaluated in the 2006 Supplemental Draft EIS based on the updated project purpose and need statement and updated screening criteria.

Ten design concepts were evaluated and screened by the lead agencies using criteria developed based on the project's updated purpose and need statement. The 10 design concepts were organized into three categories based on similar structure types, including elevated structures, surface arterials, and tunnels. None of the

concepts met all of the screening criteria. The concepts were evaluated as follows:

- 1 The screening criteria were applied by first determining if a proposed design concept could meet the first element of the project purpose—providing a facility that meets current seismic safety standards. All of the design concepts considered met this criterion and were advanced.
- 2 Concepts that satisfied the seismic design criterion were evaluated against the screening criteria for the remaining elements of the project purpose. In this stage of the screening analysis, design concepts were not required to achieve each of the project purposes. Instead, they were evaluated based on their overall ability to achieve the project purposes. In cases where two similar concepts were considered, the concept that better satisfied the screening criteria was advanced and the other was eliminated. For example, the 2006 Supplemental Draft EIS Elevated Structure was carried forward because it better satisfied the screening criteria as compared to the Partnership Process Elevated Bypass Hybrid, which was dropped for reasons listed in Exhibit 2-7. In cases where a concept had substantial deficiencies in its ability to achieve one or more elements of the project purpose, such that it would substantially compromise mobility, or if that concept had other major drawbacks, such as severe impacts on the local community, the concept was designated as unreasonable and was eliminated.

Of the 10 concepts evaluated, seven were dropped as unreasonable alternatives for reasons identified in Exhibit 2-7. The following three were advanced for further evaluation in the 2010 Supplemental Draft EIS:

- 2006 Supplemental Draft EIS Elevated Structure
- 2006 Supplemental Draft EIS Cut-and-Cover Tunnel
- Partnership Process Bored Tunnel Hybrid

#### **Project Purpose and Need Statement**

The purpose and need statement for this project is provided in Chapter 1, Question 5 of this *Final EIS*.

#### **Where can I learn more about the 2010 Screening Analysis?**

*Appendix W, Screening Reports* documents the screening process for the project.

#### **2010 Supplemental Draft EIS Appendix C, Transportation Discipline Report**

Results from the transportation analysis for the surface and transit hybrid concept are provided in *2010 Supplemental Draft EIS Appendix C, Attachment A*.

**2006 Supplemental Draft EIS Elevated Structure and 2006 Supplemental Draft EIS Cut-and-Cover Tunnel**

The screening results for the 2006 Supplemental Draft EIS Elevated Structure and Cut-and-Cover Tunnel are provided below. These concepts were found not to meet the screening criteria in the following areas:

- Design deficiencies related to lane widths, shoulder widths, and sight distance in the Battery Street Tunnel would not be improved.
- This concept would not avoid major disruption to traffic patterns, because construction would substantially disrupt SR 99 and local traffic for many years.

In addition, the 2006 Supplemental Draft EIS Elevated Structure was found not to meet the screening criteria for the reason discussed below:

- This concept proposes to replace the viaduct with a new one that is wider than the current structure, which would not support land use and shoreline plans. A wider structure would preclude expanded visual, physical, and aesthetic connections between downtown and the waterfront.

Even though the 2006 Supplemental Draft EIS Elevated Structure and Cut-and-Cover Tunnel did not meet the screening criteria for the reasons noted above, they were carried forward for further analysis in the 2010 Supplemental Draft EIS for the following reasons:

- They would maintain transportation-related functions of SR 99 by providing connections similar to existing conditions for drivers traveling to and from the waterfront, downtown, and Ballard/Interbay.
- They would improve mobility for some trips, compared to conditions on the existing facility in 2030.

**Partnership Process Bored Tunnel Hybrid**

The screening results for the Partnership Process Bored Tunnel Hybrid are provided below. This concept does not meet the screening criteria in the following areas:

- In most cases, mobility and transportation connections would be maintained; however, the Elliott/Western ramps would not be replaced. These trips would be accommodated via alternative routes either on Alaskan Way or through the bored tunnel; however, these routes may increase travel times slightly depending on the route taken and the time of day.

Even though this concept does not meet one of the screening criteria for the reasons noted above, it was carried forward for further analysis in the 2010 Supplemental Draft EIS for the following reasons:

**Exhibit 2-7  
Screening Result Summary Table**

Design Concept	Concept dropped because:
<b>ELEVATED STRUCTURES</b>	
<b>2004 Draft EIS Rebuild</b>	<ul style="list-style-type: none"> <li>• It would not meet existing WSDOT design standards.</li> <li>• Construction would substantially disrupt SR 99 and local traffic for many years.</li> <li>• It would rebuild the existing viaduct, which would not support land use and shoreline plans.</li> </ul>
<b>2004 Draft EIS Aerial</b>	<ul style="list-style-type: none"> <li>• Design deficiencies in the Battery Street Tunnel would not be improved.</li> <li>• Construction would substantially disrupt SR 99 and local traffic for many years.</li> <li>• Assumes a large, temporary aerial structure along the waterfront would be constructed that would substantially affect Seattle's waterfront for many years.</li> <li>• It would replace the viaduct with a new one that is much wider than the current structure, which would not support land use and shoreline plans.</li> </ul>
<b>Partnership Process Elevated Bypass Hybrid</b>	<ul style="list-style-type: none"> <li>• Design deficiencies in the Battery Street Tunnel would not be improved.</li> <li>• This concept is expected to increase travel times for some trips compared to the Partnership Process Bored Tunnel Hybrid because it has a one-lane diverge for the Western Avenue northbound off-ramp.</li> <li>• Construction would substantially disrupt SR 99 and local traffic for many years.</li> <li>• It would replace the existing viaduct with another elevated structure, which would not support land use and shoreline plans.</li> <li>• The 2006 Supplemental Draft EIS Elevated Structure concept (which is carried forward) provides more benefits to mobility with similar impacts during construction and to views once the structure is built.</li> </ul>

Source: Appendix W, Screening Reports

- It would improve mobility north of the Battery Street Tunnel, since the Battery Street Tunnel would be replaced with the new bored tunnel, which would improve roadway conditions for drivers with wider lanes and shoulders and improved sight distance. Additionally, the bored tunnel would come to the surface north of Denny Way, providing opportunities to connect the street grid and improve mobility for drivers, bicyclists, and pedestrians.
- It would minimize traffic disruption to SR 99 and the surrounding street grid during construction, since it would allow SR 99 to remain open.
- Construction impacts, particularly along the waterfront, would be much less disruptive, since

**About NEPA Screening**

In NEPA screening, one evaluates whether the concept meets the purpose and need. In this case, we determined that the Surface, Transit and I-5 scenario did not meet the screening criteria which are based on the purpose and need statement.

