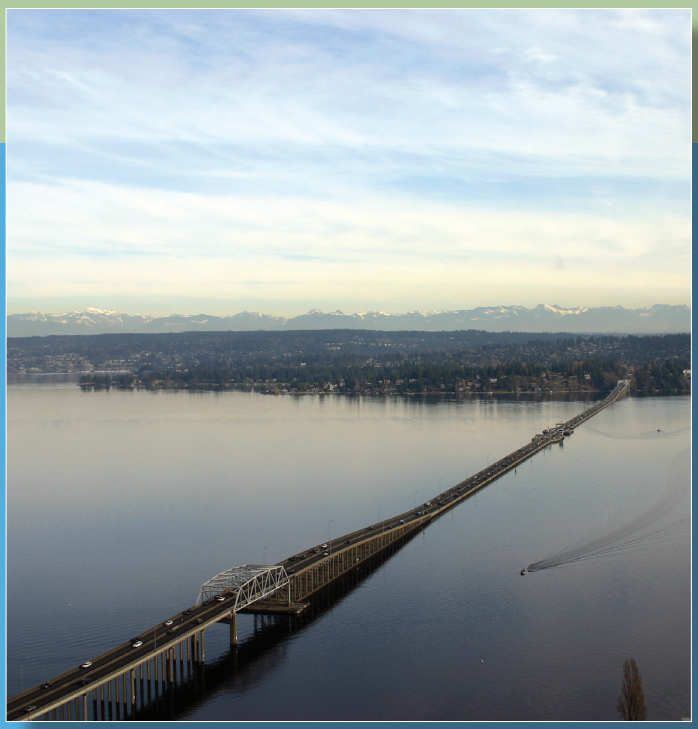
RECORD OF DECISION
SR 520 BRIDGE REPLACEMENT AND HOV PROGRAM

AUGUST 2011

SR 520, I-5 to Medina: Bridge Replacement and HOV Project



U.S. Department of Transportation
Federal Highway Administration

SR 520 Bridge Replacement and HOV Program

SR 520, I-5 to Medina: Bridge Replacement and HOV Project

FHWA-WA-EIS-06-02-F

Record of Decision

August 2011

Decision

The Federal Highway Administration (FHWA) has decided to select and construct the Preferred Alternative analyzed in the SR 520, I-5 to Medina: Bridge Replacement and HOV Project Final Environmental Impact Statement and Final Section 4(f) and 6(f) Evaluations (Final EIS) as the Selected Alternative for the State Route (SR) 520 I-5 to Medina: Bridge Replacement and High-Occupancy Vehicle (HOV) Project in King County, Washington.

The Selected Alternative shown in Exhibits 1 through 5 of this Record of Decision is the environmentally preferable alternative. The Selected Alternative would meet the project needs as well as or better than the other design options for the 6-Lane Alternative, and would have the least effect on the natural and built environment. It would avoid more environmental effects on parks and recreational resources, natural resources, cultural resources, right-of-way acquisition, noise, and visual quality; would have shorter construction duration and lower construction disruption overall; and would allow for regulatory permitting requirements to be met.

This decision is based on an evaluation of information presented in the Final EIS, the project's purpose and need, input from the public, and interagency and tribal coordination. Twenty-eight comments were received on the Final EIS during the waiting period after the Notice of Availability of the Final EIS appeared in the Federal Register. The comments and the responses from FHWA and WSDOT are included in this Record of Decision. Additional basis for this decision to proceed with the Selected Alternative is presented in the Record of Decision.

08/04/2011 — Daniel M. Mathis

Date of Approval

Daniel M. Mathis, P.E., Washington Division Administrator,
Federal Highway Administration

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1 Section 106 Programmatic Agreement

2 Public and Agency Comments on the Final EIS

3 Technical Memoranda Supporting the Responses to Comments on the Final EIS

4 Correspondence

Abbreviations and Acronyms

ABGC	Arboretum and Botanical Garden Committee
ACHP	Advisory Council on Historic Preservation
ALEA	Aquatic Lands Enhancement Account
APE	area of potential effects
BMPs	best management practices
CCMP	Community Construction Management Plan
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CTC	Concrete Technology Corporation
CTS	commitment tracking system
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DA	Department of the Army
DAHP	Washington State Department of Archaeology and Historic Preservation
Ecology	Washington State Department of Ecology
EIS	environmental impact statement
ESA	Endangered Species Act
ESSB	Engrossed Substitute Senate Bill
FHWA	Federal Highway Administration
HOV	high-occupancy vehicle
I-5	Interstate 5
JARPA	Joint Aquatic Resources Permit Application
LOS	level of service
LRT	light rail transit
LWCFA	Land and Water Conservation Fund Act
MOHAI	Museum of History and Industry
MTP	Metropolitan Transportation Plan
NAAQS	National Ambient Air Quality Standards
NAC	noise abatement criteria

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA Fisheries	National Oceanic and Atmospheric Administration, National Marine Fisheries Service
NPS	National Park Service
NRHP	National Register of Historic Places
NWFSC	Northwest Fisheries Science Center
PSCAA	Puget Sound Clean Air Agency
PSRC	Puget Sound Regional Council
RCW	Revised Code of Washington
RFP	request for proposals
RHA	Rivers and Harbors Act
SDOT	Seattle Department of Transportation
SHPO	State Historic Preservation Officer
SPCC	spill prevention, control, and countermeasures
SR	State Route
SWPPP	stormwater pollution prevention plan
SYC	Seattle Yacht Club
TCP	traditional cultural property
TCT	technical coordination team
TESC	temporary erosion and sediment control
TIP	Transportation Improvement Program
TWG	Technical Working Group
UDP	Unanticipated Discovery Plan
USC	United States Code
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UW	University of Washington
vph	vehicles per hour
WDFW	Washington Department of Fish and Wildlife
WSDOT	Washington State Department of Transportation

Introduction

The State Route (SR) 520, I-5 to Medina: Bridge Replacement and High-Occupancy Vehicle (HOV) Project (SR 520, I-5 to Medina Project) spans 5.2 miles of the SR 520 corridor and involves replacing the Evergreen Point, Portage Bay, and west approach bridges; addition of a continuous inside HOV lane, extending the existing HOV lanes on SR 520 in Medina to I-5 in Seattle with a direct connection to the I-5 express lanes; addition of a regional bicycle/pedestrian path; improvements to the Montlake and I-5/SR 520 interchanges; improvements to connectivity across the Montlake Cut in the Montlake interchange area; and construction of a new bridge maintenance facility on the Eastside. The project includes highway lids at two locations, 10th Avenue East and Delmar Drive East, and Montlake Boulevard. These lids would reconnect neighborhoods, enhance the movement of pedestrians and cyclists, restore and create views, and provide access to existing and new transit stops.

This project is one of four projects in the SR 520 Bridge Replacement and HOV Program. Each project has a separate purpose and need; each provides independent benefit to the region. The other three projects in the program are described briefly below. These projects have each undergone separate environmental review. Section 1.7 of the *SR 520, I-5 to Medina: Bridge Replacement and HOV Project Final Environmental Impact Statement and Final Section 4(f) and 6(f) Evaluations* (Final EIS) provides additional description of these projects and how they meet FHWA's criteria for logical termini under the National Environmental Policy Act (NEPA).

- **SR 520, Medina to SR 202: Eastside Transit and HOV Project.** This project will improve transit travel time and reliability in response to strong growth in jobs, housing, and transit demand east of Lake Washington. 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 FHWA issued a Finding of No Significant Impact (FONSI) on this project in May 2010.
- **SR 520 Pontoon Construction Project.** This 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. The project will build only enough pontoons to replace the existing 4-lane capacity of the bridge in a design that meets current standards. If the pontoons are not needed for catastrophic failure before construction begins on the SR 520, I-5 to Medina project, they will be used for the SR 520, I-5 to Medina project. FHWA issued a Record of Decision for the SR 520 Pontoon Construction Project in January 2011.
- **SR 520 Variable Tolling Project.** This project is a component of the Lake Washington Congestion Management Program, funded by a grant from the U.S. Department of Transportation. It includes automated electronic tolling on SR 520 to relieve existing congestion. FHWA issued a FONSI for this project in June 2009. Tolling for this project will be implemented in 2011.

The Federal Highway Administration (FHWA) and the Washington State Department of Transportation (WSDOT) released the *SR 520 Bridge Replacement and HOV Project Draft Environmental Impact Statement* (Draft EIS) in August 2006 for public comment (WSDOT 2006). A supplemental draft EIS for the project (the *SR 520, I-5 to Medina: Bridge Replacement and HOV Project Supplemental Draft Environmental Impact Statement and Section 4(f)/6(f) Evaluation* [SDEIS]) was released in January 2010 for public comment (WSDOT 2010a). The Notice of Availability for the *SR 520, I-5 to Medina: Bridge Replacement and HOV Project Final Environmental Impact Statement and Final Section 4(f) and 6(f) Evaluations* (WSDOT 2011) appeared in the Federal Register on June 17, 2011.

In the Draft EIS, FHWA and WSDOT analyzed the No Build Alternative, the 4-Lane Alternative, and the 6-Lane Alternative, along with several design options for the 6-Lane Alternative. The SDEIS

evaluated the No Build Alternative and three design options (A, K, and L) for the 6-Lane Alternative. The Final EIS includes the No Build Alternative, Options A, K, and L, and the Preferred Alternative, which is a modified version of Option A. FHWA and WSDOT determined that the Preferred Alternative would meet the project needs as well as or better than the other design options for the 6-Lane Alternative, and that it is the environmentally preferable alternative. The *Determinations and Findings* section below provides more detail on this finding. The Preferred Alternative is the SR 520, I-5 to Medina: Bridge Replacement and HOV Project Selected Alternative.

Purpose and Need

The purpose of the SR 520, I-5 to Medina 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. Although the project's eastern terminus has changed since the original purpose and need statement was adopted in 2000—from SR 202 in Redmond to Evergreen Point Road in Medina—the project still has the purpose of improving mobility within the SR 520 corridor, and its transportation performance is evaluated on a corridor-wide basis, as described in Chapter 5 of the Final EIS.

The Evergreen Point Bridge is a critical component of the Puget Sound region's transportation infrastructure. It is one of only two major connections across Lake Washington that link urban centers in Seattle and the Eastside. The SR 520, I-5 to Medina Project addresses two key issues facing the SR 520 corridor: 1) bridge structures that are vulnerable to catastrophic failure; and 2) traffic demand that exceeds capacity.

The Evergreen Point Bridge and its approaches are in danger of structural failure. 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 8 to 13 years. WSDOT also estimates that over the next 50 years, there is a 20 percent chance of serious damage to the Portage Bay Bridge and the east and west approach structures from an earthquake due to their hollow columns that do not meet current seismic design standards.

The floating span of the Evergreen Point Bridge opened in 1963 and now carries approximately 115,000 vehicles per day across the lake, providing east-west access for commuters, freight, transit, and general-purpose traffic. The corridor currently carries nearly twice as many vehicles as it was originally designed for, resulting in extended congestion and impaired mobility.

Alternatives

Development and Screening of Alternatives

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. Many potential solutions for the corridor have been developed and evaluated since that time. WSDOT, FHWA, and numerous stakeholders have worked through the years to identify and screen potential alternatives and design options. The alternatives development and screening process is summarized in

Table 1. More information is included in the Range of Alternatives and Options Evaluated report in Attachment 8 of the SDEIS.

A Notice of Intent for the SR 520 Bridge Replacement and HOV Project was published in 2000, and project scoping took place during that year. Alternatives were then identified, screened, and evaluated. The 2006 Draft EIS evaluated the effects of No Build, 4-Lane, and 6-Lane Alternatives, as well as several design options for the 6-Lane Alternative. The analysis indicated that the 6-Lane Alternative would provide substantial safety and mobility benefits, while the 4-Lane Alternative would not significantly increase mobility in the corridor. However, due to public, tribal, and agency concerns regarding the 6-Lane Alternative design, the State legislature enacted Engrossed Substitute Senate Bill (ESSB) 6099 in 2007. ESSB 6099 directed the Office of Financial Management to conduct a mediation process to develop new design options for the Seattle portion of the project area. This mediation process resulted in the three 6-lane design options evaluated in the SDEIS (Options A, K, and L):

- Option A would replace the existing Montlake interchange with a new interchange in a similar configuration and add a new drawbridge parallel to the existing Montlake Bridge. It offered the option of either replacing the existing Lake Washington Boulevard ramps in a new location or removing them altogether.
- Option K would replace the existing Montlake interchange and Lake Washington Boulevard ramps with a new depressed interchange at the Montlake shoreline and a tunnel beneath the Montlake Cut to an intersection at Pacific Street.
- Option L would replace the existing Montlake interchange and Lake Washington Boulevard ramps with a new elevated interchange at the Montlake shoreline and a drawbridge over the east end of the Montlake Cut to an intersection at Pacific Street.

Pages 2-9 through 2-13 of the Final EIS describe how Options A, K, and L were developed. The full analysis of these options from the SDEIS was included in the Final EIS to allow for comparison with the Preferred Alternative.

Alternatives and Design Options Eliminated from Further Study

The National Environmental Policy Act (NEPA) requires that an EIS examine all reasonable alternatives to the proposal (40 Code of Federal Regulations [CFR] 1502.14). FHWA guidance regarding what should be considered "reasonable" notes that: "if an alternative does not satisfy the purpose and need for the action, it should not be included in the analysis as an apparent and reasonable alternative" (FHWA 2011). Additionally, reasonable alternatives are considered "those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant" (Council on Environmental Quality [CEQ] 2011a). The CEQ's guidance also states that "When there are potentially a very large number of alternatives, only a reasonable number of examples, covering the full spectrum of alternatives, must be analyzed and compared in the EIS… What constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case."

Over the course of the NEPA process, FHWA and WSDOT eliminated some alternatives and design options from further study after evaluation determined either that they did not meet the project purpose and need, or that they were not reasonable alternatives. The following alternatives and designs were considered during the project development process, but were not carried through to the Final EIS.

Table 1

History of SR 520, I-5 to Medina Project NEPA Process and Alternatives

Trans-Lake Washington Study (1998 –1999)		
NEPA/Project Element	Goal/Purpose and Need	Address traffic congestion across and around Lake Washington.
	Screening	Study committee identified and evaluated potential solutions.
	Alternatives	Seven "solution sets" representing different mixes of roadway, transit, transportation demand management and transportation systems management solutions developed
Process	6-Lane Design Options	N/A
	Activities	Identified and evaluated potential solutions: new corridors, new modes (ferry, high-capacity transit), increased capacity on existing corridors, crossing methods (tubes, tunnels), demand management.
	Recommendations and Outcomes	Move forward with improvements to SR 520. Prepare EIS to evaluate the following alternatives: No Build, 4-Lane, 6-Lane (with and without HCT), 8-Lane (with and without HCT).
EIS Initiation and Alternatives Screening (2000 – 2002)		
NEPA/Project Element	Goal/Purpose and Need	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.
	Screening	Two levels of screening criteria developed from Purpose and Need and applied to Trans-Lake alternatives.
	Alternatives	Project corridor alternatives evaluated: No Build, 4-Lane, 6-Lane, 8-Lane.
Process	6-Lane Design Options	N/A
	Activities	Developed Purpose and Need statement based on Trans-Lake findings. Established screening criteria.
	Recommendations and Outcomes	Evaluate No Build, 4-Lane, and 6-Lane Alternatives in Draft EIS. Do not further evaluate 8-Lane Alternative. Do not further evaluate new corridors and crossing methods due to risk, impacts, and cost. Continue regional planning assumptions of I-90 as initial HCT corridor. Defer HCT on SR 520 in near term, but provide long-term compatibility.
Draft EIS (Released August 2006)		
NEPA/Project Element	Goal/Purpose and Need	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.
	Screening	Design options proposed by community members were screened using original criteria.
	Alternatives	Project corridor alternatives evaluated: No Build, 4-Lane, 6-Lane, 8-Lane (described rationale for dropping), Eastside options.
Process	6-Lane Design Options	Evaluated: Pacific Street Interchange (PSI), Second Montlake Bridge, No Montlake Freeway Transit Stop.

Table 1

History of SR 520, I-5 to Medina Project NEPA Process and Alternatives

	Activities	Conducted coordination and outreach with local jurisdictions, resource agencies, and the public. Prepared and published Draft EIS incorporating evaluation of No Build, 4-Lane, and 6-Lane Alternatives and 6-Lane design options. Seattle City Council Resolution 30974 provided guidance on design elements and mitigation measures to be included in replacement alternative.
	Recommendations and Outcomes	Traffic modeling identified 6-Lane Alternative as better meeting Purpose and Need. 4-Lane does not meet mobility portion. 6-Lane Alternative improves mobility overall. PSI option provides best local mobility in Seattle, but increases impacts to wetlands, aquatic habitat, and parks compared to 6-Lane base. Gov. Gregoire identified 6-Lane Alternative as "best serving needs of regional transportation system."
Supplemental Draft EIS (Released January 2010)		
NEPA/Project Element	Goal/Purpose and Need	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.
	Screening	Mediation group identified shortlist of options (A, K, L); FHWA and WSDOT agreed to evaluate.
	Alternatives	Draft EIS 6-Lane Alternative and design options dropped from further analysis. SDEIS evaluated: No Build, 4-Lane (traffic analysis only), 6-Lane with design options noted below.
Process	6-Lane Design Options	Evaluated: Option A: new Montlake bascule bridge; Option K tunnel under the Montlake Cut and lowered SPUI; Option L diagonal bridge over the Montlake Cut and surface SPUI.
	Activities	Legislation (ESSB 6099) directed development of a 6-lane corridor interchange design for the Montlake area through a mediated community involvement process. Seattle City Council Resolution 31109 comments on results of mediation and confirms City recommendations for corridor. Mediation explored 12 design options but did not reach a consensus solution. Prepared discipline reports to evaluate the impacts of Options A, K, and L. Conducted coordination and outreach with agencies and the public. Legislative Workgroup created by legislation (ESHB 2211) recommended Option A with suboptions.
	Recommendations and Outcomes	4-Lane Alternative not further considered after updated traffic analysis confirms it fails to meet Purpose and Need. Mediation participants agree on three options to carry forward: A, K, and L. WSDOT evaluates A, K, and L in the SDEIS. Preferred Alternative identified following comments on SDEIS.
Final EIS (Released June 2011)		
NEPA/Project Element	Goal/Purpose and Need	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.
	Screening	N/A
	Alternatives	No Build and Preferred Alternative.

Table 1

History of SR 520, I-5 to Medina Project NEPA Process and Alternatives

Process	6-Lane Design Options	Options A, K, and L compared to Preferred Alternative.
	Activities	Prepare final evaluation of Preferred Alternative and compare to SDEIS design options.
	Recommendations and Outcomes	Proceed with preparation of Record of Decision.

N/A = not applicable

Alternatives Eliminated Prior to the Draft EIS

- **Alternatives involving different modes (e.g., ferry service) and/or new corridors across Lake Washington** were evaluated during the Trans-Lake project. These alternatives were either found not to provide sufficient mobility to meet the project purpose and need (e.g., ferries) or determined not to be reasonable because of the severity of their impacts (e.g., a new corridor from Sand Point to Kirkland). The 2009 Range of Alternatives and Options Evaluated report in Attachment 8 of the SDEIS provides additional information on these alternatives.

- **An alternative that would retrofit the Evergreen Point Bridge and/or the fixed structures** was initially considered during the Trans-Lake project. Retrofitting was determined not to be a reasonable alternative because it would not meet the project purpose and need of improving safety and mobility. Retrofit of the floating bridge is not feasible due to structural and pontoon flotation limitations. Retrofit of the fixed structures would cost nearly as much as building new structures and would have similar environmental effects. Additional evaluation by WSDOT during the SR 520 mediation process confirmed that retrofitting was not a reasonable alternative. The text box on page 2-3 of the Final EIS, pages 2-10 and 2-11 of the Final EIS, and the 2009 Range of Alternatives and Options Evaluated report (Attachment 8 of the SDEIS) provide further discussion of how retrofitting of the existing structures was considered.

- **An alternative that would include light rail transit in the SR 520 corridor** has been considered several times during project planning. However, the decision to locate Sound Transit's initial east-west light rail transit corridor across Lake Washington on I-90 rather than SR 520 has been made through extensive regional deliberation. Regional decision-making on east-west mass transit routes began in 1967 when the Comprehensive Public Transportation Plan for the Seattle Metropolitan Area identified a rail corridor from Seattle to Bellevue and Redmond on I-90. Subsequent studies and agreements over the next 40 years have all continued to identify I-90 as the preferred rail transit corridor, with predicted ridership similar to or greater than SR 520 and substantially lower costs and environmental effects. Table 2-2 of the Final EIS illustrates the history of this decision-making. However, as discussed in the description of the Selected Alternative below, the proposed bridge structures will be compatible with potential future light rail transit in the corridor.

- **An 8-Lane Alternative** was initially planned for inclusion in the Draft EIS. However, before the Draft EIS was published in 2006, it was dropped from further evaluation because transportation analysis showed that the increased traffic flow on SR 520 would have major impacts and necessitate extensive improvements to I-5 and the SR 520/I-405 interchange, and those improvements would also result in substantial impacts. Pages 2-6 and 2-14 of the Final EIS and the 2009 Range of Alternatives and Options Evaluated report (Attachment 8 of the SDEIS) provide further discussion.

Alternatives and Design Options Eliminated Prior to the SDEIS

- **A 4-Lane Alternative** was evaluated in the Draft EIS. While the 4-Lane Alternative improved safety and reliability in the corridor by providing new structures with wider lanes and shoulders to meet current highway standards, 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. This conclusion was confirmed by additional traffic modeling of the 4-Lane Alternative performed for the SDEIS. Pages 2-13 and 2-14 of the Final EIS discuss the reasons for elimination of the 4-Lane Alternative.

- **6-Lane design options B through J**, developed by the SR 520 mediation group, were not carried forward into the SDEIS for one of three reasons: 1) they were specifically eliminated during the mediation process; 2) they had been screened out by FHWA and WSDOT during previous alternatives analyses under NEPA; and/or 3) they were incorporated into or evolved into other design options that were carried forward. Chapter 1 of the SDEIS provides more information on the development of the mediation design options.

Further Evaluation of Alternatives and Design Options after the SDEIS

- **A "transit-optimized" 4-Lane Alternative** was evaluated following the SDEIS, as suggested by several public comments on that document. This variation on the 4-Lane Alternative was designed to provide the same travel time benefits for transit vehicles as a 6-lane SR 520 by tolling the corridor at a level that would maintain free-flow traffic conditions. While tolling at these levels would improve operations on SR 520, it would result in substantially increased congestion on I-90, with corresponding impacts on the built and natural environment. This alternative is also inconsistent with regional plans and policies, which over the past decade have continued to affirm the importance of completing the regional HOV system. Based on these considerations, FHWA and WSDOT concluded that a transit-optimized 4-Lane Alternative did not merit further study. Pages 2-20 and 2-21 and Attachment 19 of the Final EIS discuss the basis for this conclusion.

- **"Option M,"** proposed after the mediation process ended, would follow a similar alignment to Option K but would be constructed with an immersed tube tunnel rather than an excavated tunnel. Although preliminary analysis suggested that this design change had the potential for cost savings, the overall cost of Option M would have been substantially higher than the lowest-cost option (Option A). In addition, discussions with resource agencies and tribes indicated that the construction effects of the required open-channel dredging might have posed insurmountable difficulties in project permitting, given that lower-impact options were available. In light of these environmental and cost concerns, Option M was determined not to be reasonable and was not carried forward. See pages 2-26 and 2-27 of the Final EIS for more information.

- **Initial implementation of light rail transit (LRT) on SR 520** was proposed in comments on the SDEIS. This alternative involved constructing and operating a light rail line in the SR 520 corridor concurrently with construction of the SR 520, I-5 to Medina project. Although alternatives with LRT had been eliminated prior to the Draft EIS, WSDOT worked with Sound Transit on an updated analysis of potential routes and ridership for LRT in the corridor. This analysis (summarized in Chapter 2 and detailed in Attachment 19 of the Final EIS) indicated that LRT on SR 520 would not provide mobility benefits before 2030 because of service duplication with Sound Transit's approved and funded East Link project. WSDOT refined the Preferred Alternative design to make it more compatible with the future addition of light rail at such time as demand may warrant its construction.

Alternatives Considered in the Final EIS

The Final EIS considered the No Build Alternative, the Preferred Alternative, and the 6-lane design options A, K, and L. The No Build Alternative and 6-lane design options were carried forward from the SDEIS. The Preferred Alternative is a modified version of the Option A design evaluated in the SDEIS,

and thus is within the range of alternatives evaluated in the SDEIS. The modifications to the Option A design that are part of the Preferred Alternative were based on public, tribal, and agency input and resulted in reduced impacts on many resources. As stated above, the Preferred Alternative is the Selected Alternative for the SR 520, I-5 to Medina project.

The build alternatives considered in the Final EIS all include replacement of the SR 520 structures between I-5 and Medina with new structures containing four general-purpose lanes and two HOV lanes. In combination with the SR 520, Medina to SR 202: Eastside Transit and HOV Project, this would create continuous HOV lanes throughout the SR 520 corridor from Redmond to I-5. The Selected Alternative and Options A, K, and L would also provide wider lanes and shoulders (compared to existing conditions) to meet current highway standards, a reversible transit/HOV ramp connecting SR 520 to the I-5 express lanes, a regional bicycle/pedestrian path across Lake Washington, a bridge maintenance facility under the east approach structure, stormwater treatment, and variable-rate tolling for vehicles crossing the floating bridge. The Selected Alternative and Options A, K, and L differ primarily in their design for the Seattle portion of the project (from I-5 through the west approach structures). Although the alignment of the floating bridge is common to all options studied, the bridge height is lower with the Selected Alternative than under Options A, K, and L in response to public concerns reflected in comments on the SDEIS.

Ability of Alternatives to Meet the Project Purpose and Need

The Selected Alternative and Options A, K, and L would all meet the project purpose and need. They would improve mobility in the SR 520 corridor by moving more people in fewer vehicles and increasing the share of trips that use transit. They would also replace vulnerable structures and provide wider lanes and shoulders for greater safety. All are consistent with regional transportation plans and the *SR 520 High-Capacity Transit Plan* (WSDOT, Sound Transit, and King County Metro 2008).

Benefits Common to Alternatives

The Selected Alternative and Options A, K, and L would perform similarly for highway traffic operations and would result in decreased congestion, improved traffic flow, and decreased travel times compared to the No Build Alternative. All would result in some improvements to local traffic operations in the project area compared to the No Build Alternative, with relatively small differences between the options.

Over the long term, the project will contribute to improved air quality and water quality, and will reduce energy use and greenhouse gas emissions in the SR 520 corridor compared to the No Build Alternative. It will also contribute to improved community cohesion in areas where lids are provided, and to increased opportunities for nonmotorized travel.

Rationale for Decision

The EIS process, as defined by NEPA and SEPA, requires an evaluation of a reasonable range of alternatives that would meet project purpose and need. The analyses contained within the Draft EIS, SDEIS, and Final EIS demonstrate that of the range of alternatives considered, a 6-lane corridor would best meet project purpose and need. As a result of these analyses, input from the legislative workgroups, and input from the community and agencies, FHWA and WSDOT developed the Selected Alternative, which meets project purpose and need while minimizing environmental effects.

The Selected Alternative would meet project purpose and need by:

- Improving safety by replacing the existing vulnerable structures with facilities designed to modern standards that will better resist windstorms and earthquakes. Widening shoulders will also make travel safer and more reliable.
- Improving mobility by completing the HOV lane system so that more people can travel through the corridor in fewer vehicles.

- Saving general-purpose traffic and transit riders up to 24 minutes in crossing the SR 520 corridor in 2030 compared to the No Build Alternative.
- Reducing transit travel times by up to 12 minutes on Montlake Boulevard compared to the No Build Alternative.
- Adding new commuting options by extending the Eastside SR 520 bike/pedestrian path across Lake Washington to connect to local and regional trails in Seattle.
- Providing safe, efficient connections for bicyclists, pedestrians, and bus riders to the Montlake Triangle and the University Link light rail station.
- Accommodating near-term bus rapid transit service planned by King County Metro and Sound Transit and future light rail if voted on and funded by the region.

Before identifying the Selected Alternative, FHWA and WSDOT evaluated effects on parks and recreational resources, natural resources, cultural resources, and visual quality; right-of-way acquisition requirements; noise effects; overall construction duration and disruption; and the likelihood of obtaining the necessary permit approvals for each of the design options. Compared to the SDEIS design options, the Selected Alternative would result in the least overall net harm to parks and recreational resources, natural resources, cultural resources, and visual quality. It has the lowest required right-of-way acquisition. With regard to noise, it has the best balance of acoustic and aesthetic effects compared to the other build alternatives because it includes a number of design components that reduce the number of recommended noise walls compared to those recommended under Options A, K, and L. Many public comments expressed concern about the effects of noise walls on visual quality.

Options K and L would require a longer construction period than the Selected Alternative and Option A, and would entail greater disruption associated with construction, because they would each include a new single-point urban interchange east of the existing Montlake interchange. The construction duration and effects would be more intensive under Option K than Option L because of the excavation required for Option K's depressed interchange, and both would result in considerably more disruption than the Selected Alternative and Option A.

Option K would have substantially greater impacts on wetland and aquatic resources than the other SDEIS design options and received a considerable number of negative comments from regulatory agencies. Under Section 404(b)(1) of the Clean Water Act, which requires selection of the least environmentally damaging practicable alternative, the large amount of in-water fill that would be required could result in difficulties in obtaining the required permits to construct Option K. This would create a risk of not obtaining the required permits and approvals for project construction.

Of the SDEIS design options, Option A performed best with respect to the values noted above. However, WSDOT and FHWA determined that Option A could be further modified to address public, agency, and tribal comments on the SDEIS, while maintaining similar benefits to mobility and continuing to meet the project purpose and need. This was confirmed in the Final EIS analyses of the Preferred Alternative, which is a modified version of the Option A design, and in the Final EIS analysis of harm to properties protected under Section 4(f) of the U.S. Department of Transportation Act of 1966. The Selected Alternative is also estimated to be the least-cost alternative compared to the SDEIS design options.

Selected Alternative (Preferred Alternative)

The Selected Alternative is the Preferred Alternative evaluated in the Final EIS. As discussed above, the Selected Alternative (Preferred Alternative) is a modified version of the Option A design presented in the SDEIS. Option A was modified to avoid and minimize harm based on public, tribal, and agency concerns expressed about the SDEIS. The Preferred Alternative was identified by FHWA and WSDOT in April

2010 and was refined through the ESSB 6392 workgroup process (described on pages 1-23 through 1-25 of the Final EIS).

In addition to the components common to all of the Final EIS build alternatives (discussed in Alternatives Considered in the Final EIS above), the main design components of the Selected Alternative are as follows:

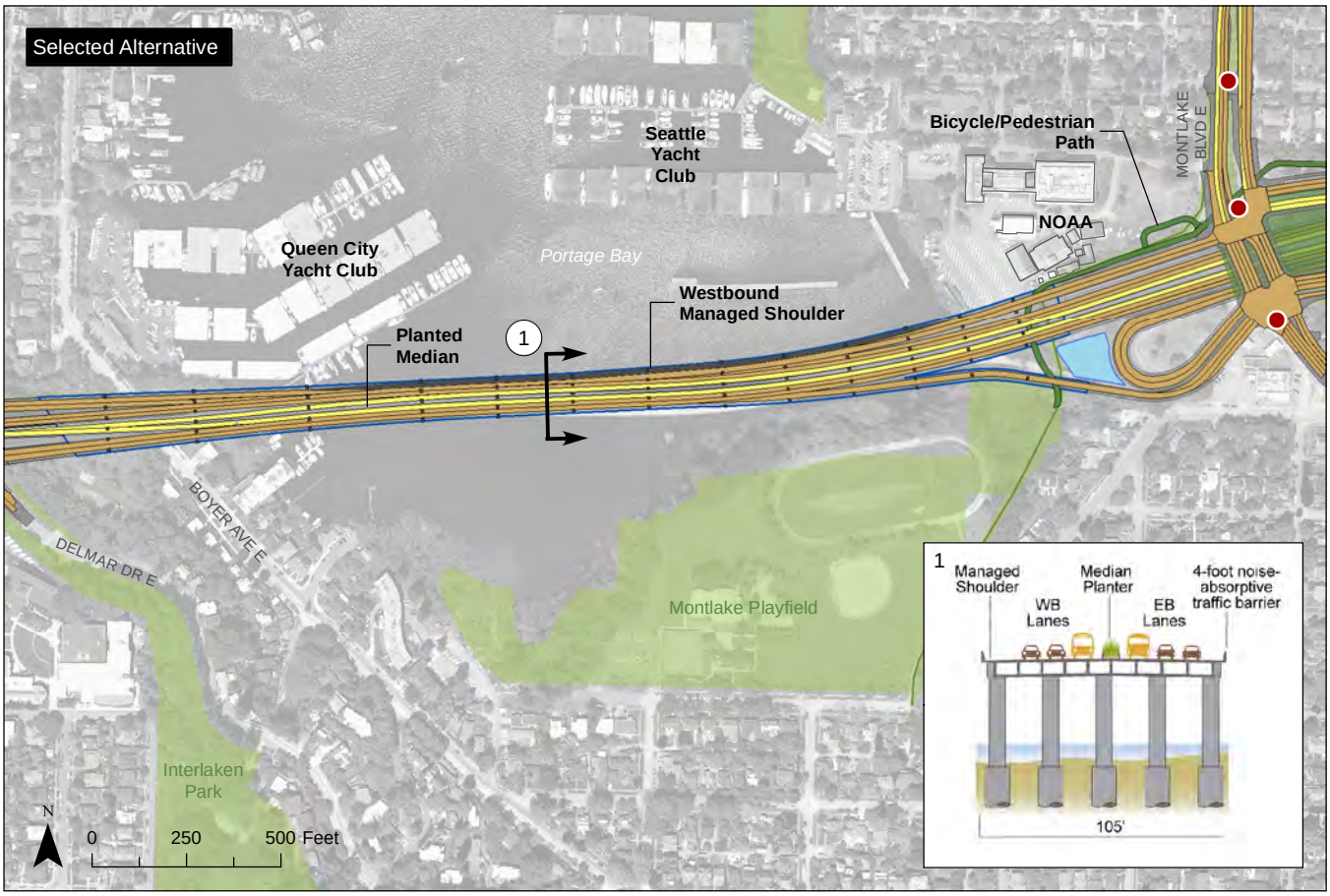
- An enhanced bicycle/pedestrian path crossing over I-5 will be constructed adjacent to the existing Roanoke Street Bridge.
- A lid will span SR 520 between 10th Avenue East and Delmar Drive East. (Each of these streets currently crosses SR 520 on its own overpass.) The lid will function as a vehicle and pedestrian crossing, a landscaped area, and open space.
- The Portage Bay Bridge will be replaced with a wider and, in some locations, higher structure with six travel lanes and a 14-foot-wide westbound managed shoulder. The alignment is revised compared to Option A, with the eastern end of the Portage Bay Bridge shifted south. The Preferred Alternative is not as wide in this area as Option A because its inside and eastbound outside shoulders are narrower, and because a managed shoulder has replaced the auxiliary lane of Option A. The bridge is anticipated to include a landscaped median.
- From I-5 across the Portage Bay Bridge to the west approach, SR 520 will have a reduced speed limit of 45 miles per hour. This will allow for the narrower shoulders described above and will also reduce noise.
- The Montlake interchange will remain in essentially the same location as the existing interchange. A 1,400-foot-long lid will be constructed between Montlake Boulevard and the Lake Washington shoreline, and will include direct-access ramps to and from the east on SR 520. Access to Lake Washington Boulevard will be provided via a new intersection located on the lid at 24th Avenue East. New HOV/transit direct-access ramps will be provided between SR 520 and Montlake Boulevard, with a signalized intersection at 24th Avenue, and transit connections will be provided on the lid to facilitate access between Seattle neighborhoods and the Eastside. The transit stops on the lid will replace some functions of the Montlake Freeway Transit Station, which will be removed.
- A new bascule bridge will be constructed over the Montlake Cut parallel to the existing Montlake Bridge, and Montlake Boulevard will be restriped for two general-purpose lanes and one HOV lane in each direction between SR 520 and the Montlake Cut.
- The existing Lake Washington Boulevard ramps to and from SR 520 and the R.H. Thomson Expressway ramps will be removed.
- The west approach bridge will be replaced with wider and higher structures, maintaining a constant profile rising from the shoreline at Montlake out to the west transition span.
- The bridge structures will be compatible with potential future light rail transit in the corridor.
- The new floating span will 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. The floating bridge will be approximately 20 feet above the water surface (about 10 feet higher than the existing bridge), compared to 30 feet above the water surface for the SDEIS design options. The roadway deck support will be constructed of concrete columns and steel trusses.
- Innovative noise reduction strategies will be used throughout the corridor. They include 4-foot concrete traffic barriers with noise-absorptive coating, noise-absorptive materials around lid portals, and encapsulated bridge expansion joints. Noise walls are recommended only on the Eastside on both sides of SR 520 from east of the floating span to Evergreen Point Road. Quieter concrete pavement will also be used.

