



Chapter 1: Introduction to the Project

This chapter describes the purpose and history of the SR 520, I-5 to Medina: Bridge Replacement and HOV Project, including the progress made since the Draft EIS was published in 2006. It also summarizes the input of the public and many stakeholders over the last three years and the path forward to selecting a final configuration for the SR 520, I-5 to Medina project.

1.1 Introduction

The SR 520, Interstate 5 (I-5) to Medina: Bridge Replacement and High-Occupancy Vehicle (HOV) Project (also referred to as the SR 520, I-5 to Medina project) is located at the western end of the SR 520 corridor (Exhibit 1-1). It begins at State Route (SR) 520's interchange with I-5, the main north-south artery through Seattle, and ends at Evergreen Point Road in Medina, east of Lake Washington. The 5.2-mile-long project corridor currently includes an interchange at Montlake Boulevard and ramps connecting to Lake Washington Boulevard, both in Seattle. Prior to 2008, the project also included the portion of SR 520 from Evergreen Point Road to just east of I-405, which is now part of the independent SR 520, Medina to SR 202: Eastside Transit and HOV Project (also referred to as the SR 520, Medina to SR 202 project). (See Section 1.13 for a discussion of the projects within the SR 520 Program.)

SR 520 is a critical link connecting the major population and employment centers of the Puget Sound region on either side of Lake Washington. The floating span of the Evergreen Point Bridge, opened in 1963, now carries approximately 115,000 vehicles per day across the lake, providing east-west access for commuters, freight, transit, and general-purpose traffic. The aging bridge is vulnerable to failure in a severe windstorm; fixed bridges along the corridor do not meet current seismic standards and could collapse in an earthquake. In addition, the corridor currently carries nearly twice as many vehicles as it was originally designed for, resulting in extended congestion and impaired mobility. The uninterrupted movement of people



and goods across SR 520 and the floating bridge is essential to the region's economic vitality and quality of life.

The proposed project would improve safety and mobility in the SR 520 corridor by replacing the vulnerable bridges and adding HOV lanes to move people more efficiently in transit and carpools. It would ensure the continued availability of SR 520 as a key corridor for transportation and commerce. It is designated as a strategic project by the Puget Sound Regional Council and is included in WSDOT's 2009-2012 Statewide Transportation Improvement Program.

Why is this Supplemental Draft EIS being prepared?

In August 2006, FHWA and WSDOT, the co-lead agencies for this project, published the Draft Environmental Impact Statement (EIS) for the SR 520 Bridge Replacement and HOV Project. Since that time, a mediation group created by the Washington State Legislature has developed new design options for the 6-Lane Alternative in Seattle. FHWA and WSDOT agreed to evaluate the environmental effects of these new options. FHWA and WSDOT also decided to eliminate from further consideration the 4-Lane Alternative and the 6-Lane Alternative design options that were studied in the Draft EIS. This chapter provides more information on what has changed since the Draft EIS, how the new designs were developed, and why the 4-Lane Alternative and the Draft EIS 6-Lane Alternative design options were eliminated.

According to the National Environmental Policy Act (NEPA), and similar requirements in the State Environmental Policy Act (SEPA), an agency must prepare a Supplemental Draft Environmental Impact Statement (SDEIS) when:

- The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or
- There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. (40 Code of Federal Regulations [CFR], Section 1502.9(c)(1))

Preparing an SDEIS allows the new mediation design options, which are substantially different from those studied in the Draft EIS, to be evaluated fully before a decision is made. In addition, the SDEIS contains additional design detail and analysis—including additional information on construction effects, mitigation measures, and transit operations—that was requested in public and agency comments on the Draft EIS. Including this information in the SDEIS allows agencies, tribes, and the public to review and comment on it prior to a final decision.

Why is this project unique?

The 46-year-old Evergreen Point Bridge is fast becoming a victim of age and obsolescence. Despite the expansion of the Lake Washington Interstate 90 (I-90) bridge crossing to the south in 1989, the Evergreen Point Bridge and the adjoining stretches of SR 520 are choked with traffic for hours every weekday. Simply stated, more people want to use the highway than it can accommodate. Narrow shoulders and the lack of an HOV lane mean that a single breakdown can snarl traffic for hours, while buses and carpools creep along with general-purpose traffic in the resulting congestion. Meanwhile, strong winds and high waves threaten the integrity of the floating portion of the bridge and sometimes force its closure. In addition, the Portage Bay Bridge and both the west and east approaches to the Evergreen Point Bridge are supported by hollow columns that are especially vulnerable to damage in an earthquake.

For these reasons, the SR 520, I-5 to Medina: Bridge Replacement and HOV Project is one of the region's highest transportation priorities. Traffic safety and reliability need to be improved, and the vulnerable structures built in the 1960s must be replaced. Travel in the region must be made more efficient by providing better transit options in the SR 520 corridor. The neighborhoods and the region as a whole must be better served by the transportation infrastructure; at the same time, the built and natural environment must be protected as much as possible from the potential effects of a major transportation corridor.

1.2 What is the project purpose?

In 2000, the Trans-Lake Washington Study Committee developed the statement of purpose, which has guided the environmental review process since that time:

The purpose of the project is to improve mobility for people and goods across Lake Washington within the SR 520 corridor from Seattle to Redmond in a manner that is safe, reliable, and cost-effective, while avoiding, minimizing, and/or mitigating impacts on affected neighborhoods and the environment.

The statement of purpose—part of a longer purpose and need statement also adopted in 2000—has helped the project team develop and evaluate alternatives for the EIS analysis by defining the objectives that the alternatives must meet. Although the project limits have changed since the original statement was adopted, the project's purpose remains the same. The improvements within the project limits of the SR 520, I-5 to Medina project will improve the overall mobility for people and goods within the SR 520 corridor. Therefore, the traffic analysis evaluates operations and

Project Purpose

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travel times on SR 520 from I-5 in Seattle to SR 202 in Redmond to assess the project's effects on mobility throughout the SR 520 corridor.

1.3 Why is the project needed now?

The Evergreen Point Bridge is a critical component of the Puget Sound region's transportation infrastructure. It is one of only two connections across Lake Washington that link urban centers in Seattle and the Eastside. The SR 520, I-5 to Medina: Bridge Replacement and HOV Project addresses two key issues facing the SR 520 corridor: 1) bridge structures that are vulnerable to catastrophic failure; and 2) worsening traffic levels and congestion due to growth in jobs and housing over the last two decades.

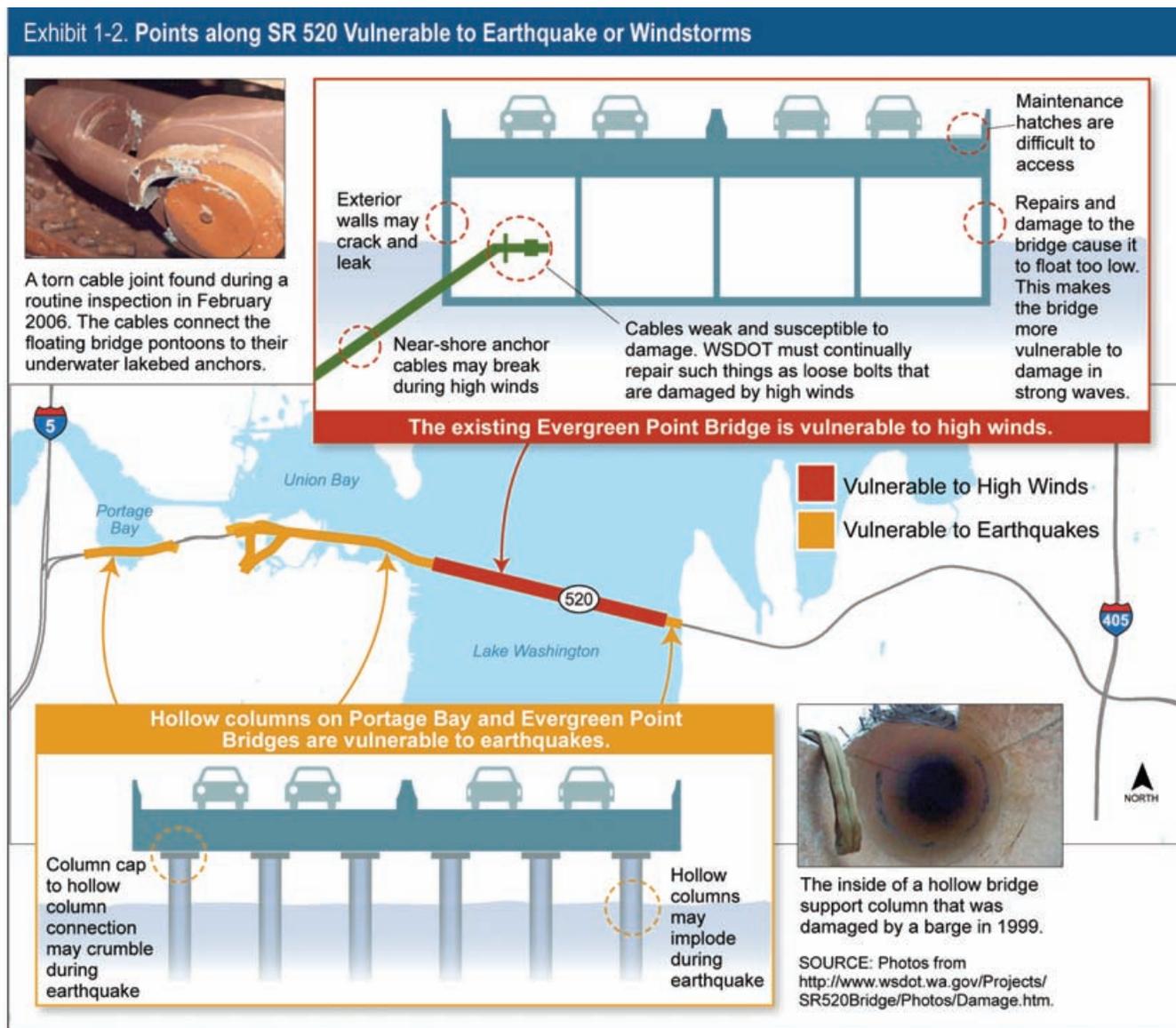
SR 520's bridges are vulnerable to catastrophic failure.

The Evergreen Point Bridge and its approaches are in danger of structural failure. Recent WSDOT studies have demonstrated that the floating span of the Evergreen Point Bridge is highly vulnerable to windstorms, while the Portage Bay Bridge and the east and west approaches to the Evergreen Point Bridge are vulnerable to earthquakes. In 1999, WSDOT estimated the remaining service life of the floating portion of the Evergreen Point Bridge to be 20 to 25 years, based on its structural condition and the likelihood of severe windstorms. Its life expectancy now is only 10 to 15 years.

The span was originally designed for a sustained wind speed of 57.5 miles per hour (mph). In 1999, WSDOT rehabilitated the bridge to allow it to withstand sustained winds up to 77 mph. This still falls well short of the current design standard of 92 mph. Moreover, some bridge mechanisms have been damaged in recent storms. The floating pontoons currently float about 1 foot lower than originally designed, increasing the likelihood of waves breaking onto the bridge deck. Cracks in the structure leak water that WSDOT must pump out on a regular basis. The probability that the bridge will sustain serious structural damage over the next 15 years is extremely high. To bring the Evergreen Point Bridge up to current design standards and eliminate the risk of its catastrophic failure, the existing span must be completely replaced. Exhibit 1-2 shows the vulnerable sections of SR 520.

The ever-present possibility of an earthquake in the Seattle area poses additional risks to other bridges in the SR 520 corridor. The columns of the Portage Bay Bridge and both the west and east approaches to the Evergreen Point Bridge are hollow and do not meet current seismic design standards. Hollow-core columns are difficult and costly to retrofit to today's accepted seismic protection levels; WSDOT studies indicate that such retrofitting would cost nearly as much as building new structures, and would have similar environmental effects. WSDOT estimates that over the

next 50 years, there is a 20 percent chance of serious damage to these structures in an earthquake.



SR 520 is congested and unreliable, and does not encourage maximum transit and carpool use.

A second key reason for implementing this project now is the severe traffic congestion in the SR 520 corridor, which was the reason for initiating the original Trans-Lake Washington Study in 1998. The traffic demand in both directions exceeds the highway's capacity, creating several hours of congestion every weekday. The corridor was not built to handle as many vehicles as currently want to use it. All of these vehicles result in frequent breakdown of the traffic flow and long backups of vehicles traveling at very slow speeds.

A number of factors have contributed to today's traffic congestion on SR 520. One factor is the pattern of population growth and the changing location of jobs in the project area since the highway opened in 1963. The new crossing of Lake Washington made it much easier for people to live in Eastside communities and work in Seattle, increasing the number of westbound vehicles across the Evergreen Point Bridge in the morning and eastbound in the evening. Meanwhile, some of these Eastside communities began to develop their own commercial and employment centers, eventually leading to substantial growth of "reverse commute" traffic. Today, seven times more vehicles cross SR 520 each day than when the bridge first opened in 1963, and there is no longer a reverse commute: traffic during peak hours is nearly equal in each direction.

Beyond the number of people and cars, another important factor causing today's congestion is the design of the Evergreen Point Bridge. By today's engineering standards, the bridge is too narrow. The narrow shoulders provide no room for vehicles to pull over after an accident or breakdown. Instead, disabled vehicles must stay in the through lane and block other traffic, immediately rendering a full lane of traffic unusable. This slows down traffic and impedes emergency vehicle response. In addition, the westbound HOV lane on the Eastside ends at the bridge. This creates congestion as westbound HOV traffic is forced to merge with general-purpose traffic.

