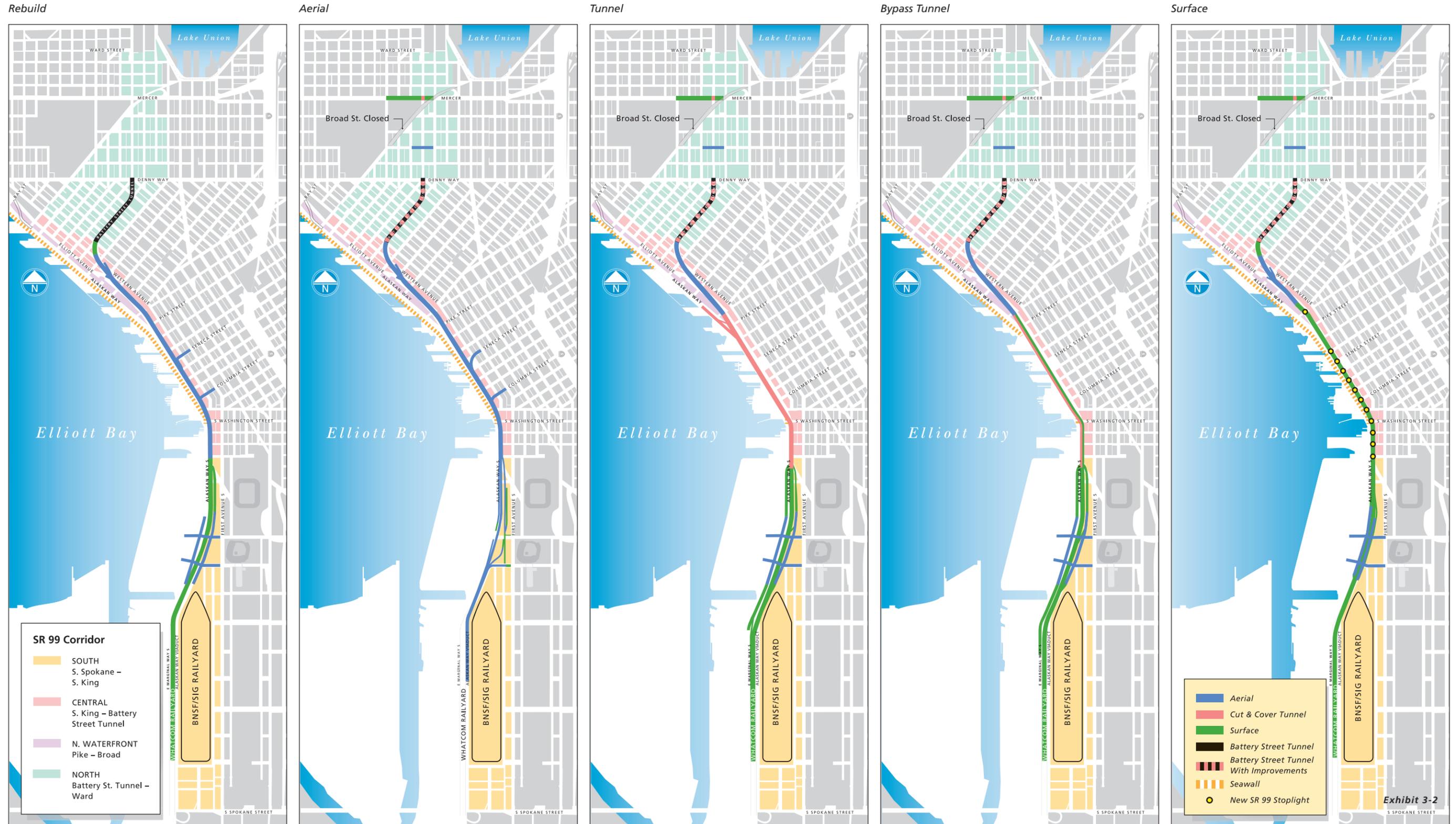


Alternatives Evaluated in the 2004 Draft EIS



CHAPTER 3 - ALTERNATIVES DEVELOPMENT

What’s in Chapter 3?

This chapter describes the project’s history, explains how the Bored Tunnel Alternative was developed, and describes how the public and other stakeholders have been involved in the project.

ALTERNATIVES DEVELOPMENT

1 How did the project begin?

Exhibit 3-1 summarizes the history of this project and the alternatives developed and 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.¹ 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. In early 2002, 76 viaduct replacement concepts and seven seawall concepts were screened and packaged into five build alternatives and several options evaluated in the 2004 Draft EIS.

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 in Exhibit 3-2:

- **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.

The five alternatives evaluated in the 2004 Draft EIS had several options associated with them that could be mixed and matched, as shown in Exhibit 3-3.

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 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.

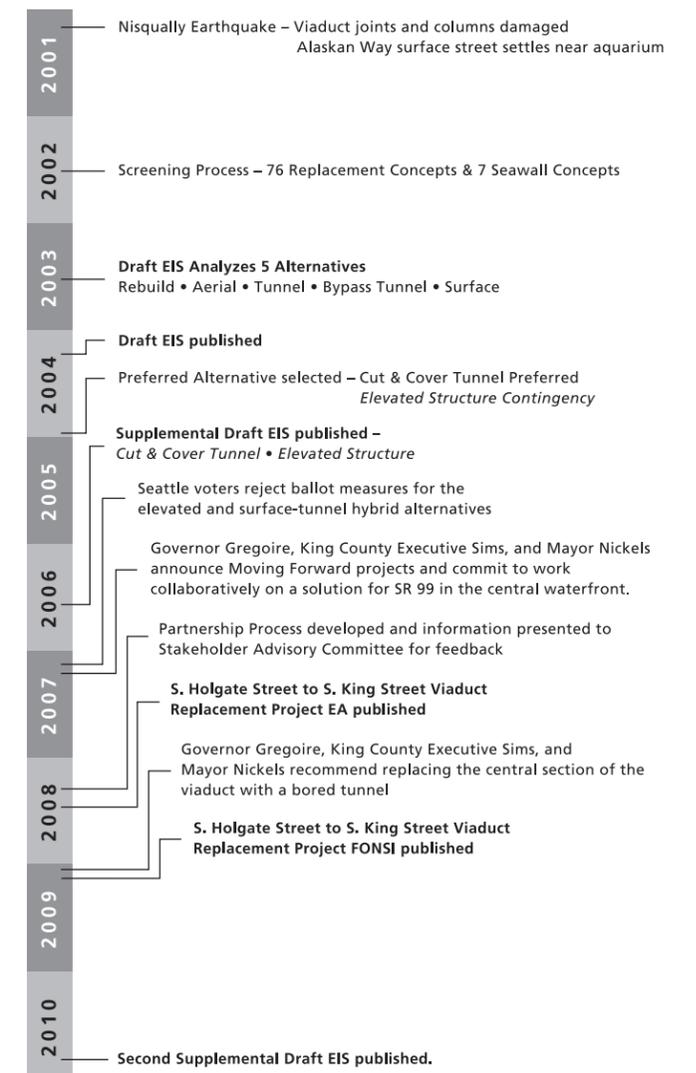
Reasons the Rebuild and Aerial Alternatives Were Combined

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 State Route 99 (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 and Seneca 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

Exhibit 3-1
Project Timeline



1 WSDOT, 1995.

standards, but it also proposed to replace the existing Seneca and Columbia 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 it reduced roadway capacity, which didn’t meet the project’s purpose as identified 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

2004 Draft EIS Alternatives & Options Chart

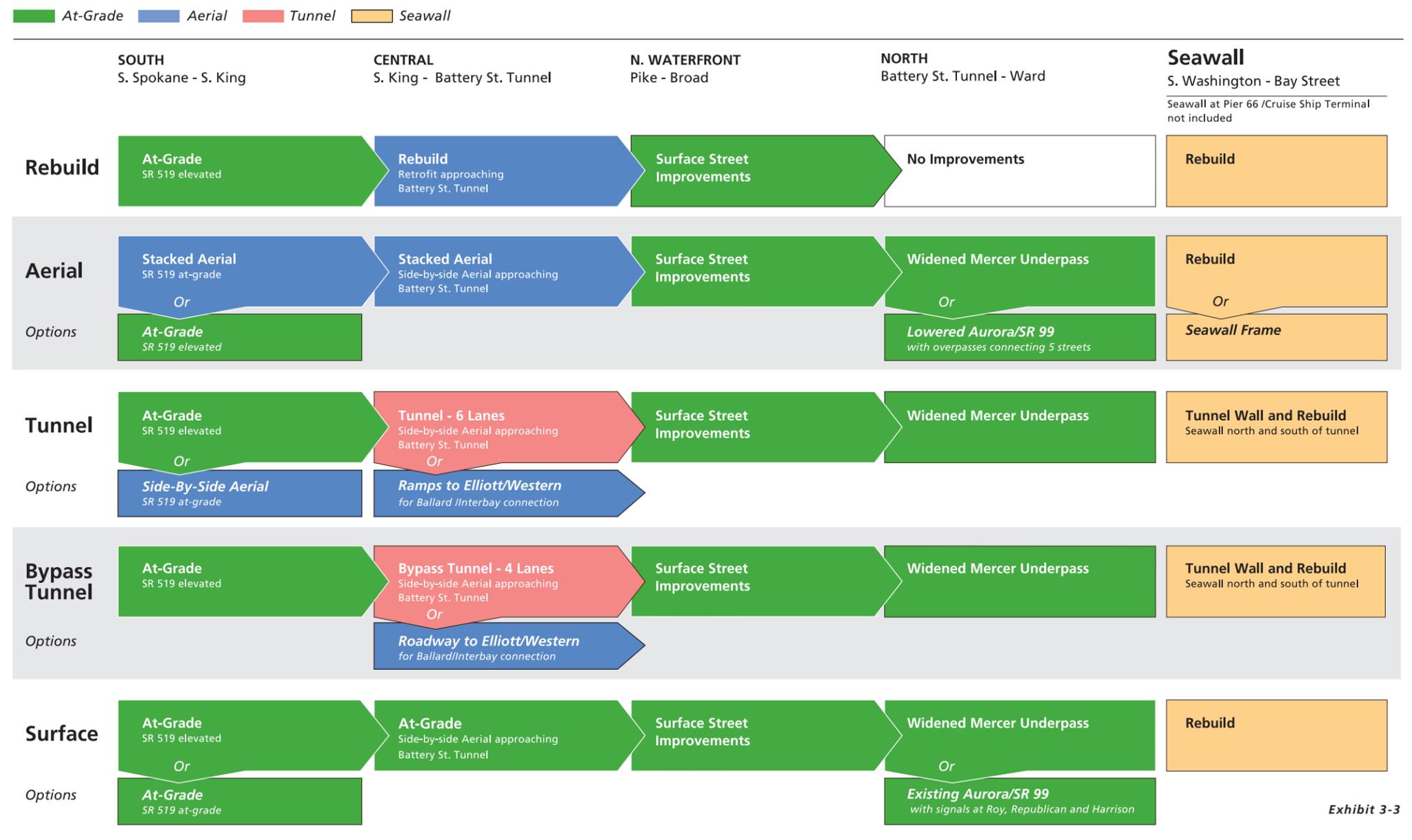


Exhibit 3-3

double, and traffic on Alaskan Way itself would have increased nearly sevenfold.