Design Concept	Concept dropped because:
<b>SURFACE ARTERIALS</b>	
<b>2004 Draft EIS Surface</b>	<ul style="list-style-type: none"> <li>• Design deficiencies in the Battery Street Tunnel would not be improved.</li> <li>• Mobility for trips heading to and through downtown would be reduced, and for some trips, travel times would increase substantially compared to existing conditions (in some cases, travel times would more than double).</li> <li>• North-south capacity would be reduced, resulting in added congestion on city streets and I 5.</li> <li>• Construction would substantially disrupt SR 99 and local traffic for many years.</li> <li>• Creates a barrier for pedestrian movement between downtown Seattle and the waterfront.</li> </ul>
<b>Partnership Process I-5, Surface and Transit Hybrid</b>	<ul style="list-style-type: none"> <li>• Mobility for trips heading to and through downtown would be reduced, and for some trips, travel times would increase substantially compared to existing conditions or bypass concepts.</li> <li>• North-south capacity would be reduced, resulting in added congestion on city streets and I 5.</li> </ul>

Design Concept	Concept dropped because:
<b>TUNNELS</b>	
<b>2004 Draft EIS Bypass Tunnel</b>	<ul style="list-style-type: none"> <li>• Design deficiencies in the Battery Street Tunnel would not be improved.</li> <li>• Construction would substantially disrupt SR 99 and local traffic for many years.</li> <li>• Of the four-lane, tunnel bypass concepts evaluated, the Partnership Process Bored Tunnel Hybrid best meets project purposes and needs because it is the only concept that addresses Battery Street Tunnel deficiencies and avoids and minimizes disruptions to traffic during construction to the extent practicable.</li> </ul>
<b>2004 Draft EIS Tunnel</b>	<ul style="list-style-type: none"> <li>• Design deficiencies in the Battery Street Tunnel would not be improved.</li> <li>• Construction would substantially disrupt SR 99 and local traffic for many years.</li> <li>• Of the six-lane tunnel concepts considered, the 2006 Supplemental Draft EIS Tunnel better meets project purposes and needs because it maintains the Elliott/Western ramps near their existing location, which better serves travel needs as compared to the ramps at Union Street provided with this concept.</li> </ul>

much of the construction would take place underground.

- It removes the visual barrier along the waterfront, allowing for a variety of urban design options.

These three design concepts represent reasonable alternatives that meet most of the screening criteria, meet identified project needs to varying degrees, and reflect different tradeoffs that warrant further evaluation in an EIS.

#### **Additional Traffic Analysis Completed for the Surface and Transit Hybrid Concept**

Some individuals, groups, and leaders have continued to support and show interest in developing and evaluating a surface and transit hybrid concept. Because of this continued interest, the lead agencies evaluated transportation effects of a surface and transit hybrid to test the rationale for screening out the surface and transit hybrid. Specifically, transportation engineers did additional work to conclude that the following reasons for dropping the surface and transit hybrid were valid:

- Mobility for trips heading to and through downtown would be reduced, and for some trips, travel times would increase substantially compared to existing conditions or bypass concepts such as the Bored Tunnel, Cut-and-Cover Tunnel, or Elevated Structure Alternatives with or without tolls.
- North-south capacity would be reduced.

The transportation analysis considered a wide range of possible effects to the transportation system, including effects to system-wide vehicle miles traveled and delay, delay at intersections, effects to traffic volumes, SR 99 travel speeds, and travel times.

#### **Alternatives Defined**

The alternatives considered in the 2010 Supplemental Draft EIS included the Viaduct Closed (No Build) Alternative, a four-lane Bored Tunnel Alternative, a

six-lane Cut-and-Cover Tunnel Alternative, and a six-lane Elevated Structure Alternative. The Bored Tunnel Alternative was identified as the preferred alternative in the 2010 Supplemental Draft EIS. The 2010 Supplemental Draft EIS addressed tolling-related issues in Chapter 9, Tolling. Chapter 9 informed readers that tolls could be implemented on the SR 99 replacement facility in the future, and included an analysis of the potential effects of tolling. This chapter included a quantitative analysis of tolling on the Bored Tunnel Alternative. It included a brief qualitative assessment of tolling impacts on the Elevated Structure and Cut-and-Cover Tunnel Alternatives.

#### **7 What happened after the 2010 Supplemental Draft EIS was published?**

After the 2010 Supplemental Draft EIS was published the following activities took place:

- Public comments received
- Design-build contract awarded
- Build alternatives modified
- Tolling analysis expanded
- Additional traffic analysis completed for the surface and transit hybrid concept
- Tolling added to the preferred alternative

#### **Public Comments Received**

The lead agencies held three public hearings and received 213 comment items (letters, e-mails, comment forms, and oral testimonies) on the 2010 Supplemental Draft EIS. Comments spanned a wide range of topics. Many were statements of either support of or opposition to the project or particular alternatives. Some commenters expressed concerns or opinions about tolling, while others focused on the redevelopment of the waterfront once the existing viaduct is removed and concerns about the effects of the project to historic buildings in the project area.

#### **Design-Build Contract Awarded**

The traditional process for building highway or highway-related projects is called the design-bid-build process: WSDOT designs the project and advertises for

construction bids, and the construction team builds the project as designed. WSDOT also uses the design-build process, which is the approach that has been chosen to complete the preliminary and final design for a portion of the Bored Tunnel Alternative in order to expedite the project and encourage design innovation as early as possible.

In January 2011, WSDOT signed a design-build contract for a portion of the Bored Tunnel Alternative. Under the FHWA regulation on design-build contracting (23 CFR 636.109), a contract can be awarded before the NEPA process is completed. WSDOT will construct other portions of the Bored Tunnel Alternative through design-bid-build contracts. With both contract types, design cannot proceed beyond preliminary design until after FHWA has signed the Record of Decision (ROD). The lead agencies will remain fully responsible for the project's NEPA process, documentation, and ROD under both contacting methods. The design-build contract contains termination provisions in the event that another alternative is selected.

#### **Build Alternatives Modified**

Modifications have been made to the designs for the Bored Tunnel, Cut-and-Cover Tunnel, and Elevated Structure Alternatives since the 2010 Supplemental Draft EIS was published.

For the Bored Tunnel Alternative, the design at the south portal was modified to reduce the width of the retained cut and the cut-and-cover tunnel sections. The south portal will be staggered with the entry for the northbound lanes just north of S. Royal Brougham Way and the exit for the southbound lanes just south of S. Dearborn Street. This modification also changed the alignment of the ramps near the stadiums. The northbound SR 99 off-ramp has been shifted slightly south, and it would have a short elevated section where it crosses the northbound on-ramp and southbound off-ramp. The northbound on-ramp and southbound off-ramp were both shifted slightly to the west and would connect to SR 99 slightly farther south than described in the 2010 Supplemental Draft EIS.

#### **Traffic Analysis for the Surface and Transit Hybrid**

Results from the transportation analysis for the surface and transit hybrid concept are provided in the *Final EIS Appendix W*, and *2010 Supplemental Draft EIS Appendix C, Attachment A*. The 2011 analysis compares the surface and transit hybrid to a Bored Tunnel Alternative with tolls and the 2010 analysis compares the surface and transit hybrid to a Bored Tunnel Alternative without tolls.

In addition, the location and method for launching the tunnel boring machine has been developed further. The launch pit would be located approximately between S. Dearborn and S. Main Streets. To reduce settlement risk, the launch pit for the tunnel boring machine would be surrounded by secant piles to create a “protection box.” The secant pile walls would reduce the risks of settlement.

The bored tunnel would be approximately 1.75 miles long, with an internal diameter of 52 feet and an external diameter of approximately 56 feet. The tunnel would have two 11-foot lanes in each direction, with a 2-foot-wide shoulder on one side and an 8-foot-wide shoulder on the other side.

For the Cut-and-Cover Tunnel and Elevated Structure Alternatives, the design for the southbound SR 99 off-ramp near the stadiums was modified. The 2010 Supplemental Draft EIS evaluated a design that proposed for southbound traffic to exit SR 99 near S. Atlantic Street west of SR 99. In the 2010 Supplemental Draft EIS, we evaluated the effects of this design and found that it resulted in long traffic queues that would back-up onto the SR 99 mainline, causing slow travel speeds on southbound SR 99 through downtown. Because of these unfavorable traffic conditions, the design team modified the design so these ramps would touch down on the east side of SR 99 near S. Royal Brougham Way. This modification improves travel times and results in faster travel speeds for some portions of SR 99 than what was reported in the 2010 Supplemental Draft EIS.