Together, growth and physical limitations will make the future traffic situation on SR 520 worse if the corridor is not improved. Under average evening peak-hour conditions today, a single-occupant vehicle traveling westbound takes approximately 32 minutes to travel SR 520 from SR 202 in Redmond to I-5 in Seattle—a distance of about 13 miles. By 2030, if the project is not built, this same trip will take 49 minutes. This makes it imperative that commuters be provided with travel choices that allow them to avoid driving alone, and that the proposed project be built to support increased use of transit and HOVs.

Traffic congestion is more than an inconvenience for drivers. It also impairs the regional economy and the quality of our lives and communities. Delays increase business costs, discourage growth, and create disincentives for businesses to locate in the region. Congestion also generates pollutants from idling vehicles, which are much less efficient than vehicles operating at higher speeds.

1.4 What would the project accomplish?

The SR 520, I-5 to Medina: Bridge Replacement and HOV Project would improve safety and mobility in the SR 520 corridor by improving SR 520 from I-5 to Evergreen Point Road.

Under all design options, the project would include the following:

- A new Evergreen Point Bridge, designed to current standards for wind and wave resistance
- New Portage Bay and west and east approach bridges designed to current seismic standards
- Four general-purpose lanes and two HOV lanes, providing increased mobility and reliability for transit and carpools as well as for general-purpose vehicles
- Wider shoulders and improved curves for greater safety and improved reliability
- Landscaped lids over sections of the highway to reconnect neighborhoods
- A regional bicycle/pedestrian path across Lake Washington with connections to existing bicycle and pedestrian facilities
- Stormwater treatment to improve the quality of runoff from SR 520, which is currently not treated
- Noise reduction features, which could include noise walls and/or quieter, rubberized asphalt pavement

1.5 What would happen if the project were not built?

If the project were not built, the section of SR 520 between I-5 and Evergreen Point Road would not be improved, and these critical needs would not be met:

- The risk of bridge failure in a storm or earthquake would increase as the structures continued to age, with consequences ranging from severe traffic congestion to loss of life. As the floating bridge becomes more fragile, it would require more frequent closures to protect its components from damage.
- Planned growth in the project area over time would cause continued growth in traffic volumes on SR 520, increasing congestion and raising the potential economic and social cost of traffic closures and/or bridge failures.
- Transit vehicles and carpools would remain in congested general-purpose lanes, increasing travel time, reducing reliability, and discouraging commuters from choosing transit.
- The facility's narrow shoulders would continue to result in blocked lanes and long delays when accidents occur.
- Without lids, SR 520 would continue to serve as a barrier between neighborhoods.

- Pedestrians and bicyclists would remain limited to I-90 as a choice for crossing Lake Washington.
- Stormwater discharging from SR 520 into Portage Bay and Lake Washington would remain untreated.

1.6 Who has been involved in planning the environmental process?

Who are the lead agencies?

NEPA and SEPA require that one or more lead agencies take responsibility for the environmental review process. For this project, FHWA is the federal lead agency under NEPA, and WSDOT is the project proponent and the state lead agency under SEPA. FHWA is providing highway design guidance and environmental oversight. WSDOT is leading the highway design efforts and development of the EIS. The lead agencies also give close consideration to public comments on the project.

Who are FHWA and WSDOT's cooperating agencies for this project?

Staff from the affected jurisdictions, representatives of state and federal natural resource agencies, and tribal nations provide advice and recommendations to the lead agencies about the scope and content of environmental analysis. These “cooperating agencies” are defined under NEPA as those that have a vested interest in a proposed project for which environmental documents are being prepared. Most cooperating agencies issue or contribute to permit decisions for a project, and will use FHWA’s and WSDOT’s EIS under NEPA or SEPA in support of these decisions. A list of cooperating agencies for the SR 520, I-5 to Medina: Bridge Replacement and HOV Project is shown in the box at right.

WSDOT works with the cooperating agencies through a forum known as the Regulatory Agency Coordination process (RACp). All agencies with jurisdiction over the project are invited to attend, as are all tribes with fishing rights and/or cultural resource interests in the project area. While the RACp itself is primarily focused on sharing of information, smaller technical working groups (TWGs) meet more often to focus on topics of specialized interest, including in-water construction, mitigation, stormwater, parks, Endangered Species Act compliance, and the design of the bridge maintenance facility. In the TWGs, agency and tribal staff work closely with WSDOT to collaborate on methods for impact assessment and mitigation planning. WSDOT also meets quarterly with resource agency directors to keep them apprised of project status.

Cooperating Agencies	
■	Federal Transit Administration
■	National Marine Fisheries Service
■	National Park Service
■	U.S. Army Corps of Engineers
■	U.S. Coast Guard
■	U.S. Fish and Wildlife Service
■	Muckleshoot Indian Tribe
■	Snoqualmie Indian Tribe
■	Washington State Department of Ecology
■	Washington State Department of Fish and Wildlife
■	Washington State Department of Natural Resources
■	Washington State Recreation and Conservation Office
■	Sound Transit
■	Puget Sound Clean Air Agency
■	Puget Sound Regional Council
■	King County
■	City of Medina
■	City of Seattle

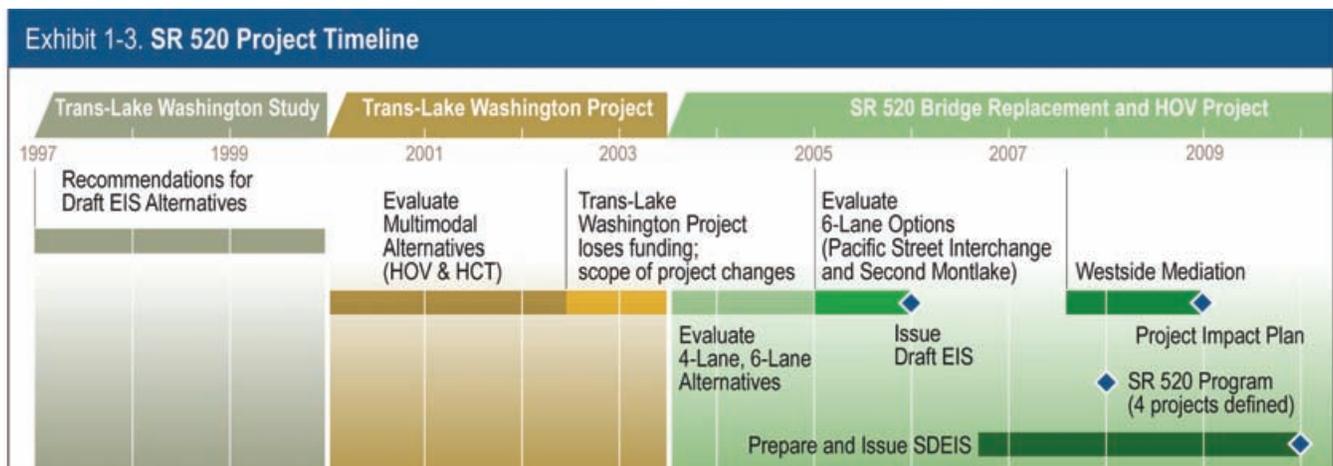
How have FHWA and WSDOT consulted with Native American tribes?

FHWA and WSDOT engage with affected tribal nations through government-to-government consultation and conduct outreach through correspondence, individual meetings, and resource agency meetings. The Muckleshoot Indian Tribe is the only tribe with usual and accustomed treaty fishing rights in Lake Washington and its tributaries; FHWA and WSDOT coordinate with the tribe on effects on fishing access and fish habitat.

The Muckleshoot Indian Tribe and the Snoqualmie Indian Tribe are cooperating agencies under NEPA for the SR 520, I-5 to Medina project. In addition, in accordance with Section 106 of the National Historic Preservation Act, FHWA and WSDOT consult with the Muckleshoot Tribe, the Tulalip Tribes, the Suquamish Tribe, and the Confederated Tribes and Bands of the Yakama Nation. They also coordinate with the Duwamish Tribe, which is not federally recognized. FHWA and WSDOT will continue to coordinate with all of these tribal nations throughout project planning to identify important information on natural, cultural, and archaeological resources that may be encountered in the study area for these resources. The results of this coordination will be incorporated into the environmental and design process.

1.7 How were the project alternatives and design options identified and evaluated?

Planning for the SR 520 corridor began in 1998 with the work of the Trans-Lake Washington Study, initiated by the legislature to explore ways of improving mobility across and around Lake Washington. The discussion below summarizes how WSDOT, FHWA, and numerous stakeholders have worked through the years to develop and evaluate project alternatives. Exhibit 1-3 provides an overview of major events in the project's development.



What SR 520 corridor alternatives were evaluated in the Draft EIS?

In the Trans-Lake Washington Study, a 47-member stakeholder group evaluated a broad range of potential modes and routes for crossing Lake Washington. The concepts the group considered included new project corridors (for example, a crossing from Sand Point to Kirkland); different crossing methods, such as tubes and tunnels; new travel modes, such as ferries or rail; and the management of travel demand through tolling or land use changes. These concepts were screened, and the most promising were combined into “solution sets,” which ultimately formed the basis for the alternatives evaluated in the Draft EIS. The study recommended that the following configurations of SR 520 be carried forward as build alternatives:

- “Minimum Footprint” alternative (maintain existing four general-purpose lanes with improved shoulders and bicycle/pedestrian access)
- Add one HOV lane in each direction, for a total of six lanes
- Add one HOV and one general-purpose lane in each direction, for a total of eight lanes

The study also recommended that the 6-Lane and 8-Lane alternatives be evaluated with and without high-capacity transit (HCT) in the corridor because no regional decision had yet been made on whether SR 520 or I-90 would be the initial corridor to carry HCT across the lake to the Eastside. (Since that time, Sound Transit has identified I-90 in its ST2 Plan as the initial corridor for light rail transit across Lake Washington.)

In 2000, FHWA, WSDOT, Sound Transit, and the Federal Transit Administration (FTA) initiated the EIS for what was then called the Trans-Lake Washington Project. This included establishing a series of committees (Executive, Technical, and Advisory) to help provide project oversight and guidance. The committees collaborated with the project leads on the development of the project purpose and need statement (discussed previously) and two levels of screening criteria to be used in evaluating how well alternatives met the purpose and need. The initial alternatives recommended by the Trans-Lake Washington Project were then screened using these criteria. Through the screening process, the conclusion was reached that I-90, rather than SR 520, would be the initial east-west corridor for HCT. Based on this decision, FTA ceased participating as a co-lead agency in the SR 520 program.

Between 2003 and 2005, the SR 520 team advanced conceptual design of the corridor alternatives and conducted transportation and environmental analysis for the Draft EIS. During this time, the 8-Lane Alternative was dropped from further evaluation because transportation analysis showed that the increased traffic flow on SR 520 would necessitate extensive improvements and major impacts to I-5 and the SR 520/I-405 interchange.

Thus, only the 4-Lane and 6-Lane alternatives were studied in the Draft EIS.

- **The 4-Lane Alternative** evaluated in the Draft EIS would replace the existing SR 520 corridor with two general-purpose lanes in each direction—the same as today—and would include wider lanes and shoulders to meet current highway standards. All of the vulnerable structures in the corridor would be replaced with new structures, but no HOV and transit capacity would be added. While the 4-Lane Alternative improved safety and reliability in the corridor, the Draft EIS traffic analysis showed that it did not meet the project purpose of improving the movement of people and goods across SR 520.
- **The 6-Lane Alternative** evaluated in the Draft EIS included two general-purpose lanes and one inside HOV lane in each direction, along with wider lanes and shoulders to meet current highway standards. It would replace all of the corridor’s vulnerable structures and add new capacity for transit and carpooling. Unlike the 4-Lane Alternative, the 6-Lane Alternative included lids across SR 520 designed to help reduce the effects of adding two new lanes to the corridor and to connect communities on either side of the highway. The Draft EIS analysis indicated that the 6-Lane Alternative would fully meet the project purpose, because in addition to improving safety and reliability by providing new bridges and wider lanes, it would increase mobility for people and goods by including continuous HOV lanes throughout the corridor.

What were the Draft EIS 6-Lane design options?

In 2005, after the 6-Lane Alternative had been developed and discussed with project stakeholders, neighborhoods adjacent to the highway expressed concern that the 6-Lane Alternative, as then configured, was too wide in the Montlake interchange area. Communities and transit agencies also expressed interest in developing better connections between SR 520 and proposed regional transit facilities. In response, WSDOT worked with stakeholders to develop several additional “design options”—different configurations of the 6-Lane Alternative within the Montlake interchange area that would reduce the 6-Lane Alternative’s effects and/or enhance its benefits. The Draft EIS evaluated three 6-Lane Alternative design options in Seattle:

- **The Pacific Street Interchange option** proposed to consolidate the existing Montlake and Lake Washington Boulevard interchanges into one new interchange, located east of the existing Montlake interchange. It also included a 4-lane bridge over Union Bay, terminating at the existing intersection of Montlake Boulevard East and Pacific Street. This option was designed to provide more reliable transit connections

Alternatives and Design Options

NEPA and SEPA require the evaluation of a range of reasonable **alternatives** to meet the project purpose and need. As described in this section, FHWA and WSDOT evaluated 4-Lane and 6-Lane alternatives (as well as No Build) for the SR 520 corridor in the Draft EIS. These alternatives were the culmination of several years of evaluation and screening. They represented different ways of achieving the project goals of safety and mobility in the corridor as a whole.

The build alternatives evaluated in the Draft EIS were similar to today’s configuration, but wider. Concerns over the width of the Draft EIS 6-Lane Alternative in Montlake led to the development of new options for configuring the Montlake interchange, including how traffic would cross the Montlake Cut. These **design options** can be described as subsets or variations of the 6-Lane Alternative.

to the Montlake multimodal center and the future Sound Transit Link light rail station near Husky Stadium.