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

Two alternatives were carried forward for further evaluation in the 2006 Supplemental Draft EIS—the

Elevated Structure Alternative and the Cut-and-Cover Tunnel Alternative. These alternatives were advanced because they best met 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.”

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 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.

In addition to the No Build Alternative, the 2006 Supplemental Draft EIS evaluated the Cut-and-Cover Tunnel and the Elevated Structure Alternatives as shown in Exhibit 3-4. The alternatives had several options associated with them that could be mixed and matched, as shown in Exhibit 3-5.

5 What’s happened since the 2006 Supplemental Draft EIS?

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

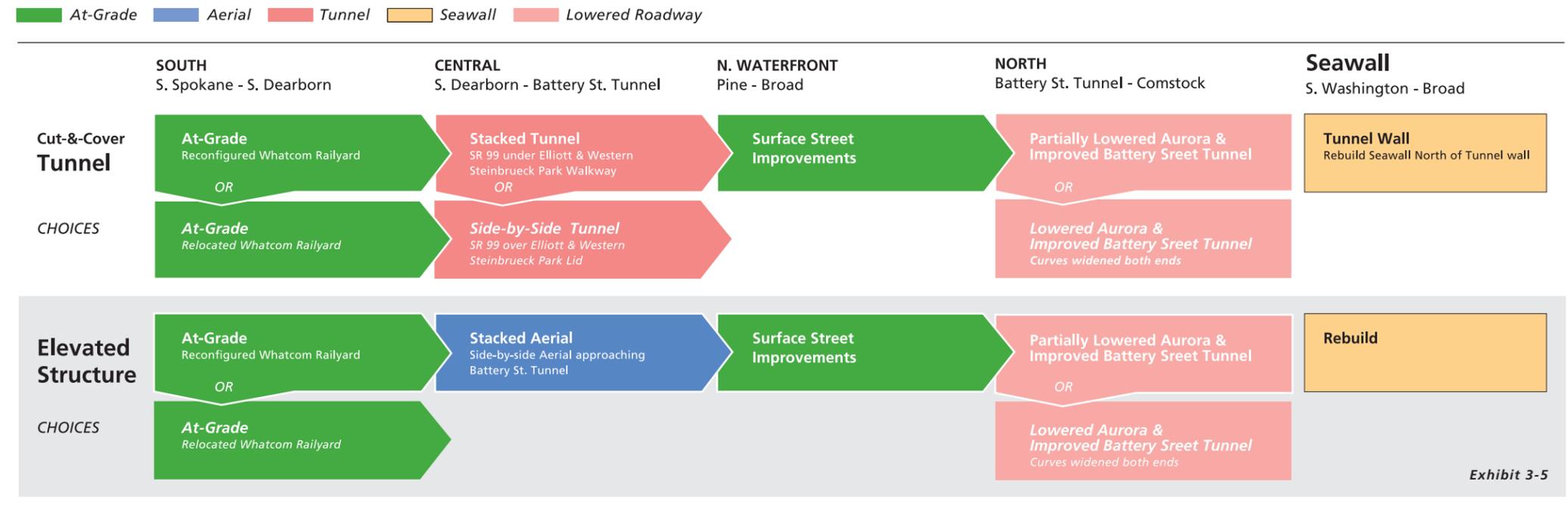
- 2006 Supplemental Draft EIS comments
- 2006 expert review panel recommendations
- 2006 updated project costs
- 2006 Governor Gregoire’s findings
- 2007 advisory vote results
- 2008 Partnership Process
- 2008 Partnership Process scenarios evaluated
- 2008 Stakeholder Advisory Committee suggestions
- 2009 recommendation from the Governor, County Executive, and Mayor

2006 Supplemental Draft EIS Comments

Several hundred comments 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:

- 1 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.

2006 Supplemental Draft EIS Alternatives & Options Chart



- 2 Concern about the duration and intensity of effects from construction. 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 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, 2006.² 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.

What is CEVP®?

Construction project costs and construction durations were determined using the Cost Estimate Validation Process (CEVP®). The CEVP is an intense workshop in which a team of engineers and risk managers with expertise on large projects both locally and nationally examine a transportation project and review project details with engineers from FHWA, WSDOT, and the City of Seattle.

The CEVP workshop team uses systematic project review and risk assessment methods to identify and describe cost and schedule risks and evaluate the quality of the information at hand. The process examines how risks can be lowered and cost vulnerabilities can be managed or reduced from the very beginning of a project. A benefit of CEVP is that it identifies risks early in the project development process. That allows the team to work on ways to reduce risks that would add cost or extend the time needed to construct the project.

² WSDOT, 2006a.

2006 Updated Project Costs

In September 2006, WSDOT updated the Project cost estimates using the Cost Estimate Validation Process (CEVP®) to meet the expert review panel’s request.² The results showed that the costs had increased for both the Elevated Structure and Cut-and-Cover Tunnel Alternatives, as shown in Exhibit 3-6.

Exhibit 3-6
2006 Updated Project Costs
in billions

	<i>Cut-&Cover Tunnel</i>	<i>Elevated Structure</i>
Previous 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

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.³

2007 Advisory Vote Results

The City of Seattle 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 down both alternatives.

After the March 2007 vote in Seattle, Governor Gregoire, former King County Executive Sims, and former City of 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 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 process.

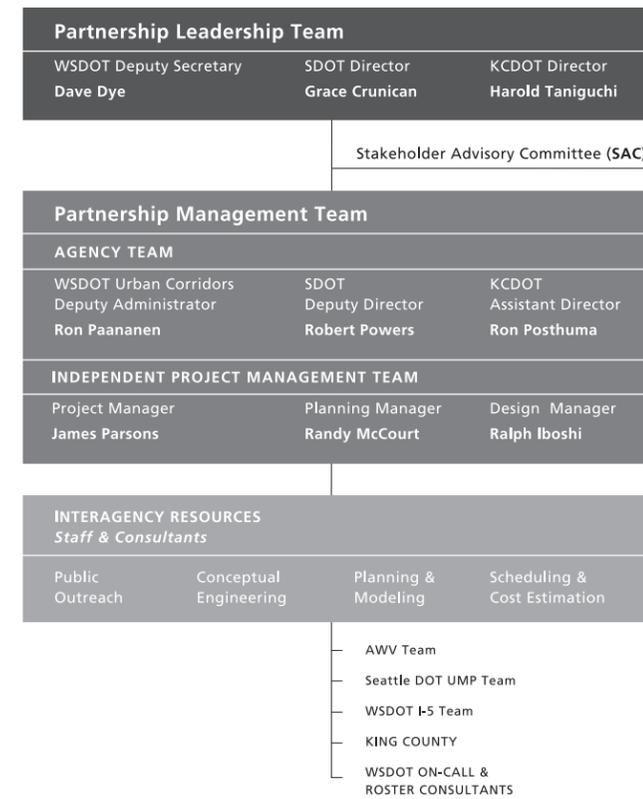
2008 Partnership Process

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.

Exhibit 3-7

Partnership Process Leadership Chart



The Partnership Process occurred as part of the National Environmental Policy Act (NEPA) process for the Alaskan Way Viaduct Replacement Project as documented in a Notice of Intent (NOI) published in the Federal Register on July 16, 2008.⁴ 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 3-7. This structure supported coordinated decision-making among the agencies and provided multiple opportunities and resources to identify and resolve potential roadblocks. To help create a shared vision, WSDOT, King County, and the City of Seattle developed and agreed to a set of guiding principles that defined goals for the viaduct along the central waterfront. The six guiding principles listed below were discussed with

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 Phillips – 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 Hogle – 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

³ Gregoire. 2006.

⁴ Federal Register. 2008.

the Stakeholder Advisory Committee and confirmed by Governor Gregoire, County Executive Sims, and Mayor Nickels in early 2008:

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

The 29-member Stakeholder Advisory Committee included representatives from business and economic stakeholders, neighborhoods, and public interest groups. Through regularly scheduled meetings and additional topic-focused briefings, the Stakeholder Advisory Committee reviewed and commented on the materials and presentations produced by the Partnership Process between December 2007 and December 2008.

The purpose of the Stakeholder Advisory Committee was to give the partnership agencies feedback; it was not convened as a decision-making body. The Stakeholder Advisory Committee played a major role in helping to define the evaluation process, constructing and evaluating the scenarios studied, and giving feedback on the final hybrid recommendations that were submitted to the executives for consideration.

2008 Partnership Process Scenarios Evaluated

The Partnership Process embraced a new strategy 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,

N. 85th Street to the north, Elliott Bay to the west, and Lake Washington to the east, as shown in Exhibit 3-8.

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 scenarios considered improvements across the entire transportation network, not just SR 99. The intent of this step was not to select a particular scenario, but rather to learn which elements worked best together. 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

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 (and 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

Partnership Process Study Area



Exhibit 3-8

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.

Where can I find more information on the scenarios evaluated as part of the Partnership Process?

Appendix S, *Project History Report*, describes the Partnership Process and scenarios evaluated.

What was the Independent Project Management Team?

During the Partnership Process, the Independent Project Management Team was responsible for developing and managing the overall central waterfront work plan and alternatives analysis and ensuring that the work was completed on time. Appendix S, *Project History Report* discusses the role for the independent project management team.

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. The Independent Project Management Team developed a set of evaluation measures (both qualitative and quantitative) for each of the six guiding principles. The evaluation measures applied a common set of assumptions and modeling approaches to

ensure similar evaluation of the scenarios. Like the guiding principles, the evaluation measures were developed with review and comments from stakeholders.

The first guiding principle proved not to be a distinguishing factor among the scenarios. All of the scenarios improved seismic and transportation safety compared to today by removing the viaduct and making transportation investments that meet today's transportation and seismic safety standards.

The sixth guiding principle, improving the health of the environment, also proved not to be a distinguishing factor. All of the scenarios offered opportunities to meet or exceed current environmental standards and regulations and improve the environment through stormwater treatment, noise reduction, and habitat creation. In addition, changes in air quality and greenhouse gas emissions were not meaningful discriminators among the scenarios.

While the first and sixth principles weren't useful as distinguishing factors, guiding principles two through five were used to distinguish tradeoffs among the scenarios. No single scenario performed best for all six of the guiding principles, and substantial tradeoffs existed among the various choices. For example, the I-5, surface, and transit scenarios (Scenarios A, B, and C) performed quite well when compared to evaluation measures related to urban design and cost, while the bypass scenarios (Scenarios D, E, F, G, and H) performed better when compared to evaluation measures related to future travel needs, mobility for trips passing through downtown, and potential effects to the local economy.

Hybrid Scenarios Developed

After evaluating the eight systems scenarios, it was clear that substantial tradeoffs existed among the various choices. As a result, the Independent Project Management Team developed two classes of hybrids: an optimal I-5, surface, and transit hybrid without a limited-access bypass and hybrids with a limited-access bypass in the SR 99 corridor. The Independent Project Management Team,

along with the staff and consulting teams working for WSDOT, King County, and the City of Seattle, developed hybrid scenarios by assembling the best-performing combinations from the original eight systems scenarios based on the findings of the evaluation.

The Independent Project Management Team put together these three hybrid scenarios:

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

Below is a synopsis of the Independent Project Management Team's approach.