Exhibits 1 through 5 show the main elements of the Selected Alternative.

Aerial View of 10th Avenue and Delmar Drive Lid

- Columns
- Signalized intersection
- General-purpose lane
- HOV, direct access, and/or transit-only lanes
- Westbound managed shoulder
- Stormwater treatment facility
- Lid or landscape feature
- Pavement

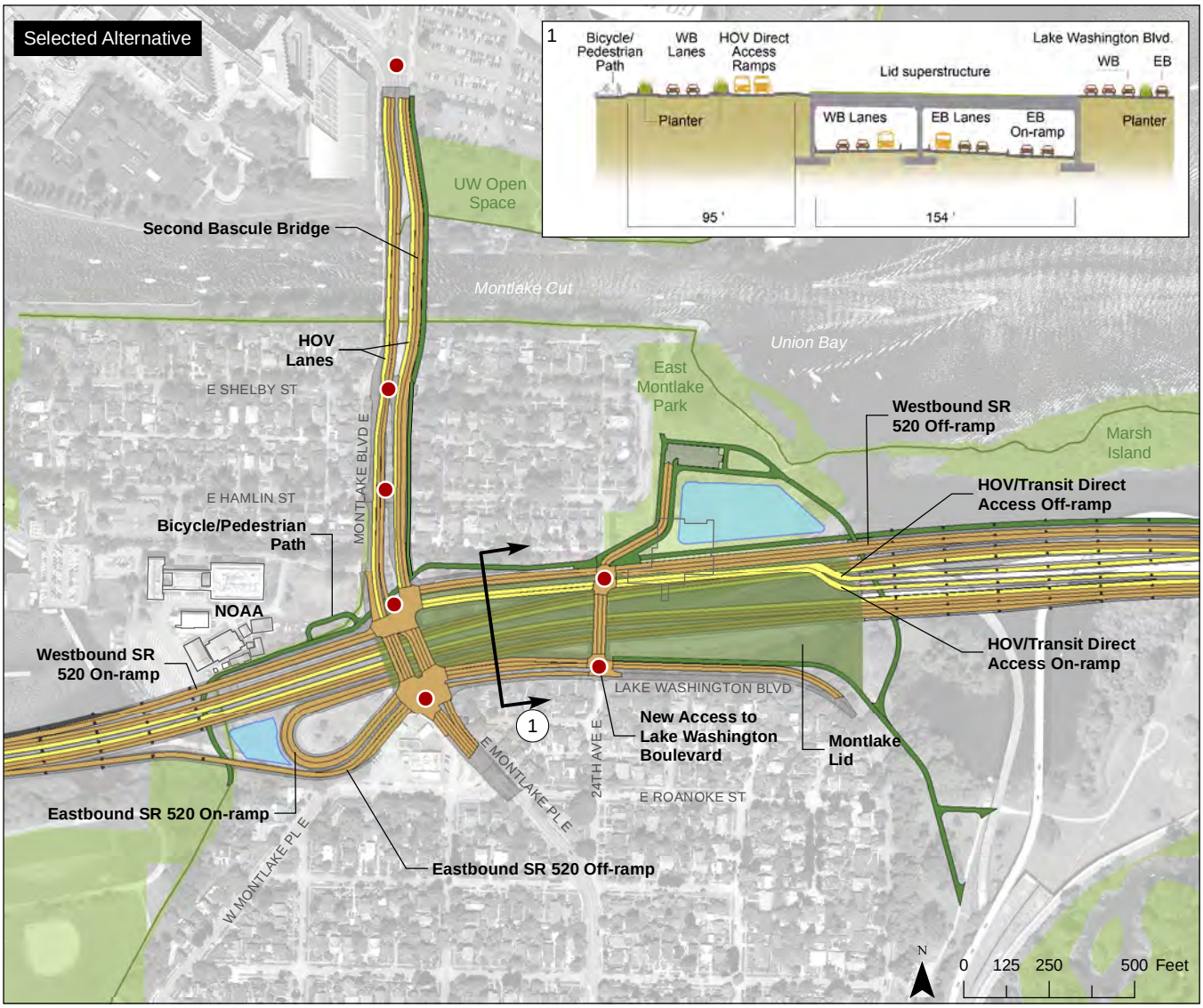
Exhibit 1. **I-5 Area**



Looking Southwest from NOAA Picnic Lawn toward Portage Bay Bridge

- Columns
- Signalized intersection
- Existing regional bicycle/ pedestrian path
- Bicycle/pedestrian path
- Lid or landscape feature
- General-purpose lane
- HOV, direct access, and/or transit only
- Westbound managed shoulder
- Bridge limits
- Stormwater treatment facility
- Pavement

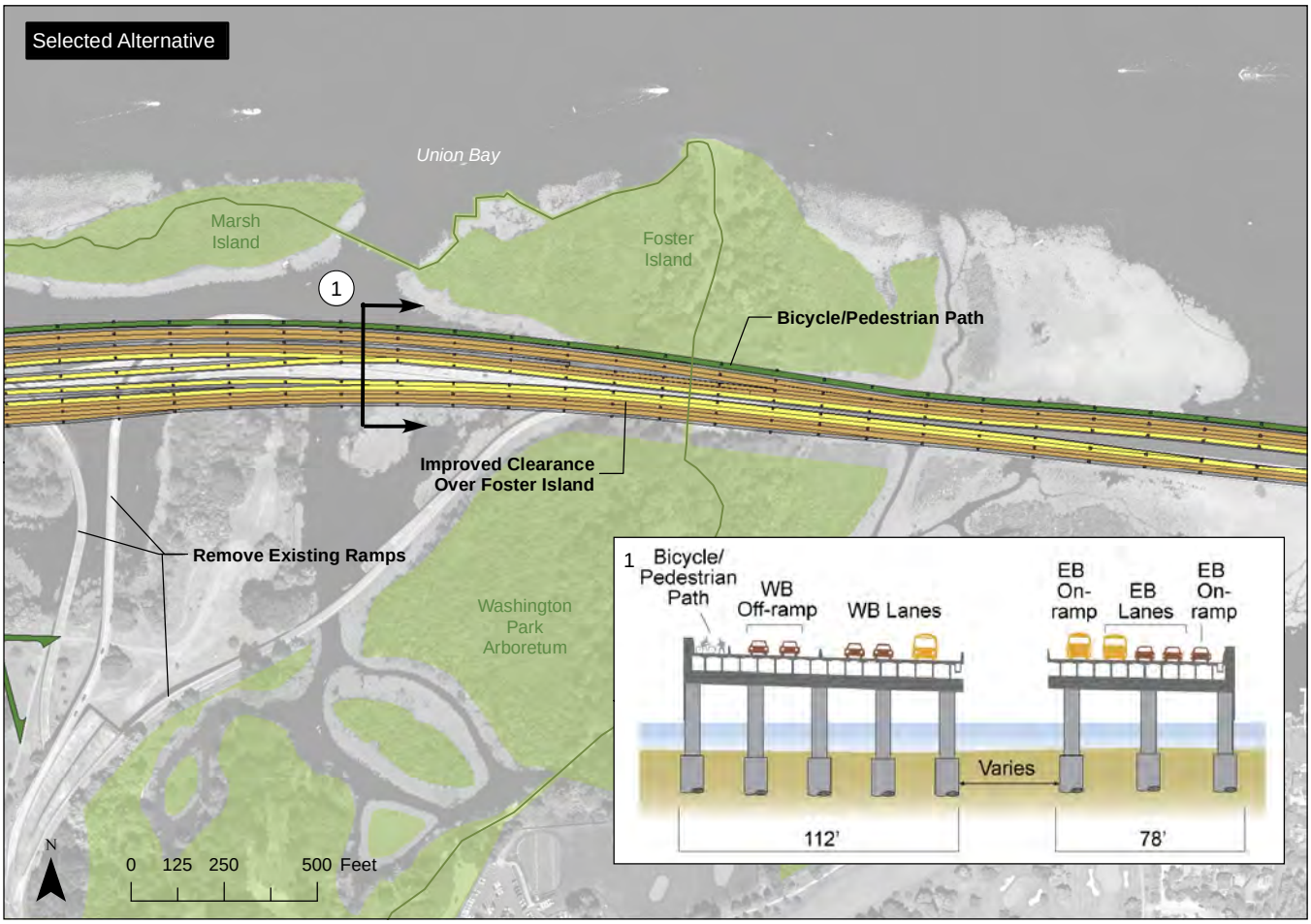
Exhibit 2. **Portage Bay Bridge**



Aerial View of Montalke Lid

- Columns
- Signalized intersection
- Existing regional bicycle/pedestrian path
- Pavement
- Lid or landscape feature
- General-purpose lane
- HOV, direct access, and/or transit-only lanes
- Bicycle/pedestrian path
- Stormwater treatment facility

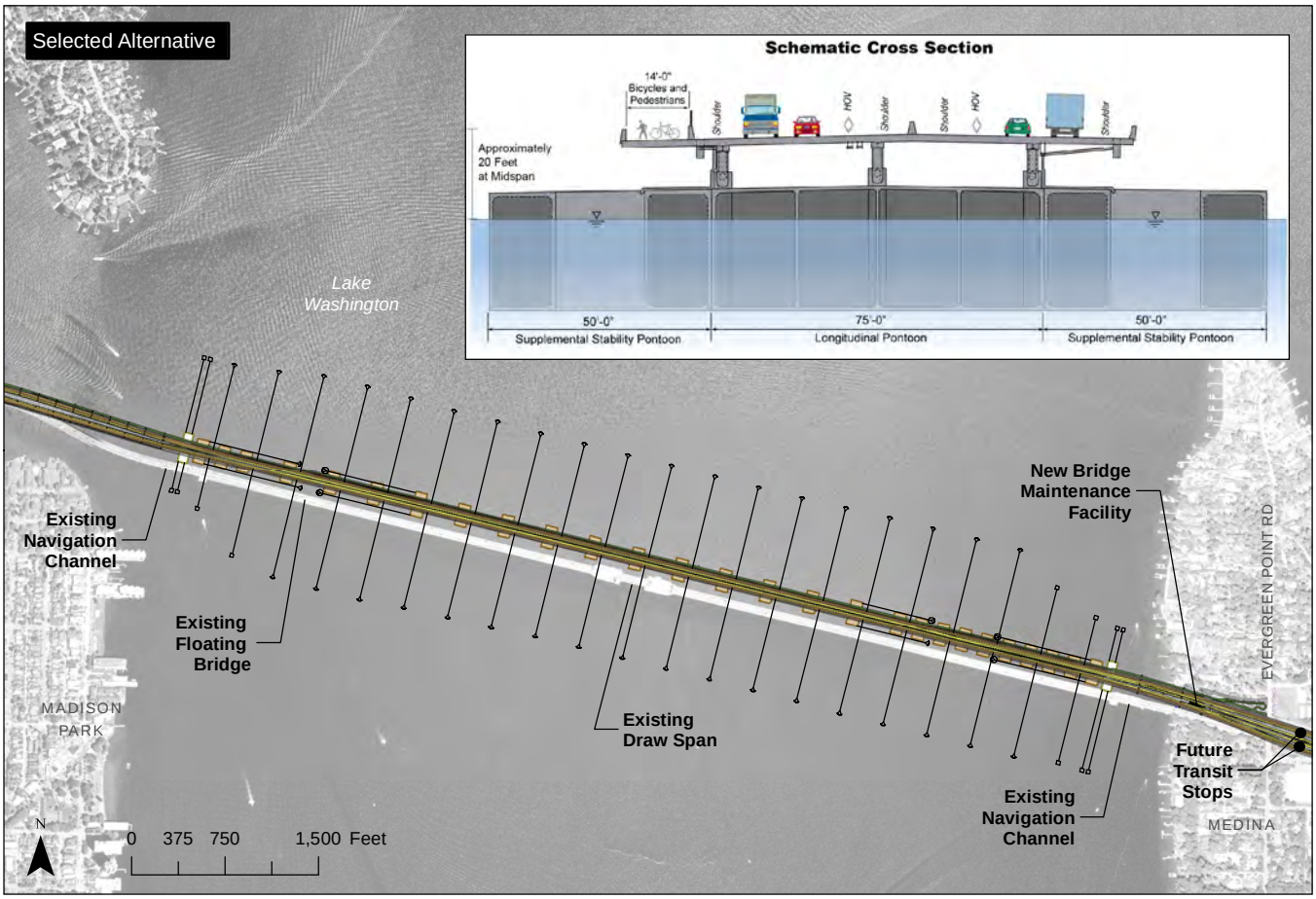
Exhibit 3. **Montlake Area**



Looking Northwest toward West Approach and Husky Stadium

- Existing regional bicycle/pedestrian path
- General-purpose lane
- HOV, direct access, and/or transit-only lanes
- Bicycle/pedestrian path

Exhibit 4. **West Approach**



Looking Northeast across Lake Washington at Evergreen Point Bridge

- Columns
- Existing regional bicycle/pedestrian path
- General-purpose lane
- HOV, direct access, and/or transit-only lanes
- Bicycle/pedestrian path
- Cross pontoon
- Longitudinal pontoon
- Supplemental stability pontoon

Exhibit 5. **Evergreen Point Bridge**

Option A

In addition to the components common to all of the build alternatives presented in the Final EIS, Option A includes the following components:

- A lid would span I-5 between Boylston Street and Harvard Avenue East. Roanoke Street would cross I-5 on this lid.
- A lid would be provided between 10th Avenue East and Delmar Drive East, similar to the Selected Alternative.
- The new Portage Bay Bridge would include a westbound auxiliary lane in addition to the two general-purpose lanes and one HOV lane in each direction, as well as wider shoulders. There would be no landscaped median and the speed limit would be similar to the rest of the corridor.
- A new westbound HOV off-ramp would be provided at the Montlake interchange; eastbound HOV access would be provided at the Montlake interchange via loop ramp as it is today, but with an added HOV bypass. The Montlake Freeway Transit Station on SR 520 would be removed, and a westbound SR 520 buses-only off-ramp would be provided to Montlake Boulevard as a fifth leg to the westbound ramp terminus. A suboption to Option A would add an eastbound HOV direct-access on-ramp from Montlake Boulevard.
- A partial Montlake lid would extend from west of Montlake Boulevard to east of 24th Avenue NE.
- Montlake Boulevard would be widened and a new bascule bridge would be constructed parallel to the existing Montlake Bridge, similar to the Selected Alternative.
- The SR 520 west approach structures would be replaced with wider structures. The new bridge would have a somewhat higher profile than today's structures through the Arboretum. A suboption to Option A would revise this to a constant-slope profile in the west approach area.
- The existing Lake Washington Boulevard eastbound on-ramp and westbound off-ramp and the unused R.H. Thomson Expressway ramps would be removed. A suboption to Option A would replace the Lake Washington Boulevard ramps with a new configuration that keeps them closer to the mainline.
- The roadway of the new floating bridge would be about 22 feet higher than the existing bridge.

Option K

In addition to the components common to all of the build alternatives presented in the Final EIS, Option K includes the following components:

- A lid would span I-5 between Boylston Street and Harvard Avenue East, as with Option A.
- A 10th Avenue East and Delmar Drive East lid would be provided, similar to the Selected Alternative and Option A.
- The Portage Bay Bridge would be narrower at its eastern end than with the Selected Alternative and Option A because it would not include a managed shoulder (like the Selected Alternative) or an auxiliary lane (like Option A). However, shoulder widths would be similar to Option A.
- The existing SR 520 interchange with Montlake Boulevard and the existing Lake Washington Boulevard ramps would be removed and replaced with a depressed single-point urban interchange near the current location of the Museum of History and Industry (MOHAI). The single-point urban interchange would be constructed 30 to 50 feet below the existing SR 520 main line, with large retaining walls around its perimeter.

- Ramps north of the single-point urban interchange would tunnel under the Montlake Cut. The two 2-lane, 2,000-foot-long tunnels would surface north of the cut where the University of Washington Husky Stadium parking lot is today, and would connect to a reconstructed Pacific Street/Montlake Boulevard intersection.
- The existing Montlake interchange on- and off-ramps would be removed and would not be replaced. A suboption to Option K would add an eastbound SR 520 off-ramp to Montlake Boulevard that would be a right-turn-only onto Montlake Boulevard heading southbound.
- A lid would be provided over SR 520 in the Montlake area and would extend from west of Montlake Boulevard to east of 24th Avenue East.
- The existing Lake Washington Boulevard eastbound on-ramp and westbound off-ramp and the unused R.H. Thomson Expressway ramps would be removed.
- On the south side of SR 520, the new four-lane ramp would connect SR 520 to the Arboretum area.
- The roadway across Foster Island would be depressed and covered by a land bridge. East of Foster Island, the west approach structure would maintain a low profile past Madison Park, and then rise to meet the elevation of the new transition span to the floating bridge.
- Like Option A, the roadway of the new floating bridge would be about 22 feet higher than the existing bridge.

Option L

In addition to the components common to all of the build alternatives presented in the Final EIS, Option L includes the following components:

- A lid would span I-5 between Boylston Street and Harvard Avenue East, similar to Options A and K.
- A 10th Avenue East and Delmar Drive East lid would be provided, similar to all build alternatives.
- Like Option K, the Portage Bay Bridge would be narrower at its eastern end than with the Selected Alternative and Option A because it would not include a managed shoulder (like the Selected Alternative) or an auxiliary lane (like Option A). Shoulder widths would be similar to Options A and K.
- The existing SR 520 interchange with Montlake Boulevard and the existing Lake Washington Boulevard ramps would be removed and replaced with a single-point urban interchange near the current location of MOHAI. However, unlike Option K, Option L would locate the single-point urban interchange on structures 20 to 25 feet above the SR 520 main line; the new interchange would carry traffic on the structures, while the main line lanes would pass below.
- Ramps located north of the single-point urban interchange would pass over the Montlake Cut on a new diagonal bascule bridge with two lanes in each direction and connect to a reconstructed Pacific/Montlake intersection near the University of Washington. A suboption to Option L would widen Montlake Boulevard NE between NE Pacific Street and 27th Avenue NE.
- Ramps located south of the single-point urban interchange would travel through the Arboretum and connect to Lake Washington Boulevard near the existing ramps. A suboption to Option L would add left-turn access from Lake Washington Boulevard onto the single-point urban interchange south ramp.
- The existing Lake Washington Boulevard eastbound on-ramp and westbound off-ramp and the unused R.H. Thomson Expressway ramps would be removed.

- Bridge height over Foster Island would be higher than the existing bridge. The SR 520 roadway would remain elevated across Foster Island, rather than touching land as it does today. The west approach structures would maintain a constant slope from the shoreline at Montlake and steadily rise as they continued east until the bridge elevation met the required elevation at the new transition span.
- Like Options A and K, the roadway of the new floating bridge would be about 22 feet higher than the existing bridge.

No Build Alternative

The No Build Alternative analyzed in the Draft EIS, SDEIS, and Final EIS assumes no changes to existing facilities. It would remain vulnerable to catastrophic failure from high winds and earthquakes. It does not meet the purpose and need of improving safety and mobility. The No Build Alternative served as a baseline for analysis of the build alternatives.

Effects of the Selected Alternative Compared to Options A, K, and L

Parks and Recreational Resources

A number of park and recreational facilities are located in the project area, including eight City of Seattle parks, one City of Medina park, six designated trails, one historic boulevard, two private yacht clubs, and two University of Washington (UW) recreational facilities (further information is contained in Section 4.4 of the Final EIS). Some of the parks and recreational facilities in the project area are of local, regional, or even national significance, and therefore are protected by Section 4(f). Potential effects on these resources are examined and further discussed in the Final Section 4(f) Evaluation, included in Chapter 9 of the Final EIS.

The Selected Alternative would result in the least overall acreage of park and recreational land acquisition of all build alternatives (6.7 acres compared to effects ranging from 7.5 to 9.1 acres with Options A, K, and L). Eight park and recreational facilities would be affected by land acquisitions as a result of the project; however, effects among the alternatives would vary only at Montlake Playfield, East Montlake Park, the UW Open Space, the Washington Park Arboretum, the Ship Canal Waterside Trail and the East Campus Bike Path.

While Options K and L would require less land acquisition at Montlake Playfield, and while the Selected Alternative is the only alternative that acquires additional land from the park that is outside of the submerged area, this acquisition of non-submerged land was determined to be necessary as part of shifting the alignment of the Selected Alternative to minimize negative effects on the buildings at NOAA Fisheries' Northwest Fisheries Science Center (NWFSC). These buildings are eligible for the National Register of Historic Places (NRHP) and would have been removed under Option A. Because the Selected Alternative has a narrower footprint than Option A in this area, it acquires less land at Montlake Playfield than Option A even with the revised alignment. Additionally, the relative severity of the impact on the Montlake Playfield is small because the upland acquisition is not in the main park area, and the size of the acquisition (0.2 acre) is small compared to the size of the 26-acre park. Because of this acquisition, the Selected Alternative is the only alternative that would mitigate for acquisition at Montlake Playfield (see *Recreation Commitments* below). Due to the location and function of the land used, and the enhancements to the recreational property after mitigation, the Selected Alternative is the build alternative that would result in the least harm to the Montlake Playfield.

The Selected Alternative and Option A would require the least acquisition at East Montlake Park (2.8 acres) compared to Options K and L. This acquisition is needed for a stormwater facility that cannot be located elsewhere. The Selected Alternative and Option A would have similar impacts compared to

Options K and L, but Option K and L impacts would be more severe due to the larger acquisition of park land and longer construction period.

At the UW Open Space, the Selected Alternative and Option A would have the least overall harm with respect to construction duration, impacts on recreational features of the Open Space both during and after construction, and impacts on attributes that qualify the area for protection as a recreation resource under Section 4(f) of the U.S. Department of Transportation Act of 1966. While Option L would have less acquisition at the UW Open Space than the Selected Alternative (0.6 acre rather than 0.7 acre), the permanent acquisition for the Selected Alternative is primarily at the west end of the open space adjacent to Montlake Boulevard in an area of passive use, whereas for Option L most of the acquisition would be used to locate a new roadway through the Open Space, close to the climbing rock and other areas of active use.

Options A and L would require acquisition of slightly less land at the Arboretum than the Selected Alternative, but the Selected Alternative has been designed to minimize harm. The Selected Alternative is the only alternative that would not acquire land from the more culturally sensitive southern portion of Foster Island, outside the existing right-of-way. WSDOT has worked closely with the Arboretum and Botanical Garden Committee (ABGC) and affected tribes to reduce effects of the Selected Alternative on Foster Island, and the resulting design has been engineered to use the fewest number of columns possible. The higher profile will also enhance users' experience of the Arboretum Waterfront Trail, compared to Option A. In addition, the Selected Alternative reduces negative effects associated with traffic volumes and associated noise and pollutant emissions on Lake Washington Boulevard through the Arboretum, which are caused in part by traffic using this road segment for access to and from SR 520. Both the Selected Alternative and Option A (without suboptions) would result in lower trip volumes on this road segment compared to the No Build Alternative. While Option A would have a slightly lower trip volume than the Selected Alternative, it achieves that by accommodating more vehicle demand through the Montlake area and thus causing additional impacts on the historic Montlake neighborhood.

The Selected Alternative, Option A, and Option L would all require less construction time to complete than Option K, and would not physically alter Foster Island as Option K would. With mitigation (see *Recreation Commitments* below), the severity of the harm to the features and attributes of the park would be the least under the Selected Alternative, Option A, and Option L. Through the legislatively mandated multi-agency workgroup process required by ESSB 6392, which was enacted in 2010, the UW and the City of Seattle, as members of the ABGC, have concurred that the Selected Alternative would have the least harm on the Arboretum after mitigation.

At the Ship Canal Waterside Trail, Option K would have the least effect because it would not require any trail acquisition. However, with the connection of the Ship Canal Waterside Trail to the Bill Dawson Trail via the Arboretum Waterfront Trail, which is part of the Selected Alternative and Option A, the Selected Alternative and Option A would result in less severity of effect on the trail than Option L, even though the trail would be approximately 80 feet shorter due to the footprint of the new bascule bridge. Option L would not make the trail shorter, but would place the eastern end of the trail (approximately 100 feet) within WSDOT right-of-way under the new bascule bridge, significantly changing the experience for trail users.

The Selected Alternative and Options A and K would have the least effect on the East Campus Bicycle Route. While the Selected Alternative and the SDEIS design options would all require a similar amount of permanent acquisition, the construction effects on the bicycle route would be greatest with Option L.

Parks and recreational resources are protected in part by two federal regulations. Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 USC 303[a]) protects significant publicly owned parks, recreation areas, wildlife and waterfowl refuges, and historic properties. Section 6(f) of the Land and Water Conservation Fund Act (LWCFA) protects park properties that have been purchased or improved with funds from the LWCFA. In the state of Washington, the Aquatic Lands Enhancement Account

(ALEA) grant program protects property acquired, developed, or renovated with ALEA grants, and mandates that it must be kept for public outdoor recreation use in perpetuity.

Section 9.5 of the Final EIS (see pages 9-104 through 9-106) demonstrates that there is no feasible and prudent alternative that would avoid the use of all Section 4(f) properties, and that of all feasible and prudent alternatives (the Preferred Alternative and Options A, K, and L), the Preferred Alternative (Selected Alternative) causes the least relative net harm and the least overall harm to properties protected by Section 4(f). The Selected Alternative would require the least amount of overall acreage from Section 4(f) properties, and it would have the least overall harm to a greater number of Section 4(f) properties, compared to Options A, K, and L.

Section 10.6 of the Final EIS (see pages 10-18 through 10-19) describe steps WSDOT took to avoid and minimize conversions of Section 6(f) properties and concludes that there is not an avoidance alternative that would meet the project purpose and need. Effects on Section 6(f) resources were minimized and the Selected Alternative has the least conversion of Section 6(f) property. Additionally, some of the affected Section 6(f) resources would remain viable for recreational use during and after construction of the Selected Alternative. The National Park Service (NPS) has agreed that there are no practical alternatives to the conversion of Section 6(f) property (U.S. Department of Interior 2010). Recreation property purchased or developed with state ALEA grants has requirements similar to those of Section 6(f), and both the ALEA and Section 6(f) requirements were addressed through the project's Section 6(f) Environmental Evaluation process (see Attachment 15 of the Final EIS).

Natural Resources

Water Resources

Following completion of construction, the Selected Alternative and Option A would result in the lowest increase in pollutant-generating impervious surface compared to all build alternatives (a 37 and 35 percent increase for the Selected Alternative and Option A, respectively, compared to a 44 to 45 percent increase for Options K and L). However, while all build alternatives would result in an overall net reduction in pollutant loads, the Selected Alternative would treat less existing pollutant-generating impervious surface, resulting in the least reduction compared to the other build alternatives. This is due to the Selected Alternative's smaller footprint and the smaller amount of existing pollutant-generating impervious surface disturbed by the Selected Alternative. The Selected Alternative and Options A and L would have the least effect on water resources during construction; Option K would require the largest amount of construction area dewatering.

Ecosystems

The project vicinity includes surface water bodies such as Lake Union, Portage Bay, Union Bay, and Lake Washington. There are 15 wetlands in the project corridor, all associated with the shorelines of Portage Bay and Union Bay. The Lake Washington watershed supports a diverse group of fish species including several species federally listed as threatened under the Endangered Species Act. The project area also contains some high-quality habitat and a wide array of animal and bird life, primarily in Union Bay.

Overall, the Selected Alternative would remove the least amount of wildlife habitat/vegetation cover and have the least effect on wetlands from construction. Option A would have the least construction effect on wetlands and in-water fill. The Selected Alternative and Option A would have the least overall effect on ecosystems.

The Selected Alternative and Option A would fill the least amount of wetland (both 0.1 acre, compared to 1.8 and 0.3 acre for Options K and L, respectively) because most of the roadway would be on bridges. The Selected Alternative and Option A would also fill the least amount of wetland buffer (0.7 acre compared to 5.4 and 1.5 acre for Options K and L, respectively). While wetland shading effects of the Selected Alternative would be higher than Option A, this is due to design refinements to better

accommodate potential future light rail transit, primarily the gap between the eastbound and westbound structures in the west approach area. If Option A or L were identified as the Selected Alternative, they would likely undergo similar design refinements, likely resulting in a similar increased effect. Option K would have the lowest wetland shading effect, but that is because more wetland would be filled by the depressed single-point urban interchange. The total construction effects on wetlands would be similar for the Selected Alternative, Option A, and Option L. However, there would be less wetland fill and clearing from construction of the Selected Alternative than from construction of Options A, K, and L, and more shade associated with construction of the Selected Alternative than for Options A and L.

While the Selected Alternative would not have the least overall permanent area of shading of fish resources, it would have the highest profile over areas used by salmonids, which means it would have the lowest intensity of shading in these areas. This is consistent with feedback from resource agencies, which expressed a preference for higher over-water structures. While Option K would have the least area of permanent fish habitat shading, including in areas used by salmonids, its depressed profile would require substantially more aquatic fill than shading, which would result in a direct loss of habitat. Permanent loss of salmonid habitat from in-water bridge columns would be lowest under the Selected Alternative and Option A, and highest under Option K.

During construction, the Selected Alternative would require somewhat more temporary fill in aquatic habitat (primarily from work bridge piers) than Options A and L. However, Option K would require a considerably greater extent of both in-water and over-water work and would therefore result in greater effects on fish resources. While the project has the potential to negatively affect individual fish in the Lake Washington watershed—including the Endangered Species Act (ESA) listed populations of Chinook salmon, steelhead, and bull trout—by altering a portion of their rearing and migration habitat, the project is not expected to adversely affect overall salmonid populations or evolutionarily significant units in the watershed, as reported in the 2010 Biological Assessment (included in Attachment 18 of the Final EIS) and confirmed by the Biological Opinions (included in Attachment 18 of the Final EIS).

For wildlife and habitat effects, the Selected Alternative would result in the least permanent vegetation removal. While it would have more shading, its higher profile would result in the lowest intensity of shade compared to the other build options, allowing the potential for a greater diversity of plant species to survive beneath the structures.

Geology and Soils

The Selected Alternative and Options A, K, and L would require large quantities of excavation and grading for cuts and fills, and for installation of bridge and retaining wall structures. The Selected Alternative would have the least effect on geologic resources, requiring the least amount of excavation of all build alternatives (177,700 cubic yards compared to 340,000 cubic yards for Option A, the alternative requiring the second lowest amount of excavation).

Cultural Resources

Within the area of potential effects (APE), WSDOT identified 367 historic properties, including one traditional cultural property (TCP) (further information is presented in Section 4.6 of the Final EIS). FHWA and WSDOT, in consultation with the Washington State Historic Preservation Officer (SHPO) and tribes, determined that under Section 106 of the National Historic Preservation Act (NHPA), historic properties and the TCP would be adversely affected by the project; the SHPO has concurred with the finding. However, effects on historic properties would differ among the alternatives for some resources, including: Roanoke Park Historic District, NOAA Northwest Fisheries Science Center, Montlake Historic District, 2220 East Louisa Street, Montlake Cut, Canoe House, Pavilion Pedestrian Bridge and the North and South Pedestrian Bridges (only affected by the suboption to Option L), Washington Park Arboretum, and Foster Island Traditional Cultural Property.

The Roanoke Park Historic District is listed in the NRHP. The APE also includes other individually eligible historic properties in this area, including the Alden Mason and Kelley houses, at which effects would differ under the Selected Alternative and Options A, K, and L. Under all build alternatives, the new Portage Bay Bridge would have a visual effect on portions of the Roanoke Park Historic District and these individually eligible houses. However, the Selected Alternative would reduce potential visual effects compared to Options A, K, and L. The recommended noise walls on the Portage Bay Bridge for Options A, K, and L, if built, would result in a greater visual impact. Noise walls are not recommended on the Portage Bay Bridge for the Selected Alternative; design features such as reduced speeds, expanded lids, and 4-foot concrete traffic barriers were incorporated into the Selected Alternative at many locations in the Seattle portion of the SR 520 corridor, so noise walls would not provide enough additional reduction to be considered cost-effective. The landscaped median on the Portage Bay Bridge that is part of the Selected Alternative also makes the Selected Alternative visually preferable to the other build alternatives.

NOAA NWFSC has three buildings that are eligible for listing in the NRHP for their architectural significance and for their direct association with important research that is significant locally, regionally, and nationally. While Options K and L would have the least harm to the NOAA NWFSC because they would not permanently acquire any property from the resource, the Selected Alternative has been designed to minimize effects on this resource compared to Option A. The Selected Alternative would permanently acquire 0.5 acre of this property, which would be used for construction of the Bill Dawson Trail and then would be converted to recreation use for the Bill Dawson Trail after construction. Option A would permanently acquire 1.2 acres of property and would require the demolition of buildings on the site, which would diminish the historic integrity of the property. Option A would use an additional 0.3 acre of property for construction staging.

The Montlake Historic District is eligible for listing in the NRHP. While the Selected Alternative and Options A and L would each diminish the integrity of the Montlake Historic District, the Selected Alternative would permanently acquire the least amount of land in the historic district and would have less impact on the setting and feeling of historic properties than Option L. NOAA NWFSC is a contributing property to the historic district, and Option A would result in the removal of buildings and acreage from NOAA, possibly causing the permanent relocation of the facility outside of the historic district. Additionally, Option A is the only option that would result in harm to the property at 2220 East Louisa Street, which is both a contributing and an individually-eligible property. While Option K would not diminish the integrity of the historic district and would have the least harm to the district, other considerations for Option K, as described in the discussions of natural resources and feasibility of obtaining required permits, mean that on balance it is not the environmentally preferable alternative.

The Montlake Cut is listed in the NRHP as part of the Hiram M. Chittenden Locks and Related Features of the Lake Washington Ship Canal. While the relative severity of harm to the Montlake Cut would be least under Option K, effects from the project under the Selected Alternative and all of the SDEIS options would not diminish the integrity of the qualities that make the cut significant as a historic property.

The setting and feeling of the NRHP-listed Canoe House would be affected by the new bascule bridge under the Selected Alternative and Option A, as well as Option L. However, Option L would have a greater effect because the new bridge would be much closer to the Canoe House.

The Washington Park Arboretum as a whole is eligible for listing in the NRHP. While none of the alternatives would diminish the integrity of the Arboretum as a historic property under Section 106, Option A would use the least amount of property (a total of 8.1 acres, including 0.4 acre on Foster Island, less than 0.1 acre in the WSDOT-owned right-of-way that is part of the historic Arboretum that would be permanent, and 7.6 acres for construction in the WSDOT-owned right-of-way). The Selected Alternative and Option L would both use approximately 10 acres. For the Selected Alternative this includes 0.5 acre on Foster Island, 0.4 acre of permanent use within the WSDOT-owned right-of-way, and 9.1 acres for construction within the WSDOT-owned right-of-way. For Option L this includes 0.3 acre on Foster

Island, 0.1 acre of permanent use within the WSDOT-owned right-of-way, and 9.4 acres for construction within the WSDOT-owned right-of-way.