- **The Second Montlake Bridge option** proposed a second drawbridge across the Montlake Cut, parallel to the existing Montlake Bridge. Like the Pacific Interchange, it eliminated the Montlake freeway transit station, but provided more reliable connections to the Montlake multimodal center and the Link light rail station at Husky Stadium.
- **The No Montlake Freeway Transit Stop option** proposed to eliminate this freeway transit station, independent of other design changes. This would require relocation of transit riders and services currently using the facility.

The *SR 520 Bridge Replacement and HOV Project Draft EIS*, which evaluated the alternatives and options described above, was published in August 2006.

What types of comments did FHWA and WSDOT receive on the Draft EIS?

The Draft EIS comment period lasted from August 18 to October 31, 2006. Interested parties commented on the Draft EIS online, by mail, by e-mail, and at two public hearings held in the project area in the fall of 2006. In all, WSDOT received 1,734 comments from organizations and members of the public. The majority of these comments (over 1,000) came from zip codes within the city of Seattle. The *SR 520 Draft Environmental Impact Statement Public Comment Report* (WSDOT 2006b) provides additional detail on the number and nature of comments received. The following section summarizes comments received from members of the public; the subsequent section discusses comments by resource agencies and tribal nations.

Public Comments

The largest proportion of comments from the public expressed a preference for or against one or more of the 6-Lane Alternative design options. The Pacific Street Interchange option generated over 800 “for” and “against” comments, many more than any other design option. Other comments from the public focused on traffic, transportation systems, and transit; parks and recreation, particularly impacts related to the Arboretum; urban design and aesthetics; neighborhood impacts; and other topics such as tolling, noise, bicycle/pedestrian access, and wetlands.

The most frequently mentioned topics were as follows:

- **Traffic.** Many comments addressed concerns about increased traffic in local neighborhoods. Others stated opinions about which alternative or design option would do the best job of improving regional and/or local mobility.

- **Transportation and transit.** The public was concerned about transit and HOV reliability. Many commenters requested that the project include bus and carpool lanes, and some requested that the HOV/transit lane be relocated to the inside lane. Some commenters expressed a desire for light rail transit in the SR 520 corridor.
- **Parks and recreation.** Many commenters identified protection of the Washington Park Arboretum as a key consideration in project decision-making. Access, noise, ecosystems, and aesthetic effects were among the issues raised. WSDOT received over 40 letters from botanical gardens around the United States expressing concern about the project, particularly the impacts of the Pacific Street Interchange design option.
- **Urban design and visual quality.** Community members commented on the aesthetic quality of SR 520 corridor features, including corridor walls and lids.
- **Agency coordination and public involvement.** The public commented on the need for its own involvement in key project decisions. Some commented that construction should begin soon; others commented that WSDOT should consider other regional transportation projects, such as East Link light rail, in its plans for this project.
- **Funding and tolling.** The project team received many comments that addressed potential tolling in the SR 520 corridor. Commenters requested that WSDOT consider solutions that would be of the greatest benefit to the region. They encouraged WSDOT to consider traffic effects of tollbooth locations (which are not being proposed for this project) and wrote in support of variable-rate tolling. Some who were opposed to tolling were concerned about adverse effects on middle- and low-income users. Other commenters expressed support for expanded use of tolling on facilities throughout the region.
- **Neighborhoods and communities.** Commenters addressed property value and quality of life effects related to traffic, noise, tolling, and commuting. It was important to some members of the public that the project adhere to jurisdictional comprehensive plans for pedestrian and bicycle access. Possible mitigation measures were discussed, including reconnecting communities separated by SR 520. The community benefits of freeway transit stops were also described.
- **Noise.** Community members expressed concern about the potential for increased noise in and near the SR 520 corridor during and after construction. They requested the construction of noise walls and/or the use of quieter pavement. Other suggestions included accomplishing noise reduction through roadway surface grading and overall traffic reduction by designating some lanes as transit-only.
- **Bicycle and pedestrian access.** Community members were overwhelmingly supportive of including a regional bicycle/pedestrian

path in the project design. Some, however, were concerned that increased bicycle traffic could detract from neighborhoods.

Commenters addressed user safety and concerns about potential bicycle and pedestrian conflicts.

- **Wetlands.** Commenters noted the importance of project area wetlands, particularly those in the Arboretum area and around Portage Bay, and affirmed that their preservation is a high priority.
- **Land use and economics.** Some commenters noted potential effects of tolling on local economies. Some community members wanted to ensure that the project would be aligned with growth management objectives for the region.

Comments from Agencies, Institutions, and Tribes

Government agencies and institutions, jurisdictions, and tribes submitted 36 comment letters during the Draft EIS comment period. More than half of the agency comments acknowledged the need to replace the SR 520 facility because of deterioration and/or potential failure of the facility. Submissions by agencies and tribes primarily discussed the Draft EIS itself as well as the effects and mitigation measures necessary for all proposed alternatives.

The following sections summarize some key issues identified in agency and tribal comments on the Draft EIS:

- **Environmental effects.** Agencies and tribes discussed a variety of environmental effects, commonly addressing the need to avoid and/or minimize the adverse effects of all proposed alternatives and design options on parks, wetlands, fish and wildlife, ecosystems, air quality, and water resources. For example, the Washington State Department of Ecology (Ecology) expressed concern about potential impacts on Lake Washington wetlands, which are viewed as aquatic resources of great importance, and recommended additional effort to avoid or minimize effects on these areas. To address water quality, the National Marine Fisheries Service expressed support for the proposed use of high-efficiency sweeping as a stormwater management tool. Several comments stated that the Draft EIS and associated appendices did not adequately identify potential adverse impacts on streams and wetlands, buffers, and aquatic resources. Some agencies also expressed concern about noise related to the impacts on aquatic resources from pile-driving and the potential changes to highway traffic noise levels that could affect the community.

A number of agencies and the University of Washington expressed specific concerns about the Pacific Street Interchange design option, including statements that it had a higher potential for substantial effects than other choices and that it was the most environmentally damaging.

These concerns were based primarily on the larger in-water footprint of this option compared to the other 6-Lane Alternative options and its effects on wetlands in the Arboretum, including on Marsh Island.

Because the interchange would have required a substantial amount of land from the University of Washington's south campus, the University stated in its comment letter that "the Pacific Street Interchange option appears to be the one that would have the greatest negative impacts on our mission."

- **Mitigation.** Several agencies requested more specific information about how temporary and permanent effects on transit users, cultural and historical resources, and the environment would be mitigated. Some agencies provided suggestions about how to address these topics and encouraged WSDOT to coordinate with other agencies to develop mitigation strategies. For example, King County Metro suggested a full range of transit, demand management, and passenger ferry options to mitigate for transit impacts during construction. Regulatory agencies suggested that WSDOT continue to collaborate with agencies to identify all potential aquatic impacts and develop a comprehensive mitigation plan.
- **Transportation systems and improved multimodal connectivity.** Some agencies addressed transportation concerns that affected citizens and noted the need for HOV lanes, effective transfer systems, and coordination between various transportation modes, including bicycle and pedestrian access. One agency commented that the EIS should show how project elements connect to other existing or planned transit and transportation improvements in the corridor. Another agency suggested that WSDOT prioritize modes of transportation other than single-occupancy vehicles, including options for pedestrian and bicycle transportation.
- **Construction effects.** Agencies and tribes discussed and requested more information about the effects that construction and the work bridges would have on traffic, air quality, noise, wetlands, and ecosystems. Transit agencies also expressed concern that closing the westbound HOV lane on the Eastside during construction would present a problem for transit reliability. Other agencies recommended that WSDOT work to reduce the length of construction to minimize adverse construction-related impacts. In general, agencies suggested that WSDOT provide additional information regarding the duration of specific construction elements; potential adverse impacts; and associated avoidance, minimization, and mitigation measures.

Through engagement efforts since publication of the Draft EIS, agencies and tribes have also offered the following key input:

- **Consider environmental and permitting concerns when selecting a preferred design option.** WSDOT created a link between permitting agencies and the Westside mediation process by providing updates and comment opportunities at RACp meetings. Permitting agencies emphasized that environmental concerns and regulations must be balanced against community preferences when analyzing new design options. This SDEIS evaluates natural-environment disciplines, such as ecosystems, side by side with built-environment disciplines, such as visual quality and aesthetics, to allow decision-makers to consider both environmental and community concerns. The SDEIS also incorporates new analysis of construction effects and mitigation measures that was requested by resource agencies in their Draft EIS comments and during subsequent coordination.
- **Continue to substantively collaborate with agencies and tribes.** Agencies and tribes have helped FHWA and WSDOT frame analytical approaches and mitigation planning through the RACp and TWG forums, and have helped FHWA and WSDOT identify mutually agreeable approaches to analyzing several project elements. For example, TWGs have assisted in developing methodologies to assess in-water construction effects, mitigation planning, parks mitigation, and other elements of project design.

Consistent with NEPA and SEPA, in the Final EIS, FHWA and WSDOT will respond to all comments received on both the Draft EIS and the SDEIS.

What has happened since publication of the Draft EIS?

In December 2006, in a report entitled *A Path Forward to Action*, Governor Christine Gregoire identified the 6-Lane Alternative as the state's preference for the SR 520 corridor. Governor Gregoire stated:

I believe the needs of the regional transportation system will best be served by an alternative that replaces the four existing general-purpose lanes and adds two HOV lanes to strengthen regional transit services. The ongoing environmental review process provides support for this approach.

However, the Governor noted the diversity of public opinions expressed in the Draft EIS and through public outreach efforts regarding the configuration and effects of the 6-Lane Alternative and its design options. She concluded:

The impacted communities on the west end of the project need to determine what design from Union Bay and westward to I-5 will best serve the neighborhoods, the University of Washington, and parks and natural resources. City and community leaders and residents need to come together and develop a common vision on the best solution that

fits the character and needs of the local communities. I have asked WSDOT to provide support when requested for such a process.

In spring 2007, responding to the Governor’s request, the Washington State Legislature passed Engrossed Substitute Senate Bill (ESSB) 6099. The bill directed the Office of Financial Management to hire a mediator and appropriate planning staff to develop a 6-lane corridor design for the Seattle portion of the project area. Specifically, the bill directed the mediation group to prepare a project impact plan to address the impacts of the SR 520 Bridge Replacement and HOV Project’s design on Seattle city neighborhoods and parks. The bill also directed that the project impact plan provide a comprehensive approach to mitigating the impacts of the project, including incorporating construction mitigation plans. It required that the plan be submitted to the Governor and legislature by December 2008.

Legislative goals identified for ESSB 6099 included the following:

- Minimize the total footprint and width of the bridge.
- Minimize the project impact on surrounding neighborhoods.
- Incorporate the recommendations of a health impact assessment.
- Effectively prioritize travel time, speed, and reliability.
- Provide six total lanes, with four general-purpose lanes and two HOV lanes.
- Articulate in environmental documents the alignment of the selected design.

Who participated in mediation?

The mediation participants were identified through interviews with a broad range of stakeholder organizations, including those identified in the legislation and others who had been actively involved with the SR 520 project during development of the Draft EIS. (See the text box on the next page for a list of organizations that were represented in the mediation group.) Over the course of 2008, the mediation participants developed and reviewed more than a dozen design options for the configuration of SR 520 through Seattle.

What were the design options developed through mediation?

The mediation participants brainstormed design options that were aimed at meeting identified community interests. Nearly all focused on the area between the Portage Bay Bridge and the western end of the floating bridge. The design options (designated with letters from A through L) included the following:

Health Impact Assessment and High-Capacity Transit Plan

In addition to establishing the mediation process, ESSB 6099 called for two studies to be done by other agencies with support from WSDOT:

The *SR 520 Health Impact Assessment: A Bridge to a Healthier Community* (King County 2008b) was led by King County Public Health and the Puget Sound Clean Air Agency. The Health Impact Assessment, one of the first completed for a transportation project in the United States, examined how the project could affect various parameters of public health. The report noted that “choosing the right set of features for the SR 520 Project—regardless of which of the three plans under consideration is adopted—can contribute significantly to improving the health of people in communities adjacent to the corridor and the livability of their neighborhoods.”

<http://www.wsdot.wa.gov/NR/rdonlyres/EFD44CC6-406F-48E4-BEFD-EF50B2842625/0/SR520HealthImpactAssessment.pdf>

The *SR 520 High-Capacity Transit Plan* (WSDOT 2008c), developed by WSDOT, Sound Transit, and King County Metro, outlines a strategy for meeting the demand for cross-Lake Washington travel with an incremental implementation of bus rapid transit service that connects employment, residential areas, and activity centers on both sides of Lake Washington. Bus rapid transit is more frequent, faster, and has higher capacity than regular bus service. The plan also includes the partner agencies’ vision for developing a multimodal center adjacent to the University of Washington (UW) campus, UW Medical Center, and the planned University Link light rail station to accommodate the high concentration of people attracted to this area.

http://www.wsdot.wa.gov/NR/rdonlyres/D329E6C5-BF91-4EAC-8B95-9D58A2B498F6/0/Final_HCTP.pdf

- A. Redesign of the Montlake interchange options evaluated in the Draft EIS to address Seattle City Council resolution elements and Draft EIS comments.
- B. Redesign of the Pacific Street Interchange design option evaluated in the Draft EIS to address Seattle City Council resolution elements and Draft EIS comments.
- C. Evaluation of the following “full tunnel” options:
 - Tunnel from the floating bridge to I-5 with no access points in Seattle, with a separate 2-lane bus tunnel from the floating bridge to the light rail station, and with a vertical profile 50 feet below grade. Reconfigured I-5 to remove the weave—all entrances/exits would be on the right side. Reclaimed SR 520 right-of-way would be used for a trail and park.
 - Tunnel from the floating bridge to I-5 with distributed access points.
- D. Retrofit of the current 4-lane bridge with a separate 2-lane tunnel for transit to the light rail station (separate structure across the lake and then a tunnel from the floating bridge).
- E. A car/bus tunnel to the University of Washington, with a submerged exit/entrance just west of the floating bridge under Union Bay that would surface at Pacific Street.
- F. Second Montlake Cut bridge—design would emulate and reflect, but not copy, the historic bridge.
- G. Tunnel and viaduct—tunnel from the floating bridge under the Washington Park Arboretum with a viaduct through Portage Bay.
- H. Similar to the Draft EIS Pacific Street Interchange design option, with a refined single-point urban interchange (SPUI) northeast of the Washington Park Arboretum (interchange with two levels), and a bridge to Pacific Street and Lake Washington Boulevard.
- I. Retrofit with revised alignment and tunnel to the north of the Washington Park Arboretum, with a “people mover” below ground from the transit station to the University of Washington and a second Montlake Cut bridge.
- J. Interchange between the Montlake and Pacific Street Interchange options from the Draft EIS, with a short tunnel, a spur to Lake Washington Boulevard, an intersection under the main line, and no Washington Park Arboretum ramps.
- K. Tunnel in Washington Park Arboretum and East Montlake interchange with a tunnel under the Montlake Cut to the Pacific Street and Montlake Boulevard East intersection.