**Tolling Analysis Expanded**

This Final EIS expands on the tolling analysis conducted in the 2010 Supplemental Draft EIS. The 2010 Supplemental Draft EIS included a chapter evaluating the effects of tolling the build alternatives. The transportation analysis presented in the 2010 Supplemental Draft EIS focused on the effects of three possible tolling scenarios for the Bored Tunnel Alternative. The transportation analysis focused on expected transportation conditions in 2015 if the Bored Tunnel Alternative were tolled and presented additional information explaining effects

of the tolling scenarios in 2030. Transportation effects for the Cut-and-Cover Tunnel and Elevated Structure Alternatives were discussed in general terms, but specific transportation data was not presented.

This Final EIS evaluates one tolling scenario for all of the build alternatives in the year 2030. The tolling scenario evaluated in this Final EIS is the most conservative of the three scenarios presented in the 2010 Supplemental Draft EIS, meaning that it assumes the highest tolling rate and results in the most diversion from SR 99 to city streets and I-5. Transportation data is presented for all of the build alternatives for the year 2030.

**Additional Traffic Analysis Completed for the Surface and Transit Hybrid Concept**

In comments received on the 2010 Supplemental Draft EIS, some commenters asked if the surface and transit hybrid should be reconsidered if the Bored Tunnel, Cut-and-Cover Tunnel, or Elevated Structure Alternatives were tolled, since tolling was expected to cause several thousands of trips to divert from SR 99 to I-5 and city streets. Because of this, the rationale for not evaluating the surface and transit hybrid as a build alternative was revisited. The conclusion of that effort is that the surface and transit hybrid concept would:

- Reduce mobility for trips heading to and through downtown, and for some trips, travel times would increase substantially compared to bypass concepts such as the Bored Tunnel, Cut-and-Cover Tunnel, or Elevated Structure Alternatives
- Reduce north-south capacity, which would particularly affect travelers heading through Seattle

The transportation analysis conducted considered a wide range of possible effects to the transportation system, including effects to system-wide vehicle miles traveled and delay, delay at intersections, effects to traffic volumes, SR 99 travel speeds, and travel times. The discussion here presents changes in travel times, which is the primary

reason why this concept has been screened out and was not evaluated.

**Travel Times**

Exhibits 2-8 and 2-9 compare travel times during the AM peak hour (8:00 a.m. to 9:00 a.m.) and PM peak hour (5:00 p.m. to 6:00 p.m.) for the surface and transit hybrid, the Tolled Bored Tunnel Alternative, the Tolled Cut-and-Cover Tunnel Alternative, and the Tolled Elevated Structure Alternative in 2030.

**Exhibit 2-8**  
**2030 Travel Time Comparison for the AM Peak Hour**  
*8:00 - 9:00 a.m.*

	Y E A R 2 0 3 0			
	TOLLED ALTERNATIVES			
	Surface & Transit Hybrid	Bored Tunnel	Cut-& Cover Tunnel	Elevated Structure
<b>West Seattle to Central Business District</b>				
NORTHBOUND	35	32	32	33
<b>Woodland Park to S. Spokane Street</b>				
SOUTHBOUND	25	16	22	21
NORTHBOUND	31	12	14	22
<b>Ballard to S. Spokane Street</b>				
SOUTHBOUND	21	20/18*	16	15
NORTHBOUND	33	27/24*	17	26

\* The two travel times for the bored tunnel represent two different routes. The first route shows the estimated travel time for drivers who choose to travel to/from Ballard using the Alaskan Way surface street. The second travel time shows the estimated travel time for drivers who choose to travel to/from Ballard using the bored tunnel and Mercer Street.

As shown in Exhibit 2-8, the surface and transit hybrid would increase travel times for all trips modeled during the AM peak hour as compared to the Tolled Bored Tunnel, Tolled Cut-and-Cover Tunnel, and Tolled Elevated Structure Alternatives. For trips that are expected to take longer, the range of additional travel time varies between 1 and 19 minutes. The surface and transit hybrid is expected to substantially increase travel times for northbound trips between S. Spokane Street and Woodland Park, and northbound trips between S. Spokane Street and Ballard as compared to the tolled alternatives evaluated. Travel times for northbound trips between Woodland Park and S. Spokane Street would be substantially higher (19 minutes higher) for the surface and transit hybrid than the Tolled Bored Tunnel Alternative.

**Appendix W, Screening Reports**

Results from the transportation analysis for the surface transit hybrid concept are provided in *Appendix W* of this *Final EIS*.

**Exhibit 2-9**  
**2030 Travel Time Comparison for the PM Peak Hour**  
 5:00 - 6:00 p.m.

	Y E A R 2 0 3 0			
	Surface & Transit Hybrid	TOLLED ALTERNATIVES		
		Bored Tunnel	Cut-&-Cover Tunnel	Elevated Structure
<b>Central Business District to West Seattle</b>				
SOUTHBOUND	26	31	29	25
<b>Woodland Park to S. Spokane Street</b>				
SOUTHBOUND	25	14	16	16
NORTHBOUND	25	15	15	19
<b>Ballard to S. Spokane Street</b>				
SOUTHBOUND	19	23/24*	16	17
NORTHBOUND	35	27/27*	23	25

\* The two travel times for the bored tunnel represent two different routes. The first route shows the estimated travel time for drivers who choose to travel to/through Ballard using the Alaskan Way surface street. The second travel time shows the estimated travel time for drivers who choose to travel to/from Ballard using the bored tunnel and Mercer Street.

As shown in Exhibit 2-9, the surface and transit hybrid would increase travel times for most trips during the PM peak hour as compared to the Tolled Bored Tunnel, Tolled Cut-and-Cover Tunnel, and Tolled Elevated Structure Alternatives. Exceptions to this are southbound trips from downtown to West Seattle or southbound trips between Ballard and S. Spokane Street. For trips that are expected to take longer, the range of additional travel time varies between 6 and 11 minutes. In particular, the surface and transit hybrid substantially increases travel times for northbound and southbound trips between S. Spokane Street and Woodland Park compared with the tolled alternatives.

Approximately 45 to 50 percent of travelers who use SR 99 use it to travel through downtown. These travelers would be most affected by losing the SR 99 express route through downtown. The only other express route through downtown is I-5, which is highly congested during peak periods. For through trips, travel times on SR 99 could increase by up to 19 minutes with the surface and transit hybrid as compared to the tolled build alternatives. Travel times for trips to and from downtown would also increase compared to the tolled build alternatives, but to a lesser degree than through trips. Even though the tolled build alternatives are expected to result in trips diverting from SR 99 to I-5 or city streets, drivers would still have the

choice to pay a toll to continue to receive travel more quickly and efficiently through downtown using a limited-access roadway. Our traffic analysis indicates that between 55,000 and 68,000 drivers each day are expected to travel on SR 99 if the build alternatives are tolled. With the surface and transit hybrid, there would be no option for SR 99 travelers to obtain an efficient, limited-access trip. Even with improvements made to I-5 to help alleviate bottlenecks and additional improvements to transit, drivers would be forced to travel on congested surface streets with lower speeds and traffic lights through downtown or they would need to travel on I-5, which is highly congested during peak periods.