Foster Island is eligible for the NRHP as a TCP under Criteria A and B. It is culturally significant to Native American tribes of the area, as well as being a part of the NRHP-eligible Arboretum. Foster Island is the only known TCP in the project area. The Selected Alternative is the only option that would not impact the more culturally sensitive southern portion of Foster Island outside the existing right-of-way because of a slight shift northward of the alignment footprint. The Selected Alternative would acquire 0.5 acre of Foster Island, slightly more than Options A and L, but it would result in considerably less harm than Option K.

Based on the balance of effects on Foster Island, NOAA NWFSC, the Montlake Historic District, and the Arboretum, the Selected Alternative would have the fewest overall impacts on cultural resources and the least amount of relative net harm. Sections 5.6 and 6.6 and Chapter 9 (see pages 9-140 through 9-163) of the Final EIS provide further descriptions of these effects.

Right-of-Way Acquisition

The Selected Alternative would require the least right-of-way acquisition of all build alternatives. It would require a total of 10.6 acres, while the other build alternatives would require between 12.4 and 15.5 acres. The Selected Alternative would also require the least right-of-way from parks and open space (6.7 acres, compared to 7.5 to 9.1 acres), as discussed above.

Noise

Without noise reduction measures (noise walls or 4-foot concrete traffic barriers), the Selected Alternative would result in the lowest number of receivers experiencing noise levels in excess of the FHWA noise abatement criteria compared to other alternatives. While the number of affected residences under the Selected Alternative is somewhat higher than the other alternatives when traffic barriers and noise walls are included (142 compared to between 94 and 123), this is primarily because the design elements in the Selected Alternative would reduce noise to levels where other noise abatement measures, such as noise walls, are no longer feasible and reasonable. By reducing noise levels, the design refinements of the Selected Alternative would reduce the number of recommended noise walls compared to those recommended under the SDEIS options. Many nearby residents expressed concerns about the aesthetic effects of noise walls; therefore, the Selected Alternative results in the best balance of acoustic and aesthetic effects based on public input.

Aesthetics and Visual Quality

The Selected Alternative would result in the fewest negative effects, in general, related to visual intactness, vividness, and unity, and could result in greater improvements to visual quality, compared to other alternatives. Unlike the other alternatives, it would include a planted median along Portage Bay Bridge and would improve the view for drivers. The path beneath SR 520 on Foster Island would offer a more open and potentially pleasant experience than it would under Options A, K, and L. Options K and L would include additional structures in the McCurdy Park and East Montlake Park areas that would dominate views much more than the existing structures, and much more than the Selected Alternative and Option A. The Selected Alternative would also result in fewer recommended noise walls compared to other build alternatives, as described above; noise walls can have a negative effect on visual quality and were perceived negatively by many nearby residents who commented on the SDEIS.

Construction Duration

The Selected Alternative and Option A would involve the least construction disruption due to a shorter construction period, less required hauling, fewer construction road closures, and generally lower effects across all resources than Options K and L. Table 6.17-1 of the Final EIS provides additional information

on construction effects. Options K and L have more intensive and longer construction periods and more haul truck trips associated with construction of the single-point urban interchange and new Pacific Street intersection.

Feasibility of Obtaining Required Permits

FHWA and WSDOT have worked with resource agencies and tribes to minimize the effects of the Selected Alternative and to define appropriate mitigation. Determinations and approvals are discussed further below in this Record of Decision. FHWA and WSDOT can demonstrate that the Selected Alternative would meet the applicable regulatory requirements related to alternative selection, such as the requirement under Section 404(b)(1) of the Clean Water Act to select the least environmentally damaging practicable alternative. Selecting a different alternative would create a risk of not obtaining the required permits and approvals for project construction.

Measures to Minimize Harm

FHWA and WSDOT have included measures to avoid and/or minimize harm in the Selected Alternative. The lead agencies' approach to avoid and minimize effects of the SR 520, I-5 to Medina Project includes the following components:

- Identifying and advancing project alternatives for consideration that would result in the least overall environmental effects.
- Conducting a wide range of consultation and coordination processes with stakeholders during alternative development and refinement of the Selected Alternative. Sections 1.6 and 1.12 of the Final EIS (see pages 1-10 through 1-13 and 1-23 through 1-27) provide more information on these processes, which have included:
  - Extensive formal public outreach, including public hearings on the Draft EIS and SDEIS as well as over 500 community briefings, workshops, open houses, and other outreach events.
  - Legislatively mandated mediation process under ESSB 6099 to define the 6-lane alternative design options that were evaluated in the SDEIS. The bill directed the mediation group to prepare a project impact plan (Washington State Office of Financial Management 2008) to address the impacts of the SR 520, I-5 to Medina Project's design on Seattle city neighborhoods and parks. In the Final EIS, pages 2-9 through 2-11 describe this process and Table 2-1: History of SR 520, I-5 to Medina NEPA Process and Alternatives summarizes the outcome of the process.
  - Consultation under Section 106 of the NHPA for the SR 520, I-5 to Medina Project undertaking, including with the State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation (ACHP), affected tribes, and other consulting parties with a demonstrated interest in the undertaking.
  - Required planning, analysis, and consultation with agencies with jurisdictions over Section 4(f) properties, to avoid effects on Section 4(f) properties or minimize effects if they cannot be avoided. WSDOT initiated the Parks Technical Working Group (TWG), which consisted of WSDOT, Seattle Parks and Recreation, the University of Washington, the Recreation and Conservation Office, the National Park Service, and FHWA, to evaluate park effects and discuss potential mitigation. This coordination effort also addressed effects as defined under Section 6(f) of the LWCFA. Section 9.5 of the Final EIS contains more information on avoidance alternatives and measures to minimize harm to the Section 4(f) park resources. Section 10.6 of the Final EIS summarizes the steps that WSDOT undertook to minimize Section 6(f) conversions.

  - Natural Resources TWG was convened to guide the project team's development of permit applications and mitigation plans that clearly identify impacts, mitigation sequencing strategies, avoidance and minimization measures, and appropriate compensatory mitigation for the Selected Alternative. This process also informed ongoing ESA consultation. Natural Resources TWG participants represented multiple local, state, and federal agencies that oversee compliance with environmental regulations, as well as the Muckleshoot Indian Tribe Fisheries Division and the University of Washington.
  - Legislatively mandated ESSB 6392 workgroup process to refine components of the Preferred Alternative (Selected Alternative), including design refinements and transit connections, and transit planning and financing. In response to the direction set forth by the legislature in ESSB 6392, WSDOT led a workgroup process in collaboration with the City of Seattle, King County, the University of Washington, and Sound Transit. The ESSB 6392 workgroup was informed by two technical coordination teams established by WSDOT and the Seattle Department of Transportation. One of the workgroups focused on design refinements and transit connections and the other focused on transit planning and finance. As part of the ESSB 6392 workgroup process, a group was also convened to address potential effects and identify mitigation measures for the Washington Park Arboretum.
- Designing the Selected Alternative in a manner that avoids and minimizes environmental effects to the greatest extent possible. Table 2 describes how design elements in the Selected Alternative respond to public and agency comments and minimize harm. Additional design features that minimize harm also include the following:
  - Reconfiguring the Montlake interchange and revising the Montlake lid to provide access to Lake Washington Boulevard via a new intersection located on the lid at 24th Avenue East, configuring the lid so SR 520 buses could serve the Montlake lid stops during off-peak periods, and relocating transit stops from previous locations on Montlake Boulevard to minimize the walking distance to new bus connections on the Montlake lid.
  - Developing context-sensitive designs for the aesthetic design of the Portage Bay Bridge, the new Montlake bascule bridge, and the west approach bridge.
  - Engineering the design to use the fewest number of columns practicable to minimize the amount of ground disturbance on Foster Island, restricting right-of-way expansion on Foster Island to the area north of the existing alignment, and reducing in-water structures in the west approach area. These changes reduce effects on wetlands, habitat, fisheries, tribal fishing, and cultural resources.
  - Placing lighting in the center median whenever possible and using special fixtures on lights that are adjacent to the water to reduce effects on aquatic habitat.
  - Designing the new east navigation channel's vertical clearance to essentially match I-90's east channel bridge clearance in order to avoid navigation effects.
  - Eliminating the wave barrier for the maintenance facility dock to reduce aquatic habitat effects.
  - Conducting extensive outreach to community-based social service agencies that serve low-income residents of the SR 520 travel area regarding tolling and affordable alternatives.

A more specific description of measures to minimize and avoid harm is included in each discipline-specific section of Chapter 5 of the Final EIS as well as in the associated discipline reports and technical memoranda for each element of the environment (Attachment 7 of the Final EIS).

Table 2
Design Elements in the Selected Alternative that Respond to Public, Agency, and Tribal Comments

Comment	Source of Comment	How the Selected Alternative Responds to Comment
Project design is not compatible with addition of light rail.	Seattle Mayor's Office, community groups, individuals	Although the project has always been designed to accommodate future rail, modifications have been made to better facilitate potential future rail connections to University Link station, either within HOV lanes or on separate structure.
New floating bridge would be too high compared to existing conditions and would block views.	Community groups, individuals	Height of bridge has been lowered from approximately 30 feet (in Draft EIS and SDEIS) to approximately 20 feet above lake surface.
Footprint across Arboretum and Foster Island is too wide.	Tribes, Seattle Parks and Recreation, Arboretum Foundation, individuals	Footprint in Arboretum has been further refined, with right-of-way acquisition reduced from SDEIS options.
West approach bridge should be as high as possible to minimize shading.	Resource agencies, tribes	Selected Alternative includes a constant slope profile slightly higher than that of SDEIS Option L.
Noise in the corridor should be reduced using methods other than walls, e.g., innovative methods identified by Noise Expert Review Panel.	Community groups, individuals	Selected Alternative includes 4-foot concrete traffic barriers, noise-absorptive coatings on barriers and lid portals, and lower speed limit west of Montlake lid; as a result, fewer noise walls are warranted. Quieter pavement is also included, although its effectiveness is still being evaluated and it is not an approved noise mitigation measure.
Portage Bay Bridge should be as narrow as possible (6 lanes maximum).	City of Seattle, community groups, individuals	Portage Bay Bridge includes 6 lanes plus a managed shoulder to improve traffic operations during peak hours; overall width is 7 feet less than SDEIS Option A.
The Option A Montlake lid is discontinuous and would not effectively reconnect communities.	Community groups, individuals	Montlake lid has been lengthened to 1,400 feet and extended fully across SR 520.
Option A with Lake Washington Boulevard ramps would increase wetland impacts and create more traffic in the Arboretum.	Community groups, individuals	There will be no Lake Washington Boulevard ramps, as access to Lake Washington Boulevard has been consolidated with Montlake interchange; traffic through Arboretum is projected to decrease compared to No Build Alternative.
Construction of Option K tunnel would have severe impacts on aquatic habitat and species.	Resource agencies, tribes	Selected Alternative does not include a tunnel.
Mitigation measures are not adequately defined.	Resource agencies, tribes, City of Seattle, community groups, individuals	Detailed mitigation measures and implementation steps have been developed and are included in the Final EIS and its attachments.

Project Commitments

FHWA and WSDOT will be fully responsible for the commitments described in this Record of Decision.

It should be noted that the SR 520, I-5 to Medina Project will be constructed in stages as described in Section 1.9 of the Final EIS (see Exhibit 1-5). The first stage is the Evergreen Point Bridge and landings. The subsequent stages will include the west approach, Portage Bay Bridge, Montlake and I-5 interchanges, and new bascule bridge. The project will be constructed in stages regardless of when funding is available. Funding considerations and how they relate to project construction stages are discussed in Section 2.8 of the Final EIS (see pages 2-74 through 2-77). Effects of staged construction are discussed in Section 5.15 of the Final EIS.

Use of Design-Build Contracting

In recent times, the potential for innovation and the benefits of cost and schedule certainty have prompted WSDOT to use design-build contracts for large construction projects, rather than the more traditional design-bid-build process. The design-build process will be used for the construction of the floating portion and east approach of the Evergreen Point Bridge (referred to as the Evergreen Point Floating Bridge and Landings stage). The contract process for the remaining portions of the project will be determined based on funding and other considerations. With the design-build process, WSDOT will contract with a design-builder to complete preliminary and final design and then build the project.

In late 2010, WSDOT solicited design-build proposals for construction of the Evergreen Point Floating Bridge and Landings stage. The solicitation was conducted in accordance with 23 U.S. Code (USC) 636.109, which allows design-build contracts to be initiated before completion of the NEPA process. However, WSDOT will not award a contract until after issuance of a Record of Decision. Final design and construction will take place as part of the awarded contract and, therefore, will also occur subsequent to issuance of the NEPA Record of Decision.

Regardless of the contract process selected for each construction stage of the project, FHWA and WSDOT will remain fully responsible for the NEPA compliance as demonstrated by the Final EIS and this Record of Decision; the FHWA design-build rule precludes the design-builder from preparing any NEPA documents. WSDOT remains responsible for implementation of construction commitments carried out by the contractor whether in a design-build or design-bid-build process. The project commitments are summarized by element of the environment in the following subsections.

Transportation Commitments

Operation

Traffic Operations

Local traffic operations with the project would be consistent with Seattle traffic concurrency standards, as defined by the City consistent with the Washington State Growth Management Act (Washington Administrative Code [WAC] 365-196-840). In essence, concurrency standards are intended to allow cities to define how much traffic congestion they are willing to accept on local streets, and what thresholds of traffic impact a project must exceed for mitigation to be required. Seattle's concurrency requirements are defined in Seattle Municipal Code 23.52, and the concurrency thresholds applicable to specific areas of the City are identified in Seattle Department of Planning and Development Director's Rule DR 5-2009, Transportation Concurrency Project Review System. More information on Seattle's concurrency standards is provided on pages 12-4 through 12-5 of the Final Transportation Discipline Report (Attachment 7 of the Final EIS). Because project effects do not exceed the applicable City of Seattle

concurrency standards, no mitigation is required under the Growth Management Act for local traffic effects in Seattle. However, WSDOT will continue to work with the Seattle Department of Transportation (SDOT) to determine the effectiveness of several potential intersection improvements in reducing project effects. See page 5.1-67 of the Final EIS for details on specific intersections and roadway segments.

As directed by ESSB 6392, WSDOT collaborated with SDOT and ABGC to identify traffic-calming measures that address traffic speeds and volumes in the Arboretum. SDOT will implement the identified traffic-calming measures in 2011, with funding provided by WSDOT. In addition, WSDOT and SDOT are evaluating a number of traffic management measures for the Arboretum, which will be considered and may be recommended by SDOT for future implementation.

Nonmotorized Facilities

WSDOT, King County Metro, and Sound Transit will continue to work together to determine the best way to replace the 54 bicycle locker spaces and 53 bicycle rack spaces that will be lost near the existing Montlake Freeway Transit Station.

WSDOT will also continue coordination with ABGC, SDOT, the Seattle Bicycle Advisory Board, and the Seattle Pedestrian Advisory Board regarding final design details for the new bike and pedestrian routes developed or enhanced as part of the Selected Alternative. As a result of these ongoing discussions, the Selected Alternative includes an enhanced Bill Dawson Trail, a regional shared-use path across Lake Washington with connections to existing bicycle and pedestrian facilities, a shared-use path on the new bascule bridge, and a new recreational path under SR 520 connecting the Arboretum Waterfront Trail to the Arboretum.

Parking

WSDOT will coordinate with the City of Seattle and affected land owners to determine mitigation measures for parking that will be lost as a result of the project. WSDOT will continue to coordinate with the City of Seattle to further develop design details for the lids, which could include replacement parking for the loss of 10 parking spaces at Bagley Viewpoint.

Construction

WSDOT will implement the following minimization and mitigation measures during construction:

- Construct temporary capacity improvements that will be needed to maintain the flow of traffic through the project vicinity prior to other construction activities that will affect the flow of traffic. WSDOT has developed preliminary construction plans and performed the traffic analysis described in Section 6.1 of the Final EIS (see pages 6.1-1 through 6.1-10) to determine the temporary capacity improvements that will be needed. In addition to roadway improvements, WSDOT will, to the maximum extent practicable, restrict lane closures to times when traffic volumes are lowest (typically nights and weekends).
- Engage in regular, ongoing coordination with all affected jurisdictions to identify potential conflicts with other projects or public events, and plan for isolated construction activities that require special transportation considerations. WSDOT will also implement a continuous public information program to inform travelers, nearby residents, and businesses about transportation conditions, upcoming changes, and travel options during construction.
- Work to manage the flow of traffic and minimize traffic demand during construction using a combination of methods, all of which will be incorporated into the construction traffic management plan. The traffic management plan will be coordinated with the public outreach communications plan. More information on the traffic management plan is included on page 6.1-25 of the Final EIS. WSDOT will also develop a Community Construction Management Plan to help minimize the effects

of construction activities on affected communities. The Community Construction Management Plan is intended to support compliance with Section 106 Programmatic Agreement. In addition, the plan is intended to support best practices and good communication to minimize impacts on members of the public potentially affected by construction. An outline of the plan is included in Attachment 9 of the Final EIS.

- Use the traveler information system already in place. This system includes dynamic and variable message signs, highway advisory radio, and e-mail alerts.
- Use the incident response program already in place. Information on the incident response program is provided on page 6.1-26 of the Final EIS.
- Use variable message signs already in place to post travel time information.
- Keep the Montlake Freeway Transit Station open during construction until the new Montlake lid stops are operational, except for short closures to accommodate construction activities. After completion of the lid stops, the freeway transit station will be permanently closed.
- Use several strategies to help mitigate construction activities during special events, including graduations, city functions, and sporting events at the UW. Information on these strategies is provided on page 6.1-27 of the Final EIS.
- As part of the construction traffic management plan, evaluate a set of temporary transportation demand management and transit enhancements to provide additional travel options to the public during construction. WSDOT will focus on supporting existing programs rather than implementing an entirely new program during the construction period. Therefore, a major aspect of the strategy will involve communication and cooperation with local experts who are already implementing successful programs. WSDOT will coordinate with jurisdictions affected by SR 520 to offer services to travelers through programs they already use. This approach will encourage continuity in the services provided to users. Pages 6.1-27 through 6.1-28 of the Final EIS provide more information on transportation demand management.
- Continue to work with SDOT, Seattle Bicycle Advisory Board, and Seattle Pedestrian Advisory Board to identify and refine routing options for bicycles and pedestrians during construction.

Land Use Commitments

Operation

WSDOT will conduct property acquisition and relocations in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Property owners will receive compensation for their properties at fair market value, and relocation resources will be available to all displaced residents and business owners without discrimination. WSDOT will work closely with all displaced residents and businesses to find suitable properties to accommodate their needs. If WSDOT determines that insufficient housing exists for residents requiring relocation, it will commit to Housing of Last Resort (WAC 468-100-404), which provides necessary housing in a number of ways and in a manner feasible for the individual situations.

Construction

To minimize and mitigate potential construction effects on property owners, WSDOT will:

- Coordinate with business owners to reconfigure or provide alternative access for customers during construction. Signage will be used that clearly marks detour routes and indicates that businesses are open.

- Coordinate with property owners to identify relocation (or other mitigation options) of boat moorages that will be affected over the multi-year construction period. As described above for operational land use commitments, WSDOT will conduct relocations in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.
- As discussed under *Transportation Commitments*, WSDOT will develop a Community Construction Management Plan to help minimize the effects of construction activities on affected communities.

Social Elements, Environmental Justice, and Public Services and Utilities Commitments

Operation

WSDOT is actively consulting with the Muckleshoot Indian Tribe, Suquamish Tribe, Snoqualmie Tribe, and Tulalip Tribes in accordance with Section 106 of the National Historic Preservation Act, the 1989 Centennial Accord between the Federally Recognized Tribes in Washington State and the State of Washington, the New Millennium Agreement, the WSDOT Secretary's Executive Order on Tribal Consultation E 1025.01, and the Centennial Accord Plan of the Washington Department of Transportation. To date, two separate agreements have been, or are being, developed for this project:

- To address cultural resources effects, tribes were consulting parties to the Section 106 Programmatic Agreement (Attachment 1) to satisfy the requirements of the NHPA. The agreement includes development of a separate Foster Island Treatment Plan to mitigate for adverse effects on Foster Island. It also includes development of an archaeological treatment plan to address further cultural resources analyses as project design and construction progress.
- As described on pages 1-10 through 1-12 of the Final EIS, WSDOT and FHWA are engaged in government-to-government consultation with the Muckleshoot tribe to determine appropriate mitigation for the project's effects on resources protected by treaty fishing rights. The outcome of this consultation will be a Memorandum of Agreement that documents FHWA's and WSDOT's commitment to a set of specific mitigation measures. WSDOT and FHWA are also engaged in consultation with the Suquamish tribe to develop a coordination plan that would avoid and minimize potential temporary effects on their protected resources during construction.

Construction

Social Elements

WSDOT will implement the following minimization measures for effects on social elements:

- As discussed under *Transportation Commitments*, WSDOT will develop a Community Construction Management Plan to help minimize the effects of construction activities on affected communities.
- As described under *Transportation Commitments*, WSDOT will prepare a traffic management plan that will identify measures and practices to minimize construction effects on local streets, transit and transit users, property owners, and businesses.
- Where practicable, construction access to and from the construction zones will be provided from SR 520 and existing on- and off-ramps to reduce the volume of construction trucks using the residential streets.

Environmental Justice

WSDOT will implement the following minimization measures for environmental justice effects:

- WSDOT is coordinating with the Muckleshoot and Suquamish tribes to identify important access points to usual and accustomed fishing areas located within or near the project footprint where proposed structures will be built. The contemplated settlement may include assisting the tribes in acquiring fishing access to resolve project impacts on treaty fishing rights. There will be additional coordination to avoid construction conflicts with tribal fishers along the pontoon towing route and in Portage Bay, Union Bay, and Lake Washington.
- During construction, best management practices (BMPs) will be used to minimize the potential adverse effects of pile-driving, falling debris, unintentional discharge of sediment, and other construction effects that could harm fish populations or habitat.
- Construction will be restricted to identified in-water work windows in order to reduce potential adverse effects on fish populations or habitat.
- As discussed under *Ecosystems Commitments* below, mitigation measures to restore shorelines, floodplain areas, wetlands, and riparian vegetation will be implemented to compensate for effects on habitat.
- To address the potential for unanticipated archaeological discoveries during construction, the SR 520, I-5 to Medina Project has an Unanticipated Discovery Plan (UDP) that will be in force for all construction activities. The WSDOT UDP will be amended in consultation with the Department of Archaeology and Historic Preservation (DAHP) as necessary. Any provisions for emergency evaluation of archaeological materials or emergency data recovery shall include a requirement for DAHP approval.

Public Services and Utilities

To minimize potential effects on public services and utilities, WSDOT will:

- Coordinate with public services and utilities to provide advance notice of any service disruptions or outages to affected communities.
- Notify service providers of construction schedules, street closures, and utility interruptions in advance.
- Coordinate with police departments to ensure adequate staffing for traffic and pedestrian movement control as necessary during construction.
- Notify and coordinate with the fire departments throughout project construction regarding traffic congestion and road closures.
- Coordinate with affected water line utility owners and fire departments for facility relocations that could affect water supply for fire suppression, and establish alternative supply lines prior to any service interruptions.
- Coordinate with affected utility services (power and phone) to notify fire department of service interruptions that could affect fire detection and notification systems, and establish alternatives prior to any service interruption.
- Work with utility service providers to prepare a consolidated utility engineering plan (if determined necessary) consisting of key elements such as existing locations, potential temporary locations, and potential new locations for utilities; prepare sequenced and coordinated schedules for utility work; and develop detailed descriptions of any service disruptions.

Recreation Commitments

Operation

WSDOT will implement minimization and mitigation measures as described below for effects on specific recreation resources.

Bagley Viewpoint

- WSDOT will construct a new viewpoint on the 10th Avenue East/Delmar Drive East lid that will recreate the experience the Bagley Viewpoint was designed to provide (see page 9-123 of the Final EIS). WSDOT will continue to coordinate with the City of Seattle to further develop design details for the lids, which could include replacement parking for the loss of 10 parking spaces at Bagley Viewpoint.

Montlake Playfield

- The small area of construction within Montlake Playfield will be improved after construction with the development and implementation of a planting plan.
- To mitigate for effects on this park and other recreational properties, WSDOT intends to transfer a portion of the WSDOT-owned land in the Arboretum ramp area to Seattle Parks and Recreation. The extent of the transfer area will be determined through appraisals of acquired and replacement properties and documented in a real estate agreement between WSDOT and the City of Seattle.

East Montlake Park and McCurdy Park

- WSDOT will coordinate with the City of Seattle and the UW to investigate opportunities to restore and enhance the shoreline wetlands and/or protect the wetland buffer area.
- WSDOT will coordinate with the City of Seattle to relocate the hand-carried boat launch to the north, so that it will be closer to the new parking area after project construction (see Exhibit 10-3 in the Final EIS for a conceptual drawing).
- Through the LWCFA Section 6(f) process, in coordination with Seattle Parks and Recreation and the UW, WSDOT will determine the property value of the affected Section 6(f) area within the park and has identified appropriate replacement property for a portion of East Montlake Park. This is discussed under "Section 6(f) Property" below.
- To mitigate for effects on this park and other recreational properties, WSDOT intends to transfer a portion of the WSDOT-owned land in the Arboretum ramp area to Seattle Parks and Recreation. The extent of the transfer area will be determined through appraisals of acquired and replacement properties and documented in a real estate agreement between WSDOT and the City of Seattle.

Ship Canal Waterside Trail

- Through the LWCFA Section 6(f) process, in coordination with Seattle Parks and Recreation, WSDOT will determine the property value and has identified appropriate replacement property for the use of the Ship Canal Waterside Trail. This is discussed under "Section 6(f) Property" below.
- Through the design of the Selected Alternative, WSDOT will connect the Bill Dawson Trail and the Ship Canal Waterside Trail via the Arboretum Waterfront Trail.

University of Washington Open Space

- To mitigate for effects on this park and other recreational properties, WSDOT intends to transfer a portion of the WSDOT-owned land in the Arboretum ramp area to Seattle Parks and Recreation.

The extent of the transfer area will be determined through appraisals of acquired and replacement properties and documented in a real estate agreement between WSDOT and the City of Seattle.

Washington Park Arboretum

- WSDOT will fulfill its roles and responsibilities as memorialized in the Arboretum Mitigation Memorandum of Understanding (included in Attachment 9 of the Final EIS) for implementation of the projects identified in the Arboretum Mitigation Plan (also in Attachment 9 of the Final EIS).
- Through the Section 6(f) process, in coordination with Seattle Parks and Recreation and the UW, WSDOT will determine the value of the affected property in the Arboretum and has identified appropriate replacement property for lands converted in the Arboretum that are protected by the LWCFA and ALEA. This is discussed under "Section 6(f) Property" below.
- WSDOT intends to transfer a portion of the WSDOT-owned land in the Arboretum ramp area to Seattle Parks and Recreation. The extent of the transfer area will be determined through appraisals of acquired and replacement properties and documented in a real estate agreement between WSDOT and the City of Seattle.

Arboretum Waterfront Trail

- Through the LWCFA Section 6(f) process, in coordination with Seattle Parks and Recreation and the UW, WSDOT will determine the value of the property and has identified appropriate replacement property for the effects on the land surrounding the Arboretum Waterfront Trail. This is discussed under "Section 6(f) Property" below.
- Through the design of the Selected Alternative, WSDOT will connect the Bill Dawson Trail and the Ship Canal Waterside Trail via the Arboretum Waterfront Trail.

Section 6(f) Properties

As stipulated in the Section 6(f) Memorandum of Understanding (WSDOT, University of Washington, and City of Seattle. 2010.), WSDOT has committed to funding the purchase and development of a portion of the Bryant Building site to mitigate for the project's use of a portion of a recreational trail complex protected by Section 6(f). The Bryant Building site property will provide the required amount of recreational space based on determined property values of converted properties, and is located on the north shore of Portage Bay off of Northeast Boat Street. See Section 10.5 and Attachment 15 of the Final EIS for more detail.

Construction

WSDOT will apply the following mitigation measures for recreation effects during construction:

- Prepare a detour plan in coordination with Seattle Parks and Recreation and SDOT to address the manner in which Bill Dawson Trail and Montlake Playfield users would be rerouted during times of trail closure.
- Prepare a detour plan in coordination with Seattle Parks and Recreation and SDOT to address the manner in which on-street bicycle traffic and the Ship Canal Waterside Trail users would be rerouted during times of trail closure.
- Prepare a detour plan in coordination with the Washington Park Arboretum and Seattle Parks and Recreation to address the manner in which Arboretum Waterfront Trail users and users of Foster Island would be rerouted during times of trail closure.
- Plan so that construction activities in Portage Bay and the Montlake Cut will not interrupt or interfere with Opening Day of boating season events (one week before the first Saturday of May and one week after).

- Suspend towing of pontoons through Portage Bay, the Montlake Cut, and Union Bay during the Opening Day events, and ensure that anchoring and mooring of pontoons will not interfere with Opening Day events.
- Plan so that barge activity (transport, moorage, construction, etc.) will not interfere with the Opening Day events in Portage Bay.
- If possible and practicable, limited access clearance for boats moored in South Portage Bay will be maintained under the Portage Bay Bridge work bridges and the existing bridge. If access and traffic cannot be maintained, WSDOT will work with boat owners in South Portage Bay to find temporary alternate moorage. Where possible, passage for small boats will be maintained through the same areas, except when overhead work or demolition of the existing bridge structure would not allow for safe passage.
- WSDOT, the City of Seattle, the University of Washington, and other appropriate regulatory agencies and stakeholders will coordinate to determine the best methods for protecting specimen trees and important vegetation in the Arboretum.
- In keeping with WSDOT policy, affected park property used for construction easements will be restored to preconstruction conditions or better, and would be available for park use when construction is completed. WSDOT will take all due care during construction to keep clearing to a minimum and to protect areas adjacent to construction from disturbance

Additional measures specific to the Washington Park Arboretum include the following:

- WSDOT is working in partnership with interested tribes and the ABGC to develop an appropriate revegetation plan for the area of temporary construction easement on Foster Island.
- Any collection specimens damaged or removed during construction will be replanted or replaced in coordination with the UW Curation Committee.

Visual Quality Commitments

Operation

WSDOT will perform the following minimization and mitigation measures:

- Collaborate with the Seattle Design Commission, City of Seattle, UW Architectural Commission, ABGC, Seattle Bicycle Advisory Board, Seattle Pedestrian Advisory Board, and Seattle neighborhoods to expand and refine an aesthetic vision, establish goals, and suggest design treatments for urban design and streetscapes within the project area. This collaboration will include identifying the existing urban amenities that will remain after construction of SR 520 and co-developing a community engagement process for refining the goals and principles. It will ultimately result in a set of urban design guidelines to inform and direct final design and construction of the SR 520 corridor.
- Follow the guidelines of the WSDOT *Roadside Classification Plan* (WSDOT 2007) to blend the project into the adjacent land uses while creating a unified experience for the roadway user.
- Establish landscaping in affected areas that will be compatible with the character of the existing vegetation, especially along Lake Washington Boulevard, Montlake Boulevard, and through the Washington Park Arboretum, East Montlake Park, Ship Canal Waterside Trail, Arboretum Waterfront Trail, Montlake Playfield, and Interlaken Park/Delmar Drive East.

- Construct a new viewpoint on the 10th Avenue East/Delmar Drive East lid that will recreate the experience the Bagley Viewpoint was designed to provide (see page see page 9-123 of the Final EIS).
- Fulfill its roles and responsibilities as memorialized in the Arboretum Mitigation Memorandum of Understanding (in Attachment 9 of the Final EIS) for implementation of the projects identified in the Arboretum Mitigation Plan (in Attachment 9 of the Final EIS).

Construction

WSDOT will implement standard BMPs such as construction screening and low-impact construction methods, materials, and tools to reduce construction effects on surrounding neighborhoods, where practicable. The final construction schedule for the project will determine when revegetation and landscaping of areas will occur. Pages 5.5-23 through 5.5-24 of the Final EIS provide more information on the revegetation and landscaping activities that will occur for the project.

After construction, WSDOT will restore Foster Island, including shoreline and buffer restoration and roadside planting. Development of revegetation plans will require coordination with Seattle Parks and Recreation, the University of Washington, the Muckleshoot Indian Tribe, and the Arboretum Foundation, as identified in the Arboretum Mitigation Plan (in Attachment 9 of the Final EIS). Plans will require mature and/or larger trees, shrubs, plants, and adequate irrigation and monitoring until vegetation is established. Revegetation for the areas where the Lake Washington Boulevard and R.H. Thomson Expressway ramps are to be removed will also be coordinated with these entities.

Cultural Resources Commitments

FHWA and WSDOT formally initiated the Section 106 process for the SR 520, I-5 to Medina Project in April and May 2009, coordinating with the SHPO, ACHP, affected Indian tribes, and other consulting parties. FHWA and WSDOT, in consultation with the SHPO and tribes, determined that cultural resources, including the Foster Island TCP, would be adversely affected by the Selected Alternative; the SHPO has concurred with the finding. In accordance with 36 CFR 800.6, Resolution of Adverse Effects, the adverse effect on historic properties will be mitigated through the stipulations provided in the Section 106 Programmatic Agreement among WSDOT, FHWA, ACHP, SHPO, U.S. Army Corps of Engineers (USACE), NOAA, affected tribes, and other consulting parties (Attachment 1). In addition, as committed to in the Programmatic Agreement, WSDOT, FHWA, DAHP, USACE, and the tribes are developing a Foster Island Treatment Plan that stipulates the specific measures to be taken to mitigate the effects on the Foster Island TCP. The Programmatic Agreement is the primary document that contains stipulations for project-specific mitigation under Section 106. The Programmatic Agreement and Foster Island Treatment Plan address potential impacts from both construction and operation.

Operation

WSDOT will implement the minimization and mitigation measures stipulated in the Section 106 Programmatic Agreement (Attachment 1).

Construction

WSDOT will implement the minimization and mitigation measures stipulated in the Section 106 Programmatic Agreement.

Noise Commitments

Operation

Based on FHWA reasonableness and feasibility criteria, recommended noise mitigation for the Selected Alternative includes noise walls along both sides of SR 520 from just east of the floating span to

Evergreen Point Road. WSDOT will consult with eligible property owners as defined by WSDOT and FHWA policy to determine whether the recommended noise walls will be implemented. If the recommended noise walls are included, the overall length would be approximately 1,700 feet with height varying between 10 and 20 feet.

A number of noise-reducing measures were incorporated into the design of the Selected Alternative to lower sound levels in neighborhoods and parks adjacent to the corridor. The noise-reduction strategies include 4-foot concrete traffic barriers with noise-absorptive coating, noise-absorptive material on lid portals, encapsulated bridge joints, and a reduced speed limit between Montlake and I-5. Quieter concrete pavement will also be used throughout the corridor; WSDOT is currently evaluating the effectiveness of this type pavement as a noise-reduction strategy.

Construction

The project will meet the requirements of the City of Medina and City of Seattle noise ordinances, or the conditions of any variance that may be obtained. Specific measures that could be implemented are described on pages 6.7-6 through 6.7-9 of the Final EIS.

The Community Construction Management Plan will address potential vibration effects during construction with input from affected communities.

Air Quality Commitments

Construction

For effects during construction, state law requires construction site owners and/or operators to take reasonable precautions to prevent fugitive dust from becoming airborne. WSDOT will comply with the procedures outlined in the Memorandum of Agreement between WSDOT and the Puget Sound Clean Air Agency (PSCAA) for controlling fugitive dust (WSDOT 1999).

Energy and Greenhouse Gases Commitments

Construction

WSDOT will employ BMPs during construction to conserve energy, such as:

- Limiting idling of equipment
- Encouraging carpooling of construction workers
- Locating staging areas near work sites

Because greenhouse gas emissions are related to fuel consumption, any steps taken to minimize fuel use would reduce greenhouse gas emissions as well.