Organizations Represented in the Mediation Group

- WSDOT
- Sound Transit
- Office of the Governor (representing state agencies, including the Departments of Ecology, Fish and Wildlife, Archaeology and Historic Preservation, Natural Resources, and the Recreation and Conservation Office)
- University of Washington
- King County Metro Transit
- Seattle Mayor’s Office
- Seattle City Council
- Seattle Design Commission
- Arboretum Foundation/Arboretum and Botanical Garden Committee
- Cascade Bicycle Club
- Friends of Seattle’s Olmsted Parks
- Transportation Choices Coalition
- Boating Community
- Seattle Chamber of Commerce
- Bellevue Chamber of Commerce
- Freight Advisory Committee
- Montlake Community Council
- Madison Park Community Council
- Roanoke/Portage Bay Community Council
- Laurelhurst Community Council
- University District Community Council
- North Capitol Hill Community Council
- Eastlake Community Council
- Ravenna Bryant Community Council
- City of Yarrow Point
- City of Medina
- City of Clyde Hill
- City of Hunts Point
- City of Bellevue
- City of Kirkland
- FHWA
- National Marine Fisheries Service (also representing U.S. Fish and Wildlife Service and tribal fishing interests)
- U.S. Coast Guard
- Washington State Legislature (one seat available to any legislator who wished to attend a mediation session)

- L. Interchange east of Montlake Boulevard East (similar location as in Option K above), with a bridge across the east end of the Montlake Cut instead of a tunnel.

How were the mediation options evaluated, and what were the conclusions?

Mediation participants evaluated and refined design options at monthly meetings that were held from November 2007 through February 2008. The meetings included presentations from WSDOT, independent experts, and the mediation participants. More information on how the mediation options were evaluated can be found in the Final Project Impact Plan (Washington State Office of Financial Management 2008) and the Agency Coordination and Public Involvement Discipline Report (Attachment 7).

In February 2008, mediation members agreed to focus on Options A, K, and L with various suboptions for each. Subsequent meetings of the mediation group focused on refining these options to more closely meet the goals of mediation participants. The mediation design options ultimately agreed upon by the group are described in the Final Project Impact Plan and defined more fully in Chapter 2. As noted above, WSDOT agreed to evaluate these design options in an SDEIS.

As required by NEPA and SEPA, this SDEIS objectively analyzes and discloses the effects of the project with each of the design options now being considered. WSDOT has continued to work with resource and permitting agencies and tribes to share information on the design options and to ensure that the analysis reflects the regulatory and treaty requirements with which the project must comply. The SDEIS reflects the results of this coordination and provides information on how the design options perform with regard to mobility, safety, and environmental effects.

ESHB 2211 and the SR 520 Legislative Workgroup

In May 2009, Governor Gregoire signed Engrossed Substitute House Bill (ESHB) 2211, which authorized tolling on the Evergreen Point Bridge beginning in 2010 and set the budget for the SR 520 Program at \$4.65 billion. The bill also established a legislative workgroup on SR 520, which was charged with the following responsibilities:

- Recommend design options that provide for a full SR 520 corridor project that meets the needs of the region's transportation system, while providing appropriate mitigation for neighborhoods and communities in the area directly affected by the project. The group was also tasked with identifying projects in the corridor for which WSDOT would apply for federal stimulus funds under the American Recovery and Reinvestment Act of 2009.

What happened to Options B through J?

Even though mediation was not a formal NEPA scoping process, FHWA and WSDOT must ensure that reasonable options that meet the purpose and need are considered. The options not carried forward into the SDEIS fell into one or more of three categories:

- Specifically eliminated during mediation (Options D and I; retrofit approaches were also screened out in the Trans-Lake Project)
- Screened out by FHWA and WSDOT during previous alternatives analyses under NEPA (B, C, D, E, H, I)
- Incorporated into or evolved into other options (F, G, J)

For these reasons, WSDOT did not further consider any of the mediation design options other than A, K, and L.

- Review and recommend a financing strategy, in conjunction with WSDOT, to fund the projects in the SR 520 corridor that reflects the recommended design options.
- Present a final report with recommendations on financing and design options to the legislature and the Governor by January 1, 2010.
- Form a subgroup to conduct a detailed review of design options between I-5 and the west end of the floating bridge, consult with affected neighborhood and community groups, and make recommendations.

The legislative workgroup met in July, September, November, and December 2009. These meetings were augmented by three meetings of the Westside subgroup (one meeting each in September, October, and November) and two working sessions of the full workgroup in October and November. The group received extensive input from mediation participants about ideas for modifying the design options to reduce cost and/or to better achieve project objectives. WSDOT assisted with layout of the new concepts and provided information to support the work of an expert review panel, which validated WSDOT's budget and schedule estimates. The workgroup also solicited advice from resource agencies, local jurisdictions, the Seattle Parks Department, the Coast Guard, and other stakeholders. State budget officials and financing specialists identified potential funding sources and scenarios for the project.

New ideas proposed to the workgroup by the mediation participants include the following:

- Option A+, which would add Lake Washington Boulevard ramps and an eastbound HOV direct-access ramp to Option A to increase mobility, as well as a constant-slope profile for the west approach to improve stormwater drainage and treatment. These proposed changes are all evaluated as suboptions in this SDEIS (see Section 1.9 for more information).
- Option M, which would eliminate the Option K SPUI and replace the excavated tunnel with an immersed-tube tunnel that would be built by excavating across the Montlake Cut rather than tunneling below it.

On November 17, 2009, the workgroup made a draft recommendation to forward Option A+ to the legislature and the Governor as its preferred design option for the 6-Lane Alternative. In support of its recommendation, the group cited the following considerations:

- It meets the purpose and need of the project and complies with statutory requirements to implement a six-lane bridge replacement project [per ESSB 6099 and ESHB 2211].
- It meets the transportation needs of the corridor with the least impact to the surrounding environment.

- It can be constructed within the \$4.65 billion financial threshold.
- The impacts are covered within the current Supplemental Draft Environmental Impact Statement.
- It meets the needs of transit providers within the SR 520 corridor and on local surface streets.
- It has broad-based support from local communities, including the University District Community Council, Ravenna Bryant, and Friends of Olmsted Park, and from regional organizations including the University of Washington, Seattle Chamber of Commerce, King County Metro, and the Eastside Transportation Partnership.

The workgroup's recommendations were presented to the Seattle City Council on November 24, 2009, and to the public in a town hall meeting that same evening. Both meetings provided opportunities to comment on the options and the workgroup's decision process. At each meeting, people expressed support for a variety of choices, including Option M, Option A+ with and without the Lake Washington Boulevard ramps, a transit-optimized 4-Lane Alternative, and retrofitting the seismically vulnerable bridges to allow more time to develop a long-term solution. A number of commenters expressed the general sentiment that no matter what solution was chosen, it should be implemented quickly to provide jobs, enhance mobility, and reduce the risk of catastrophic failure.

On December 8, 2009, the workgroup voted 9-3 to present its draft recommendations report to the full legislature. The report reiterated the recommendation of Option A+ for the 6-Lane Alternative, and included a minority report by the three workgroup members who opposed the recommendation. The workgroup's final report was presented to the legislature in early January 2010.

How will the results of mediation and the legislative workgroup be integrated with the environmental process?

This SDEIS provides information on the environmental effects of the 6-Lane Alternative with each of the three design options in order to support the selection of a preferred alternative under NEPA and SEPA. Although the mediation participants, the legislative workgroup, and other political bodies can provide recommendations, it remains FHWA's responsibility under NEPA, and WSDOT's under SEPA, to select the final preferred alternative and to ensure that the environmental review process has evaluated a reasonable range of alternatives. The preferred alternative selection will occur after public comment on the SDEIS and after the workgroup's final report has been released.

When the workgroup's deliberations began, WSDOT was already well underway in its NEPA evaluation of Options A, K, and L. The

What did the legislative workgroup recommend?

The workgroup recommended Option A+, which includes the following features (described in more detail later in this chapter and in Chapter 2):

Included in Option A:

- Four general-purpose lanes and two HOV lanes from I-5 to Evergreen Point Road
- An improved interchange in the location of the existing Montlake interchange
- A new drawbridge across the Montlake Cut, next to the existing Montlake drawbridge
- Six through lanes plus an auxiliary lane on Portage Bay Bridge
- New lids at I-5, 10th Avenue and Delmar Drive, and Montlake Boulevard
- Noise reduction measures, including walls and/or quieter pavement
- Stormwater treatment throughout the corridor

Included in Option A+ and evaluated as suboptions to Option A in the SDEIS:

- New ramps (replacing the existing ramps) for access to and from Lake Washington Boulevard
- An HOV direct-access ramp from southbound Montlake Boulevard to eastbound SR 520
- A constant-slope profile, rising at a steady grade from the Montlake shoreline to the western highrise

recommended option, A+, is evaluated in this SDEIS as Option A with all three of its proposed suboptions (see discussion of suboptions later in this chapter). Therefore, Option A+ would not require additional evaluation to become part of the NEPA preferred alternative. Option M is similar to Option K; however, the proposed method of tunnel construction has substantially different impacts than those described in the SDEIS, and would require additional environmental evaluation—likely in the form of another SDEIS—if further study of it were pursued.

1.8 What alternatives and design options from the Draft EIS have been eliminated from further study?

The 4-Lane Alternative was identified in the Draft EIS as not fully meeting the project purpose and need. While it would improve safety by replacing vulnerable structures and widening lanes and shoulders, it would not meet the project purpose of improving mobility in the SR 520 corridor. Additional modeling using the updated traffic model for the SDEIS confirms that the 4-Lane Alternative would provide substantially lower mobility benefits than the 6-Lane Alternative for both general-purpose traffic and transit. Therefore, the 4-Lane Alternative has been eliminated from further study.

The 6-Lane Alternative design options evaluated in the Draft EIS have also been eliminated from consideration. As discussed above, public comments on the Draft EIS expressed strong opinions either for or against specific design options. A plurality of the comments expressed strong support of the Pacific Street Interchange option; however, comments from members of the public, environmental resource agencies and the University of Washington reflected serious concerns about the impacts of this option. Findings by the Seattle City Council indicated that the 6-Lane Alternative and design options, as described in the Draft EIS, were too wide through the corridor and that mitigation for their construction effects needed to be further defined. The level of controversy and concern generated by the Draft EIS design options was a key factor leading to the establishment of the mediation process. Consequently, the design options resulting from mediation are now the only ones under consideration. The 6-Lane Alternative studied in the SDEIS has also been narrowed throughout the corridor to reduce its overall footprint.

As noted earlier, the Trans-Lake Washington Project also evaluated an 8-Lane Alternative, which was one of the original alternatives recommended by the Trans-Lake Study Committee. Various studies indicated that this alternative would not perform effectively due to existing bottlenecks at I-5 and I-405. On the basis of these findings, the 8-Lane Alternative was eliminated from further study prior to the Draft EIS.

1.9 What are the choices evaluated in this SDEIS?

This section provides summary-level information on the alternatives and design options evaluated in this SDEIS. Chapter 2 provides detailed descriptions of project design features by geographic area, and Chapter 3 describes how the project would be constructed.

What is the No Build Alternative?

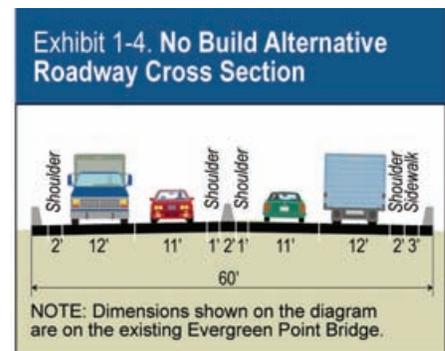
The No Build Alternative assumes that, other than normal maintenance and repair activities, the SR 520 corridor between I-5 and Evergreen Point Road would remain exactly the same as it is today. SR 520 would continue to operate as a 4-lane highway with nonstandard shoulders and without a bicycle/pedestrian path (Exhibit 1-4). No new facilities would be added and none would be removed, including the unused R.H. Thomson Expressway ramps near the Washington Park Arboretum. Stormwater runoff from the existing roadway surface would continue to discharge to surface waters without treatment. WSDOT would continue to manage traffic using its existing transportation demand management and intelligent transportation system strategies.

The remaining design life of the Evergreen Point Bridge is currently estimated at just 10 to 15 years, and a severe storm could cause it to fail even sooner. The Portage Bay and west approach bridges are also vulnerable to collapse in a severe earthquake. For these reasons, the No Build Alternative is inconsistent with WSDOT's standards for safety and reliability. Given the vulnerabilities of the existing SR 520 bridges, the No Build Alternative is not a likely scenario; however, it provides a set of baseline conditions to which the expected effects of the 6-Lane Alternative and options can be compared.

