

**FINAL ENVIRONMENTAL IMPACT STATEMENT
and SECTION 4(f) and 6(f) EVALUATIONS
SR 520 BRIDGE REPLACEMENT AND HOV PROGRAM**

MAY 2011

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

Attachment 13 Draft EIS Comment Summary Report



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Attachments

- 1 Comment Index
- 2 Comments (provided on DVD)

Introduction

What was the Draft EIS review process?

The August 2006 Draft Environmental Impact Statement (Draft EIS) evaluated the No Build Alternative, a 4-Lane Alternative, and a 6-Lane Alternative. The 6-Lane Alternative included three Seattle design options:

- The Pacific Street Interchange option
- The Second Montlake Bridge option
- The No Montlake Freeway Transit Station option

The Draft EIS comment period lasted from August 18 to October 31, 2006. Interested parties commented on the Draft EIS online, by mail, by e-mail, and at two public hearings held in the project area in the fall of 2006. In all, the Washington State Department of Transportation (WSDOT) received 1,734 submissions from organizations and members of the public.

The largest proportion of comments from the public expressed a preference for or against one or more of the 6-lane Alternative design options. The Pacific Street Interchange option generated over 800 “for” and “against” comments, many more than any other design option. Other comments from the public focused on traffic, transportation systems, and transit; parks and recreation, particularly impacts related to the Arboretum; urban design and aesthetics; neighborhood impacts; and other topics such as tolling, noise, bicycle/pedestrian access, and wetlands. The majority of these comments (over 1,000) came from zip codes within the city of Seattle. The SR 520 Draft Environmental Impact Statement Public Comment Report (WSDOT 2006c) provides additional details on the number and nature of comments received.

How did WSDOT respond to the Draft EIS comments?

In spring 2007, the Washington State Legislature passed Engrossed Substitute Senate Bill (ESSB) 6099. The bill directed the Office of Financial Management to hire a mediator and appropriate planning staff to develop a 6-lane corridor design for the Seattle portion of the project area. The mediation group identified three design options—Options A, K, and L—that the Federal Highway Administration (FHWA) and WSDOT advanced for further consideration in the Supplemental Draft EIS (SDEIS) (see Chapter 2 for additional information). As a result, responses to comments on the Draft EIS were deferred until after publication of the SDEIS and identification of a Preferred Alternative.

All public comments received on the Draft EIS are reproduced in Attachment 2 of this report.

How are the comments and responses organized?

The project received 1,609 submissions (containing 1,692 signatures) from individuals and 125 submissions (containing 381 signatures) from organizations and groups, including government entities (agencies and jurisdictions), community and special interest groups, and arboretums. Of the 46 submissions received from arboretums, 40 were form letters discussing concerns about construction and long-term impacts to the Washington Park Arboretum. In addition, 108 signatures in the community/special interest groups were from one petition submitted by the No Expansion of SR 520 Citizens Coalition. See Attachment 1 of this report for a complete list of government entities, groups, and arboretums.

All comments were scanned and logged into a comprehensive database, referred to as the Comment Management database.

Comment Delineation

Comment delineation was used to divide each submission or transcript into a series of comments on specific topics, each having a unique comment identification (ID) number. This allowed comments to be identified and evaluated by topic in the Comment Management database. In identifying the comments, delineators attempted to section out single-themed blocks (usually paragraphs) in order to minimize multiple issues within a single comment, although this was not always possible.

Comment Summaries

In order to effectively characterize public concerns, FHWA and WSDOT identified a wide range of issue categories for comments on the 2006 Draft EIS. 70 issue categories were developed for coding (see Comment Index in Attachment 1 of this report). Similar comments were coded into the issue category best fitting the overall concern. As a result, in cases where a comment could feasibly be assigned to more than one category, a decision was made to place it in the one that appeared most logical. In general, the categories used for coding purposes were based on the components of the built and natural environment as studied in the 2006 Draft EIS.

Once all the delineated comments were in the Comment Management database, the database was used to produce a compilation of all the comments within each category. An analysis of the comments identified a series of key issues. The key issues were then summarized to capture the comment variations within each category grouping.

Response Summaries

WSDOT assessed all of the comments received from the public, agencies, and tribes. Many of the comments were the basis for including new analyses of revised alternatives within the text of the 2010 SDEIS. FHWA and WSDOT have included in this document a general response to each of the comment summaries. In many cases, the response directs the reader to the SDEIS or the Final EIS for information.

Part 1: Introduction to the Project

1.0 Project Alternatives and Design Options

This section of the Comment Summary Report provides a high-level summary of concerns and opinions about the range of alternatives and the specific alternatives and design options evaluated in the 2006 Draft EIS. It also summarizes comments about public involvement and agency coordination submitted during the 2006 Draft EIS comment period.

Similar comments have been grouped together and are summarized into the following categories:

- Range of Alternatives Considered
- Alternatives and Design Options Evaluated in the SR 520, I-5 to Medina EIS
- Public Involvement and Agency Coordination

1.1 Range of Alternatives Considered

The comments in this category are related to the range of alternatives considered for evaluation in the Draft EIS. Many comments suggested WSDOT did not explore all potential options before they were eliminated from consideration. The most common comments expressed a preference for WSDOT to evaluate the following concepts:

- A new bridge from Kirkland to Sand Point (third lake crossing)
- Existing bridge retrofit
- Stacked freeway
- Suspension or cable-stayed bridge
- 8-lane Alternative
- Tube/tunnel option
- Arboretum bypass

Response:

WSDOT considered a wide range of alternatives before narrowing them to those evaluated in the Draft EIS. Reasonable alternatives, as defined under the National Environmental Policy Act (NEPA), include those that are practical or feasible from a technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant. A reasonable range of alternatives is determined based on the nature of the proposal and the facts in each case. FHWA guidance provides additional discussion of the relationship between the purpose and need for the project and alternatives consideration, analysis and selection, and states that “alternatives which meet the purpose and need at an acceptable cost

and level of environmental impact relative to the benefits which will be derived from the project” should be considered.