Water Resources Commitments

Operation

WSDOT will comply with all applicable water quality standards. WSDOT will offset the increase in the amount of land covered by impervious surface in the study area by treating a comparable amount of existing untreated impervious area through a number of stormwater treatment facilities, including biofiltration swales and constructed stormwater treatment wetlands. Enclosed spill-containment lagoons are included as part of the floating bridge design and will allow for dilution of the remaining pollutants prior to mixing with lake waters beneath the bridge.

Construction

WSDOT will minimize adverse effects on surface water bodies during construction by implementing and maintaining water quality BMPs outlined in the approved temporary erosion and sediment control (TESC) plan; spill prevention, control, and countermeasures (SPCC) plan; and concrete containment and disposal plan, and by following permit conditions.

Ecosystems Commitments

Operation

Wetlands

FHWA and WSDOT have completed the Conceptual Wetland Mitigation Plan and Conceptual Aquatic Mitigation Plan (WSDOT 2011b and 2011c; included in Attachment 9 of the Final EIS). These plans are subject to regulatory review and will be finalized as part of the Federal Water Pollution Control Act (the Clean Water Act) Section 404 permit and other applicable permits. WSDOT has ensured that the plan complies with federal, state, and local requirements to minimize and mitigate for effects on natural resources subject to regulation.

Fish and Aquatic Resources

In cooperation with resource agencies and the Muckleshoot Indian Tribe through the Natural Resources TWG, WSDOT has developed conceptual plans for habitat improvements, restoration, or construction to mitigate the effects of bridge construction, the increased width of shoreline and open-water crossings, and direct physical impacts from construction activities. The Conceptual Aquatic Mitigation Plan is included in Attachment 9 of the Final EIS.

Because of the different types of potential project effects on fish and aquatic resources, and because these potential effects would occur in several distinct habitat types (for example, open water and shoreline), WSDOT will conduct specific mitigation activities at more than one location within the Water Resource Inventory Area 8 watershed, in which the project is located. Several mitigation projects will be developed, including habitat restoration projects in Lake Washington, the Cedar River, and Bear Creek.

Wildlife and Habitat

WSDOT will coordinate with the City of Seattle, the University of Washington, Seattle Parks and Recreation, and the Arboretum Foundation in developing a planting strategy to offset the project's effects on regulated shoreline habitat under the City's shoreline management regulations.

Construction

WSDOT will develop and implement BMPs as follows:

- Standard over-water and in-water construction and demolition BMPs will be implemented in accordance with environmental regulatory permit requirements and WSDOT specifications. Specific in-water construction time periods will also be established through the project permitting process to minimize potential effects of pile-driving and other in-water construction activities on salmonid species.
- A TESC plan, an SPCC plan, and a stormwater pollution prevention plan (SWPPP) will be developed and implemented.
- Appropriate BMPs and noise-attenuation methods will be developed in coordination with the regulatory agencies, the Muckleshoot Indian Tribe, and environmental permitting processes, and implemented to minimize potential effects of pile-driving activities. Page 6.11-24 of the Final EIS contains more information on potential BMPs.

Mitigation specific to construction effects on wetlands will be performed at one or more of the mitigation sites recommended in the Conceptual Wetland Mitigation Plan (included in Attachment 9 of the Final EIS).

Mitigation for construction effects on aquatic habitat will occur at one or more of the mitigation sites identified for operational fish and aquatic resources mitigation (see pages 5.11-22 through 5.11-23 of the Final EIS and the Conceptual Aquatic Mitigation Plan).

WSDOT will restore the areas affected by construction activities as follows:

- Replant temporarily affected wetlands and riparian habitat with native vegetation after construction.
- Plant native shade-tolerant vegetation in areas under the completed elevated roadway and ramps, where feasible and practical.
- Mitigate wildlife habitat areas in accordance with local jurisdiction regulations and permit conditions.

Geology and Soils Commitments

Operation

The project will be designed to WSDOT and American Association of State Highway and Transportation Officials design standards, which address seismic loading, retaining walls, and related components of the project.

Construction

WSDOT will develop and implement a TESC plan, as required, to adequately and systematically identify and minimize project risk by minimizing and controlling erosion. The purpose of the TESC plan is to clearly establish when and where specific BMPs will be implemented to prevent erosion and transport of sediment from a site during construction. The TESC plan sheets will show the BMP locations and other features such as topography and sensitive area locations for multiple project stages. Potential BMPs are listed in on page 6.12-14 of the Final EIS.

Where construction dewatering of groundwater could result in settlement that might damage adjacent facilities, WSDOT will work to minimize effects, which could include reinjecting the pumped groundwater between the dewatering wells and the affected facility, or using construction methods that do not require dewatering.

Vibration is not expected to contribute to landslide potential in the project area; however, the Community Construction Management Plan will address potential vibration effects during construction with input from affected communities.

Hazardous Materials Commitments

Operation

Stormwater treatment facilities and operational practices incorporated into project design and maintenance procedures will minimize the risk of spills.

Construction

WSDOT will comply with applicable environmental regulations that require that project owners use appropriate techniques to manage contaminated soil and groundwater, strictly manage and control hazardous wastes, and adhere to established criteria for transporting hazardous substances. Other measures WSDOT will use to minimize the potential for contaminant release during construction include:

- Conducting assessments of sites within or adjacent to the project footprint where contamination may be present to identify the presence and extent of any contaminants.
- Locating underground storage tanks and fuel lines before construction to reduce the potential for breakage and resulting spills.
- Surveying structures that would be demolished to determine whether they contain hazardous building materials like asbestos, lead-based paint, and PCBs.
- Specifying construction techniques that minimize disturbance to areas where contamination may exist.
- Complying with Section 620.08 of WSDOT's *Environmental Procedures Manual* (WSDOT 2010b), which provides standard protocols for dealing with hazardous materials during construction.
- Preparing an SPCC plan and a SWPPP to prevent the release of pollution and hazardous substances to the environment.

Navigable Waterways Commitments

Construction

Construction of the new floating bridge will be staged so that the west and east navigation channels will not be closed on the same days. A "Local Notice to Mariners" would be distributed electronically by the Coast Guard to alert local commercial and recreational boating communities. The notice will allow all potentially affected vessels time to relocate temporarily to prevent their being blocked during the bridge construction period.

Pontoon Construction and Towing Commitments

WSDOT will implement the following minimization and mitigation measures related to pontoon construction and towing:

- If the pontoon construction facility at Grays Harbor is used to construct some of the 44 supplemental stability pontoons for the Selected Alternative and dredging is required for pontoon launching, WSDOT will obtain all necessary permits and approvals, and employ all BMPs needed to minimize effects on the aquatic environment.
- If the Grays Harbor facility is used, WSDOT will minimize potential effects on tribal and treaty fishing by coordinating directly with the Quinault Indian Nation and tribal managers to limit pontoon launching activities during periods of active treaty fishing.
- If the Grays Harbor facility is used, while pontoons are being constructed, all pumps or outlets, if used to convey water between the site and fish-bearing waters of Grays Harbor, will be screened according to NOAA Fisheries (NOAA Fisheries 1997) and Washington Department of Fish and Wildlife (WDFW) standards (per Revised Code of Washington [RCW] 77.57.070, RCW 77.57.010, and RCW 77.57.040). WSDOT will monitor the casting basin during draining operations.
- Any fish handling necessary for the project will be performed using protocols consistent with NOAA Fisheries, U.S. Fish and Wildlife Service (USFWS), and WDFW requirements.
- If the Concrete Technology Corporation (CTC) facility in Tacoma is used, appropriate fish-handling protocols will be implemented to remove fish prior to pumping out the remaining water in the casting basin, avoiding mortality from fish entrapment and stranding at the CTC facility.

- If the CTC facility is used, WSDOT will consult with the Puyallup Tribe to ensure that pontoon launching and towing are coordinated to avoid adversely affecting tribal fishing activities.
- WSDOT will require a spill prevention, control, and countermeasures plan to be in place prior to commencing pontoon towing operations. If an oil or contaminant spill were to occur from the tugboat during removal and transport of the pontoons, U.S. Coast Guard regulations will be followed and the vessel's spill response plan will be implemented.
- WSDOT will monitor the pontoons for aquatic species growth as defined in the Biological Assessment and Biological Opinions presented as Attachment 18 of the Final EIS.
- Pontoon transport scheduling will be coordinated with the Seattle Yacht Club as defined in the Section 106 Programmatic Agreement.

Monitoring and Enforcement

The FHWA Washington Division Administrator and the WSDOT Director of Environmental Services ultimately will be responsible for monitoring and enforcing mitigation measures. Mitigation measures will be implemented concurrent with the portion of the project resulting in the impact.

WSDOT will use a commitment tracking system (CTS) to track various project commitments from inception through design, construction, and completion. The CTS will capture the entire suite of project commitments and mitigation projects, ensure compliance by the responsible party(s), and document completion. Additionally, the CTS will provide a tool for tracking follow-up. It will also facilitate incorporating commitments into contracts during the development of plans, specifications, and estimates. The CTS provides compliance recording and reporting features that are consistent with existing program policy and permit requirements. Updating and tracking commitment status from project design to construction and close-out is coordinated via team meetings. The CTS will be updated regularly in order to generate current commitment status reports, which will be reviewed during meetings by project and program management. If a mitigation measure is found to be ineffective, WSDOT will develop other appropriate mitigation.

Permits and Approvals

WSDOT will be responsible for assuring compliance with all related commitments and regulatory permit conditions made or obtained for the project. Anticipated permits and approvals required for the SR 520, I-5 to Medina Project, as well as the agencies from which these would be obtained, are listed below.

Federal

U.S. Army Corps of Engineers:

- Section 404, Individual Permits
- Section 10, Rivers and Harbors Act of 1899

U.S. Coast Guard: Section 9, Rivers and Harbors Act of 1899

U.S. Department of the Interior Land and Water Conservation Fund Act (Section 6(f))

U.S. Department of Transportation Section 4(f)

U.S. Fish and Wildlife Service and NOAA Fisheries:

- Section 7, Endangered Species Act Consultation
- Magnuson-Stevens Essential Fish Habitat Consultation

Washington Department of Archaeology and Historic Preservation: National Historic Preservation Act Consultation (Section 106)

State and Regional

Puget Sound Clean Air Agency Clean Air Conformity Certification

Washington Department of Fish and Wildlife Hydraulic Project Approval

Washington Department of Natural Resources Aquatic Lands Use Authorization

Washington State Department of Ecology:

- 401 Water Quality Certification
- 402 National Pollutant Discharge Elimination System
- Coastal Zone Management Act

Local

WSDOT will obtain the applicable local permits from the cities of Seattle and Medina, where the project would be located. These permits include:

City of Seattle:

- Environmentally Critical Areas Ordinance
- Shoreline Substantial Development Permit/Variance/Conditional Use
- Street Use Permit
- Noise Variance

City of Medina:

- Shoreline Substantial Development Permit/Variance/Conditional Use
- Noise Variance

Comments Received on the Final EIS and Responses

While issuance of a Final EIS does not require a formal comment period under NEPA rules, FHWA's Environmental Impact and Related Procedures (23 CFR 771) call for new substantive comments received on a Final EIS to be responded to in the Record of Decision. WSDOT policies call for the Record of Decision to respond to comments received during the 30 days following issuance of the Final EIS (WSDOT 2010b). This section of the Record of Decision responds to the comments received on the Final EIS. Comment letters and emails are included in Attachment 2.

Between June 9, 2011, when the Final EIS was made available to the public, and August 4, 2011, which is the date of FHWA's signature of this Record of Decision, WSDOT received 28 submittals with

comments pertaining to the Final EIS or NEPA process and documentation for the SR 520, I-5 to Medina project.

Public notification of availability of the Final EIS included the following:

- Community and jurisdictional briefings about the Final EIS
- Project Web site announcement
- Notification posters distributed throughout the project area
- Press release to local media along with a media briefing event

The Final EIS was distributed to agencies, tribes, and libraries, and a copy of the Executive Summary (which includes a DVD of the complete final EIS and discipline reports) was distributed to members of the public who commented on the Draft or Supplemental Draft EIS. The Final EIS was also available online at the project Web site, http://www.wsdot.wa.gov/Projects/SR520Bridge/EIS.htm.

WSDOT held five community drop-in information sessions on the Final EIS between May 23 and June 9, 2011, at locations in Montlake, Roanoke Park, Madison Park, Laurelhurst, and Ravenna. These sessions were attended by a total of over 100 people. WSDOT briefed the Seattle City Council on the Final EIS on June 13, 2011.

Listed below are the ways the public could submit written comments:

- Online at the project's Web site: http://www.wsdot.wa.gov/projects/SR520Bridge/
- Email
- Regular postal mail

All public comments received by FHWA and WSDOT that pertained to the Final EIS are reproduced in Attachment 2 of this Record of Decision.

FHWA read and assessed all of the comments received; these included comments from the public and from three agencies. Each submittal was reviewed to determine whether it contained new substantive comments, and the comments were assigned to categories based on their content. All comments are summarized by category and issue below; each issue is summarized by a brief statement or question, and followed by a comprehensive response. A matrix below each comment identifies the person or organization that commented on this topic, the recipient of the comment submittal (FHWA or WSDOT), the date, and the location in the comment submittal where the topic in question is discussed.

1.0 Project Purpose and Need

1.1 Suggestion that the benefits of the project do not justify the cost and tolls.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seaton, Doug	FHWA	6/20/11	Paragraphs 5 and 8

Pages 1-5 and 1-6 of the Final EIS discuss the purpose of the project: 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. As noted in the discussion of project need on page 1-8 of the Final EIS, the prospect of substantially increased travel times in 2030 "…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."

As discussed in Section 5.1 of the Final EIS, high-occupancy vehicles, including transit, will experience substantial travel-time benefits in 2030 with the addition of the HOV lane. Modeling results have consistently shown that while a 6-lane alternative for SR 520 would not change vehicle-trips substantially compared to No Build, the number of person-trips in the corridor would increase because of the greater desirability of transit and carpooling. Thus, mobility in the corridor—improving the flow of people and goods, rather than simply relieving congestion—will be greatly improved. Because transit and carpools will not be tolled and will travel in an HOV lane that is less congested than the general-purpose lanes, these modes will become a more attractive option. Bicycle commuting will also be greatly facilitated by the new regional bicycle-pedestrian path across the lake.

The project will also improve structural safety through a design that meets current standards for wind and seismic hazards, and will improve driver safety by providing lane widths and shoulder widths that comply with current safety standards. See also response 5.8, "Concerns about how the new bridge will withstand more severe windstorms and waves than the existing bridge," under the heading *Design Considerations* below. The need for the project based on the vulnerability of existing structures was discussed on pages 1-5 through 1-7 of the Final EIS.

1.2 *Concern that phased construction of the Preferred Alternative would not address the structures vulnerable to earthquakes and that WSDOT is working on the non-vulnerable Eastside portion of the project before portions in Seattle that have safety issues.*

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Canterbury Shores Condominium Association, and Mundy, Bill and Mary Ann	WSDOT	7/11/11	Page 2
Coalition for a Sustainable SR 520	FHWA	6/20/11	Pages 6-7, Item C
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 4, Item 10
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 1, Item 1.b

Section 2.8 of the Final EIS described potential project phasing and the relationship of phasing to vulnerable structures. As described in Chapter 1 of the Final EIS, funding for the floating bridge—the most vulnerable portion of the SR 520, I-5 to Medina corridor—has been secured, and WSDOT has solicited proposals for construction of this portion of the project. As stated on page 2-75 of the Final EIS:

> It is important to note that while the new floating bridge might be the only portion of the project in place for a period of time, WSDOT's intent is to build the complete project described in the Final EIS.

As noted in the previous response, the purpose of the SR 520, I-5 to Medina 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." Comments on this topic (Coalition for a Sustainable Seattle to WSDOT, page 4, item 10) suggest that improving mobility, creating safety and reliability, being cost-effective, and avoiding impacts on neighborhoods and the

environment have equal weight in the purpose and need statement. However, as the statement is phrased, the primary purpose of the project is clearly to improve mobility. The components of the statement regarding safety, reliability, cost-effectiveness, and avoiding impacts refer to the manner in which mobility will be improved.

Although it was initiated to improve mobility, the SR 520, I-5 to Medina project serves another important purpose by replacing aging and vulnerable bridge structures throughout the corridor. In prioritizing construction of the floating portion of the Evergreen Point Bridge over that of the Portage Bay and west approach bridges, WSDOT took into account each bridge's sufficiency rating. To help determine federal bridge replacement and rehabilitation funding levels to the states, FHWA requires all state transportation agencies to rate the condition of their bridges and structures using a manual entitled *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges* (FHWA 1995). Ratings are on a scale of 1 to 100, with a higher number indicating greater sufficiency. New bridges have a sufficiency rating of 100. The floating bridge has a sufficiency rating of 9 and is listed as structurally deficient in WSDOT's bridge inventory, while the Portage Bay and west approach bridges have sufficiency ratings of 47.48 and 46.54, respectively. These ratings are based on inspections conducted between 2008 and 2010.

Accordingly, WSDOT has prioritized construction on the Evergreen Point Bridge and its east approach to begin after completion of the NEPA process. The remaining vulnerable structures along the SR 520 corridor will be replaced as soon as funding is available.

2.0 Range of Alternatives

2.1 Concern about how alternatives were developed, and why some alternatives were not studied in an EIS.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Page 3 and Pages 8-9
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Pages 4-5, Item 10 Pages 7-8, Item 16
Puich, Renate	WSDOT	7/8/11	Page 1-2

Throughout the project's environmental process, FHWA and WSDOT have evaluated a reasonable range of alternatives and design options, including 4-, 6-, and 8-lane alternatives, new cross-lake corridors, different technologies (e.g., tubes and tunnels), and alternate travel modes, such as ferries. As described in Chapter 2 of the Final EIS, alternatives were dismissed from further consideration either because they did not meet the project purpose and need or because they were not reasonable alternatives, as defined by 40 CFR 1502.14. Chapter 2 of the Final EIS and the 2009 Range of Alternatives and Options Evaluated Report (Attachment 8 to the SDEIS) described the evaluation process in detail. Table 2-1 of the Final EIS summarizes the history of the SR 520, I-5 to Medina project NEPA process and alternatives. See the responses below regarding specific alternatives that were commented upon.

Members of the communities surrounding SR 520 have been extensively involved in the development of alternatives and design refinements. The decision-making process for this project has lasted over 10 years and has incorporated extensive participation from stakeholder groups, communities, and the public. See the Agency Coordination and Public Involvement Discipline Report and Addendum (Attachment 7 to the Final EIS) for further information.

2.2 *Suggestion that additional alternatives were not considered because of concern on the part of WSDOT, the Governor, and the legislature that considering them would delay project implementation.*

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Pages 10-11, Items 3-5
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Pages 7-8, Item 16

Notwithstanding what Washington state leadership may favor or announce, the NEPA process requires a reasonable range of alternatives. FHWA has independently evaluated the NEPA documents for the SR520, I-5 to Medina project at issue, and concludes that a reasonable range of alternatives have been evaluated.

2.3 *Suggestion that it is WSDOT's intention to build only the floating bridge, and that this is actually a separate alternative that should have been evaluated in the EIS.*

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Bricklin & Newman, LLP	FHWA	7/18/11	Entire comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Pages 1-2, Item 1
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 6, Item 13

Comments on this topic appear to suggest that it is WSDOT's intention to build only the floating bridge, and that this "partial bridge" (as the comments refer to it) is a separate alternative that should have been evaluated in the EIS. However, there is no "partial bridge" alternative. The Final EIS emphasizes WSDOT's commitment to complete the SR 520 corridor from I-5 to Medina. As stated on page 2-75 of the Final EIS:

> It is important to note that while the new floating bridge might be the only portion of the project in place for a period of time, WSDOT's intent is to build the complete project described in the Final EIS. Mitigation measures would be undertaken concurrently with the portion of the project causing the impact. Enhancements (such as lids) would continue to be integral to the project, and would be built at the same time as the corresponding portion of the corridor.

NEPA mandates that projects evaluated in an EIS have independent utility and logical termini. The SR 520, I-5 to Medina project meets this requirement. At the same time, however, it is common for large projects like this one to be built in stages as funding becomes available. By replacing the vulnerable floating bridge with a new 6-lane bridge, this project stage will provide benefit independently of other project components.

FHWA has issued this Record of Decision for the full SR 520, I-5 to Medina project. Because "a long-term or permanent partial bridge" is not being considered, there is no need to evaluate it as an alternative.

The construction effects of Phase 1 are analyzed in Section 6.16 of the Final EIS, and the operational effects are analyzed in Section 5.15. The effects of constructing and operating the remainder of the project are as described in the Final EIS for the I-5 interchange, Portage Bay Bridge, Montlake, and

west approach portions of the project area. The Final EIS provides analysis of the effects of phasing consistent with NEPA and FHWA requirements.

2.4 Suggestion that a ferry service across the lake may be a cheaper alternative than a replacement bridge.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seaton, Doug	WSDOT	6/20/11	Paragraph 6

The Trans-Lake Washington Study conducted an initial screening analysis of 19 alternatives, including a passenger ferry (see Table 1). The analysis determined that a ferry would not serve enough passengers to meet the project purpose, and therefore it was not advanced to the next level of screening. Of the alternatives that advanced, a new floating bridge was the lowest-cost option. The 2009 Range of Alternatives and Options Evaluated Report (Attachment 8 of the SDEIS) provides further discussion of the alternatives that were screened during the Trans-Lake Washington Study, including a passenger ferry.

2.5 Suggestion to consider a cable-stayed bridge design, which would lift the bridge above the water to protect it from the effects of storms.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seaton, Doug	WSDOT	6/20/11	Paragraphs 7 and 9

A cable-stayed bridge design was considered during the Trans-Lake Washington Study and during alternatives evaluation prior to the Draft EIS. However, with this design, the size and scale of the bridge would have been out of keeping with the surrounding area, noise would have reached a larger group of neighborhoods, and costs would have been much higher than for a floating bridge. Therefore, a cable-stayed design was not advanced to the next level of screening. The 2009 Range of Alternatives and Options Evaluated Report (Attachment 8 of the SDEIS) provides further discussion of this topic. The response to comment I-275-005 in Attachment 11 of the Final EIS provides additional discussion regarding why a cable-stayed bridge design is not practical.

2.6 Suggestion that an immersed tube/tunnel should be studied further, and a more specific suggestion that "Option M" should have been studied further.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Page 9
Hoffer, Louis	WSDOT	7/14/11	Pages 1-5
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 3, Item 2.g

Chapter 2 of the Final EIS describes how tube and tunnel concepts were considered in developing the alternatives for the project. In the initial alternatives screening, tunnels were considered from I-5 to the floating bridge, and also for the Lake Washington crossing. Although the facility characteristics had not yet been defined at this point, the evaluation assumed two, three, or four travel lanes in each direction (with or without high-capacity transit) as well as pedestrian and bicycle access. The structural solutions evaluated included bored tunnels below the lake bottom, sunken tunnels on the lake bottom, floating tunnels immersed below the lake surface, floating bridges on the lake surface, and fixed bridges above the lake surface. Because of their high cost, environmental impacts, design

and geotechnical risks associated with lakebed soils, and limited ability to connect with surface roads and ramps, cross-lake tunnels were dismissed from further consideration. The Range of Alternatives and Options Evaluated Report (Attachment 8 of the SDEIS) provides additional discussion.

In 2006, citizens from the Madison Park and Roanoke neighborhoods suggested constructing the segment of SR 520 that extends from I-5 to the western end of the floating bridge as a tunnel. WSDOT reviewed the tunnel concept, investigated engineering, evaluated key environmental considerations, and identified preliminary cost ranges. This work is documented in the Assessment of Tunnel Concept I-5 to Lake Washington report of April 17, 2006 (available at: http://www.wsdot.wa.gov/NR/rdonlyres/B81AC988-E033-4255-AFCE-0D38DF05E52D/0/AssessmentofTunnelConceptI5toLakeWashington41706.pdf). The assessment found that major engineering challenges and effects are associated with construction of a tunnel through this area. The response to the Coalition for a Sustainable 520's comment C-040-050 in Attachment 11 of the Final EIS provides further discussion.

Option K, developed during the mediation process, included a mined tunnel under the Montlake Cut. During its evaluation for the 2010 SDEIS, this option was identified as having high costs and permitting risks. The proponents of Option K then proposed "Option M" to the legislative workgroup that considered SR 520 design options after the close of the mediation process. Option M was similar to Option K, but substituted an immersed tube tunnel for Option K's mined tunnel. Section 2.4 of the Final EIS discusses the reasons why Option M was not considered a reasonable alternative. The primary reasons for its dismissal were environmental impact and cost. As stated in the findings of the legislative workgroup, "Because the Montlake Cut is an environmentally sensitive area, we believe the permitting of Option M's wetlands impacts will be very risky and very costly to mitigate and we believe there would be a high likelihood of a much longer delay (12 to 24 months) in order to negotiate the permitting issue with the US Army Corps of Engineers." Additionally, an independent cost review panel convened by WSDOT expressed concern that, given the range of probable costs for Option M, it was unlikely to fit within the legislatively established budget for the project.

2.7 Statement that the No Build Alternative should assume catastrophic failure of the existing bridge.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Stall, Jon	WSDOT	6/23/11	Item 1

The No Build Alternative, as included in the project's environmental analyses, provides a baseline set of conditions to which build alternatives are compared. The No Build Alternative reflects a prediction about what conditions would exist if the proposed project were not implemented. For this project, the No Build Alternative assumes that the existing bridge remains in place because, while there is a significant (and unacceptable) risk of catastrophic failure, it is still possible that the existing bridge would remain in place in the design year if the project is not constructed. In addition, from a practical standpoint, defining the No Build Alternative to include the existing bridge allows for comparison of the existing facility to the potential effects of the build alternatives, which the catastrophic failure approach would not allow.

The 2006 Draft EIS evaluated two scenarios under the No Build Alternative: the Continued Operation and Catastrophic Failure scenarios. The Draft EIS Catastrophic Failure Scenario assumed that both the Portage Bay Bridge and the Evergreen Point Bridge (along with its approaches) would be lost due to some type of catastrophic event, such as an earthquake or windstorm. Although in a catastrophic event one bridge might fail while the other stands, this represented the worst-case scenario.

To be prepared for possible catastrophic failure, WSDOT completed a catastrophic failure plan in 2008. The plan is available for download at http://www.wsdot.wa.gov/Projects/SR520Bridge/vulnerability.htm. As part of its emergency planning, WSDOT is preparing for potential emergency replacement of pontoons to restore the floating section of the SR 520 floating bridge in case of a catastrophic failure. WSDOT recently awarded a contract to Kiewit-General Joint Venture to build a casting facility and pontoons, and to store these pontoons until needed either for a catastrophic failure or for planned replacement of the floating bridge. More information on the SR 520 Pontoon Construction Project is available at http://www.wsdot.wa.gov/projects/sr520bridge/Pontoons.htm.

Because emergency scenarios cannot be accurately predicted, NEPA regulations include a provision (40 CFR 1506.11) allowing a federal agency to make alternative arrangements for complying with NEPA when necessary to control the impacts of an emergency. Federal, state, and local permitting processes also allow alternative arrangements for meeting applicable requirements in the case of an emergency such as catastrophic failure of the SR 520 structures. Since these procedures would be followed in the event of a catastrophic failure, and the SR 520 Pontoon Construction Project had already been initiated to provide replacement pontoons, WSDOT determined that additional analysis of a catastrophic failure scenario in the SDEIS and Final EIS was not necessary.

2.8 *Suggestion that the No Build Alternative should include tolling, and that comparing an untolled No Build to a tolled 6-Lane Alternative overstates the benefits of the 6-Lane Alternative.*

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Bricklin & Newman, LLP	FHWA	7/18/11	Entire comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Pages 8-9
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 3, Item 7
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 4, Item 3
Seattle Department of Transportation	WSDOT	7/30/11 (Received 7/15/11)	Page 1 "Range of Alternatives"
Seattle Mayor's Office	WSDOT	7/15/11	Page 1 "Range of Alternatives and Tolling Analysis"
Fuhrman and Boyer Neighborhood Improvement Association (FABNIA)	WSDOT	7/15/11	Page 3

Pages 1-22 and 1-23 of the Final EIS explain why the No Build Alternative was assumed to have no tolls. State law directs tolling on SR 520 to remain in place until the construction bonds used to implement the SR 520 Bridge Replacement and HOV Program are retired. If the SR 520, I-5 to Medina project were not built as part of the SR 520 program, current estimates indicate that the bonds would retire prior to the project design year of 2030. Therefore, WSDOT assumed that no tolls would be in place in 2030 if the SR 520, I-5 to Medina project were not built, which is the year used for comparison between no build and build alternatives. See the response to the Coalition for a Sustainable 520's comment C-040-028 in Attachment 11 of the Final EIS for further discussion.

As noted in the comments from the Coalition for a Sustainable 520 and the Seattle Mayor's Office, WSDOT performed a sensitivity analysis to help readers understand how tolling of the No Build Alternative (i.e., a 4-lane SR 520) would affect future demand. The Toll Sensitivity Analysis for the SR

520 No Build Alternative is included in Attachment 19 to the Final EIS and summarized in Final EIS Section 5.1. The analysis evaluated daily, AM peak, and PM peak travel demand on SR 520 in terms of both person-trips and vehicle trips for tolled and untolled No Build scenarios. These categories are consistent with those used to describe travel demand in the Final EIS (contrary to the statement made in one comment that "the mobility parameters addressed [in the memo] are different from the mobility parameters addressed for other options, making meaningful comparisons among the alternatives impossible").

As described in Section 5.1 of the Final EIS, the mobility benefits of the Preferred Alternative are even greater when compared to a tolled No Build Alternative than they are compared to the untolled No Build Alternative used for the SDEIS analysis. The analysis concluded that:

- Overall vehicle-trips and person-trips (measures of overall mobility) on SR 520 would be lower with a tolled No Build Alternative than with either the untolled No Build Alternative or the Preferred Alternative. The tolled No Build would move about 10,000 fewer people each day through the SR 520 corridor than the untolled No Build Alternative, and about 20,000 fewer people than the Preferred Alternative.
- Transit and HOV use would increase with a tolled No Build Alternative, but only by about half as much as they would under the Preferred Alternative. Although the toll would cause some drivers to switch to transit and carpooling, the four general-purpose lanes would not provide the travel time and reliability benefits of the dedicated HOV lanes.

2.9 Suggestion that the No Build Alternative should instead be a retrofit alternative.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Page 9

As discussed in Section 2.7 of the Final EIS, the No Build Alternative is defined as including normal maintenance and repair activities. However, the suggestion that a No Build Alternative might be viable if it included retrofitting or repair of the existing structures is not accurate. The text box on page 2-3 and text on pages 2-10 and 2-11 of the Final EIS, as well as the Range of Alternatives and Options Evaluated report (Attachment 8 to the SDEIS), discuss how retrofitting the existing structures was considered.

Retrofit or repair of the Evergreen Point Bridge and/or the fixed structures was initially considered during the Trans-Lake Washington Study. Retrofit of the floating bridge was determined not to be feasible due to structural and pontoon flotation limitations; therefore, a new bridge is required to maintain safety. Retrofitting the fixed structures would cost nearly as much as building new structures and would have similar environmental effects, but the structures would have a shorter life span than new ones and therefore a higher life-cycle cost. In addition, retrofitting would not improve mobility, and therefore would not meet the project purpose and need. These findings were documented by WSDOT during the SR 520 mediation process and are discussed in pages 1-17 through 1-19 of the SDEIS. Also see the response to the Coalition for a Sustainable 520's comment C-040-046 in Attachment 11 of the Final EIS for further discussion.

2.10 Suggestion that a tolled 4-Lane Alternative provides sufficient mobility to meet the project purpose and need and should have been studied further.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Page 9
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 4, Item 9, and Item 10 bullet 3
Fuhrman and Boyer Neighborhood Improvement Association (FABNIA)	WSDOT	7/15/11	Page 3
Seattle Mayor's Office	WSDOT	7/15/11	Page 1 "Range of Alternatives and Tolling Analysis"
Seattle Department of Transportation	WSDOT	7/30/11 (Received 7/15/11)	Page 1 "Range of Alternatives"

The comments received on this topic appear to reflect some confusion between the tolled 4-Lane Alternative evaluated in the Draft EIS and the tolled 4-lane scenario described in the Four-Lane Transit Optimized Concept Sensitivity Analysis in Attachment 19 to the Final EIS. The following points clarify the evaluation of the 4-Lane Alternative in the NEPA process before addressing the issue of mobility:

- A tolled 4-Lane Alternative was fully evaluated in the 2006 Draft EIS. This alternative was a new SR 520 corridor consisting of four general-purpose lanes. Traffic modeling for the 4-Lane Alternative assumed the same toll as the 6-Lane Alternative (a variable toll with a maximum of $3.35 in 2002 dollars). This alternative was evaluated for all NEPA disciplines and underwent a full traffic analysis, including modeling of demand, freeway operations, and local operations. On the basis of these traffic modeling results, WSDOT determined that the 4-Lane Alternative did not meet the project's purpose of improving mobility on SR 520.
- Because some commenters on the Draft EIS expressed continued interest in the 4-Lane Alternative, WSDOT performed additional travel demand modeling of a tolled 4-Lane Alternative during preparation of the 2010 SDEIS, using the same updated model and tolling assumptions used for the 6-Lane Alternative. This modeling confirmed that the 4-Lane Alternative provided substantially lower mobility benefits than the 6-Lane Alternative for both general-purpose traffic and transit. Therefore, the 4-Lane Alternative was eliminated from further study.
- Comments on the SDEIS suggested that WSDOT should have evaluated a 4-Lane Alternative that was "optimized" to achieve the same transit benefits as the 6-Lane Alternative. To address these comments, WSDOT prepared the Four-Lane Transit Optimized Concept Tolling Sensitivity Analysis, one of several technical memoranda included in Attachment 19 to the 2011 Final EIS and summarized in Chapters 2 and 5 of that document. The analysis assumed that, in order for a 4-lane facility to provide transit benefits equivalent to those of the HOV lanes in the 6-Lane Alternative, traffic would need to be tolled at high enough rates to maintain free flow in the corridor. This is a different assumption than used for the 4-Lane Alternative evaluated in the Draft EIS, which assumed that tolling would be used to generate revenue rather than to manage congestion.

  The project purpose and need statement was adopted in 2000 and has not changed since that time. It defines the purpose of the SR 520, I-5 to Medina project as "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" (Final EIS, page 1-5). Mobility is measured in terms of person-trips and vehicle trips within a given time period, and characterizes the efficiency with which a

corridor can serve users rather than the level of congestion experienced. Therefore, improving mobility is not the same as reducing congestion; rather, it means increasing the ability of a corridor to serve all the people who wish to use it.

The comments note that the Four-Lane Transit Optimized Concept Tolling Sensitivity Analysis shows an improved volume to capacity (v/c) ratio when a 4-lane SR 520 is tolled at $4.00. From this, the commenters conclude that the 4-Lane Alternative would increase mobility if it were tolled at a rate similar to the $3.81 toll rate used to evaluate the 6-Lane Alternative. However, under this scenario mobility would actually *decrease* substantially in comparison to the Preferred Alternative. Exhibit 2 on page 4 of the sensitivity analysis memo shows that 30 percent fewer people would use a 4-lane SR 520 with a $4.00 toll than would use the Preferred Alternative with the same toll. With an $8.00 toll, 46 percent fewer people would use the 4-Lane Alternative than the Preferred Alternative. Thus, free flow on a four-lane SR 520 would reduce congestion, but would also reduce mobility because it would move fewer people than the Preferred Alternative and meet less of the corridor's travel demand. Further, it would reduce congestion on SR 520 only by creating substantial additional congestion on I-90, as shown in Exhibit 3 on page 5 of the sensitivity analysis memo.