What is the 6-Lane Alternative?

The 6-Lane Alternative would widen the SR 520 corridor to six lanes (Exhibit 1-5) from I-5 in Seattle to Evergreen Point Road in Medina. It would replace the vulnerable Evergreen Point Bridge, Portage Bay Bridge, and west approach with new structures. The 6-Lane Alternative would complete the regional HOV lane system across SR 520, as called for in regional and local transportation plans.

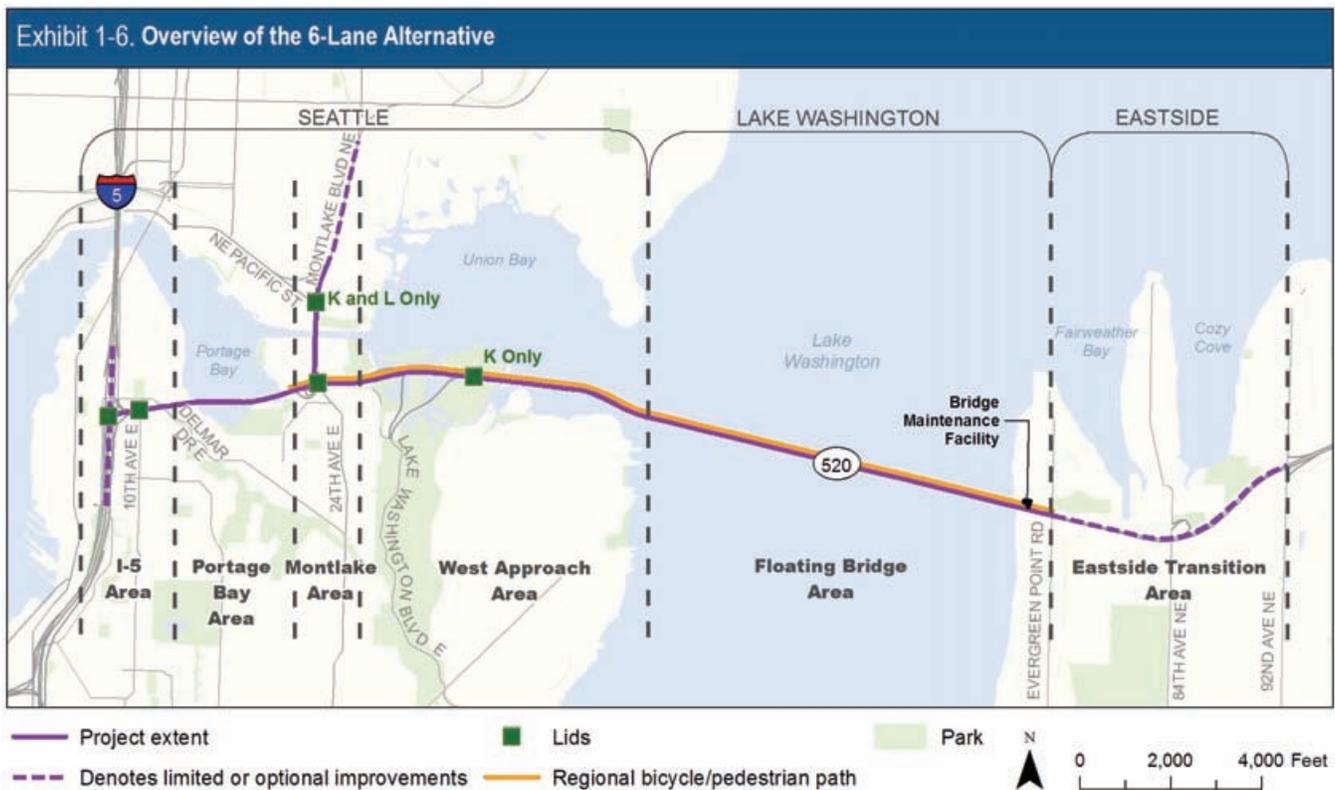
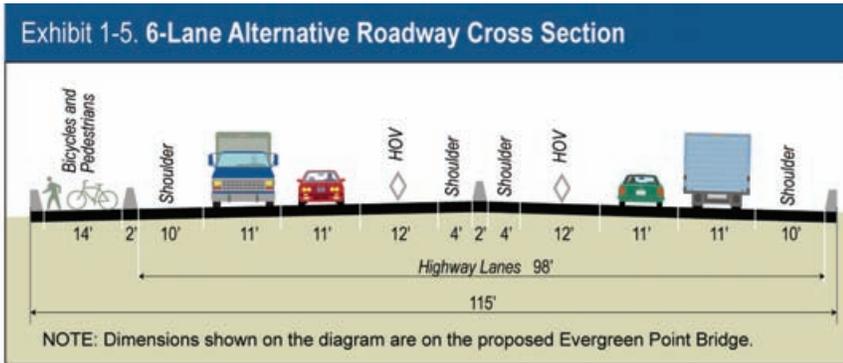
Exhibit 1-6 shows the project limits and identifies the portions of the project within three geographic study areas: Seattle, Lake Washington, and the Eastside. Within these limits, SR 520 would be six lanes (two 11-foot-wide outer general-purpose lanes and one 12-foot-wide inside HOV lane in each direction), with 4-foot-wide inside shoulders and 10-foot-wide outside shoulders (Exhibit 1-5). The cross-section of the 6-Lane Alternative is



New since the Draft EIS:

- Roadway width is narrower (115 feet versus 133 feet for typical cross-section)
- Portage Bay Bridge is a maximum of 6 lanes plus an auxiliary lane (compared to up to 9 lanes wide in Draft EIS)
- Additional lids are included at I-5, Montlake Boulevard and NE Pacific Street (Options K and L only), and Foster Island (Option K only)
- Montlake freeway transit stop is removed to reduce highway width, with accompanying changes to local bus service
- Noise reduction measures may include walls and/or quieter pavement
- Stormwater treatment measures are better defined
- New design options (defined in next section)

narrower than that in the Draft EIS, in response to concerns from the public and agencies about its overall width.



The 6-Lane Alternative also includes:

- Landscaped lids over the highway
- A regional bicycle and pedestrian path
- Noise reduction measures
- Stormwater treatment facilities
- Automated tolling on SR 520

The 6-Lane Alternative includes lids in up to five locations:

- I-5/East Roanoke Street
- 10th Avenue East and Delmar Drive East
- Montlake vicinity (design and location vary by option)
- Montlake Boulevard NE and NE Pacific Street (Options K and L only)
- Foster Island “land bridge” (Option K only)

The lids would reconnect neighborhoods, enhance movement of pedestrians and cyclists, restore and create views, and provide access to existing and new transit stops.

Regional Bicycle/Pedestrian Path

The 6-Lane Alternative includes a 14-foot-wide bicycle/pedestrian path along the north side of SR 520 through the Montlake area and across the Evergreen Point Bridge to the Eastside. On the west side of the lake, the path would connect to the existing Bill Dawson Trail that crosses underneath SR 520 near the eastern shore of Portage Bay. It would also connect to the Montlake lids and East Montlake Park. On the Eastside, the path would connect to the regional bicycle/pedestrian path proposed as part of the SR 520, Medina to SR 202: Eastside Transit and HOV Project.

A new path beginning in East Montlake Park would connect to a proposed new trail in the Arboretum, creating a loop trail. The portion of the existing Arboretum Waterfront Trail that crosses SR 520 at Foster Island would also be restored or replaced after construction of the SR 520 west approach structure. There would be no bicycle/pedestrian path along SR 520 west of Montlake Boulevard.

Noise Reduction

Under FHWA regulations (23 CFR Part 772), noise abatement measures must be considered when highway noise levels approach or exceed the thresholds set in FHWA's noise abatement criteria, as they do along much of the SR 520 corridor and as they would continue to do under all alternatives without mitigation. (See Section 4.7 for information on existing noise levels and the FHWA criteria.) Such measures must meet FHWA and WSDOT guidelines for feasibility and reasonableness, including a WSDOT requirement of making every reasonable effort to attain a 10-decibel or greater reduction in the first row of properties affected by project noise. WSDOT's practice is to work with the owners of these properties during detailed project design to determine the mitigation measures that will be used.

The mediation group recommended traffic noise reduction measures for each design option. Option A was defined as including noise walls and/or quieter, rubberized asphalt pavement. Option K was defined as including only quieter, rubberized asphalt pavement for noise reduction. Option L

would include noise walls similar to those defined in the Draft EIS, which would extend along most of the corridor. Although these recommendations reflect the preferences of the mediation participants, they do not affect FHWA's and WSDOT's responsibility to identify and consider effective noise abatement measures under existing laws.

Noise modeling done for the project indicates that noise walls would meet all FHWA and WSDOT requirements for avoidance and minimization of negative effects. Quieter pavement has not been demonstrated to meet these requirements in tests performed in Washington state, and therefore cannot be considered as noise mitigation (see Section 5.7 for additional information on the performance of quieter pavement). The SDEIS evaluates all of the design options both with and without noise walls. WSDOT and FHWA will work with the affected property owners after a design option is selected to make a final determination of reasonable and feasible mitigation measures for project-related noise effects.

Stormwater Treatment

The 6-Lane Alternative includes the installation of new facilities to collect and treat stormwater runoff. Three facility types incorporating Ecology-approved stormwater best management practices (BMPs) have been identified for the project: biofiltration swales, constructed stormwater treatment wetlands, and media filter vaults.

- Biofiltration swales are vegetation-lined channels designed to remove suspended solids from stormwater. They offer *basic* water quality treatment to remove pollutants such as metals, suspended solids, and nutrients from contaminated stormwater.
- Stormwater treatment wetlands offer *enhanced* treatment, which achieves greater removal of dissolved metals from stormwater than basic treatment. These wetlands provide enhanced treatment by using multiple treatment cells and wetland vegetation to reduce the amount of these pollutants in runoff.
- A media filter vault offers basic treatment. It is an enclosed treatment facility (usually underground) that provides stormwater filtration. The vault houses one or more structures, each with a filtering cartridge. The vault channels collected stormwater through the filtering cartridge(s) at a controlled flow rate. These cartridges trap particulates and dissolved pollutants including metals, hydrocarbons, and nutrients.

Automated Tolling

Tolling on SR 520 would be completely automated, with no toll booths. All one- or two-occupant vehicles would be charged a toll to cross the Evergreen Point Bridge. Users who are required to pay the toll would have transponders, or “cards,” that would be read by an electronic card reader. Two types of transponders could be used: transponders that would attach

Noise Expert Review Panel

In 2008, WSDOT convened a panel of noise experts in support of the mediation process. While concurring that noise walls were the most effective method of noise reduction, the panel recommended several additional measures for further study. See Section 5.7 for more information on the panel's recommendations.

permanently to a vehicle’s windshield and portable transponders that could be transferred among multiple vehicles. Cars without transponders would have their license plates photographed and would be billed by mail. Section 1.12 provides more information on tolling legislation and assumptions.

What are design options A, K, and L?

This SDEIS evaluates three design options—Options A, K, and L—for the 6-Lane Alternative. The greatest physical differences among the options are in the Montlake Cut crossing, the location of the interchange in the Montlake area (Exhibit 1-7), and the profile of the west approach.

Each of the options also includes one or more potential “suboptions.” These are specific design details that would have minor effects on the project footprint and could be added to the design options singly or in combination. The suboptions are described briefly below and in more detail in Chapter 2.