System-wide traffic analysis was also conducted to understand the implications of the surface and transit hybrid on the local and regional transportation system. The results of evaluating three of these metrics, person throughput, vehicle miles traveled (VMT), and vehicle hours of delay (VHD) are discussed below. Person-throughput examines the combined vehicle travel and transit ridership across all streets located at a particular location (called a screenline). Exhibit 2-10 shows estimated person throughput at three screenlines for the surface transit hybrid and the three proposed build alternatives. The results show that at all screenline locations, the surface and transit hybrid provides less total mobility than the proposed build alternatives. The transit service improvements associated with the surface and transit hybrid were assumed in the modeling assumptions. Even with these improvements to transit, gains in transit ridership would not offset decreases in vehicle throughput; therefore, the surface and transit hybrid moves fewer people through downtown Seattle than the tolled build alternatives.

**Exhibit 2-10**  
**Daily Person Throughput at Screenlines in 2030**

	Y E A R 2 0 3 0			
	Surface & Transit Hybrid	TOLLED ALTERNATIVES		
		Bored Tunnel	Cut-&-Cover Tunnel	Elevated Structure
<b>South – South of S. King Street</b>				
Daily Volume	837,200	885,300	893,700	895,700
<b>Central – North of Seneca Street</b>				
Daily Volume	766,900	798,100	803,800	798,700
<b>North – North of Thomas Street</b>				
Daily Volume	832,700	887,200	867,800	865,500

VMT measures how many total miles all vehicles travel on a roadway network on an average week day. Exhibit 2-11 shows VMT for the downtown Seattle Center City area as well as for the broader four-county region. In general, the surface and transit hybrid has a slightly lower VMT both in the Seattle Center City and in the four-county region. This is likely due to the reduced capacity for travel through Seattle with the surface and transit hybrid, and therefore, some trips would redistribute to different destinations to avoid the added congestion.

**Exhibit 2-11**  
**Daily Vehicle Miles Traveled in 2030**

	Y E A R 2 0 3 0			
	Surface & Transit Hybrid	TOLLED ALTERNATIVES		
		Bored Tunnel	Cut-&-Cover Tunnel	Elevated Structure
<b>Seattle's Center City</b>				
Daily Miles Traveled	2,334,700	2,534,400	2,540,000	2,551,200
<b>Four-County Region</b>				
Daily Miles Traveled	109,381,900	109,541,400	109,506,800	109,696,600

VHD measures the number of hours lost by travelers due to traveling at less than the posted speed limit during an average weekday. VHD is often used as an indicator of congestion. As shown in Exhibit 2-12, the surface and transit hybrid has a lower VHD than the other build alternatives in the Seattle Center City area and higher than the Tolled Bored Tunnel and Tolled Cut-and-Cover Tunnel for the four-county region. This indicates that with the surface and transit hybrid, fewer vehicle trips would go through the Seattle Center City area due to reduced roadway capacity on SR 99 and more trips would divert to other regional routes or destinations, increasing delay and congestion within the region.

**What area does Seattle Center City refer to?**

The area defined as Seattle Center City is roughly bounded by S. Royal Brougham Way in the south, just north of Mercer Street to the north, Broadway to the east, and Elliott Bay to the west.

**Exhibit 2-12**  
**Daily Vehicle Hours of Delay in 2030**

	Y E A R 2 0 3 0			
	Surface & Transit Hybrid	TOLLED ALTERNATIVES		
		Bored Tunnel	Cut-& Cover Tunnel	Elevated Structure
<b>Seattle's Center City</b>				
Daily Hours Delay	35,100	38,700	37,600	38,900
<b>Four-County Region</b>				
Daily Hours Delay	1,377,300	1,364,400	1,358,700	1,384,900

### Tolling Added to the Preferred Alternative

The 2010 Supplemental Draft EIS identified the Bored Tunnel as the preferred alternative to replace the Alaskan Way Viaduct but did not state whether or not it would operate with tolls. The reasons for recommending the Bored Tunnel Alternative over the Cut-and-Cover Tunnel or Elevated Structure Alternatives to replace the Alaskan Way Viaduct are:

- It is the only alternative that can be constructed without closing or substantially restricting SR 99 for years. Given the importance of the highway to local and regional transportation this is a very important advantage (see Chapter 6).
- The Bored Tunnel Alternative gives the City of Seattle the most latitude in planning for its central waterfront by removing both above ground and subsurface constraints on development (see Chapter 5, Question 19).
- Finally, the Bored Tunnel Alternative integrates with surface streets north, of downtown better than either the Cut-and-Cover or Elevated Structure alternatives (see Chapter 5, Question 19).

This Final EIS adds tolls to the Bored Tunnel Alternative as the preferred alternative. Tolling does not affect the benefits between the Bored Tunnel Alternative and the other two build alternatives, nor does it materially increase or decrease the construction or permanent effects of the Bored Tunnel Alternative compared to the other build alternatives.

The Washington State Legislature has not yet authorized WSDOT to proceed with tolling of this project. Ultimately, tolling will be implemented on SR 99 only if the Legislature authorizes it to be done. While the tolled and non-tolled versions both would be acceptable, the Tolled Bored Tunnel Alternative is designated as the preferred alternative. The reason for designating the tolled version as the preferred alternative is that funding identified by the legislature at this time includes \$400 million in revenue from tolling. This approach is more consistent with the region's long-range transportation plan, Transportation 2040, which was adopted by the Puget Sound Regional Council in May 2010. The long-range transportation plan stated that "in the later years of the plan, the intent is to manage and finance the highway network as a system of fully tolled facilities." Moreover, the plan specifically calls for this project to be tolled:

- Transportation 2040 assumes the conversion of existing high-occupancy vehicle lanes into additional high-occupancy toll lanes in the first decade of the plan. Alongside this network of high-occupancy toll lanes, major highway capacity projects—such as the replacement of the Alaskan Way Viaduct—will be at least partially financed through tolls.
- Transportation 2040 includes the application of tolls on improved highway facilities as new investments are made, and suggests the eventual implementation of a whole system of tolled highways. This approach involves time-of-day variable tolls that are both funding investments and are managing the facilities to ensure reliable operations and travel speeds.

Based on this regional policy as expressed in the PSRC's long-range plan and current funding plans, the Tolled Bored Tunnel Alternative is designated as the preferred alternative. As noted above, this depends on State legislative authorization to proceed with tolling on SR 99. If alternative funding sources are identified WSDOT would likely seek approval for the Bored Tunnel Alternative without tolls.

### 8 How has the City of Seattle been involved in the project?

The lead agencies, which include the FHWA, WSDOT, and the City of Seattle, have worked collaboratively on this project since it began in 2001. That collaboration has been recorded in various documents including the Draft and Supplemental Draft EISs published and signed by the three lead agencies in 2004, 2006, and 2010. Throughout the environmental process, the lead agencies have worked together to develop the project's purpose and need statement; develop alternatives screening criteria; screen proposed alternatives; complete preliminary design of the proposed alternatives; develop the methods and scope of environmental and engineering analysis; and review environmental analyses and conclusions.

This collaborative effort continued in 2007 as Governor Gregoire, former King County Executive Sims, and former Seattle Mayor Nickels identified the 2007 Moving Forward projects and begin the Partnership Process to forge a solution for replacing the viaduct along Seattle's central waterfront. In a letter signed on January 13, 2009, Governor Gregoire, former King County Executive Sims, and former Seattle Mayor Nickels recommended replacing the central waterfront portion of the viaduct with a single, large-diameter bored tunnel, contingent on the completion of environmental review. On May 12, 2009, Governor Gregoire signed ESSB 5768, which committed up to \$2.8 billion of state funding to build a bored tunnel. On October 19, 2009, the Seattle City Council voted 9 to 0 in favor of Ordinance 123133,<sup>11</sup> which identified the Bored Tunnel Alternative as the City's preferred solution for replacing the Alaskan Way Viaduct. Ordinance 123133 authorized the Mayor to execute a Memorandum of Agreement (MOA) between the State of Washington and the City. The MOA outlined the responsibilities of the City and State and expectations about the role of each in the implementation and funding of various elements of the Alaskan Way Viaduct and Seawall Replacement Program.