The first step was to form a hybrid scenario from what was learned from analyzing the three surface scenarios. Using these findings, the Independent Project Management Team developed Scenario L, an I-5, Surface, and Transit Hybrid based on the surface couplet with Alaskan Way and Western Avenue contained in Scenario C. This hybrid concept included the largest package of transit and I-5 improvements of the three hybrid scenarios; these improvements would help offset the loss of roadway capacity on SR 99 compared to the bypass scenarios. This was viewed as a compromise that provided better transportation performance for through trips and the smallest possible Alaskan Way roadway cross-section but altered the character of Western Avenue.

Next, the team looked at possible SR 99 bypass elements and concluded that the many tradeoffs involved among the elevated and subsurface elements made it difficult to select a clear best choice. Instead, the team focused on developing the most promising approach within each general category. All of the bypass scenarios included improvements to I-5 and transit, but fewer improvements were proposed with the bypass scenarios, since they provided more roadway capacity on SR 99.

The team developed Scenario M, an Elevated Bypass Hybrid, because it was the only SR 99 bypass element that

could be constructed within the state's \$2.8 billion commitment. While the independent elevated structure presents many challenges in satisfying the urban design and environmental guiding principles, at the time it was the only bypass element capable of satisfying the fiscal responsibility guiding principle.

Given the independent elevated structure's drawbacks related to the urban design and environmental guiding principles, the team concluded that a subsurface bypass hybrid should also be considered. While the subsurface choices would involve other tradeoffs with one or more of the guiding principles, it was felt that these choices needed to be presented to inform the three executives' deliberations. To that end, the three subsurface scenarios (Scenarios F: Twin Bored Tunnel, G: Cut-and-Cover Tunnel, and H: Lidded Trench) all failed the fiscal responsibility guiding principle, but had the greatest potential to satisfy the other guiding principles. Also, the cut-and-cover tunnel and lidded trench involved major construction disruption both to the central waterfront and to the movement of through traffic along the SR 99 corridor.

Of all of the subsurface scenarios, the lidded trench was the least costly, but as configured in Scenario H with traffic signals at the north and south ends, it had limited ability to serve through traffic. Additional work was done to explore the possible benefits of altering the trench to include all of the grade separations included with the cut-and-cover tunnel. This work found that the transportation performance of the trench could be improved to make it similar to both the cut-and-cover tunnel and the independent elevated structure, but that in doing so its construction costs rose close to the cost of the cut-and-cover tunnel while having the noise and urban design drawbacks of the ventilation openings. As a result, the lidded trench did not appear to have substantial advantages over the cut-and-cover tunnel.

Scenario O, the twin bored tunnel, while the most expensive of all of the SR 99 bypass scenarios, had substantial transportation benefits and the greatest

Appendix S, Project History Report

Evaluation measures for each of the six guiding principles are identified in *Appendix S, Chapter 3*.

potential to meet the urban design and environmental guiding principles. The twin bored tunnel was also the least disruptive from a construction standpoint to both the central waterfront and the operation of SR 99. In addition, advances in tunnel boring machine technology might allow the use of a single, large-diameter bore as opposed to the two tubes that had been assumed in Scenario F. Building a single large bore might reduce costs and construction time. Finally, preliminary studies indicated that tolling might help contribute up to \$400 million to help pay for the bored tunnel's additional cost. An effect of the twin bored tunnel compared to the other bypass scenarios was a slight increase in travel times for bypass trips in the Elliott and Western Avenues corridor, since this scenario does not include the ramp connections contained in the other bypass scenarios. Based on all of these considerations, a decision was made to develop the twin bored tunnel hybrid scenario.

2008 Stakeholder Advisory Committee Feedback

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, 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 Senate Bill 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 a bill that 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:

- NOI updated
- Purpose and need statement updated
- Design concepts reevaluated and screened
- Additional traffic analysis completed for the surface and transit hybrid concept
- Alternatives defined

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 NOI⁵ reestablished the intent of the Federal Highway Administration (FHWA) to continue the NEPA process that began with the NOI published on June 22, 2001. The 2009 NOI announced an important change to the 2001 NOI, 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:

⁵ Federal Register. 2009.

- 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:

- The project limits were modified in the south to connect to the S. Holgate Street to S. King Street Viaduct Replacement Project, which is a project with independent utility located adjacent to the Alaskan Way Viaduct Replacement Project.
- Replacing the seawall was removed as a purpose of the project.
- 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.

Project Limits Modified

The southern terminus of the project limits was modified from S. Spokane Street to S. Royal Brougham Way to reflect the updated project limits of the Alaskan Way Viaduct Replacement Project. The viaduct south of S. Royal Brougham Way is being replaced as part of a separate, independent project called the S. Holgate Street to S. King Street Viaduct Replacement Project.

Seawall Removed as a Purpose and Need

The Elliott Bay Seawall needs to be rebuilt or replaced because it is deteriorating and vulnerable to earthquakes. Many of the viaduct's foundations are embedded in the

soil held back by the seawall; therefore, if the seawall were to fail, sections of the existing viaduct could collapse or become unsafe. 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 purpose of this project is to replace the viaduct. Some of the alternatives to replace the viaduct would provide an additional benefit by replacing the seawall as well, but the seawall replacement is not the reason that FHWA, WSDOT, and the City are undertaking this project. For this reason, rebuilding or replacing the seawall was removed from the project's purpose and need statement.

Project Purpose and Need Updated

The purpose and need of the project were updated to reflect current state and local priorities as expressed through the Partnership Process. The purpose of the project was refined from being a project that would "maintain or improve mobility, accessibility, and traffic safety for people and goods along the existing Alaskan Way Corridor" to one that would:

Reduce the risk of catastrophic failure in an earthquake by providing a facility that meets current seismic safety standards.

- Improve traffic safety.
- Provide capacity for automobiles, freight, and transit to efficiently move people and goods to and through downtown Seattle.
- Provide linkages to the regional transportation system and to and from downtown Seattle and the local street system.
- Avoid major disruption of traffic patterns due to loss of capacity on SR 99.
- Protect the integrity and viability of adjacent activities on the central waterfront and in downtown Seattle.

Goals and Objectives Were Eliminated and Were Made Part of the Project's Purpose

In the previous purpose and need statement, protecting the integrity and viability of adjacent activities was included as a project goal and objective, rather than a project purpose and need. This item was added as a purpose and need to the updated statement to more closely align it with the guiding principles established for the Partnership Process.

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 this Supplemental Draft EIS.⁶ 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 purpose and need statement.⁶ The ten 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.

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

The guiding principles are described in *Appendix S, Chapter 3*.

⁶ Parametrix. 2010.

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 being considered, the concept that better satisfied the screening criteria was advanced and the other was eliminated. 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 ten concepts evaluated, seven were dropped as reasonable alternatives for reasons identified in Exhibit 3-9.

**Exhibit 3-9
Screening Result Summary Table**

Design Concept	Concept dropped because:
TUNNELS	
2004 Draft EIS Bypass Tunnel	<ul style="list-style-type: none"> Design deficiencies in the Battery Street Tunnel would not be improved. Construction would substantially disrupt SR 99 and local traffic for many years. 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.
2004 Draft EIS Tunnel	<ul style="list-style-type: none"> Design deficiencies in the Battery Street Tunnel would not be improved. Construction would substantially disrupt SR 99 and local traffic for many years. 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.

Design Concept	Concept dropped because:
ELEVATED STRUCTURES	
2004 Draft EIS Rebuild	<ul style="list-style-type: none"> It would not meet existing WSDOT design standards. Construction would substantially disrupt SR 99 and local traffic for many years. It would rebuild the existing viaduct, which would not support land use and shoreline plans.
2004 Draft EIS Aerial	<ul style="list-style-type: none"> Design deficiencies in the Battery Street Tunnel would not be improved. Construction would substantially disrupt SR 99 and local traffic for many years. Assumes a large, temporary aerial structure along the waterfront would be constructed that would substantially impact Seattle's waterfront for many years. 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.
Partnership Process Elevated Bypass Hybrid	<ul style="list-style-type: none"> Design deficiencies in the Battery Street Tunnel would not be improved. 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. Construction would substantially disrupt SR 99 and local traffic for many years. It would replace the existing viaduct with another elevated structure, which would not support land use and shoreline plans. 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.
SURFACE ARTERIALS	
2004 Draft EIS Surface	<ul style="list-style-type: none"> Design deficiencies in the Battery Street Tunnel would not be improved. 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). North-south capacity would be reduced, resulting in added congestion on city streets and I-5. Construction would substantially disrupt SR 99 and local traffic for many years. Creates a barrier for pedestrian movement between downtown Seattle and the waterfront.
Partnership Process I-5, Surface, and Transit Hybrid	<ul style="list-style-type: none"> 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. North-south capacity would be reduced, resulting in added congestion on city streets and I-5.

Source: Parametrix, 2010

The following three concepts were advanced for further consideration in this Supplemental Draft EIS:⁷

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

2006 Supplemental Draft EIS Elevated Structure

The screening results for the 2006 Supplemental Draft EIS Elevated Structure are provided below. This concept was 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.
- 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 did not meet the screening criteria for the reasons noted above, it is being carried forward for further analysis in this Supplemental Draft EIS for the following reasons:

- It 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.
- It would improve mobility for some trips, compared to conditions on the existing facility in 2030.

⁷ Parametrix, 2010.

2006 Supplemental Draft EIS Tunnel

The screening results for the 2006 Supplemental Draft EIS Tunnel are provided below. This concept does not 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.

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

- It 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.
- It 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 2006 Supplemental Draft EIS Tunnel 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 is carried

forward for further analysis in this Supplemental Draft EIS because for the following reasons:

- 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 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

Since the Bored Tunnel was advanced for further consideration in this Supplemental Draft EIS, some individuals, groups, and leaders have continued to support and show interest in developing and evaluating a surface and transit hybrid alternative. Because of this continued interest, the lead agencies evaluated transportation effects of a surface and transit hybrid to confirm the rationale for screening out the surface and transit hybrid for further analysis in this Supplemental Draft EIS. Specifically,

transportation engineers did additional work to validate the following reasons for dropping the surface and transit hybrid:

- 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.
- North-south capacity would be reduced, resulting in added congestion on city streets and I-5.

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 and traffic volumes, which are the primary reasons why this concept has been screened out and is not being evaluated in this Supplemental Draft EIS. The detailed traffic analysis and results are provided in Attachment A of Appendix C, Transportation Discipline Report.