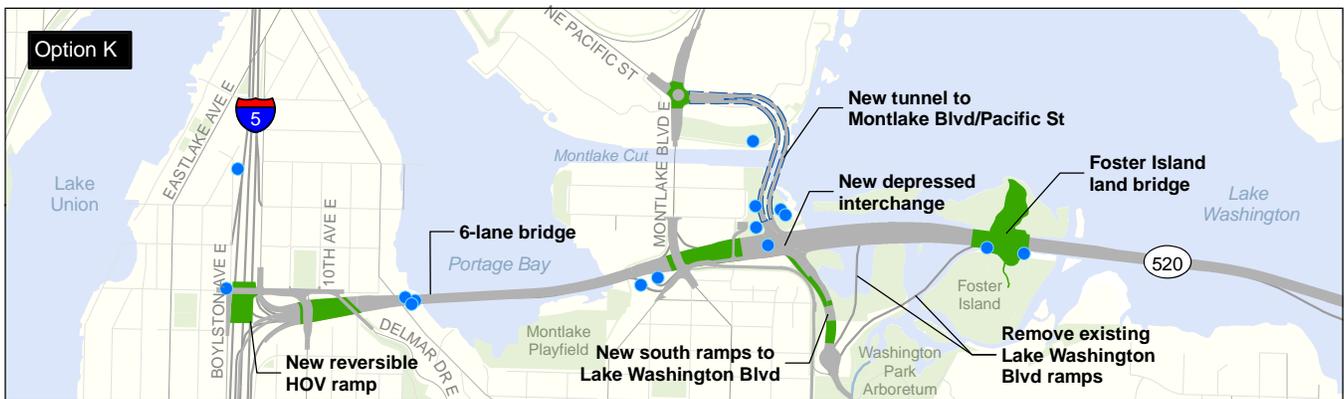
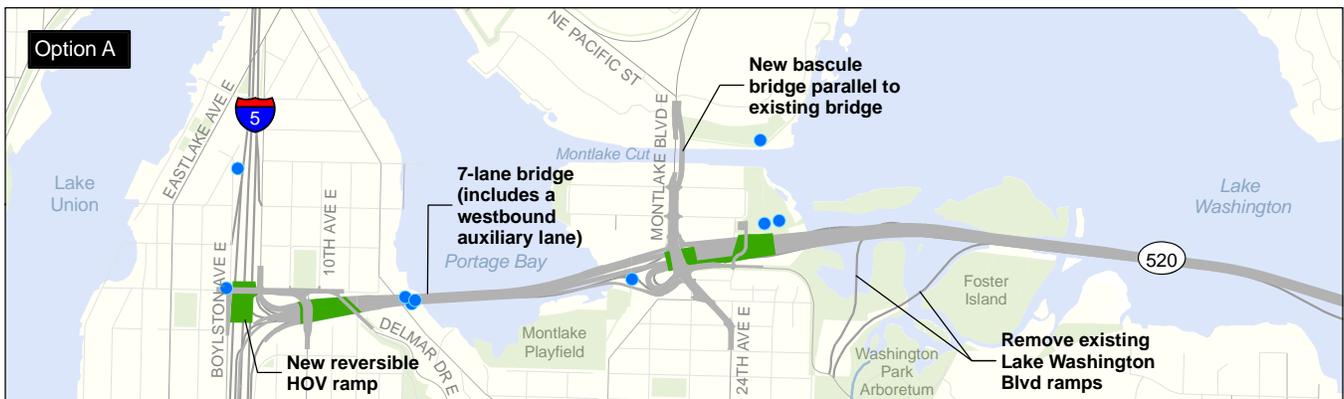
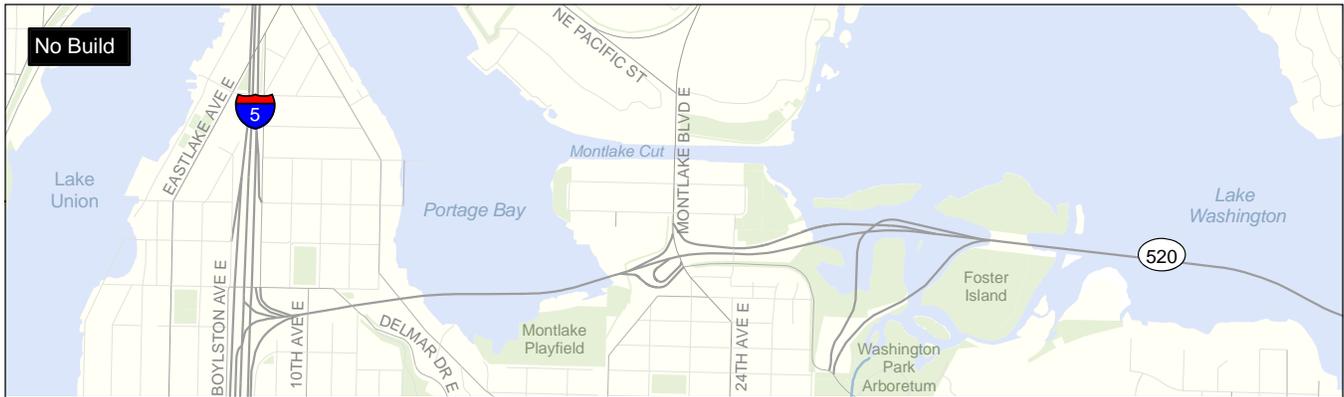
The options and suboptions can be summarized as follows:

- **Option A** is most similar to today's configuration, but with six lanes rather than four. It maintains the existing location of the Montlake interchange and adds a new bascule bridge over the Montlake Cut, parallel to the existing Montlake Bridge. Its profile rises from the west shore of Union Bay to a height of 15 to 20 feet over Foster Island, descends to the east of Foster Island, and then rises again to meet the west transition span. Option A has three potential suboptions. All of these suboptions are included in Option A+ as recommended by the legislative workgroup:
 - Add an eastbound HOV direct access ramp from Montlake Boulevard.
 - Add an eastbound on-ramp and a westbound off-ramp between SR 520 and Lake Washington Boulevard.
 - Use the Option L profile for the west approach bridge, which maintains a constant slope from the Montlake shoreline to the west highrise.
- **Option K** includes a new SPUI about a half mile east of the existing Montlake interchange. The new interchange ramps would pass below the SR 520 roadway, with the northern leg of the interchange crossing beneath the Montlake Cut in a tunnel. The profile of Option K remains low throughout the west approach area; on Foster Island, the roadway would be excavated to about 4 feet below the existing grade to accommodate construction of the land bridge over the top.

New since the Draft EIS:

- As described earlier in this chapter, design options are subsets of the 6-Lane Alternative that focus on how the project would be configured in the Montlake interchange area. Because of public and agency comment indicating that the Draft EIS design options presented unacceptable levels of neighborhood and environmental impact, the mediation process was created to develop different designs for this area.
- Options A, K, and L include all the common project features discussed above. As variations on the 6-Lane Alternative, they would all meet the project purpose and need, but each option has different effects on the built and natural environment. This SDEIS discusses how the effects of the 6-Lane Alternative would vary with each of the design options.

Exhibit 1-7. 6-Lane Alternative Design Options



Option K has one potential suboption: the addition of an eastbound off-ramp from SR 520 to Montlake Boulevard.

- **Option L** would also include a SPUI with an alignment similar to Option K. However, instead of being beneath the SR 520 main line, the interchange ramps would rise above it. The northern leg of the interchange would cross the Montlake Cut on a new bascule bridge. The west approach would rise at a constant slope from the west shore of Union Bay to the west transition span, with an elevation of approximately 10 to 15 feet above Foster Island. Option L has two potential suboptions:
 - Add one northbound lane on Montlake Boulevard from Pacific Street to 25th Avenue NE.
 - Add left-turn access from Lake Washington Boulevard to the SPUI south ramp.

All options place an emphasis on multimodal transportation by decreasing reliance on single-occupant vehicle travel and facilitating transit connections. All options would improve the overall flow of SR 520 traffic compared to the No Build Alternative. Each would include the common features described above—such as lids and landscaped features, stormwater treatment, and a regional bicycle/pedestrian path—although the specific details of those features differ among the options. While the design options vary mainly in the Montlake area, other differences include the width and the type of aesthetic treatment to be used for the Portage Bay Bridge, as well as the roadway profile across Foster Island and eastward to the floating bridge.

The description and evaluation of Options A, K, and L and their suboptions in this SDEIS are organized by three geographic areas along the project corridor: Seattle, Lake Washington, and the Eastside. Within these larger areas, project elements across all three options are described by geographic area, as identified in Exhibit 1-7 and Table 1-1. The project features for each design option are described under the geographic area headings, so that the differences among options can be easily identified and compared. Chapter 2 provides detailed information on the design options and suboptions.

What decisions will FHWA and WSDOT make based on the information in this SDEIS?

It is FHWA's responsibility under NEPA, and WSDOT's under SEPA, to identify a preferred alternative for the SR 520, I-5 to Medina Bridge Replacement and HOV Project.

Table 1-1. Summary Comparison of 6-Lane Alternative with Design Options A, K, and L

Geographic Area	Option A	Option K	Option L
I-5 area	The SR 520 and I-5 interchange ramps would be reconstructed with generally the same ramp configuration as the ramps for the existing interchange.		
Portage Bay area	The Portage Bay Bridge would be replaced with a wider and, in some locations, higher structure.		
	Under Option A, the Portage Bay Bridge would include 6 travel lanes plus an auxiliary lane.	Under Options K and L, the Portage Bay Bridge would be 6 lanes wide.	
Montlake area	All options propose changes in the Montlake area, with key differences in the treatment of the Montlake Boulevard interchange. All options would remove the Montlake freeway transit station and relocate its function.		
	<p>Under Option A, the interchange would remain in the same location as today and a new bascule bridge would be constructed over the Montlake Cut.</p> <p><i>Potential suboption (included in Option A+):</i></p> <ul style="list-style-type: none"> • Add eastbound HOV direct-access ramp from Montlake Boulevard. 	<p>Under Option K, the interchange ramps would be eliminated and a new depressed SPUI would be constructed to the east. SPUI ramps would be constructed to the north through a tunnel under the Montlake Cut and to the south near the Arboretum.</p> <p><i>Potential suboption:</i></p> <ul style="list-style-type: none"> • Add eastbound SR 520 off-ramp to Montlake Boulevard (southbound, right turn only). 	<p>Under Option L, the interchange ramps would be eliminated and a new elevated SPUI would be constructed to the east. SPUI ramps would be constructed to the north across a new bascule bridge over the Montlake Cut and to the south near the Arboretum.</p> <p><i>Potential suboption:</i></p> <ul style="list-style-type: none"> • Add northbound capacity on Montlake Boulevard to 25th Avenue NE
West approach area	The west approach structures would be replaced with wider and, in some locations, higher or lower structures. The options would differ in width and height.		
	<p>Under Option A, the bridge structure would be 162 feet wide and 25 feet high over Foster Island.</p> <p><i>Potential suboptions (included in Option A+):</i></p> <ul style="list-style-type: none"> • Add Lake Washington Boulevard eastbound on-ramp and westbound off-ramp. • Use Option L profile. 	Under Option K, the bridge structure would be 250 feet wide and the highway would be under a lid at Foster Island.	<p>Under Option L, the bridge structure would be 270 feet wide and 13 feet high over Foster Island.</p> <p><i>Potential suboption:</i></p> <ul style="list-style-type: none"> • Add left-turn access from Lake Washington Boulevard to the SPUI south ramp.
Floating bridge area	A new floating span would be located approximately 190 feet north of the existing bridge at the west end and 160 feet north of the existing bridge at the east end.		
Eastside transition area	A new SR 520 roadway would be constructed between the floating bridge and Evergreen Point Road.		

This will happen after agencies, tribes, and the public have had an opportunity to comment on the choices and the legislature has considered the findings of the ESHB 2211 legislative workgroup. Based on the current schedule, FHWA and WSDOT expect to identify a preferred alternative for the SR 520, I-5 to Medina project in spring 2010 after receiving comments on the SDEIS. The preferred alternative will be described in the Final EIS and formalized in the Record of Decision (ROD) for the project. The preferred alternative is expected to consist of 6 lanes across the SR 520 corridor from I-5 to Evergreen Point Road, plus one of the three design options (A, K, or L) and one or more suboptions. Table 1-2 shows the possible choices; each column represents one possibility for the preferred alternative.

Table 1-2. Range of Possible Choices for Preferred Alternative

SR 520 Corridor Alternative (I-5 to Medina)	6-Lane	6-Lane	6-Lane	No Build
Design Option (Montlake interchange area)	Option A	Option K	Option L	N/A
Suboptions (preferred alternative may include none, one, or more than one)	Eastbound HOV direct-access ramp Lake Washington Boulevard ramps Option L constant-slope profile	Eastbound off-ramp to Montlake Boulevard	Add northbound capacity on Montlake Boulevard Add left-turn access from Lake Washington Boulevard to SPUI south ramp	N/A

Should a decision be made to pursue any new design variations with significantly greater environmental effects than Options A, K, or L, they would need to be evaluated in another supplemental environmental document, which would change the project schedule.

1.10 When would the project be built?

Construction is planned to begin in 2012, after project permits are received. The floating bridge would open to traffic in 2014. If full funding is available, the rest of the project would be completed by 2018.

1.11 How much would the project cost, and how much has been funded?

The total cost to construct the SR 520, I-5 to Medina project includes the cost of the westside portion plus the floating bridge (including the east

approach and transition section) and pontoons. Costs vary depending on which design option is included. The costs are expressed as a range, reflecting the cost of the potential suboptions for each design option. The estimated costs are approximately:

- \$3.4 billion to \$3.7 billion for 6-Lane Alternative with Option A
- \$5.4 billion to \$5.5 billion for 6-Lane Alternative with Option K
- \$3.9 billion to \$4.0 billion for 6-Lane Alternative with Option L

Table 1-3 shows how the overall costs for the SR 520 corridor program—including the I-5 to Medina, Pontoon Construction, and Medina to SR 202 projects—would vary depending upon the design option included in the SR 520, I-5 to Medina project. The totals shown are the latest (2008), most likely cost estimates, and range between \$4.53 and \$6.67 billion at year of expenditure. As discussed previously, the Washington State Legislature has established a budget limit of \$4.65 billion for the SR 520 corridor program as a whole. If a preferred alternative is selected for the SR 520, I-5 to Medina project that exceeds this limit, it is assumed that legislative action would be taken to revise the limit and/or that additional revenue sources would be identified to fill the gap.

Table 1-3. Cost Estimates for SR 520 Corridor Projects (year of expenditure)

Current Estimates	SR 520, I-5 to Medina Project			SR 520, Medina to SR 202 Project	Most Likely Total Corridor Cost
	Seattle ^a	Floating Bridge	Pontoon Construction		
6-Lane Alternative with Option A	\$2,022 to 2,298 million	\$1,370 million	\$358 million	\$776 million	\$4,526 to 4,802 million
6-Lane Alternative with Option K	\$4,070 to 4,168 million	\$1,370 million	\$358 million	\$776 million	\$6,574 to 6,672 million
6-Lane Alternative with Option L	\$2,562 to 2,642 million	\$1,370 million	\$358 million	\$776 million	\$5,066 to 5,146 million

^aThe ranges shown reflect the cost of potential suboptions for each design option (see Table 1-1 for a description of the suboptions).

Note: Estimates are adjusted to account for risk and inflation using the Cost Estimate Validation Process® (CEVP) method.

As shown in Table 1-4, the legislature has secured a variety of state and federal funding sources to help pay for the SR 520 program. However, the funding for the full corridor program falls over \$2.65 billion short of the \$4.65 billion total. WSDOT and the legislative workgroup are working to identify additional funding sources, including federal stimulus funding under the American Reinvestment and Recovery Act.

Table 1-4. Funding Sources

Funding Source	Amount
State gas tax	\$552 million
Federal funds	\$242 million
SR 520 Account (tolling and future federal funding)	\$1,200 million
Total funding identified to date	\$1,994 million
Unfunded portion of program cost	\$2,656 million
Total program cost^a	\$4,650 million

^aTotal program cost is based on ESHB 2211 legislation.