Thus, the 4-Lane Alternative, whether tolled at $4 or at $8, would not meet the project's purpose of improving mobility. It would result in an underutilized corridor that would serve far less than the predicted demand for SR 520 and would force that demand onto an already congested I-90. Conversely, the Preferred Alternative provides free flow conditions for transit and HOV, improves travel times for general purpose traffic, and increases person-trips on SR 520 by 18 percent compared to No Build. By improving mobility, it meets the project purpose and need.

3.0 NEPA Regulations Regarding Alternatives, EISs, and Decision-Making

3.1 Suggestion that the timing of WSDOT's identification of the Preferred Alternative was inconsistent with NEPA regulations.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Page 3, Item 4 Page 10, Items 1-2
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Pages 7-8, Item 16

As noted in the Final EIS, the Preferred Alternative is similar to SDEIS Option A. Refinement of the Option A design to create the Preferred Alternative was based on many sources of input prior to and during the SDEIS comment period, including feedback received at open houses and public hearings, work with City of Seattle staff, and discussions with resource agencies and tribes. The comment period for the SDEIS began on January 22, 2010, and was subsequently extended to a period of 84 days, and many comments were received earlier than the extended deadline of April 15, 2010. All of the comments on the SDEIS were read and considered prior to the announcement of the Preferred Alternative on April 30, 2011. See Section 2.5 of the Final EIS regarding how the Preferred Alternative was developed, and Section 2.1 regarding the history of alternatives for the project.

NEPA requires the identification of a Preferred Alternative as part of the EIS process (see 23 CFR 711.125). This may occur as early as the Draft EIS; however, to provide full opportunity for public input, WSDOT typically does not identify a Preferred Alternative until the Final EIS. FHWA requires the designation of a preferred alternative in the Final EIS to provide full public disclosure of the

choice most likely to be implemented. However, the final decision on which alternative will be implemented is a federal action that is taken by FHWA and documented in the Record of Decision. FHWA is not obligated to select the preferred alternative or any build alternative, regardless of the expressed opinions of state officials. See the responses to the Coalition for a Sustainable 520's comments C-040-002 and C-040-016 in Attachment 11 of the Final EIS for additional discussion.

3.2 Statement that a Record of Decision for this project cannot be issued lawfully because the Puget Sound Regional Council (PSRC) has not approved the whole I-5 to Medina project, and that therefore PSRC should not have voted to allow WSDOT to proceed with Phase 1 of the project

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Page 2, Item 2 Page 11, Item 5.b
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 2, Item 3 Page 8, 16.5.b

On April 28, 2011, the Puget Sound Regional Council Executive Board granted conditional approval—subject to the completion of environmental documentation—for WSDOT to continue moving forward with the design-build procurement for the SR 520 floating bridge and landings. Although PSRC does not have formal authority to authorize project construction, the 31-1 "yes" vote of the board, which is composed of elected officials from throughout the Puget Sound region, served as an expression of regional support for the SR 520 program.

WSDOT's decision to initiate design-build contracting for the floating bridge and landings before the Record of Decision is consistent with FHWA regulations. Under 23 CFR § 636.109(3), the contracting agency (in this case, WSDOT) may issue a request for proposals (RFP) prior to the conclusion of the NEPA process, as long as the RFP informs proposers of the general status of the NEPA process and that no commitment will be made as to any alternative under evaluation in the NEPA process, including the No Build Alternative. WSDOT's RFP met these requirements.

Contrary to the statement made in the comment, the full SR 520, I-5 to Medina project is included in PSRC's *Transportation 2040* (PSRC 2010), which is the Metropolitan Transportation Plan for the Puget Sound region. According to FHWA's guidance, proposed transportation projects within metropolitan planning areas must meet the following specific criteria for a Record of Decision to be issued**:**

- The project or phases of the project within the time horizon of the Metropolitan Transportation Plan (MTP) must be included in the fiscally constrained MTP.
- The project must be in the fiscally constrained Transportation Improvement Program (TIP). If the project is phased, at least one phase of the project must be in the TIP.
- Full funding must be reasonably available for the completion of all phases of the entire project within the time period available for completion of the project [23 CFR § 450.324(h)-(i)].

The SR 520, I-5 to Medina project is in compliance with all of these requirements, as documented in a letter to FHWA from WSDOT dated July 21, 2011. This letter is included in Attachment 4.

3.3 Statement that new information included in the Final EIS constituted important impacts on the environment, and that the public should have been given an opportunity to comment.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Page 2, Item 1 Page 11, Item 5.c
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 1, Items 1-2
Seattle Mayor's Office	WSDOT	7/15/11	Pages 1-2 "Release of Substantial New Information"
Ravenna-Bryant Community Association	FHWA/ US Secretary of Transportation	7/7/11	Page 1

Although it is not explicitly stated in the comments, they imply that FHWA and WSDOT should have prepared another Supplemental Draft EIS prior to issuing the Final EIS. A supplemental EIS is required if an agency has made a substantial change in a proposed action that is relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts (40 CFR 1502.9(c); CEQ 2011a). The supplemental document provides another public comment period, and comments must be responded to in the Final EIS.

When the Preferred Alternative was identified in April 2010, FHWA and WSDOT considered whether it would require additional supplemental analysis. They concluded that it would not, because it did not substantially change the proposed action evaluated in the SDEIS and because no significant new circumstances or information had been identified that would affect the SDEIS analysis. The Preferred Alternative analyzed in the Final EIS is a refinement of the design of SDEIS Option A. As discussed in Chapter 2 of the Final EIS, the Preferred Alternative's design refinements were developed in response to public and agency comments on the project and reduce its overall adverse effects. The primary changes between Option A and the Preferred Alternative include:

- A larger Montlake lid, which will add open space, better connect neighborhoods, and further reduce noise in Montlake
- Elimination of Lake Washington Boulevard ramps, which reduces traffic in the Arboretum
- A narrower Portage Bay Bridge with an alignment shifted south to avoid the NRHP-eligible NOAA campus
- Improved transit/HOV accommodation and connections, including new bus stops in the Montlake lid vicinity and HOV lanes on Montlake Boulevard
- Innovative noise-reduction measures that eliminate the need for noise walls through most of the corridor
- Accommodation of potential future light rail transit in the west approach area
- A lower floating bridge profile to reduce aesthetic impacts

The analysis of the Preferred Alternative in the Final EIS demonstrated that its effects are within the range of effects identified in the SDEIS. As discussed in this Record of Decision, it has been found to be the environmentally preferable alternative under NEPA. Comments regarding specific aspects of the Preferred Alternative are addressed below:

- The Montlake interchange HOV direct access ramps were refined in the Preferred Alternative, compared to Option A, in order to improve the location and function of

facilities for pedestrians and transit users. These refinements were based on public and agency comments during the ESHB 6392 workgroup process, and have the result of reducing negative effects. The new intersection with 24th Avenue East on the Montlake lid was a similar refinement, and allows for access to Lake Washington Boulevard with removal of the existing Lake Washington Boulevard ramps. The responses to summary comment 8.2.4 "Concern that the Preferred Alternative Montlake lid design will cause backups on the westbound SR 520 off ramp" and comment 8.3.2 "Concern about bicycle and pedestrian safety effects of the Montlake lid design" (see Subsection 8.0, Transportation Effects and Commitments, below) address specific concerns expressed in the Ravenna-Bryant Community Association comment. As indicated in those responses, the effects of the new configuration of the HOV direct access ramps and the Montlake lid intersections and crosswalks are within the range of effects identified in the SDEIS.

- The Portage Bay Bridge alignment was refined in the Preferred Alternative, compared to Option A, to balance the desires of adjacent neighborhoods and property owners with constructability requirements. Final EIS Exhibit 2-9 shows the alignment of the Portage Bay Bridge. At the eastern end, the bridge was shifted south compared to Option A in order to avoid historic buildings at the NOAA NWFSC. The Portage Bay Bridge under the Preferred Alternative would be 105 feet wide at its midpoint, compared to 60 feet today. This is narrower than the 111-foot width of Option A. The southern edge of the bridge is generally in the same location as the southern edge of the existing bridge, and the expansion in width (of approximately 50 feet at the structure's midpoint) occurs to the north. The statement on Final EIS page 9-9 that the bridge would "operate 110 feet north of the current bridge" was in error; the northern edge of the new bridge would be approximately 50 feet north of the northern edge of the existing bridge.

- The enhanced bicycle/pedestrian crossing over I-5 that is part of the Preferred Alternative would benefit neighborhood connectivity and nonmotorized transportation, and thus fulfills a similar purpose as the I-5 lid included in Options A, K, and L. The I-5/East Roanoke Street lid was included in those options as an amenity and would not contribute to meeting the project purpose and need, nor would it provide mitigation for project effects. As described on Final EIS page 2-32, the lid was not included in the Preferred Alternative due to the constraints it would place on potential future expansion of I-5. However, such an expansion of I-5 is neither part of the project nor is it in any existing plans; therefore, consistent with FHWA and WSDOT guidance, its effects are not analyzed and it is not considered as a planned improvement in the transportation analysis or analyzed in the cumulative effects scenario.

  Without the I-5 lid, the project would result in fewer receivers in the Roanoke Park neighborhood exceeding the FHWA noise abatement criteria (NAC) than the No Build Alternative, although one to two more receivers (those primarily affected by I-5 traffic) would exceed the NAC than under SDEIS Options A, K, and L. Construction effects on the Roanoke Park neighborhood and historic district would be reduced compared to the SDEIS options, especially for those residences north of SR 520. The Draft EIS 6-lane alternatives did not include either a lid or an enhanced pedestrian crossing at I-5; thus the effects of a 6-lane alternative without an I-5 lid were disclosed in that document.

- Proposed mitigation for effects on Section 4(f) resources and for effects on wetlands and aquatic habitat is not expected to result in new significant effects.

- The traffic analysis was updated based on new regional growth projections, updated transportation network assumptions, and new tolling assumptions. Tables 5.1-2 and 5.1-3 compare the SDEIS and Final EIS analyses, and show the variation between the SDEIS and

Final EIS analyses for No Build, allowing the reader to compare the two analyses. The results of the updated transportation analysis, and updates to the noise and air quality analyses based on the transportation analysis, do not identify new significant impacts that were not disclosed in the SDEIS.

- The Phased Implementation scenario analyzed in the SDEIS included analysis of a floating bridge phase. See also response 2.3, "Suggestion that it is WSDOT's intention to build only the floating bridge, and that this is actually a separate alternative that should have been evaluated in the EIS," under Subsection 2.0, Range of Alternatives.

3.4 *Concern that issuance of a Record of Decision shortly after publication of the Final EIS does not allow for appropriate consideration of the analyses and public concerns about those analyses.*

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Page 11, Item 5.c
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 1, Item 1 Page 8, Item 16.5.c
Ravenna-Bryant Community Association	FHWA/ US Secretary of Transportation	7/7/11	Page 1

As the federal lead agency for this project, FHWA has reviewed and considered all the information contained in the Draft EIS, SDEIS, and Final EIS. This includes the public comments on the Draft EIS and SDEIS, and input received through other opportunities for public participation. FHWA decision-makers have been involved throughout the NEPA process. The NEPA documents, including the Draft EIS, SDEIS, and Final EIS were reviewed by FHWA technical staff prior to being approved by FHWA.

FHWA (not WSDOT) determines the appropriate timing for signing the Record of Decision. Under CEQ regulations for implementing NEPA, the Record of Decision may not be signed less than 30 days after publication of the Notice of Availability of the Final EIS in the Federal Register (40 CFR Sec. 1506.10). A 30-day review period for the Final EIS is also consistent with FHWA standard practice. The Final EIS and its attachments were made available to the public via WSDOT's website on June 9, 2011, and the Notice of Availability for the project was published in the Federal Register on June 17, 2011. The Federal Register notice and the Final EIS signature page stated that that no decision would be made on the proposed action prior to July 18, 2011. The 30-day review period is not considered a formal comment period and, contrary to the Coalition's statement, there was no due date set for comments on the Final EIS. However, as required by FHWA's Environmental Impact and Related Procedures (23 CFR 771), in this Record of Decision FHWA responds to all comments received on the Final EIS prior to the signature date of this Record of Decision.

Based on the well-publicized June 9 web release date of the Final EIS, commenters had 38 days to review the document prior to July 18. Much of the document's length was text repeated from the SDEIS evaluation of Options A, K, and L, and thus did not represent new information. The Final EIS includes a comprehensive index; while the discipline reports are not individually indexed, the electronic versions are searchable. The printed version of the Final EIS was published with a DVD containing a complete, searchable electronic version of the document and its attachments.

3.5 *Concern that the responses to the comments received on the Draft EIS were untimely and did not provide enough detail.*

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Fuhrman and Boyer Neighborhood Improvement Association (FABNIA)	WSDOT	7/15/11	Page 1

While NEPA requires that public comments be addressed in a Final EIS (23 CFR 771.125(a)(1)), it does not require a separate response to public comments prior to the Final EIS. In addition, NEPA allows for the flexibility to group and/or summarize comments and responses (CEQ 2011a). FHWA and WSDOT used a summary approach for responding to the Draft EIS comments because of the large volume of comments and because many of the comments were the basis for the revised alternatives and new analyses included in the 2010 SDEIS. Thus, FHWA and WSDOT included a general response to each of the Draft EIS comment summaries, and in many cases directed the reader to the SDEIS or the Final EIS for the details with regard to the concerns identified. Comments received on the Draft EIS were summarized and responded to in the Draft EIS Comment Summary Report (Attachment 13 of the Final EIS).

3.6 Concern that design changes could be made after the NEPA process is complete and could result in additional impacts.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 7, Item 15

Under NEPA, a conceptual level of design development is used for the analysis of project alternatives. Agency actions, such as final design and permitting, may not occur until after the NEPA process is complete.

While this Record of Decision concludes the NEPA process, engineering design development and refinement will continue until the project design is final. Further design development is required as part of project permitting and for construction. WSDOT will also continue to develop and refine aesthetic and urban design treatments, landscaping plans, design treatments for lids and pedestrian crosswalks, and other design details. Development of these treatments, plans, and details will include design recommendations that came out of the ESSB 6392 process, as well as the Seattle Community Design process (see Visual Quality Commitments in this Record of Decision). WSDOT will also develop additional details on project phasing, construction staging, and construction techniques. Some modifications to the engineering design may also be proposed by project contractors once they are selected. Major features such as the alignment and height of the bridge structures, the number of lanes, and the sizes and locations of lids are not expected to change.

If modifications are proposed to the project design following the Record of Decision that have the potential to result in new or different environmental impacts, FHWA and WSDOT will evaluate the changes to determine whether the NEPA EIS effects analysis remains valid for the proposed modification. If a new significant impact is identified in the reevaluation process, and FHWA and WSDOT propose to implement the modification, then FHWA and WSDOT would be required to prepare supplemental environmental documentation. Any such documentation would include opportunities for public review and comment.

4.0 Agency and Tribal Coordination and Public Involvement

4.1 Suggestion that WSDOT adopt an SR 520 Corridor Performance Management Agreement.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Ravenna-Bryant Community Association	FHWA/ U.S. Secretary of Transportation	7/7/11	Page 3

In early 2010, the Washington State Legislature passed and Governor Gregoire signed ESSB 6392. ESSB 6392 directed WSDOT to work with regional agencies to refine components of the SR 520, I-5 to Medina preferred alternative, including design refinements and transit connections, and transit planning and financing. WSDOT led a workgroup process in collaboration with the City of Seattle, King County, the University of Washington, and Sound Transit. WSDOT's approach to managing freeway corridors is based on existing strategies for reducing collisions and congestion on urban freeways. These strategies were presented to the ESSB 6392 Design Refinements and Transit Connections Workgroup Technical Coordination Team (TCT) for discussion. The TCT considered WSDOT's strategies and developed final recommendations for managing traffic in the new SR 520 corridor. These strategies included continuous HOV lanes from I-5 to SR 202, variable tolling, continued use of traffic management applications such as ramp meters, variable speed limits, and lane control, as well as companion incident response services and enforcement. The final recommendations will result in a corridor that is well positioned to meet the established HOV lane performance standards and corridor performance expectations expressed by the legislature and Seattle City Council. The Corridor Management Plan Technical White Paper is available at: http://www.wsdot.wa.gov/NR/rdonlyres/0346C8DC-2063-4E6F-8B6D-902EB05C37EE/0/CorridorManagementPlan.pdf.

Although a specific corridor management plan for SR 520 does not exist, the state's HOV lane operations policy described in the WSDOT Design Manual Chapter 1410 would be used to identify when the HOV lanes' operational thresholds were met and when an adjustment to the occupancy requirement would be recommended.

4.2 Statement that the Preferred Alternative has not been approved by the Muckleshoot Indian Tribe, that the EIS is not tenable without their approval, and that their concerns could trigger another SDEIS.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 1, Item 1.a

WSDOT is actively consulting with the Muckleshoot Indian Tribe in accordance with Section 106 of the National Historic Preservation Act, the 1989 Centennial Accord between the Federally Recognized Tribes in Washington State and the State of Washington, the New Millennium Agreement, the WSDOT Secretary's Executive Order on Tribal Consultation E 1025.01, and the WSDOT Centennial Accord Plan. To date, two separate agreements have been developed for this project, as described in the *Social Elements, Environmental Justice, and Public Services and Utilities Commitments* section of this Record of Decision. First, the tribe is a consulting party to the Section 106 Programmatic Agreement (Attachment 1) to satisfy the requirements of the NHPA. The agreement includes the development of a separate Foster Island Treatment Plan to mitigate for adverse effects on Foster Island. The agreement also includes the development of an archaeological treatment plan to address further cultural resources analyses as project design and construction progress. Second, as described on pages 1-10 through 1-12 of the Final EIS, WSDOT and FHWA are engaged in

government-to-government consultation with the Muckleshoot Tribe to determine appropriate mitigation for the project's effects on resources protected by treaty fishing rights. The outcome of this consultation will be a Memorandum of Agreement that documents FHWA's and WSDOT's commitment to a set of specific mitigation measures.

The tribe has been actively involved in the Natural Resources Technical Working Group and Section 106 processes, and their concerns have been addressed through these processes and the consultation, plans, and agreements described above. NEPA does not require approval of an EIS by tribes, and the concerns expressed by the tribes do not require another supplemental EIS as suggested in the comment.

4.3 Statement that Option L has very little support in the Westside mediation process.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 3, Item 2.f

As described on page 1-19 of the SDEIS, mediation participants agreed in February 2008 that Options A, K, and L should be the focus of further design refinement efforts, and WSDOT agreed to evaluate these options in the SDEIS. Like the other options evaluated in that document, Option L met the project purpose and need and was a reasonable alternative. However, it was not identified as the Preferred Alternative. The references to pages 2-10, 2-11, and 2-26 appear to pertain to Option M, which is discussed in a separate response.

4.4 Statement that through the mediation process, the adjacent communities agreed that the western structure centerline would be no greater than 100 feet north of the existing centerline.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 3, Item 2.h

The 190 feet noted in the comment refers to the floating span of the Evergreen Point Bridge, which will be 190 feet north of the existing centerline at the western end of the structure and 160 feet north at the east end. The alignment of the west approach structure would not be moved northward of the existing structure. The additional width of the 6-Lane Alternative design options, compared to the existing corridor, means the northern edge of this structure would be located further to the north than the existing edge; however, the change would not be greater than 100 feet.

The alignment of the floating span of the Evergreen Point Bridge is the same for the Preferred Alternative as for mediation options A, K, and L, and was disclosed for those options on page 2-29 of the SDEIS. The alignment of the floating bridge was developed to maximize constructability and allow the maintenance of traffic flow on the existing bridge during construction. In light of community feedback, it is sited no farther north than necessary to achieve these objectives. Although some mediation participants discussed concerns about the location of the centerline with WSDOT, the mediation process did not result in a "settlement" on this topic.

4.5 Statement that WSDOT has not reached out to the residents or businesses of Madison Park, Broadmoor, and Washington Park to understand how this project would impact the community.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Flug-Coburn, Eliza	WSDOT	7/6/11	Paragraph 1

In accordance with NEPA and SEPA regulations, WSDOT has worked with agencies, tribes, and the public, including local neighborhoods, throughout project development. Public feedback was garnered through a variety of venues, including public meetings, briefings, outreach events, comment periods, public participation in environmental processes, and mass communications. Representatives of the Madison Park community participated in the SR 520 mediation process and the subsequent legislative workgroup, and WSDOT has held many meetings and open houses for neighborhood residents, with the most recent open house taking place at the Madison Park Starbucks on June 6, 2011. Please see Section 1.14 of the Final EIS, as well as the Agency Coordination and Public Involvement Discipline Report (Attachment 7 of the SDEIS) and the Agency Coordination and Public Involvement Discipline Report Addendum (Attachment 7 of the Final EIS), for more information on WSDOT's coordination with the public.

5.0 Design Considerations

5.1 Question about whether the Preferred Alternative includes lane expansion west of Lake Washington.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Leeth, Shawn	WSDOT	6/10/11	Page 1 (entire item)

As discussed in Chapter 2 of the Final EIS, the Preferred Alternative includes two general-purpose lanes and one HOV lane in each direction between I-5 and Medina.

5.2 Suggestion that the design of the Preferred Alternative is wider than the stated six lanes.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Pages 4-5, item a

The 6-Lane Alternative, as its name suggests, includes six lanes: four general-purpose lanes plus two HOV lanes. Standard engineering terminology includes only through lanes, not ramps or shoulders, in describing the number of lanes in a facility. The comment compares the 60-foot *minimum* width of the four narrow existing through lanes and shoulders—not including ramps—to the 262-foot *maximum* width of a 6-lane highway that includes ramps. This is a misleading comparison. As shown on Table 2-7 on page 2-59 of the Final EIS, the existing west approach structure between Montlake and across Foster Island ranges from 60 to 150 feet, while the Preferred Alternative's west approach structure would range from 160 to 262 feet. The maximum width of 262 feet is in an area where the existing width is 150 feet (not 60 feet). In addition to the six through lanes and shoulders, the 262 feet include a 2-lane off-ramp and direct-access HOV/transit off-ramp on the westbound structure, and two on-ramps on the eastbound structure, as well as a gap between the westbound and eastbound bridges to accommodate potential future light rail (requested by community members). As a result of design refinements, the westbound off-ramp to Montlake Boulevard has been reduced from two lanes to one lane, reducing the width of the bridge across Foster Island compared to Option A; while this reduction is not reflected in the impact calculations in the Final EIS, it is discussed in a text box on page 2-58 of the Final EIS.

The width of the proposed SR 520 corridor has been minimized to the maximum extent feasible. The new highway lanes and shoulders are designed to standards that have been established to protect the safety of drivers. When circumstances warrant a change from these standards, WSDOT must request FHWA's approval of a "design deviation." WSDOT has already obtained approvals for design deviations for both lane and shoulder widths in response to community requests for a narrower roadway footprint. WSDOT intends to operate SR 520 as a 6-lane corridor and has no plans to restripe it in the future.

5.3 Suggestion that the HOV lanes should be for transit only.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Page 9
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Pages 4-5, Item 10 Page 7, Item 16.1

As demonstrated in Section 5.1 of the Final EIS, the SR 520, I-5 to Medina project will result in immediate benefits for transit speed and reliability in the corridor by providing HOV lanes across the floating bridge and better HOV connections at the Montlake and I-5 interchanges. The HOV lanes will also allow for the initiation of bus rapid transit service, as called for in the SR 520 High-Capacity Transit Plan, when funding is available for the plan's implementation.

Making the HOV lanes transit-only would not reduce their footprint, the number or footprint of interchanges, or the overall footprint of the Selected Alternative; nor would it provide any additional transit benefit, as the HOV lanes are expected to operate at free flow even when shared with carpools. The SDEIS and the Final EIS both assume that the HOV lanes would be available at no charge to vehicles with three or more passengers during all hours. This includes carpools and vanpools as well as buses. The transportation analysis was performed using this assumption. The three-person occupancy assumption results in free-flow operations in the HOV lane with bus service levels near 600 vehicles per day.

The three-person occupancy assumption is consistent with ESHB 6392, which specifies that the HOV lane will be available only for vehicles with three or more passengers and stipulates that the legislature be informed in the event that HOV lane speeds drop below 45 miles per hour more than 10 percent of the time. The State would need to request legislative approval to make any modifications to this allowance.

Regarding concerns that the HOV lanes could be changed to high-occupancy toll (HOT) lanes, see the response to summary comment 8.1.2, "Statement that the Final EIS's assumptions on carpooling are unreasonable," under Subsection 8.0, Transportation Effects and Commitments, below.

5.4 Question about whether the project includes improvements to the "southbound" weave on I-5 (between I-5 at N.E. 45th Street and SR 520).

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Ebrahimi, Keihan	WSDOT	6/15/11	Page 1 (entire item)

The SR 520, I-5 to Medina: Bridge Replacement and HOV Project begins at SR 520's interchange with I-5, and does not include improvements further north on I-5. However, the project would not preclude changes to this portion of I-5 in the future. The Preferred Alternative does include a reversible transit/HOV ramp to the I-5 express lanes connecting the SR 520 HOV lanes with the I-5

reversible express lanes south of SR 520. The northbound I-5 to eastbound SR 520 ramp would remain the same as today. The project area is defined in Section 1.1 of the Final EIS, and the improvements that are part of the Preferred Alternative are included in Section 1.8 of the Final EIS.

5.5 Suggestion that the Portage Bay Bridge should be limited to 4 lanes and that the design of the Preferred Alternative in this area is wider than the stated six lanes.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Page 9

A 4-lane Portage Bay Bridge would not meet the project's purpose because it would not allow for HOV lanes, which would provide express lane connectivity and provide improved mobility, or for a managed shoulder in the westbound direction, which would address congestion. However, due to public feedback, in the Preferred Alternative the width of the Portage Bay Bridge has been reduced at the midpoint from 110 feet to 105 feet, it includes a managed shoulder rather than the auxiliary lane of Option A, and the speed limit has been reduced from 55 to 45 mph.

See the response to summary comment 5.2, "Suggestion that the design of the Preferred Alternative is wider than the stated six lanes," above regarding engineering terminology for the number of lanes.

5.6 Assertion that operation of the Preferred Alternative Portage Bay Bridge will have negative effects on the Seattle Yacht Club.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seattle Yacht Club	WSDOT	Not dated (received 8/1/11)	Entire letter

Due to the addition of HOV lanes to improve mobility and the need to meet modern safety standards, it is not possible for the new Portage Bay Bridge to remain within the footprint of the existing bridge. See the response to summary comment 5.5 "Suggestion that the Portage Bay Bridge should be limited to 4 lanes and that the design of the Preferred Alternative in this area is wider than the stated 6 lanes" and the response to comment C-025-006 in Attachment 11 of the SDEIS for further discussion of the bridge's footprint.

As discussed in the response to summary comment 3.3 "Statement that new information included in the Final EIS constituted important impacts on the environment, and that the public should have been given an opportunity to comment," the Portage Bay Bridge alignment was refined in the Preferred Alternative, compared to Option A, to balance the desires of adjacent neighborhoods and property owners with constructability requirements. Final EIS Exhibit 2-9 shows the alignment of the Portage Bay Bridge. At the eastern end, the bridge was shifted south compared to Option A, in order to avoid historic buildings at the NOAA NWFSC. This also places it farther from the SYC facilities. The bridge under the Preferred Alternative would be 105 feet wide at its midpoint, compared to 60 feet today and 111 feet for Option A. The statement on Final EIS page 9-9 that the bridge would "operate 110 feet north of the current bridge" was in error; the northern edge of the new bridge would be approximately 35 to 50 feet north of the existing bridge, with the western half of the bridge located farther north than the eastern half.

With the Preferred Alternative, the Seattle Yacht Club (SYC) would not lose temporary or permanent moorage space, and the project would not require any temporary or permanent acquisition of club property (see Final EIS Exhibits 5.2-3 and 6.2-2). SYC's Dock 0 would not lose moorage space, nor

would there be loss of access to the permanent moorage on the SYC's fixed moorage facilities. See the response to summary comment 11.17 'Statement that the Final EIS does not provide sufficient discussion of the recreational use of project area waterways other than in the section on private recreational facilities" below regarding effects on boating activities in Portage Bay.

With the Preferred Alternative, noise reduction measures such as 4-foot concrete traffic barriers with noise-absorptive coating would reduce noise to the point that noise walls are not recommended on the Portage Bay Bridge (Section 5.7 of the Final EIS provides additional detail). Additionally, the landscaped median that is part of the Preferred Alternative makes the Preferred Alternative visually preferable to the other build alternatives.

Design development of the aesthetic treatment of the Portage Bay Bridge will be consistent with the Section 106 Programmatic Agreement, as discussed in the response to summary comment 12.2, "Assertion that the Seattle Yacht Club, which is protected under the National Historic Preservation Act, will experience negative effects from construction and operation of the project." Also see the response to this comment regarding the resolution of adverse effects on Section 106 properties through the Programmatic Agreement, to which the SYC is a concurring party.

5.7 Assertion that WSDOT plans to use the Olmsted-designed historic Lake Washington Boulevard as an exit ramp from SR 520.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Ravenna-Bryant Community Association	FHWA/ US Secretary of Transportation	7/7/11	Page 1

The comment inaccurately characterizes the Selected Alternative design. The Selected Alternative will physically remove the existing Lake Washington Boulevard eastbound on-ramp and westbound off-ramp. Access to Lake Washington Boulevard by westbound SR 520 traffic will be moved to a new intersection located on the Montlake Boulevard lid at 24th Avenue East. This segment of 24th Avenue East will connect to the historic segment of Lake Washington Boulevard; however, the connection is via a second intersection on the south side of SR 520. The connection will be considerably less direct than the existing off-ramp. The Preferred Alternative will also reduce traffic volumes on Lake Washington Boulevard through the Arboretum compared to existing conditions and the No Build Alternative (see response 8.2.7, "Assertion that the Preferred Alternative will increase traffic on Lake Washington Boulevard through the Arboretum compared to existing conditions," under Transportation Effects and Commitments below).

5.8 Concerns about how the new floating bridge will withstand more severe windstorms and waves than the existing bridge.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seaton, Doug	WSDOT	6/20/11	Paragraphs 4 and 8

The requirements of previous and current design standards are discussed in Section 1.3 of the Final EIS. Design elements of the new floating bridge are discussed in Section 2.6 of the Final EIS. In compliance with current design standards, the new floating bridge will be built to withstand sustained wind speeds of 92 mph. Additionally, the new pontoons are designed to be less vulnerable to damage in strong winds. See the response to the Coalition for a Sustainable 520's comment C-040-045 in Attachment 11 of the Final EIS for additional discussion.

6.0 Funding and Phasing

6.1 Statement that it makes no sense to expend funds on the Floating Bridge and Landings stage unless there are assurances that funding can be obtained for the rest of the project.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Bricklin & Newman, LLP	FHWA	7/18/11	Entire comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Pages 2-3, Items 1-3
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Pages 2-3, Items 3-7
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Pages 2-3, Items 2 and 2.e

The proposed schedule for the SR 520, I-5 to Medina project is shown on page 1-18 of the Final EIS. FHWA and WSDOT anticipate completion of the project by 2018 if full funding is available. WSDOT is working actively with the legislature to secure funding; the 2018 schedule will be met if full funding is secured by the 2013 legislative session.

Of the structures in the corridor, the floating bridge has the longest lead time for construction and the most critical safety issues. Based on the FHWA rating methodology for bridges, it has a structural sufficiency rating of 9, compared to ratings in the high 40s for the fixed bridge structures. In addition, it is classified as structurally deficient, while the fixed bridges are not. See the response to summary comment 1.2, "Concern that phased construction of the Preferred Alternative would not address the structures vulnerable to earthquakes and that WSDOT is working on the non-vulnerable Eastside portion of the project before portions in Seattle that have safety issues," under Subsection 1.0, Project Purpose and Need, above for further information. Thus, it has appropriately been designated as the highest priority among the vulnerable structures and will be constructed first.

The Final EIS also discloses that, should full funding not be received by the 2013 legislative session, WSDOT will implement a phased construction plan that includes construction of a new 6-lane floating bridge with an interim connection to the existing west approach. The new floating bridge would be striped so that one of the two westbound general-purpose lanes would merge into the new westbound transit/HOV lane as the bridge nears the west approach. Eastbound transit and HOV users would benefit from a dedicated transit/HOV lane from the floating bridge to Redmond. Initially implementing only the floating bridge portion of the project would provide transportation benefits independent of the rest of the project, and this portion could be constructed independently of the Seattle portion.

While the new floating bridge might be the only portion of the project in place for a period of time, WSDOT's intent (as stated on page 2-75 of the Final EIS and elsewhere) is to build the complete project described in the Final EIS. Mitigation measures would be undertaken concurrently with the portion of the project causing the impact. Enhancements (such as lids) would continue to be integral to the project, and would be built at the same time as the corresponding portion of the corridor.

As described elsewhere in this Record of Decision and documented in WSDOT's letter to FHWA (dated July 21, 2011, and included in Attachment 4), the SR 520, I-5 to Medina project is within the fiscally constrained portion of *Transportation 2040,* the Puget Sound region's Metropolitan Transportation Plan. WSDOT currently has secured $2.62 billion in funding out of the total $4.65 billion budgeted for the SR 520 program. Full funding for the SR 520, I-5 to Medina project is

reasonably expected through state and federal sources. State revenues include motor vehicle excise taxes, "pay as you go" toll revenue, and bonded toll revenue; federal sources include formula funds and bonded federal funds (GARVEE bonds).

6.2 Statement that the funding committed for Phase 1 and/or full project may not be obtainable as a result of a voter initiative scheduled to be on the ballot in November 2011.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Bricklin & Newman, LLP	FHWA	7/18/11	Entire comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Pages 2-3, Item 3
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 2, Item 4

FHWA does not predicate its approval of NEPA documents on presumptions regarding the outcome of potential future ballot measures.

6.3 Assertion that the state general fund could be "exposed to large outflows" if funding is not available for contract completion.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 2, Item 5

Since project financing is not a NEPA issue, the Final EIS was not required to provide additional information on it beyond what was included in Chapter 1. However, the State has committed funding to complete the Floating Bridge and Landings stage of the SR 520, I-5 to Medina project, and intends to contract for this work after completion of the NEPA process. Since the State may enter into a contract only when the availability of funding has been established, there is no potential for exposure of the general find to losses.

6.4 Statement that tolling revenues may be lower than current estimates because "all of WSDOT's previous projections of traffic volumes have been much higher than the subsequent reality."

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 2, Item 6

Given the recent economic condition in the U.S. and Washington State, it has recently been suggested (as documented in Attachment 6a to the Coalition comment to WSDOT) that traffic volumes on SR 520 are stable or declining and that forecasts of future growth in travel demand for the facility are overstated. To evaluate this possibility, WSDOT developed a historical review of traffic data on the SR 520 and I-90 corridors in conjunction with a look at the King County population growth over the last 35 years to understand how the SR 520 traffic volumes have fluctuated. This review was intended to help determine whether the future traffic forecasts for SR 520 were reasonable for the NEPA evaluation process. A memo providing more detail on this analysis is included in Attachment 3.

The analysis found that, despite major economic events affecting the Puget Sound region, such as the "Boeing bust" in the 1970s and the dot-com crash in the early 2000s, long-term trends for both King County population and SR 520 traffic volumes have been consistently upward. Linear forecasts based on historical traffic growth data result in very similar estimates of 2030 SR 520 traffic volumes to predictions made by the PSRC traffic model. The historical data used to generate the linear traffic forecast accounts for fluctuations in traffic over a 25-year period based on external economic factors. Thus, the forecast can reasonably be expected to account for changing conditions over the forecast period between 2010 and 2030.

When considering future toll revenues, it is also important to understand the difference between traffic forecasts done to support NEPA analysis and those done to support bond financing. The NEPA analysis must ensure that all potential traffic impacts are disclosed, and therefore must take care not to understate future traffic volumes. Conversely, the bond financing analysis must ensure that toll revenues will be sufficient for bond repayment, and therefore must take care not to overstate future volumes. For this reason, the analysis prepared for the SR 520 Investment Grade Traffic and Revenue Study used a separate modeling process than the one used for the EIS. In preparing that traffic and revenue estimation process, it was incumbent upon the State to make prudent assumptions that would not overstate revenue receipts. Consequently, traffic forecasts in the Traffic and Revenue Study were lower than those developed for the NEPA analysis. This provided conservative estimates of future revenue levels, reducing risk in the bond financing process.