Travel Times

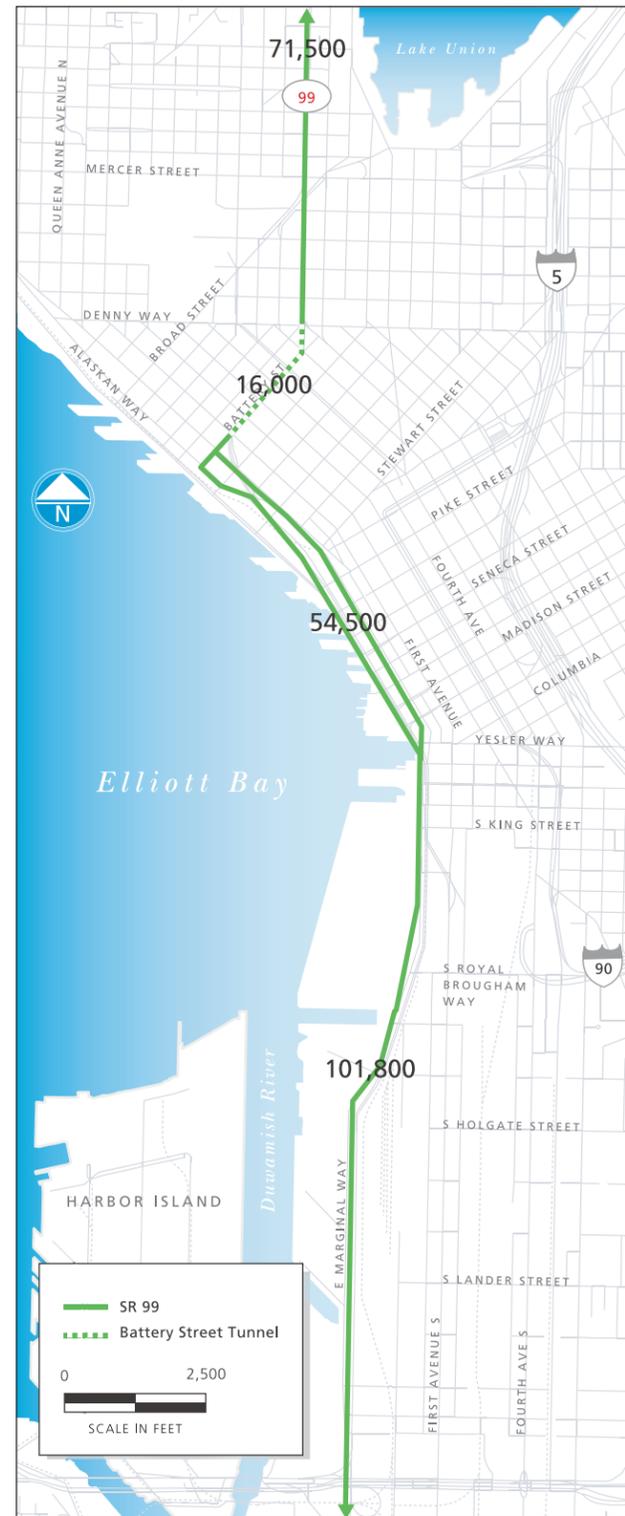
Exhibits 3-10 and 3-11 compare travel times during the AM peak hour (8:00 a.m. to 9:00 a.m.) and PM peak hour (5:00 p.m. to 6:00 p.m.) for the surface and transit hybrid, the Bored Tunnel Alternative, the Cut-and-Cover Tunnel Alternative, and the Elevated Structure Alternative in 2030.

Appendix C, Transportation Discipline Report

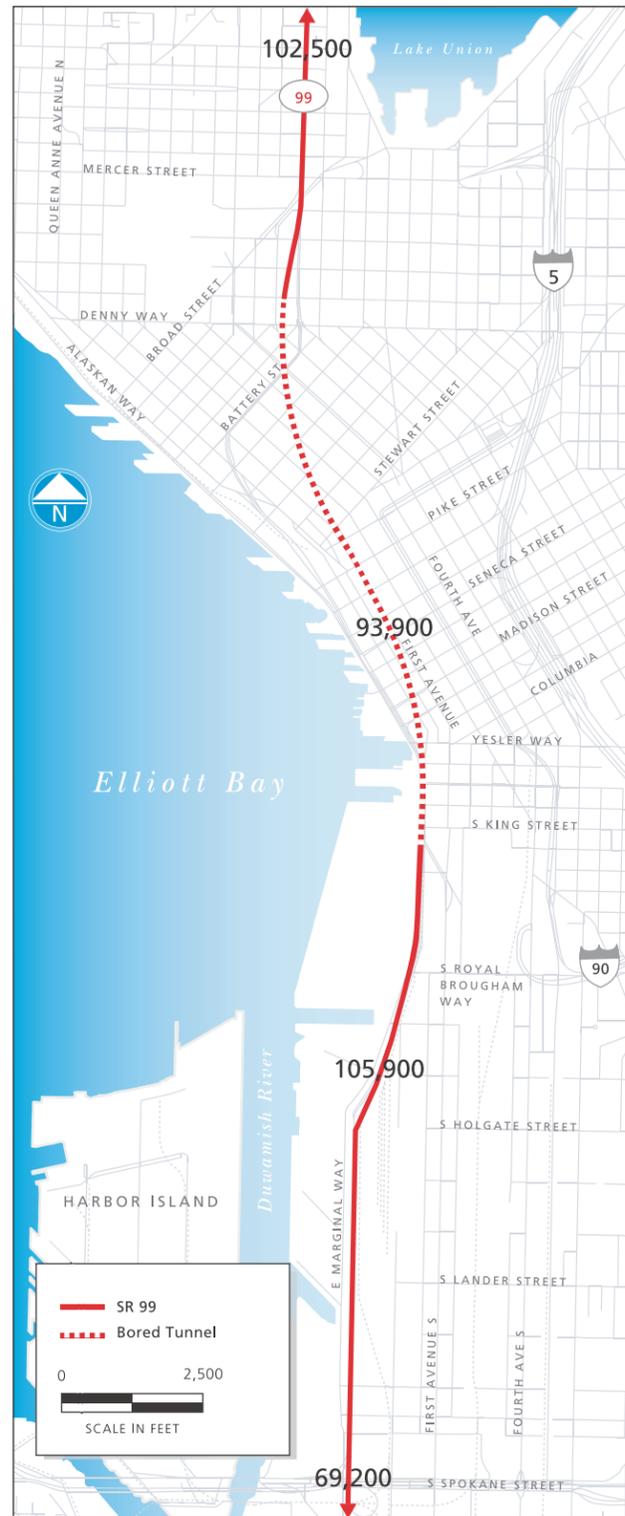
Results from the transportation analysis for the surface transit hybrid concept are provided in *Appendix C, Attachment A*.

2030 Comparison of SR 99 Volumes

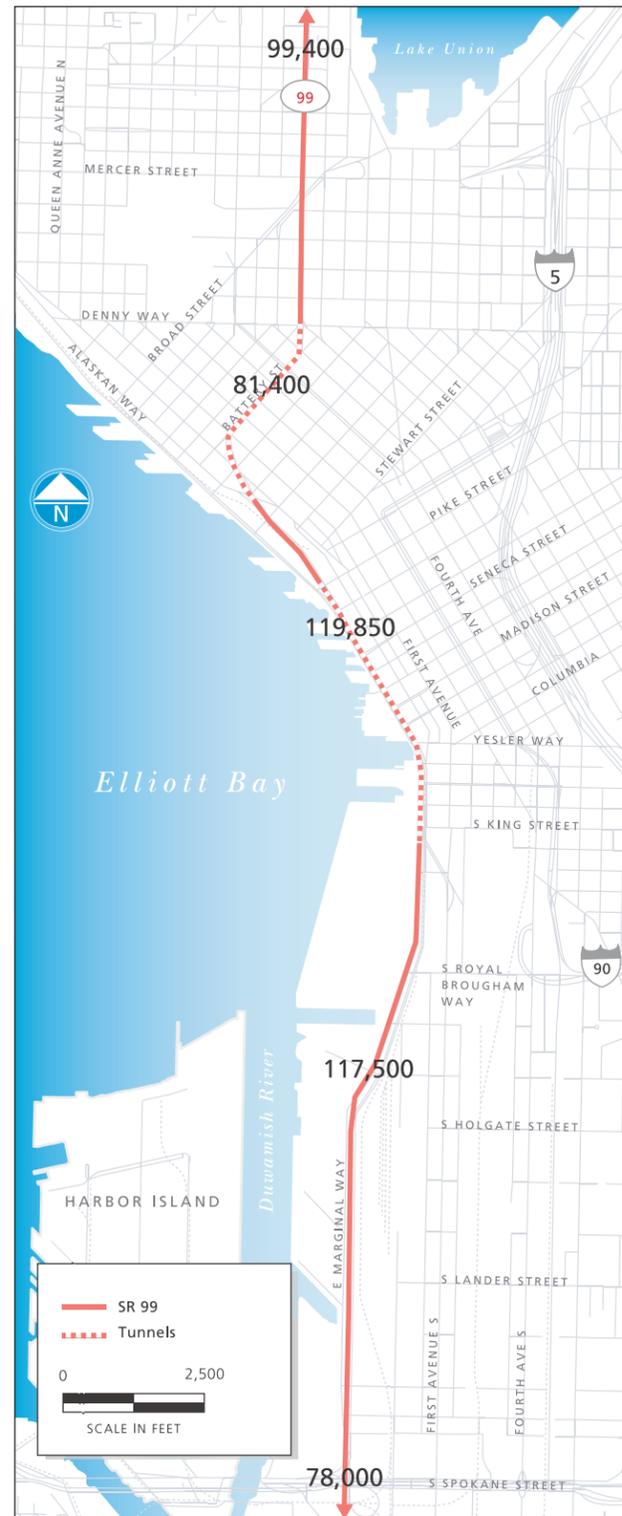
Surface and Transit Hybrid



Bored Tunnel



Cut & Cover Tunnel



Elevated Structure

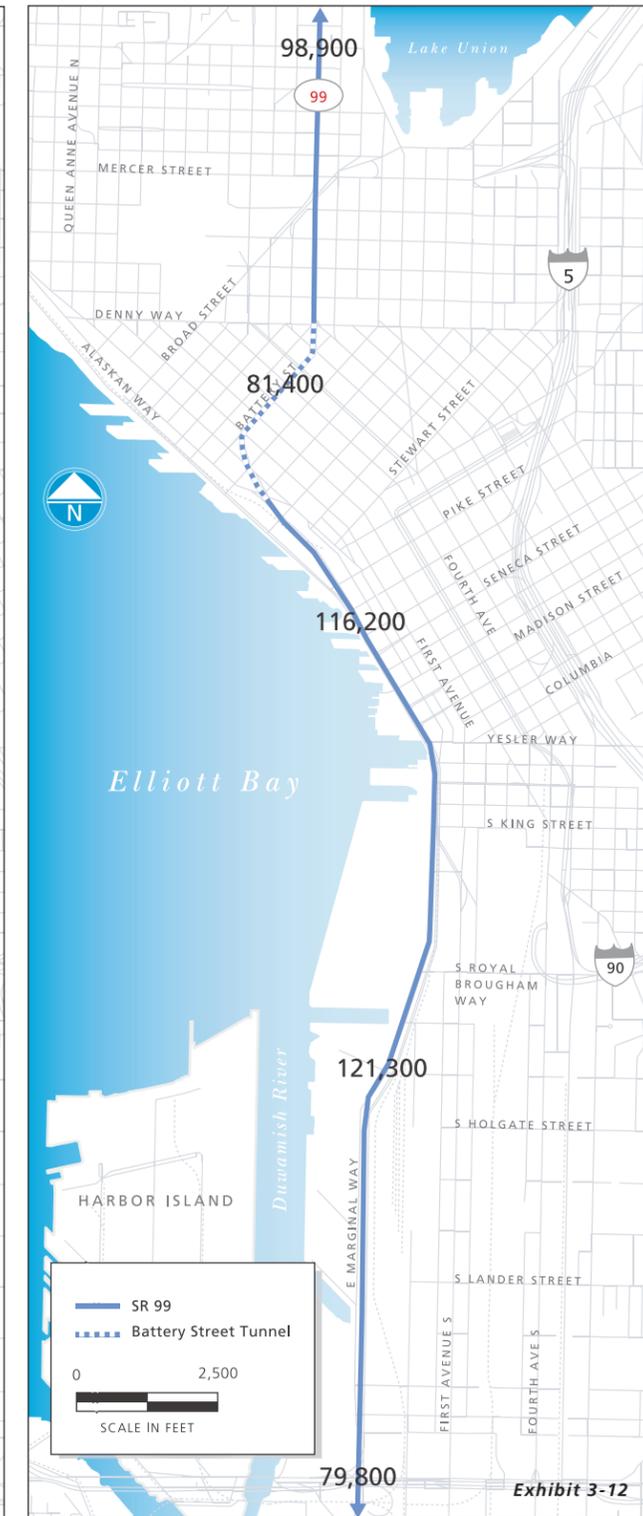


Exhibit 3-12

Exhibit 3-10
2030 Travel Time Comparison
 AM Peak Hour – 8:00 - 9:00 a.m.
 in minutes