In November 2009, Seattle elected a new mayor, Mike McGinn. Since taking office in 2010, Mayor McGinn has expressed concerns with the policy direction given from

<sup>11</sup> City of Seattle 2009, Ordinance 123133.

the Seattle City Council. On September 23, 2010, City Council President Richard Conlin signed the 2010 Supplemental Draft EIS on behalf of the City because the Seattle Department of Transportation Director did not sign it. On October 4, 2010, the City Council voted in favor 8 to 1 of Ordinance 123424,<sup>12</sup> which authorized Conlin’s signature and maintained the City’s co-lead status with WSDOT and FHWA during environmental review in order to protect the City’s ability to shape and influence the Final EIS.

After having participated in the development of the 2010 Supplemental Draft EIS, on December 13, 2010, WSDOT received a formal letter from the Seattle Department of Transportation that provided comments on the 2010 Supplemental Draft EIS. FHWA and WSDOT have responded to each of these comments, and they are provided in Appendix T of this Final EIS.

On April 21, 2011, the Seattle Department of Transportation released a document that discusses the effects of tolling the Bored Tunnel Alternative on Seattle streets and potential mitigation. The City of Seattle has requested that the document be included in this Final EIS. FHWA and WSDOT have honored this request, and the document and response to the document is provided in Appendix V of this Final EIS.

**9 How does the project relate to the Alaskan Way Viaduct and Seawall Replacement Program?**

The Alaskan Way Viaduct Replacement Project complements a number of other projects with independent utility that improve safety and mobility along SR 99 and the Seattle central waterfront from the area south of downtown to Seattle Center. These improvements include the Moving Forward projects identified in 2007 and the improvements recommended as part of the Partnership Process. Collectively, these individual projects are referred to as the Alaskan Way Viaduct and Seawall Replacement Program (Program).

The 2004 Draft EIS and 2006 Supplemental Draft EIS did not refer to the Alaskan Way Viaduct and Seawall

Replacement Program. The distinction between the Alaskan Way Viaduct Project and the Program came after the Moving Forward projects were announced in 2007.

This Final EIS and the 2010 Supplemental Draft EIS evaluate the short- and long-term environmental effects of the Alaskan Way Viaduct Replacement Project and the cumulative effects of complementary projects included in the Program. Environmental effects of the independent projects will be examined through separate environmental processes as identified in the project descriptions in Question 10.

**10 What other projects are included in the Program?**

Other projects that are collectively called the Alaskan Way Viaduct and Seawall Replacement Program (Program) are shown in Exhibit 2-13 and listed in Exhibit 2-14.

**Exhibit 2-14 Other Projects Included in the Alaskan Way Viaduct & Seawall Replacement Program**

Project	ALTERNATIVES		
	Bored Tunnel	Cut-&-Cover Tunnel	Elevated Structure
<b>INDEPENDENT PROJECTS THAT COMPLEMENT THE BORED TUNNEL ALTERNATIVE</b>			
Elliott Bay Seawall Project	✓	Included in alternative	Included in alternative
Alaskan Way Surface Street Improvements	✓	Included in alternative	Included in alternative
Alaskan Way Promenade/Public Space	✓	Included in alternative	Included in alternative
First Avenue Streetcar Evaluation	✓	Included in alternative	Included in alternative
Elliott/Western Connector	✓	Function Provided <sup>1</sup>	Function Provided <sup>1</sup>
Transit Enhancements	✓	Not Proposed <sup>2</sup>	Not Proposed <sup>2</sup>
<b>PROJECTS THAT COMPLEMENT ALL BUILD ALTERNATIVES</b>			
S. Holgate Street to S. King Street Viaduct Replacement Project	✓	✓	✓
Mercer West Project	✓	✓	✓
Transportation Improvements to Minimize Traffic Effects During Construction	✓	✓	✓
SR 99 Yesler Way Vicinity Foundation Stabilization	✓	✓	✓
S. Massachusetts Street to Railroad Way S. Electrical Line Relocation Project	✓	✓	✓

<sup>1</sup> These specific improvements are not proposed with the Cut-and-Cover Tunnel and Elevated Structure Alternatives; however, these alternatives provide a functionally similar connection with ramps to and from SR 99 at Elliott and Western Avenues.

<sup>2</sup> Similar improvements included with the Bored Tunnel Alternative could be proposed with this alternative.

**Alaskan Way Viaduct & Seawall Replacement Program Elements**



**Appendix V of the Final EIS**

Appendix V of the Final EIS contains the City’s document *Additional Review of the Impacts of Deep Bored Tunnel Tolling Diversion on City Streets; Identification of Mitigation* as well as FHWA and WSDOT’s response to the information and conclusions presented.

**What is the Alaskan Way Viaduct and Seawall Replacement Program?**

The term “Program” refers to a number of independent but complementary projects that will improve safety and mobility along SR 99 and the Seattle waterfront from the SODO area south of downtown to Seattle Center. These individual projects include the Moving Forward projects identified in 2007, as well as improvements recommended as part of the Partnership Process.

<sup>12</sup> City of Seattle 2010, Ordinance 123424.

Exhibit 2-14 shows several independent projects that complement the Bored Tunnel Alternative that either are part of the Cut-and-Cover Tunnel and Elevated Structure Alternatives or are not proposed with these alternatives. The text below describes each of the projects listed in Exhibit 2-14. These projects will be implemented on separate schedules.

#### **Independent Projects That Complement the Bored Tunnel Alternative**

##### ***Elliott Bay Seawall Project***

The Elliott Bay Seawall Project is an effort by the City and the U.S. Army Corps of Engineers to protect the shoreline along Elliott Bay, including Alaskan Way, from seawall failure due to seismic and storm events. The project limits extend from S. Washington Street in the south to Broad Street in the north. The Corps of Engineers and the City are addressing the seawall in a separate NEPA process, which includes an EIS. A revised NOI for the EIS was published on May 28, 2010,<sup>13</sup> and scoping occurred from June 1, 2010 through July 19, 2010. The Elliott Bay Seawall needs to be rebuilt or replaced because it is deteriorating and vulnerable to earthquakes. However, the seismic stability of a viaduct replacement along Seattle's central waterfront does not necessarily require that the seawall be rebuilt or replaced. The Cut-and-Cover Tunnel and Elevated Structure Alternatives include replacing the Elliott Bay Seawall because the alignments for these alternatives are located in close proximity to the failing seawall, which if not repaired, could compromise the seismic stability of the proposed cut-and-cover tunnel or elevated structure. The Bored Tunnel Alternative proposes to construct a new tunnel inland; therefore, the failing seawall does not have the potential to affect the seismic stability of this inland alignment.

As presently scheduled, the seawall project would be built after the ROD is issued for the Alaskan Way Viaduct Replacement Project. The City's goal is to have a portion of the seawall constructed before the viaduct is demolished in 2016.