The travel demand modeling process used by the SR 520 program for the NEPA analysis complies with 23 CFR 450 and 23 USC 134 and 135, and it is consistent with standard professional practice for forecasting of traffic volumes. FHWA has concurred that the project team used sound transportation analysis methodology that is consistent with the industry state-of-the-practice, and that appropriate analysis software tools were selected and applied for forecasting future traffic volumes and estimating the operational performance of various alternatives on the transportation network.

7.0 Construction Activities

7.1 Question about the duration for construction of the interim transition bridge in the west approach.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Canterbury Shores Condominium Association, and Mundy, Bill and Mary Ann	WSDOT	7/11/11	Page 2

The interim transition bridge would be built within the overall construction duration for the floating bridge and landings, and would not make construction last any longer than currently planned.

8.0 Transportation Effects and Commitments

8.1 Transportation Demand Modeling and Highway Effects

8.1.1 Question about the daily vehicle demand volumes and whether it refers to the average across the whole week or just weekdays; concern about the data included in the Transportation Discipline Report.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Sightline Institute (Jacob Kennon)	WSDOT	7/5/11	Email (entire item)

This comment refers to Exhibits 5-3 and 5-4 of the Final Transportation Discipline Report in the section that discusses existing and future daily travel demand. Demand can be described as the number of people or vehicles that want to travel past a given reference point during a period of time. When demand is discussed in terms of vehicles, we often break the total number of vehicles down into general-purpose (single-occupant vehicles), HOVs (carpools), and transit. The daily demand volumes in the EIS represent an average weekday, excluding holidays and days when schools are out of session.

Exhibit 5-3 is the map that shows total cross-lake vehicle demand on SR 520, as well as SR 522 and I-90. The totals shown on this map are the sum of all vehicle modes: general-purpose, HOV, and transit. Exhibit 5-4 is a bar chart that shows the vehicle demand broken down by mode. Thus, the total vehicle demand for existing conditions is the sum of the three green bars on the left side of the chart. Adding the general purpose (101,700), HOV (12,700), and transit (600) demand shown by these green bars equals 115,000, which is the same total shown for existing travel demand on Exhibit 5-3. Therefore, there is no discrepancy between the two exhibits.

Travel demand should be distinguished from throughput, which is defined as the number of people or vehicles that are actually able to travel past a reference point during the same period of time for which demand is measured. In other words, throughput is what would be measured by counting vehicles that pass by on the road. When vehicle demand exceeds the roadway capacity (as it currently does on SR 520), some drivers will be stuck in congestion before reaching the reference point, and the throughput will be less than the demand. These concepts are described in Chapter 4 of the Final Transportation Discipline Report.

8.1.2 Statement that the Final EIS's assumptions on carpooling are unreasonable.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 3, Item 7, paragraphs 3-5
Ravenna-Bryant Community Association	FHWA/ US Secretary of Transportation	7/7/11	Page 2

Assignment of trips to SOVs, transit, or carpools is made by the traffic model. The assumptions made by the model are based on a large body of statistical data regarding driver behavior as a function of numerous variables (e.g., levels of congestion, availability of alternate routes, costs of tolls and parking, transit service levels, etc.). The model results presented in the Final EIS indicate that 39 percent more people each day would choose to travel across SR 520 in carpools or by bus under the Preferred Alternative than under the No Build Alternative. This is because these modes would be a more attractive option, allowing users to avoid the toll and also to gain the benefit of increased speed and reliability in the HOV lanes.

One comment states that "history shows in Seattle and nationwide that use of carpools has been steadily decreasing," but does not provide documentation to support this assertion. The most recent data available from PSRC show a slight increase in carpooling in central and east King County between 1999 and 2006, with a greater increase in carpooling for non-work trips during this time period (http://www.psrc.org/assets/833/t8oct07.pdf). Although the corridor would see a substantial

increase in transit and carpool use as a result of the project, carpools would still not represent a much larger share of traffic in the corridor in 2030 than they are today. As shown in Exhibit 5.1-3 in the Final EIS, under existing conditions carpools make up approximately 21 percent of the daily person-demand on SR 520. In 2030 under the Preferred Alternative, carpools are expected to represent about 27 percent of the daily person-demand. Under No Build, this would drop to about 19 percent, reflecting the lack of incentive for carpools to use a congested facility with no HOV lanes.

Two comments also suggest that WSDOT is likely to make the HOV lanes available to single-occupant vehicles choosing to pay a toll to drive in them. This arrangement is generally referred to as high-occupancy toll lanes (HOT lanes) or express toll lanes. HOT lanes are being employed on SR 167 as part of a 4-year pilot project, and are being studied for potential use on I-405 on the Eastside. The HOV lanes on SR 520 are not proposed to be used as HOT lanes. Although the legislative workgroup convened in 2009 recommended consideration of HOT lanes as a funding mechanism for SR 520, this recommendation has not been adopted by WSDOT and is not reflected in the traffic modeling assumptions. Should a decision be made in the future to implement HOT lanes on SR 520, that decision would be supported by detailed traffic studies and a NEPA reevaluation that would identify potential effects of this change in corridor operations.

8.1.3 *Concern that the effects of reasonably foreseeable tolling are not properly evaluated. The Record of Decision should evaluate the effect on SR 520 traffic if tolls were implemented on other local highways, including I-405, SR 99, SR 167, and the I-5 express lanes.*

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Stall, Jon	WSDOT	6/23/11	Item 2

As discussed in Chapter 11 of the Final Transportation Discipline Report (Attachment 7 of the Final EIS), WSDOT used the SR 520 travel demand model to analyze potential future cumulative effects throughout the region, and specifically cumulative effects on cross-lake travel demand. The model assumed full facility tolls on SR 520, I-90, and SR 99. It also included express toll lanes on I-405 and SR 167. The model showed a slight decrease in daily cross-lake vehicle demand compared to the No Build Alternative and the Preferred Alternative (about 7 percent and 6 percent, respectively). This demonstrates that vehicular demand for SR 520 would remain substantial, with or without tolling of other transportation facilities and other regional corridor improvements. The results of this analysis are discussed in the Final Transportation Discipline Report.

8.1.4 *Concern about the transportation effects of delaying the Seattle portion of the project, with a six-lane bridge narrowing to four lanes at the west approach.*

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Bricklin & Newman, LLP	FHWA	7/18/11	Entire comment
Canterbury Shores Condominium Association, and Mundy, Bill and Mary Ann	WSDOT	7/11/11	Page 2
Coalition for a Sustainable SR 520	FHWA	6/20/11	Page 2, Item 1
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 6, Item 13

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 2, Item 2.b
Leeth, Shawn	WSDOT	6/10/11	Page 1 (entire item)
Seattle Department of Transportation	WSDOT	7/30/11 (Received 7/15/11)	Page 1 "Project Phasing"
Seattle Mayor's Office	WSDOT	7/15/11	Page 2 "Impacts of Project Phasing"

The traffic effects of completing the floating bridge and landings as Phase 1 of the project were evaluated in the Final EIS. Section 5.15 of the Final EIS notes that for the westbound commute under the No Build Alternative, there would continue to be severe congestion near the 84th Avenue NE on-ramp and the termination of the westbound HOV lane. With construction of Phase 1 of the Selected Alternative, this congestion point would move to the west end of the floating bridge, where the HOV lanes would merge into the 4-lane roadway. However, because the new bridge would provide better sight distance and a longer taper than the existing merge point, it is expected to improve safety and reduce congestion compared to the No Build Alternative (Final EIS page 5.15-3).

Phase 1 travel times would be similar to No Build Alternative travel times when modeled for the year 2030. However, the addition of an HOV lane to the bridge is expected to provide mobility benefits starting in 2014, when traffic volumes will be lower than in 2030. While benefits to congestion and travel time would be limited until the Seattle portion of the project is completed, Tables 5.15-3 and 5.15-5 in the Final EIS show that the throughput of vehicles per hour and persons per hour would improve in both directions with completion of Phase 1. This indicates that Phase 1 would improve mobility in the SR 520 corridor prior to completion of the full project.

One comment suggests that Phase 1 as described in the Final EIS is "very different" from the Phased Implementation scenario described in the SDEIS. The two points of difference cited are that "the SDEIS phased implementation was to be a short time," and that "the SDEIS phased implementation connected to land, at an off-ramp where at least 30% of the traffic leaves 520." These statements are incorrect for the following reasons:

- The SDEIS did not identify a duration for which the Phased Implementation scenario was assumed to be in place. In fact, it stated (page 2-40): "The time frame for the Phased Implementation scenario depends upon WSDOT's ability to find full construction of the SR 520 corridor. This funding will be based on future revenues and economic conditions. For analysis purposes, the Phased Implementation scenario is evaluated based on a design year of 2030, the same as for full buildout." In addition, it is inaccurate to assert (as the comment does) that "All parties agree that this Partial Bridge might be in place for a long time."

- The SDEIS Phased Implementation scenario identified the potential for the floating bridge alone to be built as the first phase of construction, with an interim connection to the west approach (see SDEIS pages 2-37 and 2-38 as well as Exhibit 2-22). Furthermore, as described on pages 5-153 and 5-154 of the SDEIS, traffic analysis for the SDEIS Phased Implementation scenario assumed a 6-lane floating bridge narrowing to four lanes at the west transition span, which is identical to the configuration evaluated for Phase 1 in the Final EIS. Thus, the volume of traffic leaving SR 520 west of the floating bridge is not relevant to comparisons between the SDEIS Phased Implementation scenario and Phase 1 as described in the Final EIS. The amount of traffic exiting at Montlake for Phase 1 is expected to be similar to what is predicted for No Build, since the interchange configuration would be the

same as it is today. As a result, local traffic congestion near the interchange with Phase 1 in place is expected to be similar to that discussed for No Build.

Because it is not yet known when full funding would be available for the project, WSDOT has not determined whether, or how, the regional bicycle/pedestrian path would connect to the Seattle trail system if the west approach were not built at the same time as the floating bridge. Should this occur, WSDOT would work with the City of Seattle to determine whether a new connection would be provided.

8.1.5 Concern about the repurposing of a portion of the I-5 express lane to accommodate traffic from the new I-5/SR 520 HOV ramp, and effects on I-5 express lane operations.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Pages 7-8, Item D
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Pages 5-6, Item 12

As described in the Final EIS, to improve transit/HOV travel times, there will be a direct connection from SR 520 to the existing I-5 express lanes. This connection will be reversible to match the express lane direction (westbound and southbound in the morning and northbound and eastbound in the evening). However, this connection will require a slight change in today's I-5 express lane configuration.

Some commenters have expressed concern that the planned I-5/SR 520 connection will take away an I-5 lane from drivers. As a point of clarification, the SR 520 project design affects the I-5 express lanes only, not the I-5 mainline. For I-5 mainline travel, the proposed project will improve travel times overall by removing delay caused by congestion on SR 520. For example, northbound I-5 drivers between I-90 and NE 45th Street will save up to 24 minutes compared to today.

In the existing express lane configuration there are currently three southbound travel lanes north of NE 42nd Street and four travel lanes south of NE 42nd Street. In the future configuration, the fourth lane south of the Ship Canal Bridge will be repurposed as a merge lane for the SR 520 on-ramp for a 2,700-foot distance, after which point it will again be a fourth general-purpose lane. By changing the use of this short portion of one lane, WSDOT will be able to provide reliable travel times for transit/HOV vehicles making the connection between SR 520 and I-5. It is possible to use the fourth express lane without significant impacts on traffic flow because there is excess capacity available in the current and future I-5 express lanes. To describe how this section would operate in 2030, the traffic demand on this section can be compared to the section's capacity. The design capacity of a freeway lane is 2,200 vehicles per hour (vph). So the Preferred Alternative, with three lanes across the Ship Canal Bridge, has capacity for 6,600 vph in this area. As shown in Exhibits 5-5 and 5-6 of the Final Transportation Discipline Report (Attachment 7 of the Final EIS), demand across the Ship Canal Bridge would be 5,300 during the AM peak hour and 5,500 during the PM peak hour under both the No Build Alternative and the Preferred Alternative. Therefore, with or without the project, the capacity across the Ship Canal, even when reduced to three lanes, is greater than demand.

In both the current and future lane configurations, there will be four total travel lanes south of the SR 520/I-5 interchange, with a total vehicle capacity of 8,800 vph.

The revised lane configuration of the I-5 express lanes was included in the SDEIS design options, and WSDOT received and responded to a number of public comments regarding effects on I-5.

8.2 Local Transportation Effects

8.2.1 Assertion that the local traffic study is inadequate and request for an independent study of local traffic effects.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 5, Item 11
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 4, Item 3
Fuhrman and Boyer Neighborhood Improvement Association (FABNIA)	WSDOT	7/15/11	Page 1 and Page 2
Seattle Yacht Club	WSDOT	Not dated (received 8/1/11)	Page 2

Since the Trans-Lake Study was launched in 1997, WSDOT has planned the new SR 520 corridor to operate as part of the regional transportation system, which includes local streets. The traffic modeling limits from NE Pacific Place at the north to just south of East Roanoke Street were set based on the area of project effect; beyond these limits, no change in traffic operations would occur as a result of the project. As explained on page 5.1-28 of the Final EIS, local traffic operations analyses were performed at intersections where the total approaching traffic is forecasted to increase by 5 percent or more for the project compared to the No Build Alternative. Five percent was selected as the criterion because a change in traffic of that amount could result in measurable operational changes.

In the Draft EIS, the SDEIS, and the Final EIS, traffic analysis has consistently shown that adding a transit/HOV lane improves Seattle's local transportation system. The SR 520 congestion that currently backs up onto local streets will be relieved by improving operations at the Montlake interchange. If the project were not built, traffic congestion along the corridor would increase, and transit travel times would become even more unreliable. Local transportation benefits include:

- Transit and HOV travel times will improve on southbound Montlake Boulevard, saving up to 12 minutes in the late afternoon.
- Up to 32 percent fewer cars will travel through the Washington Park Arboretum and operations will improve there.
- The direct-access ramp on the Montlake lid, the new Montlake bascule bridge, and the transit/HOV lane on Montlake Boulevard will improve off-peak travel time for local buses between 7 and 12 minutes.
- In the peak periods, transit traveling between the Montlake Triangle area and the Montlake interchange area will save approximately 5 minutes.
- A new bus-only lane and northbound bus stop on Montlake Boulevard will improve reliability for local transit routes.
- New Montlake lid bus stops will remain open for all buses in the off-peak period, allowing the flyer stop functions to remain as today.

- Most transit riders will have up to 2-minute shorter transfer times due to short walking distances and no stairs between local and regional bus stops. Transit stops will be located on a landscaped lid instead of adjacent to the freeway lanes.
- Transit signal priority will be accommodated at key intersections.

The local traffic analysis was performed using standard traffic engineering practices. WSDOT analyzed the extent of traffic effects on the local streets by using the regional travel demand model. The model is developed by PSRC, which is an independent agency composed of members from all of the regional jurisdictions. Growth in the travel demand model is based on population and employment estimates provided by local jurisdictions such as Seattle.

During the ESSB 6392 workgroup process, WSDOT and SDOT staff agreed that neighborhood traffic analysis would be presented in the Final EIS. Based on their joint recommendations, the transportation analysis in the Final EIS was expanded to include a VISSIM traffic flow analysis of the Montlake interchange area. These data were combined with the Synchro analysis presented in the SDEIS to provide more detailed information regarding local street operations, congestion, and travel times. WSDOT continues to coordinate with SDOT regarding local traffic effects.

The Final EIS provides analysis of transportation effects consistent with NEPA and FHWA requirements, and the contention that the EIS is inadequate because it lacks sufficient analysis of local traffic effects is inaccurate.

Regarding the concern about level of service (LOS) F intersections, the Final EIS Transportation Discipline Report identified one intersection where the LOS would decline with the Preferred Alternative. That intersection is at Lake Washington Boulevard/Montlake Boulevard. Through coordination with the City of Seattle, WDOT is working to identify TDM/ITS elements as a part of the Neighborhood Traffic Management program as identified through the ESSB 6392 process.

Regarding concerns about north/south travel times between Capitol Hill and Laurelhurst, Final EIS Exhibit 5.1-22 shows that the Preferred Alternative would improve traffic operations at two intersections in this corridor during the AM peak hour (although one intersection would degrade) and one intersection during the PM peak hour, compared to the No Build Alternative.

Regarding concerns about traffic effects of haul routes in the Fuhrman-Boyer area and the Montlake corridor during construction, please see the response to summary comment 10.1.3, "Request for more detail regarding construction period noise and traffic impacts on the Portage Bay/Roanoke neighborhood and Montlake corridor, and concern that the Community Construction Management Plan may not be adequate."

8.2.2 Assertion that the project will triple local travel times.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Flug-Coburn, Eliza	WSDOT	7/6/11	Paragraph 6

With the improvements to the SR 520 main line and capacity improvements to the Montlake interchange, local travel times are not expected to increase compared to the No Build Alternative. Traffic operations on local streets with the Preferred Alternative would be similar to the No Build Alternative, as demonstrated by Section 5.1 of the Final EIS and the analysis included in Chapter 6 of the Final Transportation Discipline Report (Attachment 7 of the Final EIS).

8.2.3 Assertion that the lack of an additional ramp to/from SR 520 and I-5 south of SR 520 will increase cut-through traffic in the Fuhrman-Boyer neighborhood.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Fuhrman and Boyer Neighborhood Improvement Association (FABNIA)	WSDOT	7/15/11	Page 2

The Preferred Alternative does include a reversible transit/HOV ramp to the I-5 express lanes connecting the SR 520 HOV lanes with the I-5 reversible express lanes south of SR 520. The northbound I-5 to eastbound SR 520 ramp would remain the same as today. The project also would not preclude changes to the interchange in the future. The local traffic analysis disclosed effects on local streets and intersections that would result from the project. See the response to summary comment 8.2.1, "Assertion that the local traffic study is inadequate and request for an independent study of local traffic effects" above for further discussion.

8.2.4 Concern that the Preferred Alternative Montlake lid design will cause backups on the westbound SR 520 off ramp.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Ravenna-Bryant Community Association	FHWA/ U.S. Secretary of Transportation	7/7/11	Page 1

Final EIS Exhibits 5.1-6 and 5.1-10, which depict westbound areas of congestion on SR 520 in 2030, show that congestion in the area of the Montlake off-ramp would be considerably improved with the Preferred Alternative, compared to the No Build Alternative. Congestion in this area under the Preferred Alternative would also be less than under the 6-lane design options evaluated in the SDEIS, as shown in SDEIS exhibits 5.1-4 and 5.1-7.

8.2.5 Assertion that the project will shunt cars with one driver through the Montlake neighborhoods.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Puich, Renate	WSDOT	7/8/11	Page 2

As shown in Section 5.1 of the Final EIS, the project would improve mobility and congestion on SR 520 and Montlake Boulevard. The local traffic analysis showed that, while there would be some increases in local traffic volumes along Montlake Boulevard, the project would result in improved traffic operations along Montlake Boulevard (see Exhibits 5.1-23 and 5.1-24 of the Final EIS. The discussion on page 5.1-30 describes changes in local traffic patterns with the Preferred Alternative, and notes that "more trips from the University District to I-5 would travel along Montlake Boulevard southbound and across the Portage Bay Bridge westbound than under the No Build Alternative."

See the response to summary comment 8.2.1, "Assertion that the local traffic study is inadequate and request for an independent study of local traffic effects," for additional discussion of local traffic effects.

8.2.6 Suggestion to keep the Lake Washington Boulevard ramps through the Arboretum so that a bottleneck isn't created on 23rd and Montlake.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Flug-Coburn, Eliza	WSDOT	7/6/11	Paragraph 8

As demonstrated in Section 5.1 of the Final EIS, removal of the Lake Washington Boulevard ramps would result in lower traffic volumes through the Arboretum by up to 32 percent, compared to the No Build Alternative, improving conditions for users of the Arboretum. However, to address traffic operations in the Montlake area, the Preferred Alternative includes a new bascule bridge and the addition of a second general-purpose lane on the SR 520 eastbound on-ramp; these features would reduce congestion and delay for both transit and general-purpose traffic on Montlake Boulevard between East Roanoke Street and NE Pacific Street. More specifically, local transportation benefits of the project in this area, compared to the No Build Alternative, include:

- Transit and HOV travel times will improve on southbound Montlake Boulevard, saving up to 12 minutes in the late afternoon.
- The direct-access ramp on the Montlake lid, the new Montlake bascule bridge, and the transit/HOV lane on Montlake Boulevard will improve off-peak travel time for local buses by between 7 and 12 minutes.
- In the peak periods, transit traveling between the Montlake Triangle area and the Montlake interchange area will save approximately 5 minutes.

See Section 5.1 of the Final EIS for additional discussion of effects on local traffic.

8.2.7 Assertion that the Preferred Alternative will increase traffic on Lake Washington Boulevard through the Arboretum compared to existing conditions.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Ravenna-Bryant Community Association	FHWA/ U.S. Secretary of Transportation	7/7/11	Pages 2-3

Contrary to what the comment asserts, there was a quantitative analysis of traffic volumes with the revised Montlake lid and the intersection with 24th Avenue East that are part of the Preferred Alternative. Page 5.1-33 of the Final EIS described traffic volumes on Lake Washington Boulevard in the Arboretum. As noted on this page, "Because the Lake Washington Boulevard ramps to and from SR 520 would be removed under the Preferred Alternative, traffic volumes through the Washington Park Arboretum [during the morning peak hour] would be lower than under the Final EIS No Build Alternative (and less than today)." This page also notes that, "During the afternoon peak period, traffic volumes heading south on Lake Washington Boulevard through the Arboretum would be 1,410 vph, lower than Final EIS No Build conditions (1,730 vph) and similar to volumes today (1,400 vph), as shown in Exhibit 5.1-24."

The Preferred Alternative would also result in a reduction in trip volumes on Lake Washington Boulevard in the Arboretum compared to the No Build Alternative. Under the Preferred Alternative in 2030, AM peak-hour volumes on Lake Washington Boulevard through the Arboretum would be 1,330 vehicles per hour, compared to 1,950 vehicles per hour with the No Build Alternative. PM peak-hour volumes would be 1,410 vehicles per hour compared to 1,730 with the No Build Alternative. See the Final Transportation Discipline Report (Attachment 7 to the Final EIS) for further discussion of trip volumes.

Regarding the statement that the park boulevard segment of Lake Washington Boulevard was originally designed for 4,000 cars per day, WSDOT has found no way to accurately estimate the capacity for which the Olmsted Brothers originally designed Lake Washington Boulevard and cannot determine whether the comment characterizes the design capacity correctly.

8.3 Transit and Nonmotorized Travel

8.3.1 Statement that implementation of bus rapid transit (BRT) is unspecified, and that further work is needed to ensure the project is adequate for light rail transit.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seattle Mayor's Office	WSDOT	7/15/11	Page 2 "Commitment to High Capacity Transit"

As a participant in the regional transit planning process, WSDOT was directly involved in the 2008 SR 520 High Capacity Transit Plan. However, WSDOT's role in transit planning is to ensure the availability of highway facilities (e.g., HOV lanes) that can accommodate future transit demands. WSDOT is prohibited by the state constitution from expending gas tax funding on the provision of transit service. Therefore, future implementation of BRT and/or light rail in the SR 520 corridor will be the responsibility of Sound Transit and/or King County Metro Transit. As stated in the High Capacity Transit Plan, WSDOT will continue to work with the transit agencies to ensure that SR 520 infrastructure supports BRT.

As described in Chapter 2 and Attachment 19 of the Final EIS, WSDOT worked extensively with Sound Transit to enhance the compatibility of the Preferred Alternative with future potential light rail. The Preferred Alternative also incorporates a number of suggestions on LRT compatibility made by the City of Seattle. WSDOT will continue to work with Sound Transit during final design.

8.3.2 Concern about bicycle and pedestrian safety effects of the Montlake lid design.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Ravenna-Bryant Community Association	FHWA/ U.S. Secretary of Transportation	7/7/11	Page 1

In accordance with the requirements of ESSB 6392, WSDOT worked collaboratively with the Seattle Department of Transportation, the City of Seattle Pedestrian Advisory Board, and the Seattle Bicycle Advisory Board to recommend design refinements for facilities to improve the bicycle and pedestrian environment, particularly in the area of the Montlake lid. Please see the ESSB 6392: Design Refinements and Transit Connections Workgroup Recommendations Report (Attachment 16 to the Final EIS) for a description of the resulting design refinements. Design and treatment for the lid have been developed through the ESSB 6392 workgroup process and other coordination with the City of Seattle and nearby communities. Contrary to what is asserted in the comment, the lid and intersection design are the result of community input together with the involvement of transportation professionals.

The Preferred Alternative, with its revised and expanded Montlake Lid and additional design refinements in response to stakeholder input, would improve bicycle and pedestrian connectivity and safety in the Montlake area and across SR 520, reduce crossing distance for many pedestrians, and improve pedestrian safety compared to Option A. The Preferred Alternative also includes an undercrossing beneath SR 520 between the Arboretum and East Montlake Park, and an undercrossing beneath Montlake Boulevard connecting the new regional trail on SR 520 to the Bill Dawson Trail. The bicycle and pedestrian paths and connections that are part of the SR 520, I-5 to Medina project are described in Chapter 7 of the Final Transportation Discipline Report (Attachment 7 to the Final EIS).

WSDOT will continue to work with the City of Seattle through final design and construction to ensure that new bicycle routes that are part of the project are designed to City of Seattle standards and that pedestrian facilities provided as part of the project include appropriate treatments.

8.4 Transportation Construction Effects

8.4.1 Question about why there are no impacts expected on Metro Route 25 as a result of construction detour traffic and hauling traffic along Fuhrman-Boyer Avenue.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Fuhrman and Boyer Neighborhood Improvement Association (FABNIA)	WSDOT	7/15/11	Page 2

Detour traffic is not expected along Fuhrman-Boyer Avenue because the Preferred Alternative has eliminated the need for the Delmar Drive construction closure and detour. The Delmar Drive East bridge over SR 520 would remain open during construction and traffic would be temporarily shifted onto a portion of the new 10th and Delmar lid while the existing bridge is demolished and rebuilt.

Hauling traffic along Fuhrman-Boyer Avenue is expected to amount to less than 1 percent of total traffic on typical construction days. Exhibit 10-9 in the Final Transportation Discipline Report shows the percentages of trucks generated by the project compared to the percentages for the existing conditions at each location. On days when peak construction activities occur, the volume of project trucks added to local streets would be similar to the existing volumes of trucks and buses at most locations.

8.5 Transportation Commitments

8.5.1 Statement that local traffic mitigation commitments are inadequate for construction and operation, and that the Preferred Alternative lacks WSDOT commitments to fund key bicycle and pedestrian improvements between the new regional use path and the Burke Gilman Trail.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seattle Department of Transportation	WSDOT	7/30/11 (Received 7/15/11)	Page 2 "Mitigation Commitments – Local Traffic" and "Mitigation Commitments – Construction"
Seattle Mayor's Office	WSDOT	7/15/11	Page 2 "Mitigation of Local Traffic Impacts"

The project meets City of Seattle traffic concurrency standards, as discussed on pages 12-4 and 12-5 of the Final Transportation Discipline Report (Attachment 7 of the Final EIS) and under *Transportation Commitments* in the Project Commitments section above. Because project effects do not exceed the applicable City of Seattle concurrency standards, no mitigation is required under the Growth Management Act for local traffic effects in Seattle. However, WSDOT will continue to coordinate with SDOT regarding measures to address local transportation effects.

In addition to a Construction Traffic Management Plan, WSDOT is developing a community Construction Management Plan to address effects on neighborhoods adjacent to the project. In developing these plans, WSDOT will work with the City and the community to address details

regarding bicycle and pedestrian routes, traveler information, and transportation demand management during construction.

The ESSB 6392 Design Refinements and Transit Connections workgroup process, in which SDOT participated, determined that SDOT would take the lead in discussing the bicycle connection recommended in SDOT's comment on the Final EIS (see page 13 of the ESSB 6392: Design Refinements and Transit Connections Workgroup Recommendations Report [October 1, 2010], which is included as Attachment 16 of the Final EIS, and page 6 of the ESSB 6392: Design Refinements and Transit Connections Bicycle and Pedestrian Connections and Amenities White Paper [http://www.wsdot.wa.gov/NR/rdonlyres/AF812824-AB5C-44C5-8628-A6A4373915D4/0/BikePedAmenities.pdf]).

9.0 Economic Effects and Commitments

9.1 Assertion that the Seattle Yacht Club will experience negative economic effects from construction and operation of the project.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seattle Yacht Club	WSDOT	Not dated (received 8/1/11)	Entire letter

Through the Section 106 consultation process, WSDOT determined that construction may temporarily diminish the integrity of the SYC as a historic property and identified that, if not mitigated, construction impacts could result in an economic effect on the facility. However, the Section 106 Programmatic Agreement (Attachment 1) does include stipulations that will mitigate potential effects on the revenue-generating activities hosted by the SYC. As part of the Programmatic Agreement (see stipulation VII.B.2), WSDOT has committed to:

- Developing a coordination plan with the SYC to minimize disruption of historically significant activities at the SYC Main Station and on Portage Bay, the Montlake Cut, and Union Bay during construction,
- Ongoing coordination with the SYC relative to special events such as weddings or watercraft training or races being held at the SYC or on the water,
- Ensuring that construction activities in Portage Bay and the Montlake Cut will not interrupt or interfere with Opening Day events,
- A moratorium on towing pontoons through Portage Bay, the Montlake Cut, and Union Bay during the Opening Day events, as well as a prohibition on anchoring or mooring pontoons in such a way that they would interfere with Opening Day events; and
- A commitment that barge activity will not interfere with the Opening Day events in Portage Bay.

Once completed, the SR 520, I-5 to Medina project will improve mobility, access, neighborhood connectivity, and air quality in the project area, and no long-term effects to the SYC are anticipated.

10.0 Social Elements and Utilities Effects and Commitments

10.1 Concern about effects on neighborhoods from potential phasing; statement that adjacent neighborhoods will endure effects for a longer duration that predicted in the EIS if funding is not found for full buildout.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 3, Item 2.c

The Final EIS analysis of the effects of Phase 1 is consistent with NEPA and FHWA requirements. Final EIS Section 6.16 noted that, under Phase 1, "Noise and visual clutter could affect neighborhoods with direct views of the construction activity on Lake Washington." Also see the responses under Subsection 14.0, Noise and Vibration Effects and Commitments, and Subsection 15.0, Air Quality Effects and Commitments, below. As discussed above under Subsection 8.0, Transportation Effects and Commitments, local traffic congestion in the vicinity of the Montlake interchange with Phase 1 in place is expected to be similar to the conditions described for the No Build Alternative.

10.2 Statement that replacing I-90 caused the surrounding neighborhoods to become riddled with crime, and that this will also happen as a result of the 520 bridge replacement.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Flug-Coburn, Eliza	WSDOT	7/6/11	Paragraph 3

Crime rates fluctuate based on a large number of factors. While proximity to a newly constructed roadway could potentially affect crime rates, it is not possible to quantify this effect with any certainty, or even to determine with certainty whether the effect would be positive or negative. However, while NEPA avoids speculative conclusions, the Section 106 Programmatic Agreement, the purpose of which is to resolve effects on historic properties and cultural resources, does contain stipulations to incorporate mechanisms of crime prevention through environmental design (CPTED) in the final design of the Selected Alternative. These mechanisms address the design of lighting, pedestrian facilities, and enclosed spaces such as underpasses. The Section 106 Programmatic Agreement was included in Attachment 9 of the Final EIS and is included in Attachment 1 of this Record of Decision.

10.3 Request for more detail regarding construction period noise and traffic impacts on the Portage Bay/Roanoke neighborhood and Montlake corridor, and concern that the Community Construction Management Plan may not be adequate.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Fuhrman and Boyer Neighborhood Improvement Association (FABNIA)	WSDOT	7/15/11	Page 2
Seattle Yacht Club	WSDOT	Not dated (received 8/1/11)	Page 2

Table 6.1-1 in the Final EIS shows the expected traffic volumes at several locations in the Montlake interchange area during construction of the Preferred Alternative and Options A, K, and L. Table 6.1-2 reports the expected level of service (LOS) at intersections where volumes may change substantially during construction.

As noted on page 6.1-2 of the Final EIS, traffic volumes and LOS at other locations are not expected to change substantially. Volumes and LOS in the Portage Bay/Roanoke neighborhood would not be expected to experience substantial changes as a result of project construction.

The construction activities affecting local street operations are planned to begin in the third year of construction, so traffic operations during the first 2 years of construction would be the same as existing conditions. Table 6.1-2 shows that most intersections would function similarly to existing conditions, and better in some cases, because the temporary intersection improvements would be included. Delay would increase at three locations: Montlake Boulevard East/SR 520 westbound ramps, Montlake Boulevard East/Lake Washington Boulevard/Eastbound SR 520 ramps, and Montlake Boulevard East/East Shelby Street. The increased delay would not happen at these three locations concurrently. See page 6.1-8 of the Final EIS for further discussion.

Pages 6.1-10 through 6.1-16 of the Final EIS describe the effects of construction haul routes on traffic. In particular, see Table 6.1-4, which shows the estimated daily construction truck volumes and compares them to the number of existing truck and bus trips. The existing volume of trucks on typical urban arterial streets, including those in the project area, is in the range of 2 to 3 percent of total vehicles. During typical construction days, the project would add trucks amounting to less than 1 percent of total traffic at any location, which is not considered a significant increase. The response to summary comment 8.4.1 "Question about why there are no impacts expected on Metro Route 25 as a result of construction detour traffic and hauling traffic along Fuhrman-Boyer Avenue," above, provides more specific description of haul traffic effects on Fuhrman-Boyer Avenue.

Page 23 of the Social Elements Discipline Report Addendum and Errata (Attachment 7 of the Final EIS) provides a detailed discussion regarding the Preferred Alternative's construction duration and the expected noise and traffic impacts on the Portage Bay/Roanoke neighborhood. Please also see the 2011 Construction Techniques and Activities, Noise, Visual Quality, and Aesthetics discipline report addenda in Attachment 7 to the Final EIS for information on best management practices and mitigation measures to minimize effects on neighborhoods. As design progresses and construction plans develop, WSDOT will coordinate with stakeholders and the communities that will be directly affected by project construction through the permitting and approval process.

As discussed in this Record of Decision and Chapter 6 of the Final EIS, WSDOT is working with affected communities to develop a Community Construction Management Plan. The Community Construction Management Plan is required by the Section 106 Programmatic Agreement and will meet the terms of that agreement.

10.4 Assertion that there has been little mention of effects on the Montlake neighborhood in the Final EIS.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Puich, Renate	WSDOT	7/8/11	Page 1-2

Effects on the Montlake neighborhood are addressed throughout the SDEIS and Final EIS and the discipline reports attached to those documents. Discussions include local and non-motorized transportation effects, land use effects, effects on cultural resources including the Montlake Historic District and individually eligible properties in the Montlake area, discussion of the Montlake neighborhood in the Social Elements sections, analysis of effects on recreational resources in Montlake, assessment of visual quality in the Montlake Landscape Unit, noise measurements and

modeling at a number of locations in Montlake, and modeling of local air quality effects at several Montlake Boulevard intersections where modeling is warranted. For further information see Final EIS Chapter 4, The Project Area's Environment; Chapter 5, Project Operation and Permanent Effects; and Chapter 6, Effects During Construction of the Project; and the relevant discipline report addenda in Attachment 7.