	2 0 3 0			
	Surface & Transit Hybrid	Bored Tunnel	Cut-&-Cover Tunnel	Elevated Structure
West Seattle to Central Business District				
NORTHBOUND	37	25	24	21
Woodland Park to S. Spokane Street				
SOUTHBOUND	25	15	22	22
NORTHBOUND	30	12	14	15
Ballard to S. Spokane Street				
SOUTHBOUND	19	15/14*	19	21
NORTHBOUND	32	12/21*	18	19

* 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 3-10, the surface and transit hybrid would increase travel times for all but one trip modeled during the AM peak hour as compared to the Bored Tunnel, Cut-and-Cover Tunnel, and Elevated Structure Alternatives. The one trip that is expected to be comparable is for southbound traffic traveling from Ballard to S. Spokane Street. For trips that are expected to take longer, the range of additional travel time varies between 3 and 20 minutes. The surface and transit hybrid is expected to substantially increase travel times for northbound trips between West Seattle and downtown, northbound trips between S. Spokane Street and Woodland Park, and northbound trips between S. Spokane Street and Ballard as compared to the other alternatives evaluated.

Exhibit 3-11
2030 Travel Time Comparison
 PM Peak Hour – 5:00 - 6:00 p.m.
 in minutes

	2 0 3 0			
	Surface & Transit Hybrid	Bored Tunnel	Cut-&-Cover Tunnel	Elevated Structure
West Seattle to Central Business District				
NORTHBOUND	24	27	26	28
Woodland Park to S. Spokane Street				
SOUTHBOUND	27	15	15	16
NORTHBOUND	25	16	18	19
Ballard to S. Spokane Street				
SOUTHBOUND	18	18/21*	20	21
NORTHBOUND	32	27/23*	23	23

* 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 3-11, the surface and transit hybrid would increase travel times for most trips during the PM peak hour as compared to the Bored Tunnel, Cut-and-Cover Tunnel, and Elevated Structure Alternatives. Exceptions to this are southbound trips from downtown to West Seattle or southbound trips between Ballard and S. Spokane Street, which are expected to be comparable. For trips that are expected to take longer, the range of additional travel time varies between 5 and 12 minutes. In particular, the surface and transit hybrid is expected to increase travel times for northbound and southbound trips between S. Spokane Street and Woodland Park by between 6 and 12 minutes as compared with the other alternatives.

SR 99 Vehicle Volume Comparison

Exhibit 3-12 compares vehicle volumes in 2030 for the surface and transit hybrid and the Bored Tunnel, Cut-and-Cover Tunnel, and Elevated Structure Alternatives. As shown in Exhibit 3-12, north-south capacity on SR 99 would be substantially reduced in 2030 with the surface and transit hybrid as compared to the Bored Tunnel, Cut-and-Cover Tunnel, and Elevated Structure Alternatives. The reduction in vehicle volumes is most noticeable north of Seneca Street, through the Battery Street Tunnel, and north of Denny Way.

I-5 Vehicle Volume Comparison

Exhibit 3-13 compares vehicle volumes on I-5 in 2030 for the surface and transit hybrid and the Bored Tunnel, Cut-and-Cover Tunnel, and Elevated Structure Alternatives.

Exhibit 3-13
Comparison of I-5 Vehicle Volumes in 2030

	Surface & Transit Hybrid	Bored Tunnel	Cut-&-Cover Tunnel	Elevated Structure
South of I-90	275,400	274,300	274,600	272,600
North of Seneca Street	304,200	269,900	268,500	268,400
South of SR 520	330,500	324,500	325,300	325,000

As shown in Exhibit 3-13, vehicle volumes on I-5 are comparable south of I-90 and north of downtown and south of SR 520. Through downtown, just north of Seneca Street, vehicle volumes on I-5 are comparable in 2030 between the Bored Tunnel, Cut-and-Cover Tunnel, and Elevated Structure Alternatives. With the surface and transit hybrid, vehicle volumes on I-5 in 2030 are expected to increase by about 13 percent (or about 34,300 vehicles per day) as compared to the Bored Tunnel. I-5 through downtown is already congested in both directions on weekdays from 6:00 a.m. to 7:00 p.m. By 2030, vehicle volumes on I-5 are projected to increase regardless of what alternative is built to replace SR 99 along the central waterfront. Because I-5 is already at or exceeding its capacity under existing conditions, the vehicle volume increases to I-5 associated with the surface and transit hybrid would make I-5 more severely congested than it is today, which would increase the number of hours that I-5 is expected to be congested as compared to the Bored Tunnel, Cut-and-Cover Tunnel, or Elevated Structure Alternatives.

Comparison of Alaskan Way Vehicle Volumes in 2030

Exhibit 3-14 compares vehicle volumes in 2030 for the surface and transit hybrid and the Bored Tunnel, Cut-and-Cover Tunnel, and Elevated Structure Alternatives. As seen in Exhibit 3-14, vehicle volumes on Alaskan Way are expected to increase substantially with the surface and transit hybrid as compared to the other alternatives.

Exhibit 3-14
Comparison of Alaskan Way Vehicle Volumes in 2030

	Surface & Transit Hybrid	Bored Tunnel	Cut-&-Cover Tunnel	Elevated Structure
South of S. King Street	62,000	32,600	39,300	27,500
North of Seneca Street	26,500 ¹	18,600	13,400	13,500
North of Pine Street	23,000 ²	17,800	12,700	13,100

¹ This is the volume on Alaskan Way at this location, which includes only southbound traffic. Vehicle volumes on the Western Avenue couplet are expected to be 28,000 vehicles per day, for a total of 54,500 vehicles per day on the two streets.

² This is the volume on Alaskan Way at this location, which includes only southbound traffic. Vehicle volumes on the Western Avenue couplet are expected to be 25,000 vehicles per day, for a total of 48,000 vehicles per day on the two streets.

The area where Alaskan Way volumes would increase the most with the surface and transit hybrid is in the area south of S. King Street, where vehicle volumes on Alaskan Way would increase by more than 22,700 vehicles per day as compared to the 2030 Cut-and-Cover Tunnel Alternative. This represents a substantial increase in traffic on this street. This volume of traffic is expected to cause delay at intersections, particularly those near S. Atlantic Street and S. Royal Brougham Way. As drivers travel north, vehicle volumes would decrease on Alaskan Way as northbound drivers travel on the Western Avenue couplet. This serves to reduce volumes somewhat on Alaskan Way; however, volumes are still much higher than those projected for the other alternatives. The increased traffic levels would add delay for drivers but also create conditions that are not favorable for pedestrians and bicyclists along the central waterfront.

Alternatives Defined

The three alternatives considered in this Supplemental Draft EIS (in addition to the Viaduct Closed [No Build Alternative]) are a four-lane bored tunnel, a six-lane elevated structure, and a six-lane cut-and-cover tunnel. Exhibit 3-15 shows the components that compose these alternatives; brief descriptions are provided below. The top line of Exhibit 3-15 indicates the preferred components for the Bored Tunnel Alternative, and the next line shows other design options.

2010 Supplemental Draft EIS Alternatives & Options Chart

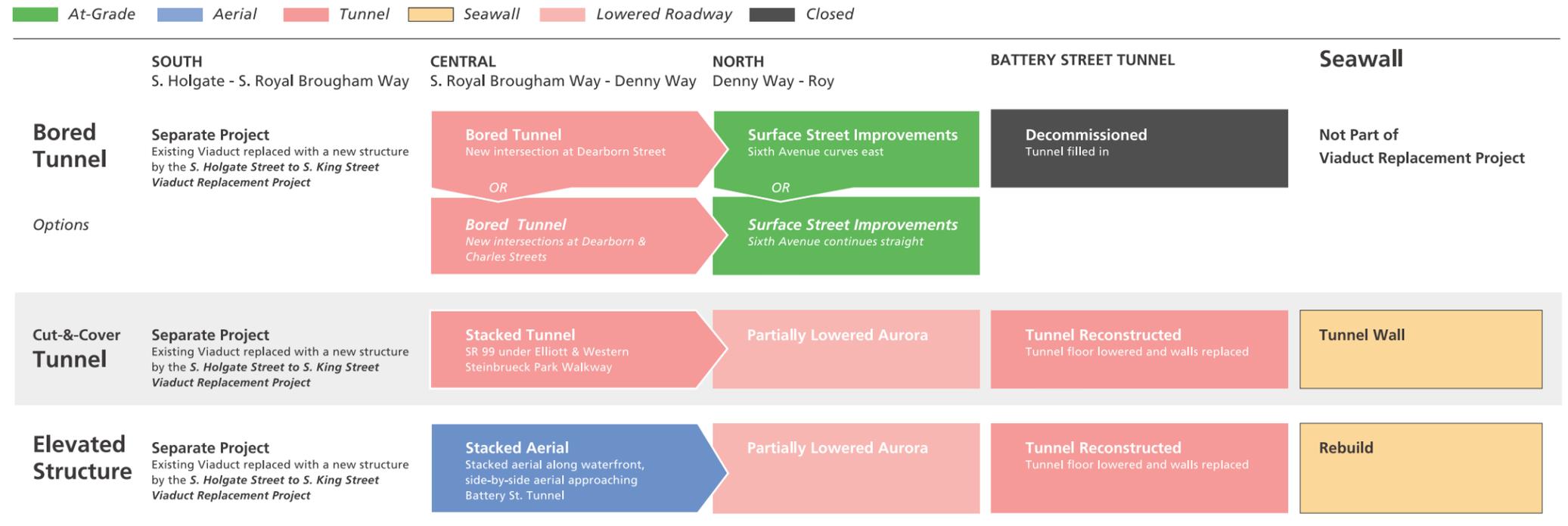


Exhibit 3-15

The Bored Tunnel Alternative proposes to replace SR 99 in the central waterfront with a four-lane bored tunnel. Access to and from the tunnel would be provided via ramp connections near S. King Street in the south and Republican Street in the north. Ramps to and from Columbia and Seneca Streets or Elliott and Western Avenues would not be provided. This alternative would remove the viaduct along the Seattle waterfront and would close and fill the Battery Street Tunnel. Improvements would be made to SR 99 north of the Battery Street Tunnel to Roy Street. The Bored Tunnel Alternative does not include replacing the seawall, improving the Alaskan Way surface street, or building a streetcar. However, improvements to these facilities would be individual projects that are part of the Alaskan Way Viaduct and Seawall Replacement Program.