##### ***Alaskan Way Surface Street Improvements***

The City is leading this project and its associated environmental review process, which would take place under NEPA and/or SEPA as appropriate. WSDOT has committed to funding replacement of the Alaskan Way surface street. This project involves rebuilding and improving Alaskan Way between S. King Street and Pine Street. The new surface street would be six lanes wide between S. King and Columbia Streets (not including turn lanes) to accommodate ferry traffic and four lanes wide between Marion and Pike Streets. In general, the new street would be located east of the existing Alaskan Way surface street where the viaduct is today to create a wider public space along the waterfront. The new street would include sidewalks, bicycle facilities, parking/loading zones, and signalized pedestrian crossings at cross-streets. The new surface street would provide a regional truck route for freight traveling to and from the Duwamish/Harbor Island/SR 519 area and the Ballard Interbay Northend Manufacturing and Industrial Center (BINMIC).

Along the Alaskan Way surface street, extensive construction activities would be required to replace the seawall. Large portions of the Alaskan Way surface street and sidewalks would need to be torn up and replaced. These construction-related effects and overall project costs can be minimized by constructing the Alaskan Way surface street improvements in combination with seawall replacement. For this reason, Alaskan Way surface street improvements are included with the Cut-and-Cover Tunnel and Elevated Structure Alternatives, but they are not included with the Bored Tunnel Alternative.

##### ***Alaskan Way Promenade/Public Space***

The City is leading this project and its associated environmental process, which would take place under NEPA and/or SEPA review of central waterfront improvements as appropriate. This project would provide a new, expanded public open space to the west of the new Alaskan Way surface street between S. King Street and Pike Street. The open space would vary in width and would serve Piers 48 through 59, which have varying uses, including cruise ship and ferry terminals, restaurants,

retail shops, hotels, and regional entertainment such as the Seattle Aquarium. Access to the waterfront piers would be provided by service driveways.

Between Marion and Pike Streets, the open space would be approximately 70 to 80 feet wide. This public space would be designed at a later date. Other potential public open spaces include a triangular space north of Pike Street and east of Alaskan Way, and parcels created by removing the viaduct between Lenora and Battery Streets.

New public open space and a promenade on Alaskan Way are included in the descriptions of the Cut-and-Cover Tunnel and Elevated Structure Alternatives, and they are not included with the Bored Tunnel Alternative for the same reasons provided for the Alaskan Way surface street improvements.

##### ***First Avenue Streetcar Evaluation***

The City is leading this project and its associated environmental process, which would take place under NEPA and/or SEPA review of central waterfront improvements as appropriate. This project will evaluate a new streetcar line along First Avenue between Pioneer Square and Seattle Center in the City's transit plan. This alignment would pass through several of Seattle's densest neighborhoods, including Pioneer Square, the downtown Central Business District, Belltown, and Uptown. It would serve many tourist and regional attractions, such as Pike Place Market, the Seattle waterfront piers, Seattle Art Museum, Seattle Aquarium, Olympic Sculpture Park, and Seattle Center.

The Cut-and-Cover Tunnel and Elevated Structure Alternatives propose to build a streetcar on Alaskan Way as part of the Alaskan Way surface street improvements. The Bored Tunnel Alternative does not include building a streetcar on the central waterfront. Instead, Governor Gregoire, former Seattle Mayor Nickels, and former County Executive Sims proposed constructing a streetcar on First Avenue as part of their recommendation from the Partnership Process.

#### **Additional information on projects associated with the Alaskan Way Viaduct and Seawall Program can be found on the Internet at:**

- Elliott Bay Seawall Project  
<http://www.seattle.gov/Transportation/seawall.htm>
- Alaskan Way Surface Street Improvements and Alaskan Way Promenade/Public Space  
<http://www.waterfrontseattle.org>
- S. Holgate Street to S. King Street Viaduct Replacement Project  
<http://www.wsdot.wa.gov/Projects/SR99/HolgateToKing/>
- Mercer West Project  
[http://www.seattle.gov/transportation/mercer\\_west.htm](http://www.seattle.gov/transportation/mercer_west.htm)

<sup>13</sup> Federal Register 2010.



***Elliott/Western Connector***

The City is leading this project and its associated environmental process, which would take place under NEPA and/or SEPA review of central waterfront improvements as appropriate. The Elliott/Western Connector would provide a connection from Alaskan Way to the Elliott/Western corridor that provides access to and from BINMIC and neighborhoods north of Seattle (including Ballard and Magnolia). The connector would be four lanes wide and would provide an overcrossing of the BNSF mainline railroad tracks. In addition, it would provide local street access to Pike Street and Lenora Street and integrate back into the street grid at Bell Street, which would improve local street connections in Belltown. The new roadway would include bicycle and pedestrian facilities.

The Elliott/Western Connector is an independent project that would complement the Bored Tunnel Alternative. Although these specific improvements are not proposed with the Cut-and-Cover Tunnel and Elevated Structure Alternatives, these alternatives provide a functionally similar connection with SR 99 ramps at Elliott and Western Avenues, similar to the existing viaduct structure. The Bored Tunnel Alternative does not include these ramp connections. The Elliott/Western Connector is an independent project that would improve roadway connections for travelers heading to and from northwest Seattle neighborhoods compared to the connections provided by the Bored Tunnel Alternative.

***Transit Enhancements***

A variety of transit enhancements would be provided to complement planned transportation improvements associated with the Alaskan Way Viaduct and Seawall Replacement Program. Development of the specific improvements is underway, but would include (1) new transit service with Delridge RapidRide, (2) additional service hours for West Seattle and Ballard RapidRide, (3) adding peak-hour express routes to South Lake Union and Uptown, and (4) local bus changes (such as realignments and a few additions) to several West Seattle and northwest Seattle routes.

These transit enhancements are proposed only with the Bored Tunnel Alternative, based on the recommendation provided by Governor Gregoire, former Seattle Mayor Nickels, and former County Executive Sims. Environmental review is not required for these enhancements because they would add service hours and would not involve physical improvements.

***Projects That Complement All Build Alternatives  
S. Holgate Street to S. King Street Viaduct Replacement Project***

WSDOT is leading this project that is currently being constructed. The S. Holgate Street to S. King Street Viaduct Replacement Project will replace this seismically vulnerable portion of SR 99 with a seismically sound structure that is designed to current roadway and safety standards. An Environmental Assessment for this project was completed in June 2008,<sup>14</sup> and the Finding of No Significant Impact (FONSI) was published in February 2009.<sup>15</sup> Construction began in mid 2009 and is expected to be completed at the end of 2014.

***Mercer West Project***

The City is leading this project and its associated environmental review process, which would take place under NEPA and/or SEPA as appropriate. The Mercer West Project includes improvements on Mercer Street between Fifth Avenue N. and Elliott Avenue W. The improvements include reconfiguring Mercer and Roy Streets west of Fifth Avenue N. to accommodate two-way traffic. The proposed improvements would improve access from SR 99 for drivers traveling to Uptown (Lower Queen Anne), Ballard, Interbay, and Magnolia.

***Transportation Improvements to Minimize Traffic Effects During Construction***

Several transportation improvements are being fully or partially funded by WSDOT to help offset traffic effects during construction of projects included in the Alaskan Way Viaduct and Seawall Replacement Program. These projects are being led by either WSDOT or the City and have already obtained environmental approval or will be reviewed as appropriate under NEPA and/or SEPA. These

transportation improvements are completed or underway and include the following projects:

- Adding variable speed signs and travel time signs on I-5 to help maximize safety and traffic flow. This project has been completed.
- Providing funding for construction of the S. Spokane Street Viaduct Widening Project, which is underway. This project includes a new Fourth Avenue S. off-ramp for West Seattle commuters.
- Adding buses and bus service in the West Seattle, Ballard/Uptown, and Aurora Avenue corridors during construction, as well as a bus travel time monitoring system.
- Upgrading traffic signals and driver information signs for the Denny Way, Elliott Avenue W./15<sup>th</sup> Avenue W., south of downtown, and West Seattle corridors to support transit and traffic flow.
- Providing information about travel alternatives and incentives to encourage use of transit, carpool, and vanpool programs.