1.12 How will tolling be used on SR 520?

What legislation has been passed to authorize tolling?

The SR 520 Draft EIS identified tolling as a way to generate revenue for project construction, and assumed a toll as part of the traffic modeling analysis. Since that time, the discussion of tolling has continued. House Bill 1773, passed by the legislature in 2008, set statewide guidelines for the implementation and use of tolls on state highways. House Bill 3096, also passed in 2008, created a Tolling Implementation Committee to work with the public to evaluate a variety of tolling scenarios. The Tolling Implementation Committee evaluated tolling for financing the SR 520 Bridge Replacement and HOV Program, engaged citizens and regional leadership in the evaluation, and enhanced understanding of tolling alternatives. The committee hosted a series of public outreach events and input opportunities related to tolling in the SR 520 corridor during summer 2008, and reported to the Governor and legislature in January 2009. The results of this outreach identified general support for tolling as a way to manage congestion and fund improvements in the SR 520 corridor.

In fall 2007, the Lake Washington Urban Partnership (which includes WSDOT, King County, and the Puget Sound Regional Council) was awarded a grant from the U.S. Department of Transportation to help manage congestion on the corridors crossing Lake Washington. The total grant of up to \$154 million funded several projects, including \$63 million for the Lake Washington Variable Tolling Project. This project would toll the Evergreen Point Bridge *before* its planned replacement in order to reduce traffic congestion. ESHB 2211, passed in April 2009, authorized tolling on SR 520 for congestion management in accordance with the grant provisions, beginning in 2010. The toll will be charged only on the floating bridge. The amount charged will vary based on time of day and will be designed to maintain travel time, speed, and reliability on the corridor while generating revenue to fund improvements in the SR 520 corridor. ESHB

What's the difference between the Variable Tolling Project and the tolling described in this SDEIS?

- The Variable Tolling Project is one part of a grant-funded program to manage congestion on the corridors crossing Lake Washington. Environmental review for the project was completed in June 2009.
- Under the Variable Tolling Project, WSDOT will toll the Evergreen Point Bridge starting in 2010. The purpose of the toll is to reduce congestion and improve travel time, speed, and reliability.
- Legislation authorizing this toll refers to it as a "pre-construction" toll, meaning it will be in effect prior to the start of construction of the SR 520, I-5 to Medina: Bridge Replacement and HOV Project.
- In order to *fund* the I-5 to Medina project, the legislature will need to replace the pre-construction toll with a new toll that will generate enough revenue to pay for the proposed improvements. The new toll would take the place of the Variable Tolling Project toll.
- Because the new toll would be designed to fund the bridge rather than to manage congestion, it might have different rates than the pre-construction toll or might vary by different times of day. These decisions will be made by the Washington State Transportation Commission.

2211 provides that if the tolls on the SR 520 corridor significantly alter the performance of nearby facilities (in particular, I-90), the legislature will reconsider the possibility of tolling on those facilities.

The financing plan being developed by the legislative workgroup includes long-term tolling to fund the SR 520 corridor, consistent with previous assumptions in the Draft EIS. Tolling for this purpose must be separately authorized by the legislature based on the approved project budget, with toll rates to be set by the Transportation Commission. The new toll structure, which has not yet been determined, would take the place of the variable tolling authorized under ESHB 2211.

What assumptions have been made about tolling in this SDEIS?

Traffic modeling for the SDEIS took place from fall 2008 through spring 2009. At the time modeling began, the Tolling Implementation Committee's work was still in progress, and ESHB 2211 had not been passed to authorize tolling on SR 520. Therefore, the traffic model's assumptions regarding tolling were based on the 2008 SR 520 Finance Plan ([WSDOT 2008b](#)). The tolling approach used was Scenario 7 of the Finance Plan, which included the following components:

- Segmental tolling (i.e., tolls collected at multiple locations along the corridor) between I-5 and I-405.
- Variable toll rates depending on the time of day and whether trips are taken on a weekday or a weekend.
- A maximum toll rate of \$3.81, with exemptions for transit and HOVs with three or more riders. (Actual toll rates for SR 520 will be established by the Washington State Transportation Commission based on final project costs and the financing plan adopted by the legislature.)

Because no tolling authorization was in place, the traffic modeling also assumed that the No Build Alternative would not be tolled.

As discussed above, the Tolling Implementation Committee issued its report to the Governor and the legislature in January 2009, and ESHB 2211 was signed into law in May 2009. These events have resulted in new assumptions about tolling that are different than those included in the traffic model:

- The passage of ESHB 2211, and resulting implementation of the Variable Tolling Project, means that there would likely be a congestion management toll on SR 520 under the No Build Alternative. (See sidebar at right.)
- Based on the Tolling Implementation Committee's findings, it is likely that the toll used to fund the SR 520, I-5 to Medina: Bridge

Why does the No Build Alternative assume there won't be a toll on SR 520?

Although the Variable Tolling Project would implement a toll on SR 520 in 2010, the SDEIS assumes that the No Build Alternative would not be tolled in the design year of 2030. Here's why:

- Because traffic models are designed to predict future conditions, they must make assumptions about key factors that will influence traffic in the future. These factors include whether or not a facility will be tolled, and what the toll rates will be.
- Traffic modeling for the I-5 to Medina project started in 2008. Tolling was modeled based on assumptions used in the 2008 SR 520 Finance Plan. ESHB 2211, which authorized tolls for the Variable Tolling Project, was signed in May 2009, after traffic modeling had been completed.
- The comparative performance of the design options is similar regardless of whether No Build is tolled. In fact, assuming that No Build is not tolled provides a more conservative estimate of traffic diversion and environmental justice effects.
- WSDOT will update the traffic model for the Final EIS to include tolling on the No Build Alternative. WSDOT's analysis indicates that the change in assumptions is not expected to have significant effects on the relative performance of the options.

Replacement and HOV Project would be a single-point toll, rather than a segmental toll.

The use of variable toll rates in the model is consistent with the approach recommended by the Tolling Implementation Committee. As noted above, actual maximum toll rates would be set by the Transportation Commission at a level sufficient to finance the project.

Although some tolling assumptions have changed since the modeling was completed, the model results still provide a consistent comparison of how the project and design options would affect traffic operations on SR 520 and nearby local streets. Additional analysis by WSDOT indicates that the change in assumptions is not expected to have significant effects on the relative performance of the options in improving mobility. The Final EIS will update the traffic modeling by including the new tolling assumptions in the analysis of the No Build Alternative and the preferred alternative. Chapter 5 provides more information about tolling and how it affects traffic operations.

1.13 What else has changed since publication of the Draft EIS?

The Draft EIS evaluated the SR 520 corridor from I-5 in Seattle to 108th Avenue NE in Bellevue as a single project. Since that time, in response to changing conditions, WSDOT has worked with FHWA to develop new projects within the context of an overall SR 520 corridor program. Each project has a separate purpose and need; each provides independent benefit to the region.

This section briefly describes each project in the SR 520 Bridge Replacement and HOV Program, how they meet FHWA's criteria for logical termini under NEPA (see text box), and what type of environmental documentation is being prepared for them.

SR 520, Medina to SR 202: Eastside Transit and HOV Project

The SR 520, Medina to SR 202: Eastside Transit and HOV Project was developed in 2008 to improve transit travel time and reliability in response to strong growth in jobs, housing, and transit demand east of Lake Washington. It would complete the SR 520 HOV system from Evergreen Point Road in Medina to SR 202 in Redmond; build direct transit access from the South Kirkland Park-and-Ride; and provide community and environmental benefits, including lids, noise walls, a bicycle/pedestrian path, and stream and habitat enhancements. These improvements would support existing demand and planned improvements in transit use, and would enhance safety by improving HOV lane operations. WSDOT and FHWA have prepared an environmental assessment (EA) to evaluate the

The SR 520 Bridge Replacement and HOV Program

The SR 520 program projects are:

- SR 520, I-5 to Medina: Bridge Replacement and HOV Project
- SR 520, Medina to SR 202: Eastside Transit and HOV Project
- Pontoon Construction Project
- SR 520 Variable Tolling Project

Logical Termini

The project limits for the SR 520 corridor encompass the length of SR 520 from the I-5 interchange to the I-405 interchange. FHWA regulations (23 CFR 771.111(f)) outline three criteria for selecting the end points of a transportation project:

The end points should connect logical termini (rational end points) that encompass a corridor of sufficient length to ensure that environmental effects are addressed on a broad scope.

The project limits should represent a project that has independent utility. In other words, the project must be usable and a reasonable expenditure, even if no other transportation improvements are made in the area.

The project limits must not restrict consideration of alternatives for other reasonably foreseeable transportation projects.

effects of the SR 520, Medina to SR 202 project. The Draft EA was issued in December 2009. WSDOT anticipates completion of the environmental process and permitting in spring 2010, with construction to begin later in 2010 pending availability of funding.

The termini of the SR 520, Medina to SR 202 project are Evergreen Point Road on the west and SR 202 on the east. The existing freeway transit stop at Evergreen Point Road is a key hub for transit on the Eastside, connecting north-south routes with east-west routes across Lake Washington; SR 202 is the end point of SR 520 and the Eastside HOV lanes. The project would provide benefit whether or not the SR 520, I-5 to Medina project is built, improving transit travel times significantly within the Eastside portion of the SR 520 corridor. The new transit stop proposed for Evergreen Point Road is designed not to restrict consideration of alternatives for the SR 520, I-5 to Medina: Bridge Replacement and HOV Project, and would serve its intended purpose even if that project were not built.

Pontoon Construction Project

The Pontoon Construction Project was an outcome of catastrophic failure planning conducted for the Evergreen Point Bridge in 2006-2007. The planning process concluded that the pontoons had the longest lead time of any component of the bridge, and that it would be prudent for WSDOT to have replacement pontoons ready for an emergency. The project's purpose is to construct and store new pontoons, which would be used to restore the existing traffic capacity of the Evergreen Point Bridge in the event of a catastrophic failure. Having pontoons ready for such a catastrophic failure would allow the bridge to be restored several years faster than if the pontoons were constructed in response to a disaster. This would, in turn, reduce adverse effects on traffic and the regional economy. WSDOT is preparing a Draft EIS on the project, scheduled for release in February 2010. The project's Final EIS is due for completion in September 2010. WSDOT has selected three contractor teams to submit proposals for the project, with the goal of beginning construction in late 2010.

The project would build only enough pontoons to replace the existing 4-lane bridge. If the pontoons are not needed for catastrophic failure, they would be used for planned replacement of the floating bridge. Additional "supplemental stability pontoons" would be needed to provide flotation for 6 lanes of traffic. The construction of these additional pontoons is needed only for the SR 520, I-5 to Medina project, and therefore is being evaluated in this SDEIS.

The Pontoon Construction Project has independent utility because the bridge is vulnerable and would need to be replaced if it failed, regardless of whether the SR 520, I-5 to Medina project goes forward. Its pontoons are designed for a 4-lane replacement bridge that can be expanded to 6 lanes; hence, it does not restrict consideration of alternatives for projects in the

SR 520 corridor. Although it is not a corridor project, it has logical termini in that it includes all facilities that would be needed to construct pontoons to replace the bridge.

SR 520 Variable Tolling Project

As described earlier in this chapter, the SR 520 Variable Tolling Project is part of the Lake Washington Congestion Management Program, funded by the U.S. Department of Transportation. Between late 2010 and early 2011, WSDOT will begin automated electronic tolling on SR 520 to relieve existing congestion. The amount of the toll will vary based on time of day and will be designed to maintain travel time, speed, and reliability while generating revenue to fund improvements in the SR 520 corridor. Variable pricing will encourage drivers to choose alternate routes, times, and travel modes, or to eliminate trips altogether. This will result in reduced congestion, providing a more reliable trip for users of SR 520. WSDOT prepared an EA on this project and received a Finding of No Significant Impact (FONSI) from FHWA in June 2009.

The tolls for the Variable Tolling Project would remain in place until the start of construction for the SR 520, I-5 to Medina project. At that time, they would be replaced with new tolls adopted by the Transportation Commission to provide project funding in accordance with the financing plan. Although the SR 520, I-5 to Medina project and the Variable Tolling Project would each impose a toll on SR 520, they would do so for different purposes. The Variable Tolling Project's tolls are designed to reduce existing congestion, while the SR 520, I-5 to Medina project tolls will be set to provide a specified increment of the project budget. Congestion management would provide an independent benefit, regardless of whether the SR 520, I-5 to Medina project is built, and would not affect consideration of alternatives for improvements to the corridor.

1.14 How does the SR 520, I-5 to Medina project meet the criteria for logical termini and independent utility?

When the Medina to SR 202 portion of SR 520 became an independent project, the limits of the SR 520 Bridge Replacement and HOV Project changed. The project termini are now set at I-5 on the west and Evergreen Point Road on the east. These termini are logical because the I-5/SR 520 interchange is a major system interchange in the city of Seattle, while Evergreen Point Road is the location of a major transit transfer point for the Eastside.

The SR 520, I-5 to Medina project would be a usable and reasonable expenditure, even if the other projects in the program were not completed. As discussed earlier in this chapter, it would complete the SR 520 HOV

system in keeping with regional planning, replace vulnerable structures in the corridor, and improve safety with wider lanes and shoulders and improved roadway geometry. It would add community enhancements and treat presently untreated stormwater. Its design would not restrict the consideration of alternatives for the Pontoon Construction Project or the SR 520, Medina to SR 202 project.