The Cut-and-Cover Tunnel Alternative would replace SR 99 in the central waterfront with a six-lane, cut-and-cover tunnel. The tunnel would be built along the central waterfront, and the west wall of the tunnel would

replace the existing seawall. Ramps to and from SR 99 would be provided near S. King Street, Elliott and Western Avenues, and Republican Street. Ramps to and from Columbia and Seneca Streets would not be provided. Improvements would be made to the Alaskan Way surface street, the Battery Street Tunnel, and SR 99 north of the Battery Street Tunnel to Roy Street.

The Elevated Structure Alternative would replace SR 99 in the central waterfront with a six-lane, stacked elevated structure. The seawall would be replaced to provide structural stability to the new elevated structure. Ramps to and from SR 99 would be provided near S. King Street, Columbia and Seneca Streets, Elliott and Western Avenues, and Republican Street. Improvements would be made to the Alaskan Way surface street, the Battery Street Tunnel, and SR 99 north of the Battery Street Tunnel to Roy Street.

The Cut-and-Cover Tunnel and Elevated Structure Alternatives and their impacts have not changed substantially since they were evaluated in the 2006

Do these alternatives include tolls?

Tolls are not currently proposed for this project; however, tolling options are being considered and are discussed and evaluated in Chapter 9.

Supplemental Draft EIS. For these reasons, these updated alternatives and their impacts are compared with the Bored Tunnel Alternative in Chapter 8. Updates to the 2006 alternatives are discussed below. Since the Bored Tunnel Alternative is a new alternative that was not evaluated in previous EISs, potential permanent and short-term construction effects and mitigation measures are discussed in detail in this Supplemental Draft EIS in Chapters 5 and 6.

7 How have the Cut-and-Cover Tunnel and Elevated Structure Alternatives changed since the 2006 Supplemental Draft EIS?

Changes were made to both alternatives as discussed below:

- Both alternatives no longer include replacing SR 99 south of S. Royal Brougham Way. This section of SR 99 will be replaced as part of the independent S. Holgate Street to S. King Street Viaduct Replacement Project.
- The design of SR 99 between S. Royal Brougham Way and S. King Street was modified for both alternatives. The design was modified to reduce the number of property acquisitions, construction effects, and costs. Compared to the design examined in the 2006 Supplemental Draft EIS, the modified design reduced the number of properties acquired and improved freight mobility. In addition, the design reduced visual effects and provided similar connections. The tradeoff is that during peak travel hours the intersections at the ramp termini may not operate as efficiently.
- Proposed improvements for both alternatives have been redesigned so that fill would no longer be required in Elliott Bay near S. Washington Street, which reduces potential adverse effects to fish and aquatic habitat.
- Battery Street Tunnel improvements include replacing the walls of the tunnel. Technical

investigations completed in 2008 indicated that the walls need to be replaced if the tunnel is to remain serviceable for the long term.⁸

- The Alaskan Way surface street design for the Elevated Structure Alternative was changed. Northbound lanes would be located under the new elevated structure, and southbound lanes would be provided west of the new elevated structure. The previous design proposed to have all lanes located west of the new elevated structure. The modified design provides additional space to develop amenities on the waterfront and Alaskan Way. The tradeoff is that this design change would reduce available short-term parking provided under the new viaduct structure.

Chapter 8 provides updated environmental analysis that reflects these changes to the Cut-and-Cover Tunnel and Elevated Structure Alternatives.

8 What is the preferred alternative?

The lead agencies have identified the Bored Tunnel Alternative as the preferred alternative due to its ability to best meet the project's identified purposes and needs and the support it has received from diverse interests. The Bored Tunnel was the recommended solution for replacing the viaduct along Seattle's central waterfront by Governor Gregoire, former County Executive Sims, and former Mayor Nickels.

Aside from the support this alternative has received, the lead agencies have identified it as the preferred alternative because it meets the purposes and needs identified for the project. Specifically, compared to the Cut-and-Cover Tunnel and Elevated Structure Alternatives, it avoids substantial closure of SR 99 during construction and it can be built in a shorter period of time than the other two alternatives. Extended closure of SR 99 would have severe adverse effects on Seattle and the Puget Sound region. Chapter 8, Question 27 provides a more in-depth comparison of tradeoffs for the three alternatives.

9 What is the Bored Tunnel Alternative?

The Bored Tunnel Alternative would replace SR 99 between S. Royal Brougham Way and Roy Street as shown in Exhibit 3-16. The tunnel would have two lanes in each direction. Beginning at S. Royal Brougham Way, SR 99 would be a side-by-side, surface roadway that would transition to a cut-and-cover tunnel. At approximately S. King Street, SR 99 would become a stacked bored tunnel, with two southbound travel lanes on the top and two northbound travel lanes on the bottom.

The bored tunnel would continue under Alaskan Way S. to approximately S. Washington Street, where it would curve slightly away from the waterfront and then travel under First Avenue beginning at approximately University Street. At Stewart Street, it would travel north under Belltown. At Denny Way, the bored tunnel would travel under Sixth Avenue N., where it would transition to a side-by-side surface roadway at about Harrison Street.

The Bored Tunnel Alternative would remove the existing viaduct as well as close and fill the Battery Street Tunnel after the new bored tunnel is completed.

South Portal Area

Full northbound and southbound access to and from SR 99 would be provided in the south portal area between S. Royal Brougham Way and S. King Street. The northbound on-ramp to and southbound off-ramp from SR 99 would be built near S. Royal Brougham Way and would intersect with the East Frontage Road as shown in Exhibit 3-16. The southbound on-ramp to and northbound off-ramp from SR 99 would be built as part of the S. Holgate Street to S. King Street Viaduct Replacement Project. The northbound off-ramp would have a general-purpose lane and a transit-only lane to accommodate transit coming from south or West Seattle.

⁸ WSDOT, 2008.

Cut-&-Cover Tunnel Alternative

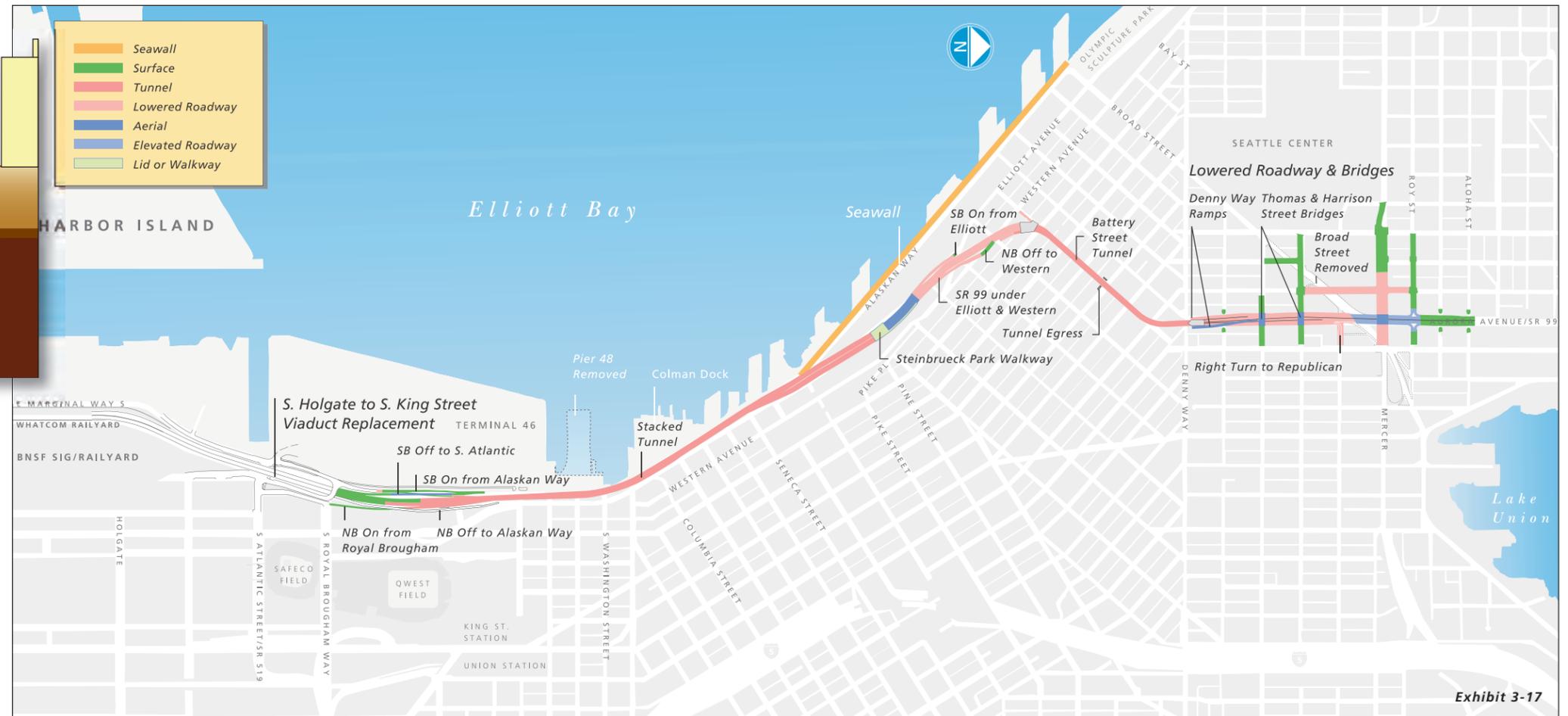
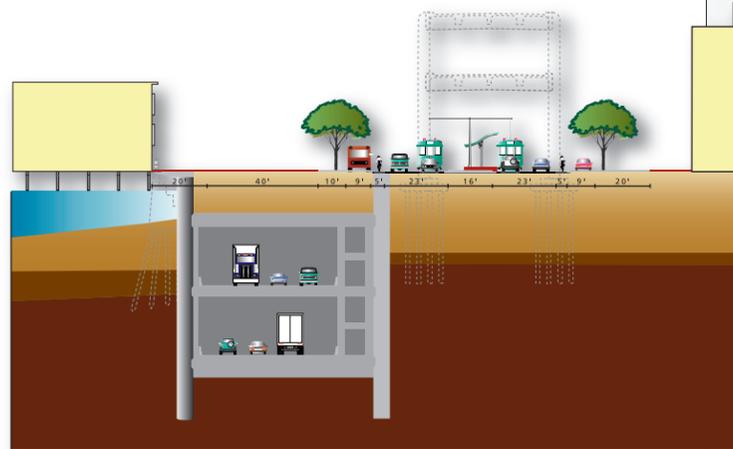


Exhibit 3-17

The reconfigured Alaskan Way S. would have three lanes in each direction up to S. King Street. A new trail, called the City Side Trail, would replace the existing Waterfront Bicycle/Pedestrian Facility located on the east side of Alaskan Way S.

Two options are being considered for new cross streets that would be built to intersect with Alaskan Way S. north of S. Royal Brougham Way:

- **New Dearborn Intersection** – Alaskan Way S. would have one new intersection and cross street at S. Dearborn Street. The cross street would have sidewalks on both sides.
- **New Dearborn and Charles Intersections** – Alaskan Way S. would have two new intersections and cross streets at S. Charles Street and S. Dearborn Street. The cross streets would have sidewalks on both sides.