10.5 WSDOT should coordinate with City utility providers to minimize and mitigate for potential effects and disruptions to utilities caused by the project.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seattle City Light	WSDOT	6/29/11	Pages 1-2 (entire item)
Seattle Public Utilities	WSDOT	6/29/11	Pages 1-4 (entire item)

The Selected Alternative would not result in any negative effects on utilities. In keeping with standard operating procedures, WSDOT will coordinate with local utility providers regarding any potential utility relocation, and will facilitate relocations required by the project. For utilities with WSDOT franchise agreements, relocations will be addressed under the specific provisions in each provider's agreement. Additionally, before construction begins, WSDOT will work with utility service providers to:

- Prepare a consolidated utility engineering plan consisting of key elements such as existing locations, potential temporary locations, and potential new locations for utilities;
- Prepare sequenced and coordinated schedules for utility work; and
- Develop detailed descriptions of any service disruptions to ensure adequate access for safety and emergency services as well as the ability to provide timely notification to consumers.

Information regarding any additional service capacity or energy requirements of the project during or after construction will be disclosed as early as possible, and WSDOT will coordinate with the appropriate agencies to address any potential issues.

11.0 Recreation Effects and Commitments

11.1 Statement that the project will directly and indirectly impact park resources protected under Section 4(f) of the Department of Transportation Act of 1966 and Section 6(f) of the Land and Water Conservation Fund Act.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seattle Parks and Recreation	WSDOT	6/30/11	Page 1

There are a number of public parks, recreation areas, and historic sites of national, state, and local significance within the project area. Many of these areas are protected under Section 4(f) and Section 6(f) regulations. Some of these park resources are also protected under the City of Seattle's Initiative 42, Ordinance No. 118477. Throughout the design process for the SR 520, I-5 to Medina project, care has been taken to avoid and minimize effects on parks and recreation resources and on historic properties, where possible. Because of the density of development in the project vicinity, the narrow existing highway right-of-way, and the fact that the original highway bisected several parklands and a historic district, effects on park and recreation resources and on historic properties could not be

avoided. While there is no feasible and prudent alternative that completely avoids these protected properties, the Selected Alternative results in the least overall harm to these resources and was selected following all possible planning to minimize harm. Additionally, WSDOT has worked in coordination with the agencies with jurisdiction over these resources to identify appropriate mitigation and compensation, where appropriate, for the project's use of these properties. Chapters 9 and 10 of the Final EIS provide additional information regarding potential impacts on the resources and proposed mitigation.

The potential for indirect effects on these properties was also considered. WSDOT did not identify any recreation effects or effects on cultural resources that are likely to occur at a distance from the site or later in time, as discussed further in the Final Indirect and Cumulative Effects Discipline Report (Attachment 7 to the Final EIS).

11.2 Statement that WSDOT is attempting to take over "places of sanctity" and make them public domain.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Flug-Coburn, Eliza	WSDOT	7/6/11	Paragraph 2

Section 4(f) of the U.S. Department of Transportation Act of 1966 (23 U.S.C. 138 and 49 U.S.C. 303) specifies that FHWA may only approve a transportation project or program requiring the use of parks, recreation areas, wildlife and waterfowl refuges, or historic sites for transportation purposes if 1) there is no feasible or prudent alternative to use of the land, and 2) the project includes all possible planning to minimize harm to the property.

The Section 4(f) evaluation (Chapter 9 of the Final EIS) demonstrates that the design of the Preferred Alternative would result in the least overall harm to recreational resources and adjacent neighborhoods, compared to all other feasible and prudent design options evaluated. The Preferred Alternative would also result in the least overall acreage of park and recreational land acquisition of all build alternatives (6.7 acres compared to effects ranging from 7.5 to 9.1 acres with Options A, K, and L). The Preferred Alternative would also cause the least overall harm to environmental resources such as wetlands and fish habitat, as discussed in Final EIS Section 5.11 and in this Record of Decision.

11.3 Assertion that, on the west side, most of the property acquisition required for the project will be taken from wetlands, open space, parks, and properties which should be protected under Section 4(f).

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Pages 5-6, Item B
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Pages 3-4, Item 8

As described in detail in Chapter 9 of the Final EIS, there is no feasible and prudent alternative that would avoid the use of all Section 4(f) resources. The Preferred Alternative would result in the least overall harm to Section 4(f) resources, compared to the SDEIS design options and potential avoidance alternatives analyzed as part of the final Section 4(f) evaluation. As part of the environmental process, WSDOT evaluated alternative designs and locations for crossing Lake Washington and replacing the vulnerable existing structures. (See Chapter 2 of the Final EIS and the Range of Alternatives and Options Studied report in Attachment 8 of the SDEIS for more information.) However, a floating bridge sited within the existing corridor remained the lowest-impact and lowest-cost solution. Through ongoing coordination, measures to minimize the footprint

and avoid adverse impacts to the built and natural environment were prioritized. These measures included narrowing the roadway design to minimize right-of-way acquisitions and impacts on neighborhoods and historic properties, parks, and the environment, and minimizing structure impacts on the Arboretum by making alignment and structural engineering adjustments. There were no lower-impact alternatives that also met the project purpose and need.

Although wider than the existing facility, the Preferred Alternative remains similar to today's configuration and is primarily situated on land that is already transportation right-of-way. Due to the density of the built and urban environment, a more efficient, straight-line route was not selected, because it was not compatible with existing and neighboring uses throughout the corridor and it would not comply with Section 4(f).

According to 23 CFR 774.17, a feasible and prudent avoidance alternative is one that would not cause other severe problems of a magnitude that would substantially outweigh the importance of protecting the Section 4(f) property. An alternative that would result in severe disruption to established communities, such as acquisition of homes within adjacent historic districts, does not constitute a feasible and prudent avoidance alternative under Section 4(f). In addition, the homes that would need to be acquired to avoid using recreation areas are part of NRHP-listed or NRHP-eligible historic districts, and are therefore also protected under Section 4(f).

Chapter 9 of the Final EIS further discusses the constraints that led to the route and alignment of the Preferred Alternative. Adverse effects resulting from the project could not be entirely eliminated because of the density of development in the project vicinity, the narrow existing highway right-of-way, and community fragmentation caused by the original highway bisecting several parklands and neighborhoods. However, FHWA has selected the alternative that minimizes overall harm to the built and natural environment, including Section 4(f) resources, and will continue to coordinate mitigation for potential project effects.

The definition of Section 4(f) protected properties does not cover all properties that may be perceived as parks, such as plantings in rights-of-way or informal open spaces not designated for park purposes. The technical memorandum titled Identification of Section 4(f) Properties in the SR 520, I-5 to Medina Project Area in Attachment 3 discusses the additional properties that the Coalition has asserted should be protected under Section 4(f). With three exceptions, the identified properties that are not considered Section 4(f) resources are all located within transportation-right-of-way. The exceptions are the Bagley Stair Trail, which the City of Seattle has determined not to be a significant public park or recreation area; the Roanoke street end, which is not currently used for recreation and is not designated by the City of Seattle for future park development; and Portage Bay. Based on guidance provided by the FHWA Section 4(f) Policy Paper (FHWA 2005), Section 4(f) only applies to those portions of Portage Bay which function primarily for park or recreational purposes and are publicly owned. The area of the bay that is designated for park and recreation purposes is the submerged portion of the Montlake Playfield. Because this area is included within the recognized boundaries of the Montlake Playfield, and the remainder of the bay functions primarily for other purposes (including a number of private uses), the bay itself is not a Section 4(f) resource. FHWA, as the agency responsible for Section 4(f) compliance, has concurred with WSDOT's determinations of Section 4(f) eligibility, which were arrived at through extensive coordination with the agencies with jurisdiction over Section 4(f) resources. Please also see the Final Section 4(f) Evaluation in Chapter 9 of the Final EIS.

11.4 Assertion that WSDOT has erred in characterizing the Canal Reserve property and Lake Washington Boulevard as historic properties subject to Section 4(f), rather than as park properties subject to Section 4(f).

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Bader, Jorgen	FHWA/WSDOT/ USDOI/EPA/HUD/NPS	7/4/11	Entire letter

As acknowledged in the comment, the Final EIS identifies the Canal Reserve property as a Section 4(f) resource on the basis of its history and its location within the NRHP-eligible Montlake Historic District. The University of Washington, which owns the property and is the agency with jurisdiction over it, has concurred that the Canal Reserve is not used primarily for recreational purposes and therefore should not be considered a park property under Section 4(f). However, as part of the Montlake Historic District, the Canal Reserve was included in the analysis of avoidance alternatives and measures to minimize harm. Avoidance of this portion of the historic district by shifting the alignment of SR 520 farther south was determined not to be prudent because it would require the removal of nine additional historic properties within the district, resulting in severe disruption to the established community (see pages 9-108, 9-109, and 9-115 of the Final EIS). Mitigation for use of the Montlake Historic District is identified in the Section 106 Programmatic Agreement (Attachment 1).

As described on pages 9-32 and 9-33 of the Final EIS, Lake Washington Boulevard is an NRHP-eligible transportation facility, and as such is exempt from Section 4(f) in accordance with 23 CFR 774.13(a). FHWA's guidance on these facilities notes: "The Section 4(f) statute places restrictions on the use of land from historic sites for highway improvements but makes no mention of historic bridges or highways, which are already serving as transportation facilities. The Congress clearly did not intend to restrict the rehabilitation, repair or improvement of these facilities" (FHWA Section 4(f) Policy Paper, March 2005). Regarding the suggestion that the boulevard functions as a park, the policy paper notes that "incidental, secondary, occasional or dispersed park, recreational or refuge activities" are not protected under Section 4(f). Since the primary function of Lake Washington Boulevard is transportation, any use of it for recreation could only be secondary or incidental. Therefore, it is appropriately omitted from lists and exhibits in the Final EIS that show park resources.

11.5 Statement that Seattle Ordinance 118477, which requires replacement of park land with "land or a facility of equal or better size, value, location and usefulness in the vicinity, serving the same community and the same park purpose," applies to park properties acquired by WSDOT for the SR 520, I-5 to Medina project.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Bader, Jorgen	FHWA/WSDOT/ USDOI/EPA/HUD/NPS	7/4/11	Entire letter

RCW 47.01.260 grants WSDOT sole authority to site, design, and construct the state highway system. WSDOT is exempt from local agency regulations, including Ordinance 118477, to the extent that they are inconsistent with this authority. Nevertheless, as described in Chapter 10 of the Final EIS, WSDOT has coordinated extensively with the City of Seattle through the Parks Technical Working Group to help ensure that the Section 6(f) process, which has similar requirements to Ordinance 118477, also fulfills the requirements of the ordinance to the greatest extent practicable. The Seattle Parks Department has concurred that the Bryant site constitutes appropriate replacement property for lands converted from Section 6(f) use.

As part of the Section 6(f) evaluation, the City, the University of Washington, the National Park Service, the Washington Recreation and Conservation Office, and WSDOT considered 86 properties as potential replacement sites before determining that the Bryant site was the best choice. The WSDOT peninsula

(discussed further below) was not considered as replacement property because federal assistance was provided in the land's original acquisition, making it ineligible (see the *Land and Water Conservation Fund State Assistance Program Manual,* page 8-7). The Frolund property, mentioned in the comment, was also considered, but all parties concurred that it did not meet Section 6(f) replacement needs as well as the Bryant site.

11.6 Statement that the Final EIS understates environmental impacts to the Arboretum and identifies mitigation projects only in the "core" Arboretum area south of SR 520.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Bader, Jorgen	FHWA/WSDOT/ USDOI/EPA/HUD/NPS	7/4/11	Entire letter

The assertions made in the comment regarding the "failures" of the Section 4(f) evaluation focus on qualitative observations about the document, rather than errors in the analysis. The statement that "The prosaic text does not do justice to the sparkle of life or the beauty of the Arboretum," even if true, does not constitute a flaw in the Section 4(f) evaluation. WSDOT worked with the Seattle Parks Department and the University of Washington, the agencies with jurisdiction over the Arboretum, to identify the features and attributes that make the park a Section 4(f) resource. The description of the Arboretum in the document reflects the qualities of the park that these agencies considered important. Likewise, although the northern Arboretum's value as habitat is documented in the Ecosystems Discipline Report, no special mention is given to crows or bats because they are not protected under state or federal statutes and are among the many species accustomed to living in proximity to the busy highway.

Many of the responses to SDEIS comments from the Arboretum Foundation, the Arboretum and Botanical Gardens Committee (ABGC), the University of Washington, the Seattle Board of Park Commissioners, and the Seattle Parks Department cite the coordination that has taken place in the preparation of the Arboretum Mitigation Plan under the requirements of ESHB 6392 (see Items C-032, C-037, L-008, and S-002 in Attachment 11 of the Final EIS). The plan was developed over the course of 11 meetings between WSDOT, the Seattle Department of Transportation, and the ABGC during the summer and fall of 2010. ABGC members (including representatives from Seattle Parks, the University of Washington, and the Arboretum Foundation) were provided with detailed information on project impacts and regulatory requirements for mitigation, and then asked to develop a list of potential projects to be included in the plan as mitigation commitments. The final plan, submitted to the legislature in December 2010, was approved by the ABGC. A December 2010 letter from the ABGC to Transportation Secretary Paula Hammond commended WSDOT on the work of its staff in developing the plan (see Attachment 4).

Since completion of the Arboretum Mitigation Plan, members of the ABGC have signed a Memorandum of Agreement with WSDOT regarding implementation of the plan's recommendations (see Attachment 9 of the Final EIS). Planning for the first mitigation project, the North Entry, is now underway. Contrary to the statement that all mitigation projects are in the "core" Arboretum area away from the right-of-way, the North Entry project will create a new vision for the area just south of SR 520 currently occupied by the Lake Washington Boulevard and R.H. Thomson Expressway ramps. Opportunities for public involvement are being provided as part of the planning process (http://depts.washington.edu/uwbg/news/2011/05/31/image-no-more-520-ramps-in-the-arboretum/).

11.7 Statement that, to ensure sufficient mitigation for impacts on Section 4(f) resources, the Record of Decision must commit WSDOT to convey the area known as the "WSDOT peninsula" to the City of Seattle and/or the University of Washington as mitigation for 4(f).

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seattle Parks and Recreation	WSDOT	6/30/11	Page 2, Bullet 1
Bader, Jorgen	FHWA/WSDOT/ USDOI/EPA/HUD/NPS	7/4/11	Entire letter
Ravenna-Bryant Community Association	FHWA/ US Secretary of Transportation	7/7/11	Letter re: 4(f) Evaluation for SR 520 Project: I-5 to Medina Replacement land needed for park land taken
Scully, Sharon	FHWA/WSDOT	7/13/11	Entire letter

The Final EIS discussed the complex land ownership history in the northern portion of the Arboretum, and affirmed that WSDOT was evaluating the possibility of transferring land from the WSDOT peninsula to the Arboretum (Final EIS, pages 9-124 and 9-125). Such a transfer was discussed as potential mitigation for Section 4(f) use of the Montlake Playfield, East Montlake and McCurdy Parks, the University of Washington Open Space, and the Arboretum, to the extent that this use was not fully mitigated by the replacement of Section 6(f) converted properties. Subsequent research confirmed that WSDOT owns the peninsula property in fee and has legal authority to use it for mitigation purposes. As a result, WSDOT notified the Seattle Parks Department on July 19, 2011, of its intent to convey the peninsula property to the City, subject to determination that the value of the land provided as mitigation is reasonably equivalent to the value of the Section 4(f) lands acquired for the project. The *Project Commitments* section of this Record of Decision reflects this intent, and the letter of intent from WSDOT to the City is included in Attachment 4.

11.8 Assertion that the Preferred Alternative would result in negative effects on the Arboretum from traffic on Lake Washington Boulevard.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Ravenna-Bryant Community Association	FHWA/ US Secretary of Transportation	7/7/11	Pages 1-2

The assertion that the Preferred Alternative would increase negative effects on the Arboretum from traffic on Lake Washington Boulevard is inaccurate. The Preferred Alternative would reduce traffic volumes on Lake Washington Boulevard in the Arboretum compared to the No Build Alternative, and compared to existing conditions (see response 8.2.7, "Assertion that the Preferred Alternative will increase traffic on Lake Washington Boulevard through the Arboretum compared to existing conditions," under Subsection 8.0, *Transportation Effects and Commitments,* above). Therefore, effects associated with traffic, such as noise and pollutant emissions, would also be reduced. The Preferred Alternative would also result in an overall reduction of noise levels in the Arboretum compared to the No Build Alternative, due to a number of noise reduction strategies (see Section 5.7 of the Final EIS for further discussion).

Due to the lower traffic volume and traffic management measures to which WSDOT has committed, park users will have an easier time crossing Lake Washington Boulevard in the Arboretum than under existing conditions or the No Build Alternative.

11.9 Concern regarding project effects on navigation (of recreational boats) to and from North Madison Park and to and from the moorage at Canterbury Shores Condominiums during construction.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Canterbury Shores Condominium Association, and Mundy, Bill and Mary Ann	WSDOT	7/11/11	Page 1, Bullet 1
Hansen, John	WSDOT	7/15/11	Paragraphs 1 and 2

Chapter 3 of the Final EIS describes work bridges and barges. Work bridges would be used to construct the new bridge in the west approach area. Exhibits 3-14 and 3-15 of the Final EIS show the eastern extent of work bridges and how long they would be located in these areas. East of that (for the floating bridge), construction would be staged from barges. The barges would be located within the limits of construction shown on Exhibit 3-15. Work bridges and barges would not be expected to affect access to docks in north Madison Park; however, access to some Arboretum shoreline areas would be prohibited during construction. The project would not affect water depths in Lake Washington, as the lake level is controlled by the Corps of Engineers at the Chittenden Locks.

11.10 Assertion that the analysis of impacts of the Portage Bay Bridge is flawed; a wider, higher, and closer bridge structure will adversely affect kayak/canoe recreational use.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Fuhrman and Boyer Neighborhood Improvement Association (FABNIA)	WSDOT	7/15/11	Page 2 and Page 3

The Final EIS provides an analysis of recreational effects consistent with NEPA and FHWA requirements. The evaluation of impacts on parks considered increased levels of traffic noise or air pollution; changed, reduced, or lost access; degradation of the visual setting; and changes in the nature of the surrounding land use that could affect the continued viability, integrity, usage, or value of the recreational facility and that could degrade the overall recreational experience.

As noted on page 5.4-5 of the Final EIS, "There would be no change to shoreline access for launching and landing of small boats from Montlake Playfield. Views toward Portage Bay from the shoreline area would be similar to today." As noted on page 5.4-2, "context-sensitive design of the new Portage Bay Bridge is expected to provide a positive visual experience for boaters and seasonal boating event attendees."

11.11 Statement that permanent acquisition of park land will require payment for the fair market value of the property, and temporary use will require compensation equal to the value of the construction easement.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seattle Parks and Recreation	WSDOT	6/30/11	Page 2, Bullet 3

In accordance with 23 CFR 774.17, WSDOT will provide mitigation for permanent and temporary project effects on park and recreational resources by replacing the land or facilities either with elements that are comparable in value and function or with monetary compensation that can be used to enhance the remaining Section 4(f) land. Throughout project development, WSDOT has

coordinated with the officials with jurisdiction of affected park and recreational resources to identify all reasonable measures to minimize harm or mitigate for properties that have been identified as having a Section 4(f) use. The identified mitigation measures are further discussed in the Section 4(f) Evaluation, included as Chapter 9 of the Final EIS, and include measures such as transferring a portion of the WSDOT-owned land in the Arboretum ramp area to Seattle Parks and Recreation to replace land that is acquired by the project.

11.12 Statement that WSDOT should provide full and complete mitigation for all project impacts to park and recreational resources, as directed by Section 4(f) of the Department of Transportation Act of 1966 and Section 6(f) of the Land and Water Conservation Fund Act.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seattle Parks and Recreation	WSDOT	6/30/11	Page 2, Bullet 4

As stated above, and further discussed in Chapter 9 of the Final EIS, WSDOT will mitigate for its use of Section 4(f) resources by replacing the land or facilities either with elements that are comparable in value and function or with monetary compensation that can be used to enhance the remaining Section 4(f) land, as directed by 23 CFR 774.17.

Through the project's mandated Section 6(f) process, WSDOT has committed to mitigation for use of the affected Section 6(f) property. WSDOT's coordination with the officials with jurisdiction over these resources, which include the City of Seattle and University of Washington, resulted in the identification of a replacement site that satisfies the mitigation requirements set forth in 16 USC 4601. The Bryant Building site, which is further discussed in Chapter 10 of the Final EIS, was selected following WSDOT's coordination with the City of Seattle and University of Washington. This replacement property would provide 3.9 acres of recreational space, and would result in a net gain of 1.3 acres of recreational space in the Seattle area once SR 520 construction is completed. WSDOT's commitment to funding the purchase and development of this site was memorialized in a memorandum of understanding with the City of Seattle and University of Washington, dated November 17, 2010 (WSDOT, UW, and City of Seattle 2010).

11.13 Statement that access to the northern portion of Foster Island should be maintained throughout construction.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seattle Parks and Recreation	WSDOT	6/30/11	Page 2, Bullet 2

The northern portion of Foster Island can be accessed via the Arboretum Waterfront Trail, whose trailhead is located in East Montlake Park. Access to this trailhead will be maintained throughout the construction period. Temporary closures of the Arboretum Waterfront Trail, where it crosses beneath SR 520 on Foster Island and connects to the rest of the Arboretum, are anticipated during construction, primarily during construction of the work bridges in this area. However, closure of the trail would last for less than 6 months at a time, as discussed in Chapters 9 and 10 of the Final EIS. The remaining portion of the Arboretum, outside of the area used for temporary construction easements and acquired for right-of-way, would remain open and accessible for recreation. In addition, the northern portion of East Montlake Park would remain available to users throughout construction.

11.14 Concern about the application, monitoring, and assessment of mitigation measures for use of Section 4(f) properties.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Ravenna-Bryant Community Association	FHWA/ U.S. Secretary of Transportation	7/7/11	Pages 2-3

The final Section 4(f) evaluation includes a full discussion of mitigation (see Section 9.5, "Avoidance, Minimization of Harm, and Mitigation," on pages 9-104 through 9-162 of the Final EIS).

The project will comply with the January 14, 2011, CEQ memo entitled "Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact." The comment refers to "Executive Order 1318," but since no such Executive Order could be identified, FHWA assumes the reference is actually to the January 14, 2011, CEQ memo.

11.15 Concern that the members of the public were not given an opportunity to comment on the Section 6(f) replacement site selection process.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Fuhrman and Boyer Neighborhood Improvement Association (FABNIA)	WSDOT	7/15/11	Page 4

In compliance with Section 6(f), WSDOT released the Section 6(f) Environmental Evaluation for a 30-day public comment period, from November 9, 2010, until December 8, 2010. A number of public comments were received, and WSDOT considered all comments pertaining to the environmental evaluation and the replacement site. Ultimately, the selection of replacement property remains at the sole discretion of the grantee agencies for the converted properties. The grantee agencies are the City of Seattle and the University of Washington, and they both support selection of the Bryant Building site.

Seattle Parks and Recreation was consulted regarding potential development of the former Frolund property for replacement park use under Section 6(f) of the Land and Water Conservation Fund Act, but the Bryant Building site was selected instead. The grantee agencies agreed that the Bryant Building site would serve the recreational needs of the community currently served at the existing site and that the proposed replacement site location is appropriate to replace the existing facilities.

In November 2010, WSDOT signed a Memorandum of Understanding with the City and the UW to memorialize the commitment to continued coordination throughout the Section 6(f) process, and to proceed with evaluation of the Bryant Building site as the replacement site that best fulfills the Section 6(f) replacement criteria (WSDOT, University of Washington, and City of Seattle 2010).

The Section 6(f) Evaluation in Chapter 10 of the Final EIS and the Section 6(f) Environmental Evaluation in Attachment 15 of the Final EIS provide further discussion of the Section 6(f) process and the replacement site.

11.16 Statement that every effort should be made to ensure that the recreational experience at local parks is not disrupted by construction.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seattle Parks and Recreation	WSDOT	6/30/11	Page 2, Bullet 2

In an effort to minimize effects on the recreational experience at local parks during construction, WSDOT would implement a number of best management practices (BMPs). The BMPs would protect recreational resources and users from construction-related effects such as dust, vibration, noise, light and glare, and accidental damage from construction equipment. WSDOT would also provide detours for trails and bicycle routes to temporarily route traffic around construction sites, where possible. Additional mitigation measures identified to reduce effects on recreational facilities throughout the project area are discussed in the Recreation Discipline Report Addendum and Errata, included in Attachment 7 of the Final EIS.

11.17 Statement that the Final EIS does not provide sufficient discussion of the recreational use of project area waterways other than in the section on private recreational facilities.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seattle Yacht Club	WSDOT	Not dated (received 8/1/11)	Entire letter

In response to comments from the SYC on the SDEIS, pages 14 and 15 of the Recreation Discipline Report Addendum and Errata (Attachment 7 to the Final EIS) provide an expanded discussion of how Lake Washington and associated waterways, including Union Bay, Portage Bay, and the Montlake Cut, are used for a wide variety of recreational purposes. This is in addition to the discussion of the SYC and the Queen City Yacht Club as recreational facilities, which appears on page 13 of the addendum. Impacts of the project on recreational boating are discussed for both construction and operation. In the Final EIS itself, impacts on recreational boating other than at the yacht clubs are discussed by recreational facility. Boat launching at the Montlake Playfield is discussed on pages 5.4-5 and 6.4-5 of the Final EIS; effects on boating in the Arboretum waterways are discussed on pages 5.4-14 and 6.4-13; and effects on recreational boating in Lake Washington are discussed on page 6.4-14.

The potential for project operation to have permanent effects on the SYC is discussed on pages 9-7 through 9-10 of the Final EIS, as part of the Section 4(f) constructive use analysis. The analysis concludes: "After construction, all the features and attributes that make the property historically significant would be fully functional, and permanent changes to the setting and feeling would be minor. The maritime activities, features, and attributes of the SYC would not be substantially diminished by the project, and the significance of the SYC would not be meaningfully reduced or lost." None of the specific events listed in the comment would be affected by operation of the new bridge.

As noted above, the Montlake Cut's use for recreation is discussed in the Recreation Discipline Report Addendum and Errata. As the comment states, page 6.14-1 of the Final EIS identifies periods of closure for the Montlake Cut and the effects of those closures on navigation.

12.0 Cultural Resources Effects and Commitments

12.1 Statement that the Section 106 process for analyzing and mitigating impacts on historic areas was driven by deadlines.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA	6/20/11	Page 11, Item 5.a
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 8, Item 16.5.a

WSDOT, with oversight from FHWA, conducted extensive consultation with Section 106 consulting parties, including the Roanoke/Portage Bay Community Council, the Montlake Community Council, and the North Capitol Hill Neighborhood Association. The time frames provided for document reviews met or exceeded the requirements of Section 106. When consulting party requests (e.g., for extensions of the Area of Potential Effect) were denied, the reasons for denial were clearly explained to the consulting party.

12.2 Assertion that the Seattle Yacht Club, which is protected under the National Historic Preservation Act, will experience negative effects from construction and operation of the project.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seattle Yacht Club	WSDOT	Not dated (received 8/1/11)	Entire letter

As part of the project's Section 106 consultation process, FHWA and WSDOT carried out consultations with the State Historic Preservation Officer, interested and affected tribes, and other consulting parties to identify measures to resolve adverse effects on historic properties. The SYC participated in both group and individual meetings with WSDOT representatives to discuss possible effects from the Preferred Alternative that could diminish the integrity of their historic property, as well as potential mitigation measures. Throughout the consultations, the SYC and other consulting parties were provided opportunities to review and comment on WSDOT's effects determinations and to suggest and review mitigation measures.

The Section 106 consultations resulted in the development and implementation of a Programmatic Agreement (Attachment 1). In May 2011, the SYC signed the final Programmatic Agreement, which records the stipulations agreed upon to resolve the adverse effect from the project. The stipulations within the Programmatic Agreement include mitigation measures such as developing a coordination plan with the SYC to minimize disruption of historically significant activities at the SYC Main Station and on Portage Bay, the Montlake Cut, and Union Bay during construction (see Programmatic Agreement stipulation VII.B.2).

WSDOT has also committed to developing a design-review process for the new Portage Bay bridge that will address overall urban design. While WSDOT provided visualizations of the new Portage Bay bridge to the Section 106 consulting parties during consultations, and included them in the Final EIS (pages 5.5-3 – 5.5-4), exact bridge design and aesthetic treatment are to be determined as part of a collaborative process, as stipulated in the Programmatic Agreement (see Programmatic Agreement stipulation V.A). In consultation with the Seattle Design Commission, Department of Archaeology and Historic Preservation, concurring parties to the Programmatic Agreement (including SYC), the public, and an outside design expert with experience in designing new bridges within historically sensitive areas, a context-sensitive solution for the replacement structure will be developed (see Programmatic Agreement stipulation V.A.1).

As mentioned in the response to summary comment 3.3 "Statement that new information included in the Final EIS constituted important impacts on the environment, and that the public should have

been given an opportunity to comment," the statement that the bridge would "operate 110 feet north of the current bridge" was in error. The northern edge of the replacement bridge would be less than 50 feet north of the existing bridge on the bridge's western end, and less than 40 feet further north on the bridge's eastern end. The height of the replacement bridge will only increase at the easternmost half, with an increase of approximately 15 feet compared to existing conditions. The increased height, along with increased span lengths, will provide additional clearance under the bridge, which could enhance the recreational experience from the water of Portage Bay, including those activities traditionally hosted by the SYC. In addition, in response to community feedback on the SDEIS design options, the Portage Bay Bridge will include a landscaped median and a reduced speed limit of 45 mph.

In addition to the stipulations that will resolve the adverse effect from the project, WSDOT has also committed to the development and implementation of a Community Construction Management Plan (CCMP). While the Programmatic Agreement will ensure practices such as maintenance of access to all historic properties and management of noise, lighting and glare, vibration, the CCMP will resolve additional concerns during construction. WSDOT will provide an ongoing opportunity for the concurring parties to the Programmatic Agreement (including SYC) and other affected parties to have input into construction management practices that can help to avoid, minimize, or mitigate the effects of construction activities on historic properties (see Programmatic Agreement stipulation VIII.B).

Implementation of the Section 106 Programmatic Agreement and the Community Construction Management Plan, along with ongoing coordination with the SYC, will ensure that the historic SYC and its association with maritime activity will not be substantially diminished by the project.

13.0 Visual Quality and Aesthetics Effects and Commitments

13.1 Assertion that the design of the Preferred Alternative Montlake interchange and Portage Bay Bridge has not been adequately disclosed.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Coalition for a Sustainable SR 520	FHWA/WSDOT	7/15/11	Page 1, Item 2 Page 7, Item 14

The Final EIS and its attachments do, in fact, provide ground-level depictions of the Montlake interchange and Portage Bay Bridge. Exhibit 5.5-4 of the Final EIS shows visualizations of the Montlake lid and interchange from ground level. Attachment 2 of the Visual Quality and Aesthetics Discipline Report Addendum and Errata includes a number of visualizations of the Portage Bay Bridge from ground level.

13.2 Question about visualizations included in the Final EIS and concern that effects on the Laurelhurst neighborhood were not included.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 4, Item 4

Many viewpoints were assessed during the visual quality analysis, and visualizations were created that were not included in Section 5.5 of the Final EIS because they did not show substantial changes in visual quality. A complete list of visualizations can be found in Exhibit 4 of the Visual Quality

Discipline Report Addendum and Errata (in Attachment 7 to the Final EIS). Two visualizations from the Laurelhurst neighborhood (looking southwest and southeast) were included in Attachment 2 to the Visual Quality Discipline Report Addendum and Errata. Please see Exhibits 2-40 and 2-41 for these visualizations. As discussed on page 5.5-16 of the Final EIS, "changes to the scale and appearance of the west approach and floating bridge would be noticeable when seen from relatively distant shoreline neighborhoods such as Laurelhurst, but would not significantly change the quality or character of those views because the bridge is an existing, small element in the distance."

The Final EIS provides analysis of visual quality effects consistent with NEPA and FHWA requirements, and the contention that the EIS is inadequate because it lacks sufficient analysis is inaccurate.

13.3 Request for WSDOT to work with the University of Washington to consider replacement plantings that will grow with sufficient vigor to reduce visual effects.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Seattle Department of Planning and Development	WSDOT	7/1/11	Page 1 (entire item)

WSDOT continues to work with the University of Washington to address visual effects of the project during and after construction.

14.0 Noise and Vibration Effects and Commitments

14.1 Question about whether technical analysis focused on the NOAA NWFSC were included in the Final EIS.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
National Oceanic and Atmospheric Administration (NOAA) - Stewart Tosach	WSDOT	6/22/11	Email (entire item)

The technical analysis referenced in the comment was conducted for mitigation discussions with the NWFSC and is beyond the level of detail required by NEPA. Even though it is not included in the NEPA documents, it is being considered in FHWA and WSDOT decision-making regarding mitigation for effects on the NWFSC.

14.2 Concern about construction noise effects in Laurelhurst from potential phasing; statement that noise will be "doubled: based on "building the structure twice," and concern from traffic effects of phasing.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 3, Item 2.c

Section 6.16 of the Final EIS notes that during construction of Phase 1 "construction activities for the floating bridge may also be audible to some residents of Laurelhurst and Madison Park." This is consistent with the construction noise effects noted in Section 6.7 of the Final EIS, except that effects of construction west of the west approach would be delayed to Phase 2. Noise would not be

doubled; some effects would be delayed, and there would be some additional effects due to construction of the interim connection. Section 6.7 of the Final EIS describes how WSDOT will manage construction noise.

Section 5.7 of the Final EIS shows that no residences in the Laurelhurst neighborhood would have noise levels exceeding the noise abatement criteria in 2030 with or without the project. Based on this conclusion, and the expected traffic effects of operating Phase 1 (see Section 5.15), the operation of Phase 1 is also not expected to result in residences in Laurelhurst exceeding the noise abatement criteria. The traffic analysis shows that with completion of Phase 1, westbound congestion would shift further west, compared to where the HOV lanes end under existing conditions. However, reduced speeds are associated with reduced noise (see page 73 of the Noise Discipline Report Addendum and Errata in Attachment 7 of the Final EIS), so this shift would not be expected to result in additional negative operational noise effects.

14.3 Statement that vibration was inadequately addressed and that best management practices will not suffice; request for a specific written agreement between WSDOT and North Madison Park property owners to address potential damage.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Canterbury Shores Condominium Association, and Mundy, Bill and Mary Ann	WSDOT	7/11/11	Page 1, Bullet 3

Pages 6.7-6 and 6.7-9 of the Final EIS discuss the potential for vibration effects. Additionally, the potential for vibration to affect cultural resources is discussed in Section 6.6 of the Final EIS (see pages 6.6-2 through 6.6-15). WSDOT is currently conducting additional investigations to determine how the existing soil conditions affect the potential for damage to properties from vibration effects. WSDOT intends to address vibration monitoring for sensitive properties in the Community Construction Management Plan, which is discussed in the *Project Commitments* section of this Record of Decision, and in Chapter 6 of the Final EIS.

14.4 Assertion that there is no mitigation commitment for construction effects including noise and vibration effects on shoreline sensitive areas or residential structures, and on historic residences.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Fuhrman and Boyer Neighborhood Improvement Association (FABNIA)	WSDOT	7/15/11	Page 3

WSDOT is preparing a Community Construction Management Plan for the SR 520, I-5 to Medina project that includes appropriate best management practices, mitigation requirements, and ongoing consultation commitments. WSDOT will continue to work with the communities affected by the project as it progresses. As the design and the construction plans develop, WSDOT will coordinate with stakeholders and the communities that will be directly affected by project construction through the permitting and approval process. This may include seeking a noise variance and other approvals for construction activities as appropriate. See response 14.3 above, "Statement that vibration was inadequately addressed and that best management practices will not suffice; request for a specific written agreement between WSDOT and North Madison Park property owners to address potential damage," regarding how WSDOT will address vibration during construction.