***SR 99 Yesler Way Vicinity Foundation Stabilization (Column Safety Repairs)***

WSDOT was the lead for this project, which was completed in April 2008. Environmental review under NEPA and SEPA occurred prior to project construction. This project strengthened four column footings supporting the existing viaduct between Columbia Street and Yesler Way. To prevent the columns from sinking further, crews drilled a series of steel rods surrounded by concrete into stable soil, and then added a layer of reinforced concrete to tie the new supports to the existing column footings.

***S. Massachusetts Street to Railroad Way S. Electrical Line Relocation Project (Electrical Line Relocation Along the Viaduct's South End)***

WSDOT was the lead for this project, which was completed in December 2009. Environmental review under SEPA was

<sup>14</sup> FHWA and WSDOT 2008.

<sup>15</sup> FHWA and WSDOT 2009.

completed prior to project construction. Electrical lines between S. Massachusetts Street and Railroad Way S. were relocated from the viaduct to underground locations. The electrical lines needed to be relocated to protect downtown's power supply in the event of an earthquake and to accommodate viaduct replacement.

#### ***Battery Street Tunnel Maintenance and Repairs***

Battery Street Tunnel maintenance and repair work was identified as one of the Moving Forward projects. However, the need for this work depends on how the tunnel might be used in the future. The Battery Street Tunnel would be used as part of the Cut-and-Cover Tunnel and Elevated Structure Alternatives. With the Bored Tunnel Alternative, the Battery Street Tunnel would not be needed and would be decommissioned. WSDOT and the City are committed to maintaining the Battery Street Tunnel to ensure that it remains safe for drivers for as long as it is needed.

## **PUBLIC INVOLVEMENT**

### **11 What opportunities have we provided for people to be engaged in the project?**

A wide variety of tools and activities have been used to inform, educate, and promote two-way communication with the community since the project began in 2001.

#### **Public Meetings**

##### ***2001 to 2004***

From 2001 leading up to the 2004 Draft EIS publication, 18 public meetings were held as part of the environmental review process to discuss the project scope, alternatives development, transportation demand management, and the five alternatives. In addition, after the Draft EIS was published, three public hearings were held to provide an opportunity for public review and comment of the Draft EIS. More than 260 people attended the hearings. A total of 670 items, including comment letters, e-mail messages, comment forms, and oral testimonies were submitted by individuals, businesses, community groups, tribes, and public agencies. Comments on the 2004 Draft EIS ranged from concerns about construction impacts, traffic capacity, and public safety, as well as urban design ideas.

##### ***2005 to 2006***

Following publication of the 2004 Draft EIS and leading up to the 2006 Supplemental Draft EIS, seven public meetings were held. In addition, four public hearings were held to provide an opportunity for the public to review and comment on the Supplemental Draft EIS. A total of 165 individuals, businesses, community groups, tribes, and public agencies attended the hearings. During the public comment period, a total of 178 items were submitted. Comments on the 2006 Supplemental Draft EIS ranged from concerns about project cost, construction impacts, and transportation management.

##### ***2007 to Present***

Between July 2006 and November 2010, 24 public meetings were held to gather community input and provide information. As part of this total, public meetings were held quarterly during the Partnership Process. In addition, approximately seven meetings were held to discuss potential contracting opportunities. With the publication of the second Supplemental Draft EIS in 2010, three public hearings were held within the 45-day public comment period. In total, 213 items were received during the comment period. Comments ranged from questions about tolling and historic resource effects to concerns about transportation elements such as parking, SR 99 access, and roadway capacity.

#### **Other Community Outreach**

A variety of other outreach methods have been used to solicit feedback and provide information on the project. Since the project began in 2001, the lead agencies have engaged the public in the following ways:

- Gave project briefings at more than 700 community meetings to various neighborhood groups, business organizations, interest groups, and social service organizations.
- Attended more than 170 community fairs and festivals where we reached more than 21,000 people by distributing project information and answering questions.

- Held public viaduct tours attended by more than 1,100 people.
- Received approximately 294 information line calls and more than 2,590 e-mails or web comment forms.
- Sent approximately 121 news releases to WSDOT's media list since 2003. Approximately 4,160 news stories and blog posts have mentioned the project. In addition, many media tours of the viaduct have been held.
- Created fact sheets and folios. Materials are often translated into Chinese, Spanish, Tagalog, and Vietnamese. All materials, including translated versions, are made available on the project website. Additionally, general project information is provided on the project website in Chinese, Spanish, Tagalog, and Vietnamese.
- Continued to provide updated project information on our project website and via monthly e-mail messages.

### **12 How have we been engaging businesses and residents located adjacent to the project?**

In addition to the activities described in the previous section, the lead agencies have provided information and solicited input from the property owners, tenants, and businesses directly adjacent to the project area. To help keep these people informed, we have conducted the following activities:

- Notified nearby property owners and tenants of expected activities and possible disruptions. Since July 2006, project team members have provided field work notification more than 170 times.
- Engaged local community and business representatives through the Partnership Process via a Stakeholder Advisory Committee.

#### **Appendix A, Public Involvement Discipline Report**

*Appendix A, Public Involvement Discipline Report* contains additional information describing public involvement activities that have taken place since the project began in 2001.

#### **Chapter 9 of this Final EIS**

Chapter 9 contains a summary of the comments received on the *2004 Draft EIS* and *2006* and *2010 Supplemental Draft EISs*. *Appendices S* and *T* of this *Final EIS* contain the individual comment letters and responses to all comments received on the project's EISs.

A total of 1,061 items, including comment letters, email, messages, comment forms, and oral testimonies were submitted on the three EISs. These submitted items were delineated into comments by topic, which resulted in more than 3,200 comments. Responses to each of these comments are provided in *Appendices S* and *T* of this *Final EIS*.

- Hosted multiple meetings with tenants of the Western Building as groups and individually. The purpose of these conversations has been to answer questions and provide resources to help tenants relocate should the Bored Tunnel Alternative be built. In addition, WSDOT has created a web page that lists resources for Western Building tenants.

In addition, in April 2009, WSDOT, King County, and the Seattle Department of Transportation established three working groups for the Bored Tunnel Alternative: the south portal working group, central waterfront working group, and the north portal working group. Participants represent neighborhoods, businesses and freight, and other interest groups. The working groups provide comments and feedback on design and mobility issues and they convey information back to their communities. The central waterfront group met twice in 2009, and the south and north portal groups have been meeting several times a year since 2009.

Finally, WSDOT and the City aim to engage the contracting community early and share project information as work progresses. In 2009, WSDOT hosted three events for contractors that were attended by about 370 contractors. WSDOT and the City also formed a work group and outreach effort aimed at keeping Disadvantaged Business Enterprises and Women and Minority Business Enterprises engaged. Since 2006, WSDOT has attended or hosted more than 20 meetings or events to coordinate with these enterprises.

### 13 How have we been engaging minorities, low-income people, and social service providers?

The lead agencies have continued to coordinate with social service organizations that provide services to disadvantaged, minority, and low-income people in and near the project area. Outreach to social service providers is part of an ongoing effort that began in 2002.