For the SR 520, I-5 to Medina project to be independent, it must also be feasible even in the unlikely event that other projects in the program do not move forward. WSDOT would address such a situation as follows:

- If the SR 520, Medina to SR 202 project were not built, WSDOT would either use the existing Evergreen Point freeway transit station (which would involve a merge from inside to outside lanes) or, alternatively, relocate the station to provide better compatibility with the new I-5 to Medina HOV lanes. If any additional changes on the Eastside were proposed, WSDOT would work with FHWA to prepare a NEPA reevaluation. The reevaluation would be used to determine whether additional environmental review is necessary to address design changes.
- If none of the alternatives for the new casting basin that are being evaluated in the Pontoon Construction Project EIS are selected, WSDOT would find an alternative means of providing pontoons for catastrophic failure. WSDOT and FHWA would undertake any necessary environmental review for the new pontoon procurement method.
- If the Variable Tolling Project did not move forward, the state could still pass tolling legislation to fund construction of the SR 520, I-5 to Medina project.

1.15 How has the public been involved during the preparation of this SDEIS?

At the beginning of the environmental analysis and decision-making process, WSDOT developed and implemented an ongoing program to engage the public and to provide information about the project. This program started with a public involvement plan that established specific goals and activities. WSDOT has attempted to reach out to all potentially affected members of the public, including low-income and minority populations and those with limited English proficiency. Some of the activities and resources to encourage public engagement are as follows:

- Newsletters
- Community and agency briefings
- Project Web site
- Media outreach

- Public meetings, workshops, and tours
- Interviews with social service providers and minority and low-income populations
- Outreach to the business community

The process of engaging the local communities during the Draft EIS and SDEIS development has encompassed nearly 30 open houses, over 15 community design workshops, and over 100 community group meetings. Additional information on how the public has had the opportunity to participate to date in the SR 520, I-5 to Medina project is found in the Agency Coordination and Public Involvement Discipline Report (Attachment 7).

What groups of people has WSDOT worked with in the public outreach program?

A regional transportation facility like SR 520 affects a large number of people—those who travel on it, those who live and work near it, and, in a broader sense, any person or business that depends upon the region’s ability to move people and goods across Lake Washington. WSDOT developed appropriate outreach methods to reach these different public audiences. (Engagement of resource agencies and tribes is discussed in the following section.) Audiences immediately affected along the SR 520 corridor include:

- Cities and towns in the corridor
- Specific neighborhoods in Seattle, including Montlake, North Capitol Hill, Portage Bay/Roanoke, Madison Park, University District, Laurelhurst, and Eastlake
- Major institutions such as the University of Washington

The outreach also extended to a broader set of public audiences, which included:

- Commuters who use the corridor to travel via bus or car to and from Seattle and the Eastside
- Businesses that rely on the corridor for movement of employees, goods, and customers
- Chambers of commerce that are interested in transportation issues
- Minority, low-income, and limited-English-proficiency users of the corridor
- Social service and advocacy organizations that work with minority and low-income communities
- Other interested groups such as bicycle, environmental, and neighborhood organizations

WSDOT also has worked with a large number of local, state, and federal jurisdictions and agencies that are involved in transportation and natural

resource issues around the SR 520 corridor. WSDOT's work with these agencies is summarized later in this chapter and described in more detail in the Agency Coordination and Public Involvement Discipline Report (Attachment 7).

What public involvement is still ongoing?

Since the Draft EIS, WSDOT has continued to engage with the broader public, as well as targeting specific users of the SR 520 corridor. The project has generated many comments from the public through a range of outreach activities. Activities in the last 3 years have included community and jurisdictional briefings, public open houses, and information booths at public events such as fairs and festivals. Per legislative direction, WSDOT also supported and participated in the SR 520 mediation process. WSDOT continues to use a variety of outreach tools to reach diverse audiences, including informational videos, regularly updated project and program Web sites, monthly e-mail updates, media outreach, and information kiosks placed at strategic public locations.

What outreach has WSDOT done with low-income and minority populations?

From 2000 to the present, WSDOT has conducted outreach activities to provide low-income and minority populations with information about the project and to engage them in identifying potential adverse effects and benefits of the project. To increase WSDOT's understanding of how tolling of the Evergreen Point Bridge might affect low-income or minority populations, WSDOT conducted additional surveys, interviews, and focus groups in 2008:

- A telephone survey of 685 individuals who use the Evergreen Point Bridge two or more days a week. Approximately 300 respondents qualified as Black, Hispanic, Asian, Pacific Islander, American Indian, or Alaskan Native, or indicated that their household income fell below the federal poverty line.
- Telephone interviews in Spanish with Evergreen Point Bridge users.
- An intercept survey of 422 transit users on the Evergreen Point Bridge. Nearly 3 percent of respondents had household incomes below the federal poverty level, nearly 23 percent of the respondents were minority, and 6 percent spoke a language other than English at home.
- Two focus groups composed of survey respondents and others who were recruited through social service agencies that serve low-income and minority populations who use the Evergreen Point Bridge.

Native Americans are a minority population, so coordination with the tribes that the project could affect is part of WSDOT's environmental justice outreach. Coordination with the tribes is discussed in Section 1.7.

What have we learned from these outreach efforts?

WSDOT continues to hear comments from the public similar to those that were heard before and during the comment period for the Draft EIS.

Comments provided during ongoing outreach activities have included the following common themes:

- Protect and enhance neighborhoods and community connectivity.
- Maintain local parks and trails and add a new bicycle path.
- Include noise reduction measures throughout the SR 520 corridor.
- Minimize air pollution.
- Toll the SR 520 Bridge (Evergreen Point Bridge) to raise revenue for the project, but carefully consider toll rates.
- Improve and expand the HOV and bus system.

Public Comments Received at Recent Open Houses

Two open houses were held in both 2007 and 2008 to provide updates and solicit feedback on SR 520 design and decision-making. In 2007, WSDOT received 38 public comments during the open houses; the 2008 open houses generated 110 public comments. In total, the project received 1,085 comments, 148 submitted by open house attendees and 937 submitted via mail, e-mail, or phone.

In 2007, open house announcements were mailed to approximately 10,000 Seattle households; in 2008, that number was increased to approximately 72,000 Seattle households. Postcard announcements were distributed at transit stations in and near the SR 520 corridor prior to the open houses. Open houses were also announced in newspaper and Web display advertisements, through community calendars, and on the program Web site.

Common themes from public comments received at the open houses included the following:

- **SR 520 Bridge Replacement and HOV Program.** Comments regarding the overall SR 520 Bridge Replacement and HOV Program varied widely. Some commenters supported a shorter schedule while others suggested the schedule was too fast.
- **Health impact assessment.** Most people who commented on the health impact assessment focused on concerns about noise effects during construction and operation.
- **High-capacity transit plan.** A majority of the commenters supported encouraging more transit connections on the new SR 520 corridor. Commenters discussed the need for a light rail system as well.

- **Transportation (construction and operation).** Community members highlighted the anticipated effects on local transportation and requested improvements such as repaving local streets and increasing traffic capacity. Others noted concerns about increased noise because of traffic and construction.
- **Local trails and bicycle/pedestrian facilities.** Commenters asked that the project minimize effects on local trails, such as the Burke-Gilman Trail, and supported the addition of a bicycle/pedestrian path across Lake Washington.
- **Environmental effects.** Many commenters had concerns about project effects on the environment. Commenters encouraged the project team to consider effects on the Washington Park Arboretum, particularly Foster Island.
- **Funding.** Many commenters supported tolling the SR 520 corridor to provide project funding, with a few people encouraging WSDOT to begin tolling as soon as possible.

Public Comments Received through Other Forums

WSDOT also received many public comments at fairs and festivals and through the Project Dialogue Center. Most commenters addressed highway traffic, tolling, and the westside design options, with the following common themes:

- **Highway traffic.** Community members submitted questions and commented on the current traffic congestion in the SR 520 corridor. A significant number of commenters supported tolling to relieve congestion in the corridor.
- **Tolling the Evergreen Point Bridge.** In general, community members supported tolling the SR 520 corridor. However, commenters asked the project team to carefully consider toll prices as part of the implementation strategy.
- **Options A, K, and L.** Community members asked questions regarding the look, feel, and operations of Options A, K, and L. Most notably, commenters asked for clarity about how to access the SR 520 roadway from neighborhoods to the north and south of the Montlake Cut.

1.16 Why, and how, was this SDEIS developed?

This SDEIS responds to the requirements of NEPA and SEPA. These laws require that projects with potential for significant adverse environmental effects be reviewed in an EIS. The EIS identifies alternative ways of meeting the project's purpose and need; evaluates these alternatives' effects, positive and negative, on the natural and built environments; and identifies measures to avoid, minimize, or mitigate negative effects. This process

allows decision-makers to include consideration of effects on the environment together with other important considerations such as need, feasibility, and cost. EISs are intended to disclose the effects of a project at a stage in the project where decision-making can still be shaped by the environmental analysis and by the comments of agency, tribal, and public reviewers.

The document you are reading is the product of several years of technical analysis by engineers, planners, scientists, and other experts, as informed by the ongoing comments and suggestions of public officials and citizens. As the mediation design options were identified, engineers developed them to a level of detail that would allow them to be evaluated in the environmental analysis. This meant defining their “footprint” on the ground, their vertical profiles, the materials that they would be built with, and the techniques generally to be used in their construction. With this information, WSDOT could determine the project’s effects on the built and natural environments. That in-depth analysis is documented in the 19 discipline reports and Draft Section 4(f)/6(f) Evaluation that are included in Attachments 6 and 7. Together with the 2006 Draft EIS, these studies comprise over 5,000 pages of text and exhibits.

This SDEIS is a summary of the extensive work done for the project. As NEPA provides, it is written for the benefit of readers without special expertise in the disciplines that were studied. It was designed to be easily accessible to readers and to present information as concisely as possible in graphics, charts, tables, and text. Readers seeking more detailed information on a particular topic or a specific geographic area can refer to the discipline reports, which cover all topics addressed by this SDEIS in much greater depth. This approach—rather than writing an EIS primarily for an audience of federal and state agencies—is designed to allow the many people who use or are affected by the SR 520 corridor to easily understand the project and its effects, while providing ample detail in the attachments to satisfy virtually any reader.

1.17 What are the next steps?

NEPA allows lead agencies to identify a preferred alternative at the Draft EIS stage or to wait until the Final EIS is published. As described previously, Governor Gregoire has identified a 6-Lane-Alternative as the state’s preference, and the legislative workgroup has recommended design option A+ to be carried forward as part of this alternative. However, it is the co-lead agencies’ responsibility under NEPA to identify the preferred alternative. This will happen after agencies, tribes, and the public have had an opportunity to comment on the choices and the legislature has considered the findings of the ESHB 2211 legislative workgroup. Based on the current schedule, the co-lead agencies expect to identify a preferred alternative for the SR 520 project in spring 2010. Should a decision be made

to pursue any new design variations with significantly greater environmental effects than Options A, K, or L, they would need to be evaluated in another supplemental environmental document, which would change the project schedule.

Some work that has taken place during SDEIS development will continue after publication of this document. For example, additional archaeological investigations will be completed for the preferred design option on Foster Island to determine whether any cultural resources are present, in accordance with the National Historic Preservation Act. While such investigations are usually carried out to help inform selection of a preferred alternative, this work has been deferred at the request of the tribes, who prefer that no disturbance take place in this sensitive area until more specific limits of construction have been defined. Consultation with tribes will continue, both with respect to cultural resource considerations and to treaty fishing rights. WSDOT is also continuing to plan for mitigation, with help from the agencies with jurisdiction over affected resources. The results of these additional analyses, including work done to define the preferred design option, will be incorporated into the Final EIS, which is planned for publication in late 2010. The Final EIS also will include all comments received on the Draft EIS and the SDEIS during their respective public comment periods, and the lead agencies' responses to those comments.

After the Final EIS has been issued, FHWA will prepare a ROD, which will document the course of action it has decided upon as the federal lead agency. The ROD will identify the selected alternative, explain the alternatives considered, and specify an "environmentally preferable alternative." It will also explain how the lead agencies plan to implement mitigation measures and conservation actions in compliance with NEPA and other laws.

Although the ROD is the conclusion of the NEPA process, it signals the beginning of project implementation. WSDOT will further develop the engineering design for the project, including additional detail on project phasing, construction staging, and construction techniques. Having a preferred design option also will allow WSDOT to develop more specific designs for mitigation measures, which will be documented in project permit applications. These designs will be prepared by WSDOT and FHWA, in cooperation with the affected jurisdictions and resource agencies.

1.18 How can I be involved, and how will WSDOT communicate with the public?

The best way to be involved in project decision-making is to comment on this SDEIS. There are several ways to provide comments.

Attend a public hearing on the Supplemental Draft EIS. WSDOT will hold a public hearing on February 23, 2010. It will include exhibits on the project, team members to answer questions, and the opportunity to comment in writing, on a computer, or by talking to a court reporter. The time and location for this event are listed in the sidebar to the right.

Use the Web to comment on the Supplemental Draft EIS. WSDOT has posted links to the full text of the SDEIS on its Web site at www.wsdot.wa.gov/projects/SR520Bridge. You can make comments on the SDEIS by e-mail at SR 520 Bridge SDEIS@wsdot.wa.gov. The comment period ends at midnight on March 8, 2010. The comments will be compiled into a database that WSDOT staff will review. WSDOT will respond to all comments.

Provide written comments by mail. You can write comments and mail them (postmarked by March 8, 2010) to:

Jenifer Young
Environmental Manager
SR 520 Project Office
600 Stewart Street, Suite 520
Seattle, WA 98101

After the comment period has closed, WSDOT will continue to keep the public informed about decision-making and opportunities for input. If you provide your name and address when you comment, we will add you to the project mailing list, which allows you to receive regular e-mail updates. If you have no comments on the SDEIS but would still like to stay informed, you may join the mailing list by logging onto our Web site at www.wsdot.wa.gov/projects/SR520Bridge or by calling the project hotline at 206-781-3922.

SDEIS Environmental Hearing

February 23, 2010, 5 to 7 p.m.
Lake Union Park
Naval Reserve Building – Great Hall
860 Terry Avenue North
Seattle