Mitigation for the adverse effect on cultural resources (including historic residences) was defined through a series of meetings and negotiations among FHWA, WSDOT, and the Section 106 consulting parties starting in fall 2010 and concluding with the signing of the Section 106 Programmatic Agreement in mid 2011. The Programmatic Agreement (Attachment 1 of this Record of Decision) records the terms and conditions agreed upon to resolve the adverse effect from the project and satisfies the requirements of the National Historic Preservation Act.

15.0 Air Quality Effects and Commitments

15.1 Statement that tolling the No Build Alternative would improve air quality; this effect was not included in the EIS.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Pages 4-5, Item 5

The EIS analyzes the effects of reasonable alternatives as defined through the alternatives screening and scoping process (see Chapter 2 of the Final EIS). The response to summary comment 2.8, "Suggestion that the No Build Alternative should include tolling, and that comparing an untolled No Build to a tolled 6-Lane Alternative overstates the benefits of the 6-Lane Alternative" under Subsection 2.0, *Range of Alternatives,* above explains why the No Build Alternative is not assumed to be tolled. For this reason, air quality effects of a tolled No Build Alternative were not reported. However, as described in Section 5.8 of the Final EIS, the project will not result in an adverse effect on air quality.

15.2 Statement that operation of Phase 1 will worsen air quality.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Canterbury Shores Condominium Association, and Mundy, Bill and Mary Ann	WSDOT	7/11/11	Page 1, Bullet 2
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Pages 4-5, Item 5

As noted in Section 5.15 of the Final EIS, "Air emissions under Construction Phase 1 would be similar to those under the No Build Alternative. Because of the introduction of cleaner fuels and new emissions standards requiring more efficient vehicle engines, air quality will improve in the future with or without the project. Slight improvements in air quality would occur later in time as a result of increased mobility under full project buildout (see Section 5.8)." The No Build Alternative would not result in exceedances of the National Ambient Air Quality Standards, and neither would Phase 1.

See the response to summary comment 8.1.4, "Concern about the transportation effect of delaying the Seattle portion of the project, with a six-lane floating bridge narrowing to four lanes at the west approach," under Subsection 8.0, *Transportation Effects and Commitments,* above regarding a bicycle/pedestrian connection across the floating bridge under Phase 1. The Final EIS provides analysis of these effects consistent with NEPA and FHWA requirements, and the contention that the EIS is inadequate because it lacks sufficient analysis is inaccurate.

15.3 Statement that the EIS air quality analyses do not follow Puget Sound Clean Air Agency (PSCAA) guidance and does not sufficiently account for the project's potential effects on public health.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Stewart, Douglas	WSDOT	7/15/11	Page 4

The National Ambient Air Quality Standards (NAAQS) are the applicable standards for air quality. While the PSCAA has a health goal stating a more stringent standard than the NAAQS, there is no rule requiring compliance of new projects with the goal. The EIS air quality analyses were conducted consistent with NEPA requirements, federal standards for implementing the NAAQS, and FHWA and WSDOT policy.

The analysis shows that the project would result in a long-term improvement in air quality compared to the No Build Alternative. Therefore, the long-term effects about which the comment raises concerns would not be effects of the SR 520, I-5 to Medina project.

The Final EIS included a quantitative analysis of construction emissions; however, the analysis showed that the applicable standards would not be exceeded as a result of construction.

15.4 Statement that dust, particulate matter, and air pollution during construction and operation were inadequately addressed, and that the averaged data shown do not reflect the severity of summer conditions in Madison Park.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Canterbury Shores Condominium Association, and Mundy, Bill and Mary Ann	WSDOT	7/11/11	Page 1, Bullet 2

See the response to summary comment 15.3, "Statement that the EIS air quality analyses do not follow PSCAA guidance and does not sufficiently account for the project's potential effects on public health," above. The EIS air quality analyses and the data reported for existing conditions are consistent with NEPA requirements, federal standards for implementing the NAAQS, and FHWA and WSDOT policy.

A quantitative analysis of construction air quality effects, including diesel exhaust from construction equipment and hauling, fugitive dust from demolition and site grading, emissions associated with workers' commutes, and other construction-related air quality concerns, is included in the Air Quality Discipline Report Addendum and Errata (in Attachment 7 of the Final EIS). During construction, BMPs will be used to minimize construction emissions. WSDOT will comply with the procedures outlined in the Memorandum of Agreement between WSDOT and the PSCAA (WSDOT 1999) for controlling fugitive dust. Federal regulations require the use of ultra-low-sulfur diesel fuel in on-road trucks, and regulations that took effect in 2010 require the use of ultra-low-sulfur diesel fuel for construction equipment. See the Mitigation section of the discipline report addendum for further discussion. The Community Construction Management Plan discussed in the *Project Commitments* section of this Record of Decision and in Chapter 6 of the Final EIS will address measures to minimize air quality effects during construction.

Air quality effects are modeled based on a range of factors. The modeling methodology is consistent with applicable standards and policies. The Air Quality Discipline Report (Attachment 7 of the SDEIS) describes modeling methodology of the regional and local operations analyses, and the Air Quality Discipline Report Addendum (Attachment 7 of the Final EIS) describes the methodology of the quantitative analysis of construction effects. Exhibit 8 on page 17 of the Air Quality Discipline Report (Attachment 7 of the SDEIS) shows the averaging periods for standards for particulate matter

and other pollutants. The measurements of air quality criteria pollutant concentration levels, including particulate matter, shown on Exhibit 10 on pages 21 and 22 of the Air Quality Discipline Report, reflect these averaging periods (Exhibit 10 provides more specific information on how these values were calculated). Averages are not intended to reflect the highest value. More information on existing air quality is available from the Puget Sound Clean Air Agency at http://www.pscleanair.org/airq/reports.aspx.

16.0 Water Resources Effects and Commitments

16.1 Concern about effects on water quality in Lake Washington and Union Bay from potential phasing, including concern about new impervious surface area, pollution, construction emissions, and traffic effects of potential phasing.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 2, Item 2.a

As noted in Section 6.16 of the Final EIS:

> The in-water work required for Construction Phase 1 would be of a lesser magnitude than the full build. However, the floating bridge and east approach would still require a major in-water construction effort. As described in Section 6.11, construction best management practices (BMPs) would be used to help prevent pollutants in runoff from construction areas from reaching surface water bodies. In-water sediment containment measures, such as cofferdams, would also be used where lakebed disturbance would occur in nearshore areas during construction of the east approach.
>
> The interim connection bridge between the new floating span and the existing west approach would require two periods of work in the same area of the lake: first to construct the connection bridge, and later to remove its superstructure and build the new west approach superstructure on the previously placed columns. Reuse of these columns would minimize in-water work and sediment disturbance, but building in phases would entail greater overall disruption than continuous construction.

As noted in Section 5.15 of the Final EIS:

> Construction Phase 1 includes building stormwater management facilities to treat the runoff in the Lake Washington, East Lake Washington, and Fairweather Creek basins, as described in Section 5.10. These facilities will reduce pollutant loading to Lake Washington and Fairweather Creek basins. The stormwater facilities in the Lake Union, Portage Bay, and Union Bay basins would be constructed as part of full buildout (see Section 5.10); hence, there would be a delay in achieving the water quality benefits provided by the project in these basins.

New pollutant-generating impervious surface area will include stormwater treatment as required by applicable regulations; Department of Ecology permits required for the interim bridge must meet permitting requirements for stormwater management. Therefore, even with the westward shift in westbound traffic congestion associated with Phase 1, there would not be additional negative water quality effects.

The Final EIS provides analysis of the effects of Phase 1 consistent with NEPA and FHWA requirements, and the contention that the EIS is inadequate because it lacks sufficient analysis is inaccurate.

16.2 Statement that water bodies will be damaged by construction of the replacement bridge.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Flug-Coburn, Eliza	WSDOT	7/6/11	Paragraph 5
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 5, Item 6

The comments that "construction effects will result in direct disturbance of waterbodies, including turbidity and spill of pollutants" and "dewatering…will severely impact the wetlands" are inaccurate. The Executive Summary noted risk of increased turbidity and risk of pollutant spills as potential concerns, but page 53 of the Executive Summary notes how WSDOT will minimize these effects. Page 52 notes that effects of dewatering would be localized and temporary except under Option K. Page 53 notes that groundwater from dewatering activities could be temporarily stored in stormwater treatment wetlands; the EIS does not indicate that dewatering would severely impact wetlands.

Regarding the above concern and the concern about damage to the lake due to "tools and toxins" during construction, as discussed on page 53 of the Executive Summary and in Sections 6.10 and 6.11 of the Final EIS, WSDOT will employ best management practices to avoid effects on water quality in Lake Washington as well as in other water resources, and on habitat during construction.

Sections 6.10 and 6.12 of the Final EIS provide more information on construction dewatering, its potential effects, and how effects would be minimized or mitigated. The need for dewatering would be considerably higher with Option K than with the other options.

With completion of construction, the inclusion of stormwater treatment in the project design will improve the quality of stormwater runoff from SR 520. This runoff currently flows untreated into adjacent water bodies. See Section 5.10 of the Final EIS for further discussion.

17.0 Ecosystems Effects and Commitments

17.1 Assertion that the analysis of impacts of the Portage Bay Bridge impact is flawed; a wider, higher, and closer bridge structure will adversely affect adjacent wetland habitat.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Fuhrman and Boyer Neighborhood Improvement Association (FABNIA)	WSDOT	7/15/11	Page 2 and Page 3

The Final EIS provides an analysis of wetland impacts consistent with NEPA and FHWA requirements. The evaluation of impacts on wetland habitat considered the physical effects of the proposed project by overlaying the project footprint onto the wetland and buffers in the project area to determine the extent and location of fill and clearing. The permanent fill and shading effects on wetlands and buffers are shown in Table 5.11-1 of the Final EIS. The Preferred Alternative has the least permanent wetland and buffer fill compared to Options A, K, and L. Shading effects would be similar to Option A but in a somewhat different location.

17.2 Concern that the Preferred Alternative would result in the most wetland shading.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 5, Item 6

While wetland shading effects of the Selected Alternative would be higher than Option A, this is due to design refinements to better accommodate potential future light rail transit, primarily the gap between the eastbound and westbound structures in the west approach area. If Option A or L were identified as the Selected Alternative, they would likely undergo similar design refinements, likely resulting in a similar increased effect. Option K would have the lowest wetland shading effect, but that is because more wetland would be filled by the depressed single-point urban interchange.

17.3 Concern that the Preferred Alternative would affect fish and wildlife habitat during construction and operation.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 5, Item 6

The comment refers to the Executive Summary discussion of construction effects on fish and wildlife. However, as noted on page 55 of the Executive Summary, Option A would result in the most temporary overwater shading in the west approach area, and Option K would require considerably more in-water and over-water construction than the Preferred Alternative or Options A and L. Additional information is provided in Section 6.11 of the Final EIS, which includes a more thorough discussion of how effects would be mitigated.

17.4 Concern about effects on habitat in Lake Washington and Union Bay from potential phased construction, including concern about roadway footprint, noise, pollution, construction emissions, and traffic effects.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 2, Item 2.a

As noted in Section 6.16 of the Final EIS regarding wetlands, "Construction Phase 1 would result in no construction effects on wetlands because there are no wetlands in the Lake Washington or Eastside transition areas (see Section 6.11). The majority of wetlands and buffers occur in the Portage Bay and west approach areas and would be affected at the time of full buildout." The analysis of habitat takes into account effects on noise and water quality, which themselves take into account traffic effects. Regarding fish, Section 6.16 says:

> The in-water work for the floating bridge and east approach structure would include the placement of anchors for the floating bridge and the columns for the east approach. Both of these activities could result in direct disturbance of sediments. However, the depth of Lake Washington would limit the effects of turbidity from placement of the bridge anchors because fewer species are expected to use the deeper areas of the lake. BMPs would be used to contain sediments during column placement for the east approach, and special care would be taken to avoid disturbance to the sockeye spawning area located under the existing approach structure.

Section 6.16 does note that, despite measures to minimize in-water work and sediment disturbance as described under Water Resources, "building in phases would entail greater overall disruption than continuous construction and would extend the duration of effects on fish and other aquatic resources."

The Final EIS provides analysis of these effects consistent with NEPA and FHWA requirements, and the contention that the EIS is inadequate because it lacks sufficient analysis is inaccurate.

17.5 Statement that the discussion of proposed mitigation in the Executive Summary is unclear and inadequate and should be specifically analyzed before issuing an EIS.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Laurelhurst Community Club	FHWA/WSDOT	7/13/11	Page 5, Item 6

The page referenced in the comment (page 56 of the Final EIS Executive Summary) pertains to mitigation for construction effects on ecosystems. Page 56 notes that Section 5.11 of the Final EIS and the Conceptual Wetland Mitigation Plan and Conceptual Aquatic Mitigation Plan (included in Attachment 9 of the Final EIS) contain more information on mitigation, including mitigation for construction effects. Readers of the Executive Summary wanting more information should also refer to the Final EIS; Section 6.11 of the Final EIS provides a more complete description of the effects and mitigation for construction effects on ecosystems.

FHWA and WSDOT have completed the Conceptual Wetland Mitigation Plan and Conceptual Aquatic Mitigation Plan (included in Attachment 9 of the Final EIS). These plans are subject to regulatory review and will be finalized as part of the Federal Water Pollution Control Act (the Clean Water Act) Section 404 permit and other applicable permits. WSDOT has ensured that the plan complies with federal, state, and local requirements to minimize and mitigate for effects on natural resources subject to regulation.

In cooperation with resource agencies and the Muckleshoot Indian Tribe through the Natural Resources TWG, WSDOT has developed conceptual plans for habitat improvements, restoration, or construction to mitigate the effects of bridge construction, the increased width of shoreline and open-water crossings, and direct physical impacts from construction activities.

Because of the different types of potential project effects on fish and aquatic resources, and because these potential effects would occur in several distinct habitat types (for example, open water and shoreline), WSDOT will conduct specific mitigation activities at more than one location within the Water Resource Inventory Area 8 watershed, in which the project is located. Several mitigation projects will be developed, including habitat restoration projects in Lake Washington, the Cedar River, and Bear Creek.

There are no specific requirements for mitigation for upland habitat; however, WSDOT will coordinate with the City of Seattle, the University of Washington, Seattle Parks and Recreation, and the Arboretum Foundation in developing a planting strategy to offset the project's effects on regulated shoreline habitat under the City's shoreline management regulations.

The Final EIS provides information about mitigation for wetland and habitat effects consistent with NEPA and other applicable requirements, and the contention that the EIS is inadequate because it lacks sufficient mitigation is inaccurate.

17.6 Concern that the "shoreline habitat mitigation plan" discussed with the Fuhrman and Boyer Neighborhood Improvement Association may not be adequate.

Author(s)	Recipient	Date of Correspondence	Page(s) and/or Item Number of Comment
Fuhrman and Boyer Neighborhood Improvement Association (FABNIA)	WSDOT	7/15/11	Page 3

Mitigation for affected shoreline areas in Seattle will be specified by the City of Seattle shoreline permit, and both the Wetland Mitigation Plan and the Aquatic Habitat Mitigation Plan (Attachment 9 of the Final EIS) will be included with that permit submittal. The public will have a chance to comment on the shoreline permit, which will be issued by the Seattle Department of Planning and Development.

18.0 Navigable Waterways Effects and Commitments

18.1 Questions regarding the effects of the Phase 1 interim transition bridge on navigation.

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The Phase 1 interim transition bridge would not have additional effects on navigation channels beyond those described for construction of the floating bridge and approaches. As shown in Exhibit 2-29, it would be located north of the existing bridge and farther from the Madison Park shoreline. As noted in Section 6.16 of the Final EIS "During Phase 1 construction, the west transition span would remain at its current height of 44 feet, the drawspan would be removed, and the east transition span would be raised to 70 feet, as described in Section 6.14. The presence of barges and construction activities in the floating bridge and east approach areas may result in occasional temporary disruption to recreational boating."

Determinations and Findings

The *SR 520, I-5 to Medina: Bridge Replacement and HOV Project Supplemental Draft Environmental Impact Statement and Section 4(f)/6(f) Evaluation* (WSDOT 2010a) and *SR 520, I-5 to Medina: Bridge Replacement and HOV Project Final Environmental Impact Statement and Final Section 4(f) and 6(f) Evaluations* (WSDOT 2011) are part of the environmental record for the SR 520, I-5 to Medina Project and support this Record of Decision. These documents constitute the statements required by the National Environmental Policy Act and Title 23 of the United States Code on the following:

- The project's environmental effects
- The adverse environmental effects that cannot be avoided if the project is implemented
- Alternatives to the proposed project
- Irreversible and irretrievable effects on the environment that might be involved with the project if it is implemented

Environmentally Preferable Alternative

The Council on Environmental Quality regulations (40 CFR 1505.2(b)) require the Record of Decision to identify the environmentally preferable alternative. The "environmentally preferable alternative" is defined as the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historic, cultural, and natural resources. Designation of the environmentally preferable alternative typically involves judgment and the balancing of some environmental values against others. The CEQ notes that comments on draft environmental documents (such as the Draft EIS and SDEIS for this project) can assist the lead agency in developing and determining environmentally preferable alternatives (CEQ 2011a).

Although a no build alternative or a 4-lane alternative might have less environmental impact, these alternatives do not meet the project's purpose and need for mobility. The Selected Alternative is the environmentally preferable alternative that satisfies the project's purpose and need. The Selected Alternative was refined from the SDEIS design options based in large part on comments received on the SDEIS. Although it does not have the least impact in every environmental discipline, WSDOT believes that this alternative best balances environmental effects and benefits. Below is a summary of the Final EIS's findings regarding the Selected Alternative.

Environmental benefits:

- Reduces height of the floating bridge compared to the SDEIS options to minimize visual effects.
- Has the lowest acreage of park impacts of any of the options evaluated and results in the least overall harm to Section 4(f) properties.
- Results in the least amount of property converted from protection by Section 6(f) of the LWCFA.
- Removes the existing Lake Washington Boulevard ramps and restores wetlands and open space in this area.
- Minimizes impacts on the Arboretum by limiting the bridge footprint on Foster Island and reducing traffic volumes on Lake Washington Boulevard as compared to the No Build Alternative.
- Provides a new public park of up to 4 acres on Portage Bay and adds 8 acres of new public open space on the lids.
- Reduces wetland fill to less than one-tenth of an acre, making it the least environmentally damaging practicable alternative under Section 404 of the Clean Water Act.
- Incorporates a higher west approach profile than the SDEIS options to reduce the intensity of shading over open water and wetlands and improve the efficiency of stormwater treatment.
- Affects less wildlife habitat than any of the options evaluated.
- Reduces annual vehicle miles traveled on SR 520 by 5 to 10 percent and greenhouse gas emissions by almost 10 percent.
- Will have a shorter construction duration and fewer haul trucks on local streets than SDEIS Options K and L.

Environmental trade-offs:

- Creates more wetland shade than the SDEIS options, but reduces the intensity of this shade by raising the west approach bridge profile.

- Results in a somewhat lesser extent of noise reduction than the SDEIS options with recommended mitigation, but still achieves a substantial reduction from existing and No Build Alternative noise levels without the aesthetic impact of noise walls.
- Results in removal of two more residences than SDEIS Options K and L to allow for construction of the parallel Montlake Bridge.
- Has less traffic in the Arboretum than the No Build Alternative and Options K and L but more than Option A without the Lake Washington Boulevard ramps.

Only Practicable Alternative Finding

The SR 520, I-5 to Medina Bridge Replacement and HOV Project complies with Protection of Wetlands, Executive Order 11990 of 1977, which requires federal agencies to minimize the loss or degradation of wetlands and enhance their natural state. Avoidance of effects on wetlands has been achieved by developing project alternatives and the preliminary design process. For instance, the footprint of SR 520 has been reduced to the maximum extent practicable through the west approach area, where the majority of affected wetlands are located. Where effects on wetlands could not be avoided, design considerations allow for wetland impacts to be minimized.

There are no practicable alternatives that would fully avoid wetlands; all practicable project alignments contain wetlands. The Selected Alternative is the alternative with the least overall effects on wetlands. With avoidance and minimization measures in place, the Selected Alternative is expected to eliminate approximately 0.1 acre of wetlands. Although it will shade 4.8 acres of wetlands, the design of the west approach structure reduces the intensity of this shade compared to other options evaluated. Measures proposed to mitigate for effects on wetlands are described above in the *Ecosystems Commitments* section. All wetlands that are eliminated will be mitigated in accordance with the Clean Water Act and other applicable permits and requirements.

Based upon the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the Selected Alternative includes all practicable measures to minimize harm to wetlands which might result from such use.

Clean Water Act

Pursuant to Section 404 of the Clean Water Act (CWA), the USACE requires a Department of the Army (DA) Permit for any discharge of dredged or fill material in waters of the United States (33 USC Section 1344). Regulations and recent court decisions control which wetlands, streams, and other water bodies might be included under the jurisdiction of Section 404. USACE will not issue a DA Permit until the NEPA and ESA processes have been completed and Washington State Department of Ecology (Ecology) has issued its Section 401 Certification and Coastal Zone Management Act (CZMA) Consistency Determination. The SR 520, I-5 to Medina Project requires a DA Permit for work that involves filling existing wetlands and lakebed and constructing the mitigation areas. Due to the project's large scale and its effects on waters and wetlands, an individual DA Permit will be required rather than a more general "nationwide" permit. In addition to the discharge of fill material authorized under Section 404 of the CWA, the DA permit will also include the authorization of the bridge maintenance facility dock under Section 10 of the Rivers and Harbors Act.

WSDOT has received a jurisdictional determination on the project area's delineated wetlands and lakes, and has applied for the DA Permit using the Joint Aquatic Resources Permit Application (JARPA) Form and other supporting documents. In addition to the JARPA, the application package also includes a detailed project description, project drawings, and conceptual mitigation plans for wetlands and aquatic habitats. The JARPA package was submitted on March 28, 2011. WSDOT will ensure that the project

complies with all permit conditions and appropriately mitigates for adverse effects on regulated U.S. waters resulting from the project.

National Historic Preservation Act (Section 106)

Section 106 of the National Historic Preservation Act of 1966 (16 USC 470), as amended, and 36 CFR Part 800, require the review of federally assisted projects for impacts on districts, sites, buildings, structures, and objects listed in, or eligible for inclusion in, the National Register of Historic Places.

Within the APE, WSDOT identified 367 historic properties, including one TCP. No NRHP-eligible archaeological sites were identified. WSDOT formally initiated the Section 106 process for the SR 520, I-5 to Medina Project in April and May 2009, coordinating with the SHPO, affected Indian tribes, and other consulting parties. The ACHP was invited to participate in the Section 106 consultations in May 2010 (and subsequently reviewed these consultations through an independent case study, available at: www.achp.gov/fhwa_section106_washington.html).

FHWA and WSDOT, in consultation with the SHPO and tribes, determined historic properties and the TCP would be adversely affected by the Selected Alternative; the DAHP has concurred with the finding. To mitigate for the adverse effect, a Section 106 Programmatic Agreement among the SHPO, FHWA, WSDOT, ACHP, USACE, NOAA, affected tribes, and other consulting parties was completed on May 2, 2011. The Programmatic Agreement memorializes the stipulations agreed upon to avoid, minimize, and mitigate adverse effects on historic properties located within the APE. The Programmatic Agreement includes development of a Foster Island Treatment Plan that will identify mitigation measures for project effects on the Foster Island TCP. A copy of the Section 106 Programmatic Agreement is included in Attachment 1. Coordination will continue through project design and construction as described by the agreement and an Unanticipated Discovery Plan.

U.S. Department of the Interior Land and Water Conservation Fund Act (Section 6(f))

Section 6(f) of the Land and Water Conservation Fund Act (16 USC 4601) of 1965 requires the evaluation of any project that would convert properties that were acquired or developed with LWCFA grant assistance. The LWCFA requires that prior to conversion of Section 6(f) properties, the agency proposing the conversion must ensure that "all practical alternatives" to converting Section 6(f) properties have been evaluated. Any proposed Section 6(f) conversions must be approved by the NPS. Where no practical alternative exists to a conversion, the LWCFA requires that replacement property be acquired for those lands to be converted. Proposed replacement lands must be of reasonably equivalent usefulness, monetary value, and location to those being converted.

Two Section 6(f) resources, both of which are trails, exist within the project area. Two parks within the project area provide access to and context for the Section 6(f) trails and thus portions of these parks are subject to Section 6(f) although the parks were not purchased or developed through the LWCFA. Beginning in 2001, WSDOT coordinated with the agencies with jurisdiction over parks and recreational facilities to evaluate expected project impacts and likely mitigation measures.

The Selected Alternative will result in a conversion of land within Washington Park Arboretum and East Montlake Park, and a segment of the Ship Canal Waterside Trail. The NPS has agreed that there are no practical alternatives to the conversion of Section 6(f) property (U.S. Department of Interior 2010).

WSDOT completed a Section 6(f) Environmental Evaluation to identify the potential effects of developing replacement sites for recreational use (see Attachment 15 of the Final EIS), and selected a replacement site. In compliance with Section 6(f), WSDOT released the Section 6(f) Environmental

Evaluation for a 30-day public comment period, from November 9, 2010, until December 8, 2010. WSDOT has signed a Memorandum of Understanding with the City of Seattle and the UW regarding completion of the Section 6(f) coordination process (WSDOT, UW, and City of Seattle 2010). As noted in the Memorandum of Understanding between the parties, the UW and the City were the sponsoring agencies for the original grants used to develop the existing Section 6(f) resources. As stipulated in the Memorandum of Understanding, WSDOT will mitigate for Section 6(f) conversions by funding the purchase and/or development of the Bryant Building site as replacement.

U.S. Department of Transportation Section 4(f)

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 USC 303 and 23 USC 138, declares that "It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." Section 4(f) specifies that FHWA may only approve a transportation project or program requiring the use of publicly owned land of a public park, recreation resource, or wildlife and waterfowl refuge of national, state, or local significance; or land from a historic property if:

- There is no prudent and feasible alternative to using that land; and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic property resulting from the use; or
- The Administration determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a *de minimis* impact, as defined in §774.17, on the property.

Section 4(f) further requires consultation with the officials with jurisdiction over Section 4(f) properties when developing transportation projects and programs that use properties protected by Section 4(f). WSDOT determined that the SR 520, I-5 to Medina Project would result in the use of Section 4(f) properties and, therefore, established coordination with agencies that have jurisdiction over the affected Section 4(f) properties. Coordination with these agencies helped ensure that the project included all practical planning to avoid or minimize harm to Section 4(f) properties. The entities involved in coordination included Seattle Parks and Recreation, ABGC, UW, SHPO, the Seattle Historic Preservation Officer, the ACHP, and Section 106 consulting parties, along with interested tribes. During the Parks TWG coordination process, WSDOT considered various alternatives for the project that would avoid effects on parks altogether, as well as design changes to avoid individual resources; none of these were found to be feasible and prudent under Section 4(f).

Within the project study area, there are 15 park and recreation facilities and 367 historic properties that are protected under Section 4(f) regulations. The Selected Alternative would use six parks, three trails, and eight historic properties.

According to 23 CFR 774.3(c), because there is no feasible and prudent avoidance alternative, FHWA may approve only the alternative that causes the least overall harm based on an assessment of the seven factors listed in 23 CFR 774.3(c)(1). Based on the evaluation and analysis of the SR 520, I-5 to Medina Project in Chapter 9 of the Final EIS (see pages 9-104 through 9-106 and 9-140 through 9-163), the FHWA concluded the following:

- There is no feasible and prudent alternative that completely avoids all Section 4(f) properties;
- The Selected Alternative causes the least harm to Section 4(f) properties, and causes the least overall harm; and
- The Selected Alternative includes all possible planning to minimize harm.

Endangered Species Act

The Endangered Species Act of 1973 (16 USC 1531 et seq.), as amended, is intended to protect threatened and endangered species and the ecosystems on which they depend. When the federal government takes an action subject to the ESA, it must comply with Section 7 of the ESA (found at 16 USC Section 1536[a][2]):

Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an "agency action") is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee pursuant to subsection (h) of this section. In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available.

A Biological Assessment for the project (included in Attachment 18 of the Final EIS) was submitted to USFWS and NOAA Fisheries on November 23, 2010, analyzing the potential project effects on listed species and designated critical habitat. Table 3 summarizes the conclusions presented in the Biological Assessment. The USFWS issued a Biological Opinion on April 15, 2011 (included in Attachment 18 of the Final EIS), and NOAA Fisheries issued a Biological Opinion on May 20, 2011 (included in Attachment 18 of the Final EIS). Both Biological Opinions reached the same conclusions as presented above and included incidental take statements, reasonable and prudent measures, terms and conditions, and conservation recommendations to avoid and minimize effects on listed species and designated critical habitat. The Selected Alternative will incorporate the measures identified in the Biological Assessment and Biological Opinions.

Magnuson-Stevens Fisheries Conservation and Management Act

Under the 1996 Magnuson-Stevens Fisheries Conservation and Management Act (Magnuson-Stevens Act) (Public Law 94-265), as amended, federal fisheries management regulations require identifying and conserving habitat that is essential to federally managed fish species. Essential fish habitat is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." If an action will adversely affect essential fish habitat, then NOAA Fisheries is required to provide the federal action agency with essential fish habitat conservation recommendations (Magnuson-Stevens Act Section 305[b][4][A]). Appendix C of the Biological Assessment (included in Attachment 18 of the Final EIS) contains an essential fish habitat assessment in response to requirements of the Magnuson-Stevens Act. WSDOT will ensure that the project complies with applicable essential fish habitat conservation recommendations.

Table 3
Species and Critical Habitat Effect Determinations in the Project Biological Assessment

Species	Federal Status	Effect Determination[a]	Critical Habitat	Critical Habitat Effect Determination[a]
Bull trout (*Salvelinus confluentus*)	Threatened	LAA	Designated	LAA
Chinook salmon (*Oncorhynchus tshawytscha*)	Threatened	LAA	Designated	LAA
Steelhead (*Oncorhynchus mykiss*)	Threatened	LAA	Under development	Not applicable
Boccacio (*Sebastes paucispinis*)	Endangered	NLAA	None designated	Not applicable
Canary rockfish (*Sebastes pinniger*)	Threatened	NLAA	None designated	Not applicable
Yelloweye rockfish (*Sebastes ruberrimus*)	Threatened	NLAA	None designated	Not applicable
Killer whale (*Orcinus orca*)	Endangered	NLAA	Designated	NLAA

[a] LAA = likely to adversely affect; NLAA = not likely to adversely affect

Source: WSDOT (2010c).

Rivers and Harbors Act (Section 10)

The Rivers and Harbors Act (RHA) of 1899 (33 USC 403; 33 CFR 322) was passed to regulate the use, administration, and navigation on the navigable waters of the United States. Pursuant to Section 10 of the RHA, any activity or structure that obstructs or alters a navigable water of the United States must be permitted by the USACE. Section 10 is managed generally as a companion to Section 404 of the Clean Water Act. Whereas Section 404 of the Clean Water Act regulates any dredged or fill material placed in U.S. waters, Section 10 regulates actual structures such as piling and stormwater outfalls, and only applies to *navigable* U.S. waters and not to associated streams, wetlands, or drainage features. Many construction activities in water require both a DA Permit for CWA Section 404 authorization and RHA Section 10 authorization. The SR 520, I-5 to Medina Project will obtain an individual DA permit authorizing actions under both Section 404 and Section 10.

The bridge maintenance facility dock is the only component of the SR 520, I-5 to Medina Project that requires a Section 10 authorization. The bridge structures in navigable U.S. waters are under the jurisdiction of the U.S. Coast Guard and the General Bridge Act of 1946. WSDOT has applied for a Section 10 authorization using the JARPA (USACE) form. WSDOT will ensure that the project complies with all permit conditions.

General Bridge Act

The General Bridge Act of 1946 (33 USC 9 and 11; 33 CFR 114 and 115) was enacted to preserve the public right of navigation and prevent interference with interstate and foreign commerce. This act requires a U.S. Coast Guard bridge permit to construct a new bridge or reconstruct or modify an existing bridge over navigable waters of the United States. This permit is often referred to as a Section 9 permit

under the RHA; however, the primary authority relied on by the U.S. Coast Guard now for issuance of such permits is the General Bridge Act of 1946. WSDOT will apply for a Section 9 permit in mid-2011. WSDOT will ensure that the project complies with all permit conditions.

Coastal Zone Management Act

The CZMA requires federal activities within coastal counties, including projects requiring federal permits or with federal funding, to be consistent with state-adopted coastal zone management programs; for Washington, Ecology is the agency responsible for making this determination. Projects performed by or for federal agencies must submit a statement to Ecology demonstrating that the project is consistent to the "maximum extent practicable" with the state program. The "maximum extent practicable" requirement refers to situations in which federal law might constrain the agency action, such as in the case of national security. Ecology will then object, concur, or concur with conditions to the Consistency Determination.

The SR 520, I-5 to Medina Project is considered an activity performed by or for a federal agency due to the FHWA's direct involvement and funding. The project is located within King County, which is within Washington State's coastal zone; therefore, the project is subject to the CZMA. WSDOT has applied for a CZMA Consistency Determination by preparing and submitting a federal consistency document package to Ecology consisting of a JARPA form, an analysis of project consistency with the state management program, and other supporting documents. The Consistency Determination requires a public notice, and in this case, WSDOT will coordinate the public notice with the Section 401 public notice. Ecology will issue a Consistency Determination once the project's 401 Certification and shoreline permits have been issued. WSDOT will comply with any conditions required to achieve consistency.

Environmental Justice

Environmental justice is analyzed in Sections 5.3 and 6.3 of the Final EIS. The FHWA has concluded that the Selected Alternative would not disproportionately affect low-income or minority populations, including that it would not disproportionately affect the Muckleshoot Indian Tribe's treaty fishing rights, and that the Selected Alternative is consistent with Presidential Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (The President 1994); U.S. Department of Transportation (USDOT) Order 5610.2, Department of Transportation Order To Address Environmental Justice in Minority Populations and Low-Income Populations (USDOT 1997); and FHWA Order 6640.23, FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (FHWA 1998).

Conformity with Air Quality Plans

Sections 5.8 and 6.8 of the Final EIS analyze air quality and whether the project would meet conformity requirements for the federal Clean Air Act implemented by U.S. Environmental Protection Agency (Code of Federal Regulations, Title 49, Parts 51 and 93) and by the Washington Clean Air Act (WAC 173-420) and whether the project would demonstrate conformity with applicable State Implementation Plan for meeting and maintaining compliance with the National Ambient Air Quality Control Standards. The Final EIS concluded that federal, state, and regional standards, including the National Ambient Air Quality Control Standards and Clean Air Act standards, would be met under the Selected Alternative.

Agency and Tribal Coordination

FHWA and WSDOT have coordinated with the appropriate resource and jurisdictional agencies, and with tribal governments, to comply with environmental regulations governing the quality of the human

environment as codified in 42 USC 4332 and 40 CFR 1501. The Agency Coordination and Public Involvement Discipline Report (Attachment 7 of the SDEIS) and Agency Coordination and Public Involvement Discipline Report Addendum and Errata (Attachment 7 of the Final EIS) describe agency and tribal coordination that has occurred for the project.

Conclusion

For the reasons outlined in this Record of Decision, the Selected Alternative has been determined to have the least overall effect on the natural and built environment of the build alternatives that satisfy the project's purpose and need. The Selected Alternative will have fewer overall environmental effects on parks and recreational resources, natural resources, cultural resources, right-of-way acquisition, and visual quality than Options A, K, and L; it will have a shorter construction duration and lower construction disruption overall; and it will avoid potential difficulties in obtaining required permits associated with Option K. FHWA, in consultation with WSDOT, arrived at this decision based on information presented in the Final EIS and the factors and commitments presented above.

FHWA selects the Preferred Alternative (a modified version of the Option A design presented in the SDEIS) for the SR 520, I-5 to Medina: Bridge Replacement and HOV Project. FHWA finds that WSDOT has incorporated all practicable measures to minimize environmental harm into the project. FHWA and WSDOT will ensure that the commitments outlined herein and in the Final EIS will be implemented as part of the project design, construction, and post-construction monitoring.

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