The project team coordinates with social service providers within the project area to ensure that these organizations

who serve traditionally underrepresented populations are engaged in the decision-making process and have opportunities to voice their concerns about potential effects to their property or operations. Since 2002, the project team has conducted more than 95 meetings with area social service providers. The purpose of the meetings is to communicate project alternatives and potential effects; learn about the agencies and the groups they serve; discuss concerns the organizations and their patrons have about the project; and identify ways to avoid, minimize, and mitigate project effects to low-income and minority populations. Other outreach activities to low-income and minority populations include leading community briefings, providing project information in languages other than English, attending fairs and festivals, targeting outreach efforts to minority-owned businesses, and including social service agencies in the working groups.

Since 2002, occasional mailings were sent to 170 to 200 organizations within the project area to keep their members informed of project progress. Notification was also sent to social service providers offering a free copy of environmental documents. A mailing was sent in October 2010 notifying more than 200 service providers of the Supplemental Draft EIS public hearings, opportunities to provide comments, and an opportunity to attend a briefing specifically for social service providers. The briefing was held on November 9, 2010. Approximately 200 organizations were invited and representatives from three organizations attended. Participants asked questions to learn more about how homeless populations were identified, how the relocation process works, what are requirements to identify a business as a Disadvantaged Business Enterprise, and if the lead agencies have considered whether removing the viaduct would displace crime.

### 14 How have we been coordinating with agencies?

The project team has involved agencies since the 2001 NOI and through the development of the 2004 Draft EIS, 2006 Supplemental Draft EIS, and 2010 Supplemental Draft EIS. Agencies have participated in many ways, including the Resource Agency Leadership Forum (which

met until 2006) and ongoing consultation and coordination through NEPA scoping, e-mails, phone calls, field visits, and meetings. The agencies also have been given the opportunity to review draft discipline reports and appropriate sections of the Draft EIS and Supplemental Draft EISs prior to publication. The environmental review requirements of Section 6002 of SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users) do not apply because this project was initiated before these regulations were enacted.

Cooperating agencies are governmental agencies specifically requested by the lead agencies to participate during the environmental review process because they have jurisdiction or provide special expertise. FHWA's NEPA regulations (23 CFR 771.111[d]) require that agencies with jurisdiction to provide permits or transfer land be invited to be cooperating agencies. The Federal Transit Administration, King County, U.S. Army Corps of Engineers, and Port of Seattle are cooperating agencies for the project.

Interested agencies are agencies and tribal governments that participate in the environmental review process because they have an interest in the project. Interested agencies for this project include the following:

- Confederated Tribes and Bands of the Yakama Nation
- Muckleshoot Indian Tribe
- National Marine Fisheries Service (NMFS)
- Puget Sound Clean Air Agency
- Puget Sound Regional Council
- Snoqualmie Indian Tribe
- Suquamish Tribe
- The Tulalip Tribes
- U.S. Department of Fish and Wildlife
- U.S. Environmental Protection Agency
- Washington Department of Fish and Wildlife
- Washington State Department of Archaeology and Historic Preservation
- Washington State Department of Ecology
- Washington State Department of Natural Resources

#### Information about how public comment shaped the alternatives is contained in the following locations:

- Chapter 2 (this chapter), Questions 2 through 7
- Chapter 9
- Appendices S and T of this *Final EIS*

In addition to coordination among the resource agencies and tribes, WSDOT, the City, the County, and the Port of Seattle work together and meet regularly at both management and staff levels to carry the project forward.

#### 15 How have we been coordinating with tribes?

The lead agencies seek to address the concerns of tribal nations using the process outlined in Section 106 of the National Historic Preservation Act and the WSDOT Tribal Consultation Policy adopted as part of the WSDOT Centennial Accord Plan.<sup>16</sup> Section 106 requires federal agencies to consult with tribes where projects could affect tribal areas with historic or cultural significance. As such, the lead agencies consult with tribes that have active cultural interests in the project area. This includes the following tribes:

- Confederated Tribes and Bands of the Yakama Nation
- Jamestown S’Klallam
- Lower Elwha Klallam
- Muckleshoot Indian Tribe
- Port Gamble S’Klallam
- Snoqualmie Indian Tribe
- Suquamish Tribe
- The Tulalip Tribes
- Duwamish Tribe (a non-federally recognized tribe), as an interested party

In addition, the lead agencies consult with tribes on potential effects to treaty fishing rights (usual and accustomed areas) near the project area. The following tribes have fishing rights near the project area:

- **Confederated Tribes and Bands of the Yakama Nation** – Duwamish River and tributaries, no saltwater. These fishing rights are subject to the consent of other treaty tribes in whose usual and accustomed fishing places the Yakima Tribe also fished at treaty times.
- **Jamestown S’Klallam** – Marine waters including the Straits of Juan de Fuca, Hood Canal, and waters off the west coast of Whidbey Island. There are no usual

and accustomed fishing areas on the east side of Puget Sound. However, excavated materials are proposed to be barged to the Mats Mats quarry in Port Ludlow for off-site disposal. Barges would be crossing the usual and accustomed fishing areas for this tribe.

- **Lower Elwha Klallam** – Marine waters including the Straits of Juan de Fuca, Hood Canal, and waters off the west coast of Whidbey Island. There are no usual and accustomed fishing areas on the east side of Puget Sound. However, excavated materials are proposed to be barged to the Mats Mats quarry in Port Ludlow for off-site disposal. Barges would be crossing the usual and accustomed fishing areas for this tribe.
- **Muckleshoot Indian Tribe** – Elliott Bay.
- **Port Gamble S’Klallam** – Marine waters including the Straits of Juan de Fuca, Hood Canal, and waters off the west coast of Whidbey Island. There are no usual and accustomed fishing areas on the east side of Puget Sound. However, excavated materials are proposed to be barged to the Mats Mats quarry in Port Ludlow for off-site disposal. Barges would be crossing the usual and accustomed fishing areas for this tribe.
- **Suquamish Tribe** – Marine waters of Puget Sound from the northern tip of Vashon Island to Fraser River, including Elliott Bay.

Since the project began in 2001, the lead agencies have continued to communicate with tribes by providing project updates, coordinating and attending meetings, sharing information, and soliciting feedback. The tribes have also been given the opportunity to review and provide input on background project information, including the project purpose and need statement and draft discipline reports. The lead agencies will continue to consult with tribes throughout project development to

provide project updates and consult on Section 106 and fishing rights issues.

Key concerns and questions raised by the tribes have been focused primarily on potential historic and cultural resources that may be located in the project area. The project team has conducted archaeological studies of the area to better understand where archaeological sites or areas sensitive for archaeological sites may be located. The purpose of this work was to focus on what can be done to avoid or minimize potential effects to archaeological resources before construction begins. These studies did not identify any archaeological sites associated with tribes that would be affected by the preferred alternative. However, as part of this work, we used historical accounts, geotechnical information, and archaeological testing to identify high-probability areas where archaeological resources may be located. We are using the information gathered from these studies as we work with the tribes and the State Historic Preservation Officer to develop a Section 106 Memorandum of Agreement, which includes provisions for an archaeological treatment plan. The archaeological treatment plan will include detailed discussion of monitoring and treatment for properly addressing archaeological sites identified in our effects analysis for this Final EIS as well as potential archaeological sites discovered inadvertently during construction. The tribes will be provided with an opportunity to review and comment on the archaeological treatment plan during its development.

#### What are “usual and accustomed” areas?

Usual and accustomed areas are places located within and outside of a tribe’s reservation lands where federal treaties safeguard tribal rights, such as fishing rights.

<sup>16</sup> WSDOT 2009.