The frontage road east of SR 99 would be widened slightly at S. Atlantic Street to accommodate truck turning movements. A new right-turn pocket would be added between S. Atlantic Street and S. Royal Brougham Way. Railroad Way S. would be replaced by a new one-lane roadway where traffic could travel northbound between S. Dearborn Street and Alaskan Way S.

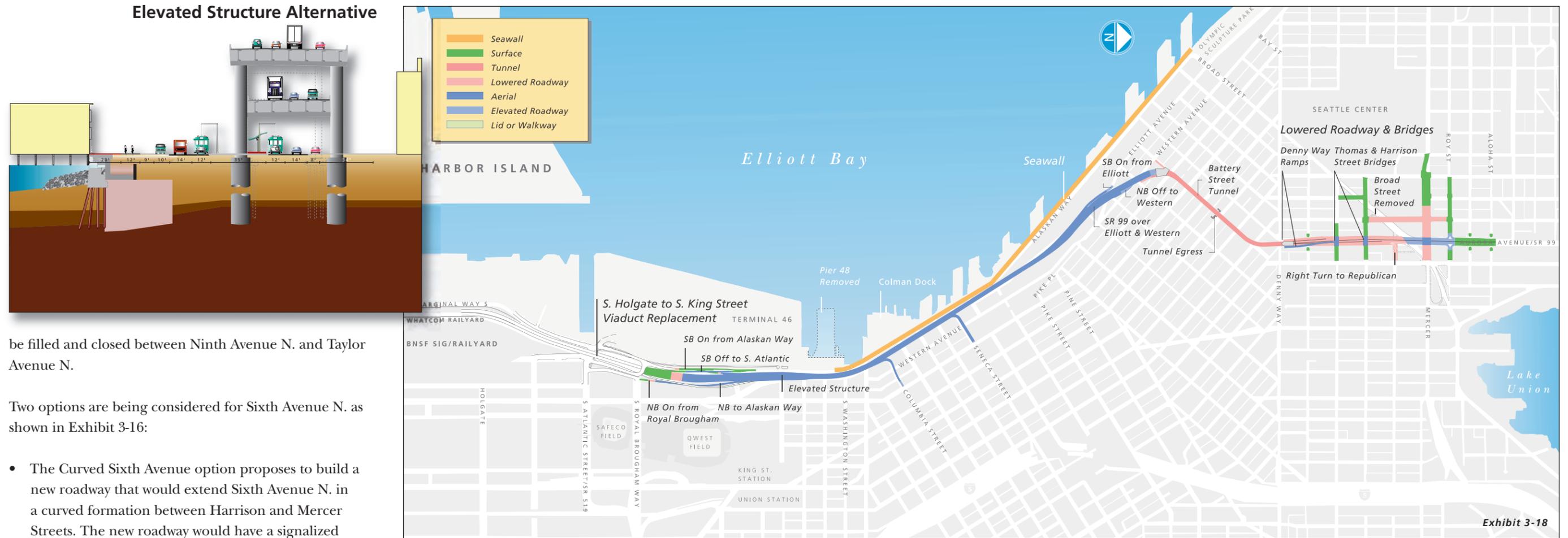
North Portal Area

Full northbound and southbound access to and from SR 99 would be provided near Harrison and Republican Streets. The existing on- and off-ramps provided at Denny Way would be closed and replaced by the ramps near Harrison Street that would connect to Aurora Avenue. Northbound access from SR 99 and southbound access to SR 99 would be provided via new ramps at Republican Street. The northbound off-ramp to Republican Street would be provided on the east side of SR 99 and routed to an intersection at Dexter Avenue N. Drivers would access the southbound on-ramp via a new connection with Sixth Avenue N. at Republican Street on the west side of SR 99. Access to SR 99 would continue to be available at Roy Street as it is today.

Surface streets would be rebuilt and improved in the north portal area. Aurora Avenue would be built to grade level between Denny Way and John Street. John, Thomas, and Harrison Streets would be connected as cross streets with signalized intersections on Aurora Avenue at Denny Way and John, Thomas, and Harrison Streets. The rebuilt section of Aurora Avenue would connect to SR 99 via the ramps at Harrison Street. The roadway would have two general-purpose lanes in each direction, turn pockets, and right-side transit lanes.

Mercer Street would become a two-way street and would be widened from Dexter Avenue N. to Fifth Avenue N. The rebuilt Mercer Street would have three lanes in each direction with left-hand turn pockets. Broad Street would

Elevated Structure Alternative



be filled and closed between Ninth Avenue N. and Taylor Avenue N.

Two options are being considered for Sixth Avenue N. as shown in Exhibit 3-16:

- The Curved Sixth Avenue option proposes to build a new roadway that would extend Sixth Avenue N. in a curved formation between Harrison and Mercer Streets. The new roadway would have a signalized intersection at the southbound on-ramp.
- The Straight Sixth Avenue option proposes to build a new roadway that would extend Sixth Avenue N. from Harrison Street to Mercer Street in a typical grid formation. The new roadway would have signalized intersections at the southbound on-ramp and Mercer Street.

10 What is the Cut-and-Cover Tunnel Alternative?

The Cut-and-Cover Tunnel Alternative is shown in Exhibit 3-17. It would replace SR 99 with a six-lane cut-and-cover tunnel (three lanes in each direction) from approximately Railroad Way S. to Pine Street. The outer wall of the tunnel would serve as the new seawall. Between Pine Street and Virginia Street, a new aerial structure would be built, and SR 99 would connect to the Battery

Street Tunnel by traveling under Elliott and Western Avenues. North of the Battery Street Tunnel, SR 99 would be improved and widened up to Aloha Street. Access to SR 99 would be provided at Denny Way and Roy Street, and access off of SR 99 would be provided at Denny Way, Republican Street, and Roy Street. Two new bridges would be built at Thomas and Harrison Streets. Broad Street would be closed between Fifth and Ninth Avenues N., allowing the street grid to be connected. Mercer Street would continue to cross under SR 99 as it does today, but it would be widened and converted into a two-way street with three lanes in each direction and a center turn lane.

Alaskan Way would be replaced east of the existing roadway with at least two lanes in each direction and two waterfront streetcar tracks running in the center travel

lanes. The center lane would have alternating turn pockets and streetcar stops. Between Railroad Way S. and Yesler Way, Alaskan Way would have three lanes in each direction. Between Pine Street and Broad Street the existing seawall would be replaced.

11 What is the Elevated Structure Alternative?

The Elevated Structure Alternative is shown in Exhibit 3-18. It would transition to a stacked aerial structure at approximately S. Main Street along the central waterfront. For the most part, the new aerial structure would have three lanes in each direction, and it would have wider lanes and shoulders than the existing viaduct. Between S. King Street and the ramps at Columbia and Seneca Streets, SR 99 would have four lanes in each direction. The existing ramps at Columbia and Seneca Streets would be

rebuilt. The SR 99 structure would pass over Elliott and Western Avenues between Pine Street and the Battery Street Tunnel. The existing ramps would be rebuilt similar to the existing facility. Improvements from the Battery Street Tunnel north would be the same as with the Cut-and-Cover Tunnel Alternative.

Alaskan Way would be replaced with at least two lanes in each direction. Northbound lanes would travel under the viaduct, and southbound lanes would travel west of the viaduct. The waterfront streetcar would be replaced with two streetcar tracks that would share a travel lane with vehicles. Between Railroad Way S. and Yesler Way, Alaskan Way would have three lanes in each direction. The seawall would be replaced from about S. Washington Street up to Broad Street.

12 What is the Viaduct Closed (No Build Alternative)?

Federal and Washington State regulations require agencies to evaluate a No Build Alternative to describe what would happen if one of the proposed build alternatives is not developed. By describing conditions without a project, the No Build Alternative can be compared to build alternatives to show the project's effects. In a typical NEPA document, the No Build Alternative describes future conditions if one of the build alternatives is not built by the design year (2030 for this project). For this project, however, we know that if the existing viaduct is not replaced it will be closed. The project area is susceptible to earthquakes that could happen at any time. A small earthquake could make the existing viaduct unsafe, requiring immediate closure. A stronger earthquake could cause the structure to collapse with potentially catastrophic effects. Even without an earthquake, the viaduct is gradually deteriorating from constant exposure to moist marine air, rain, and vibration from traffic. Multiple studies have found that retrofitting or rebuilding the existing viaduct is not a reasonable alternative.^{9,10,11,12} At some point in the future, the roadway will need to be closed.

Although we know that the existing structure won't last, we don't know when it would be closed. We can't predict earthquakes, and the rate at which the structure is

deteriorating is not constant. Therefore, for this Supplemental Draft EIS, the Viaduct Closed (No Build Alternative) describes the consequences of suddenly losing SR 99 along the central waterfront based on two scenarios described below. These consequences would be short term and would last until transportation and other agencies could implement a new, permanent solution and businesses and people adapt. The Viaduct Closed (No Build) Alternative is evaluated using both 2015 and 2030 transportation conditions because there is no way of knowing when it would be suddenly closed.

Viaduct Closed Scenario 1: Sudden Unplanned Loss of SR 99

Under this scenario, there would be a sudden, unplanned closure of SR 99 between S. King Street and Denny Way due to a structural deficiency, weakness, or smaller earthquake event. Under this scenario, SR 99 would be closed for an unknown period of time until a viaduct replacement could be built. Streets under the viaduct would remain open. Severe travel delays and congestion would be experienced, and utilities on and underneath the viaduct would likely be damaged and require repair or replacement.

Viaduct Closed Scenario 2: Catastrophic and Complete Collapse of SR 99

This scenario considers the effects of a catastrophic failure and collapse of SR 99. Under this scenario, a seismic event of a magnitude similar to or greater than the Nisqually earthquake could trigger failure of portions of the viaduct. This scenario would have the greatest effect on people and the environment. Failure of the viaduct could cause injuries and death to people traveling on or near the structure at the time of the seismic event. This type of event could cause buildings to be damaged or collapse and cause extensive damage to utilities. Travel delays would be severe, although surface streets under the viaduct would remain open unless blocked by debris. The environmental effects and length of time it would take to repair SR 99 are unknown, but the effects would be substantial.

Viaduct Closed (No Build) in 2030

For most transportation projects, it is straightforward and reasonable to estimate conditions in the design year without any of the build alternatives. Both the 2004 Draft EIS and 2006 Supplemental Draft EIS evaluated 2030 traffic conditions for the existing facility. However, from the additional studies referenced above, we now know the existing viaduct would be closed and removed well before 2030. Therefore, 2030 traffic projections for the existing structure are not credible or useful and, therefore, are not provided in this document.

While we can predict the short-term effects of suddenly closing the viaduct, the long-term effects are harder to predict. Our traffic projections for 2030 are based on adopted local and regional land use and transportation plans, which include SR 99. Simply removing SR 99 and expecting all other assumptions about future development patterns to remain unchanged creates an unrealistic scenario with transportation demand that far exceeds the capacity of I-5 and streets through downtown Seattle. When the viaduct was suddenly closed following the Nisqually earthquake in 2001, congestion spread through the area and lasted throughout the day. These effects spread to other highways in the region as travelers tried to avoid I-5 and downtown Seattle. These are the conditions that we evaluated for "2030 Viaduct Closed." Faced with these conditions, some businesses and people would find their situation so untenable that they would be forced to move. At the same time, transportation agencies serving the Seattle area would modify or develop new facilities and systems as independent projects under additional environmental review. Eventually, over many years, land use and transportation systems would reach a new equilibrium.

2015 Existing Viaduct and the Bored Tunnel Alternative

For this environmental analysis, we provide data for the 2015 and 2030 Viaduct Closed Alternative; however, the analysis focuses on comparing the transportation network for the 2015 Bored Tunnel Alternative with the 2015 Existing Viaduct. The 2015 Existing Viaduct assumes that the existing viaduct (with the new S. Holgate Street to

How is the Viaduct Closed Alternative different from the 2015 Existing Viaduct?

The Viaduct Closed (No Build Alternative) describes what would happen if the viaduct were not replaced. If the viaduct were not replaced, it would be torn down and the traffic that used it would be forced to use other routes. The Viaduct Closed Alternative was analyzed to see how traffic would be affected by sudden viaduct closure in 2015 and 2030. The results of this analysis are shown in Chapter 5.

The 2015 Existing Viaduct is a scenario that examines how the existing viaduct would operate in the year 2015. For this environmental analysis, we focus on comparing the proposed Bored Tunnel Alternative with the 2015 Existing Viaduct, but we also make comparisons to the post-earthquake, Viaduct Closed condition to understand what could happen at some unknown time in the future.

Appendix A, Public Involvement Discipline Report

Public involvement activities conducted in support of this Supplemental Draft EIS are further described in *Appendix A*.

⁹ Ty Lin International. 2005.

¹⁰ KPFF Consulting Engineers. 2008.

¹¹ American Society Engineers Review Committee. 2006.

¹² Parsons Brinckerhoff. 2007.

S. King Street Viaduct Replacement Project) would continue to be part of the transportation network between S. King Street and Denny Way in the year 2015. In this Supplemental Draft EIS, traffic conditions with the 2015 Bored Tunnel are compared to the 2015 Existing Viaduct so that we can understand how traffic operations are expected to change with the proposed new tunnel and without most of the other elements of the Alaskan Way Viaduct and Seawall Replacement Program that would be completed later. This demonstrates that the Bored Tunnel has value as an independent project. We also compare the 2015 Bored Tunnel with conditions in 2030 (the design year) to understand how it would operate with future traffic demands, as well as show conditions if the Viaduct were closed in 2030.

PUBLIC INVOLVEMENT

13 What opportunities have we provided for people to be engaged in the project since the 2006 Supplemental Draft EIS?

A wide variety of tools and activities have been used to inform, educate, and promote two-way communication with the community since the 2006 Supplemental Draft EIS. Specific activities and input received from July 2006 to April 2010 are discussed below.

Public Meetings

Since July 2009, the lead agencies have held 29 public meetings to gather community input and provide information about various Program elements. A total of 2,024 people attended these meetings and submitted approximately 800 comments. Four of the 29 meetings were formal public hearings held to receive comments on the 2006 Supplemental Draft EIS. A total of 160 people attended the hearings, and approximately 175 people or groups submitted comments during the public comment period. Common comment topics included access to the bored tunnel; access to downtown; vehicle carrying capacity of the bored tunnel; and various effects that should be studied in the Supplemental Draft EIS, including transportation, air quality, land use, and visual quality.

Supplemental Draft EIS Scoping Meetings

Three of the 29 meetings were held as part of scoping for this 2010 Supplemental Draft EIS, and 114 people attended, as shown in Exhibit 3-19.

Exhibit 3-19
Scoping Meeting Dates, Location, & Attendance

Date	Location	Number of Attendees
June 8, 2009	Downtown	41
June 10, 2009	West Seattle	29
June 11, 2009	Ballard	44
Total		114

Attendees were given the option of commenting verbally at the meeting or completing a printed comment form. In total, 76 comments were received during the comment period. The most common topics suggested for consideration in the project’s environmental document are summarized in Exhibit 3-20 and discussed in more detail below.

Exhibit 3-20
Summary of Public Comments Received at Scoping Meetings

Topic	Number of Comments Received
Transportation	32
Air Quality	15
Land Use	8
Visual Quality	3
Other	15

- **Transportation** – Community members and agencies were concerned about delays during rush hours, increased commute times, the movement of freight, and bicycle and pedestrian mobility.
- **Air Quality** – Frequent comments focused on greenhouse gas emissions and assessing effects associated with vehicle exhaust.
- **Land Use** – Community members expressed concerns over tunnel operations buildings and what would happen to the Battery Street Tunnel with the Bored Tunnel Alternative.
- **Visual Quality** – Comments focused on assessing visual impacts associated with tunnel operations

buildings at the portals and studying public view corridor impacts.

- **Other Comments** – Other comments focused mostly on possible noise, vibration, and economic effects associated with the Bored Tunnel Alternative.

Other Community Outreach

A variety of other outreach methods have been used to solicit feedback and provide information on the project. Between July 2006 and April 2010 the lead agencies have engaged the public in the following ways:

- Gave project briefings at more than 360 community meetings to various neighborhood groups, business organizations, interest groups, and social service organizations.
- Attended more than 101 community fairs and festivals where we reached more than 13,000 people by distributing project information and answering questions.
- Held two public viaduct tours each year in 2006, 2007, and 2008, and one tour in 2009 and 2010. More than 900 people attended the tours.
- Received approximately 248 information line calls and more than 2,350 emails or web comment forms.
- Sent approximately 65 news releases to WSDOT’s media list. Since July 2006, approximately 3,260 news stories and blog posts have mentioned the project. In addition, seven media tours were held between 2006 and 2009.
- 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.

What is environmental justice?

Environmental justice is a term used in a federal executive order issued in 1994. The executive order requires federal agencies to provide affected minority and low-income populations with opportunities to be involved in projects. The executive order also requires federal agencies to make sure projects do not disproportionately affect these traditionally underserved groups.

- Continued to provide updated project information on our project website and via monthly email messages.

14 How have we engaged businesses and residents located adjacent to the project since the 2006 Supplemental Draft EIS?

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 since the 2006 Supplemental Draft EIS was published, 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 130 times.
- Engaged local community and business representatives through the Partnership Process via a Stakeholder Advisory Committee and working groups.

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.

Finally, WSDOT and the City of Seattle aim to engage the contracting community early and share project information as work progresses. In 2009, WSDOT hosted three events for 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 15 meetings or events to coordinate with these enterprises.

15 How have we engaged minorities, low-income people, and social service providers since the 2006 Supplemental Draft EIS?

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

Since publication of the 2006 Supplemental Draft EIS, we have conducted 17 one-on-one meetings with social service organizations. 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.

16 How have we been coordinating with agencies since the 2006 Supplemental Draft EIS?

The lead agencies have involved other agencies in the project since it began with the 2001 NOI. Outreach efforts have included ongoing consultation and coordination through the NEPA process, emails, phone calls, field visits, and meetings. The agencies 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.

In addition to coordination among the resource agencies, WSDOT, the City, King County, and the Port of Seattle work together and meet regularly at both management and staff levels to carry the project forward. The lead agencies have also met with the City Historic Preservation

Officer, Seattle Parks and Recreation Department, Seattle Department of Transportation, and Port of Seattle to coordinate resource specific issues for historic resources and parks and recreation. Since the 2006 Supplemental Draft EIS was issued, we have involved agencies through agency scoping and the Partnership Process, as described below.

Agency Scoping

The lead agencies conducted an agency scoping meeting to discuss the project and this Supplemental Draft EIS on June 8, 2009. Eight agencies were represented at the meeting. Additionally, five comment letters were received from public agencies during the scoping comment period for this Supplemental Draft EIS.

Scoping comments received from the agencies focused on:

- Transportation** – Questions and suggestions related to analyzing how area traffic would be affected for long-term operations and short-term construction effects. Agencies were interested in analysis for a variety of modes, including vehicle traffic, freight, bicyclists, pedestrians, and transit.
- Construction Effects** – Agency personnel were interested in potential construction-related effects, particularly as they pertain to transportation and noise effects and possible mitigation.
- Air Quality** – Agencies were interested in long-term and construction impacts, particularly from air toxics and greenhouse gas emissions.

Partnership Process

As part of the Partnership Process, WSDOT, King County, and the City created an Interagency Working Group that included staff from different public agencies around the region. The purpose of the group was to share information and obtain input on technical issues related to the various alternative concepts considered. Agencies participating in the working group included Community Transit, FHWA, Freight Mobility Strategic Investment

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.

Board, Passenger Ferry District, Pierce Transit, Port of Seattle, Public Health – Seattle and King County, Puget Sound Clean Air Agency, Puget Sound Regional Council, Sound Transit, and Washington State Ferries.

17 How have we engaged the tribes since the 2006 Supplemental Draft EIS?

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.¹³ 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
- Muckleshoot Indian Tribe
- Snoqualmie Indian Tribe
- Suquamish Tribe
- The Tulalip Tribes
- Duwamish Tribe (a non-federally recognized tribe), as an interested party

Additionally, 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.
- Muckleshoot Indian Tribe – Elliott Bay.
- Suquamish Tribe – Marine waters of Puget Sound from the northern tip of Vashon Island to Fraser River, including Elliott Bay.

Since the 2006 Supplemental Draft EIS was published, 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 project team consulted with tribes at the following milestones related to preparing this Supplemental Draft EIS:

- Summer 2009 – Provided tribes the opportunity to review and comment on draft methodology reports.
- June 8, 2009 – Invited tribes to attend agency scoping meeting.
- Fall 2009 – Provided tribes the opportunity to review and comment on the draft purpose and need statement.
- Fall 2009 – Held joint meetings with the SR 520 Bridge Replacement and HOV Program to provide tribes updates on the Alaskan Way Viaduct and Seawall Replacement Program. Also, provided tribes an opportunity to preview upcoming draft discipline reports.
- Winter 2010 – Consulted with tribes to provide updates on the Alaskan Way Viaduct and Seawall Replacement Program, including the proposed Bored Tunnel Alternative.
- Spring 2010 – Provided tribes the opportunity to review and comment on draft discipline reports.

Key concerns and questions raised by the tribes have been primarily focused on potential historic and cultural resources that may be located in the project area. We understand that the project area has cultural and historic significance for local tribes as well as the City of Seattle. In addition to tribal consultation, the project team is conducting further archaeological studies of the area to

better understand where cultural sites or sensitive cultural resources may be located. As part of this work, we will use historical accounts, geotechnical information, and archaeological testing to identify high-probability areas where archaeological resources may be located. The purpose of this work is to focus on what can be done to avoid or minimize potential effects to archaeological resources before construction begins. We will use the information gathered from these studies as we work with the tribes and the State Historic Preservation Officer (SHPO) to develop a monitoring and treatment plan for properly addressing any cultural resources identified during our testing efforts or discovered inadvertently during construction. Any historically significant discoveries encountered during construction would be subject to provisions under Section 4(f). The lead agencies will continue to meet with tribes throughout project development to provide project updates and consult on Section 106 and fishing rights issues.

18 When will we respond to comments received on the 2004 Draft, 2006 Supplemental Draft, and 2010 Supplemental Draft EISs?

Comments and responses submitted during the 2004 Draft, 2006 Supplemental Draft, and 2010 Supplemental Draft EIS comment periods will be published with the Final EIS in 2011.