The Range of Alternatives and Options Evaluated Report (Attachment 8 to the SDEIS) describes the history of alternatives development for the SR 520 corridor from 1998 to 2009 and provides the framework, context, and supporting details for understanding how the project has evolved. It also explains WSDOT’s screening process to narrow and define the scope of the alternatives and the legislative actions that have influenced the project. Also see Chapter 1 of the SDEIS and Chapter 2 of the Final EIS for further discussion of alternatives. As described in these chapters and in the Range of Alternatives and Options Report (Attachment 8 of the SDEIS), an extensive range of alternatives has been evaluated for this project.

Alternative corridors, technologies (for example, tubes and tunnels), and travel modes, as well as many design variations within the existing corridor, were evaluated as part of the Trans-Lake Washington Study and again after the initiation of NEPA review in 2000. All of the alternatives and options have been developed with public input, and a number of them—including the Pacific Street Interchange option in the Draft EIS and all the mediation design options in the SDEIS—were designed collaboratively by WSDOT and project-area stakeholders. Chapter 2 of the Final EIS provides additional information on how alternatives were developed and evaluated, and why some solutions were determined not to be reasonable alternatives.

Third Crossing

The Trans-Lake Washington Committee examined the possibility of a third crossing between the Kirkland and Sand Point areas; however, they did not recommend it for inclusion in the EIS. According to the Trans-Lake Washington Study Technical Report (November 1999), a third crossing would have had “inherent, unmitigatable impacts associated with it. Perhaps the most dramatic impact would be evident on the arterial system and neighborhoods in both Kirkland and Seattle. Traffic congestion on these arterials would be severe, along with difficult issues associated with introducing a significant noise source, and cut-through traffic into adjacent neighborhoods.”

Retrofit

The potential for retrofitting the existing bridges was discussed both during the Trans-Lake Washington Study and during the mediation process and was dismissed from further consideration both times (see pages 1-17 through 1-19 of the SDEIS). The No Build Alternative evaluated in the Draft EIS did assume that minor retrofits associated with maintenance and safety would continue. However, retrofitting the Evergreen Point Bridge and bridge approach structures to current standards was determined not to be a viable option because the bridge has had a number of safety and maintenance retrofits to date, and further retrofits are not feasible because of structural and pontoon floatation limitations.

Although it might be technically feasible to seismically retrofit the hollow columns supporting the west approach to the Evergreen Point Bridge, the Portage Bay Bridge, and on- and off-ramps in Montlake and the Arboretum, such a retrofit is likely to have similar costs to new construction, similar or greater impacts, and a shorter design life. Thus, it would not be cost-effective compared to building new structures.

Stacked Freeway

WSDOT considered double-decked designs as one potential way to minimize the overall width and maximize the efficiency of the floating bridge. However, WSDOT found that as the pontoons became narrower, they needed to have much more depth with significant ballast to make them stable. WSDOT also found that the taller double-deck structure raised the center of gravity of the bridge and presented a larger area for the wind to catch, increasing the load on the bridge and decreasing stability. The double-deck roadway also created problems at the ends of the floating bridge, where the ramps from the lower roadway would have to weave through the columns of the upper roadway, creating a taller structure with larger girders and foundations. This would have increased aquatic habitat effects, as well as making the resulting roadway much more costly and visually obtrusive to viewers on the shoreline. Therefore, double-decking was eliminated from consideration as a design option for the NEPA review of the project.

Suspension or Cable-stayed

In 2005, WSDOT evaluated suspension and cable-stayed bridges. WSDOT determined that a suspension bridge would not work because suspension bridges require a fairly straight alignment, which would not have been possible within the curved corridor. Also, a suspension bridge would have very tall towers and would be a dominating feature on the landscape.

WSDOT screened out a cable-stayed bridge on the basis of cost and environmental effects. Like a suspension bridge, a cable-stayed bridge would have very tall towers. Also, with such a high bridge, noise would have reached a larger group of neighborhoods in the area than the 6-lane Alternative's proposed structure. Noise walls could likely not be installed on these types of structures due to instability that would be created with wind. Without noise walls, it could be difficult to mitigate noise issues. Similar to a suspension bridge, the size and scale of the cable-stayed support towers would create a much larger project footprint horizontally and vertically for the connections with the interchanges, compared with other feasible alternatives evaluated for this project.

See the Range of Alternatives and Options Evaluated Report (Attachment 8 to the SDEIS) for additional information.

8-lane Alternative

Between 2002 and 2005, WSDOT completed several evaluations of the 8-lane Alternative's effects under different design and tolling scenarios, resulting in the following conclusions:

- Although it might seem intuitive that an 8-lane roadway would carry more people and vehicles than a 4- or 6-lane roadway, choke points at the I-5 and I-405 interchanges and traffic volumes in those corridors would limit how many people could move through the SR 520 corridor and how fast they could travel.
- As a result of congestion outside of the SR 520 corridor preventing traffic from reaching the Evergreen Point Bridge, the demand for traffic with this alternative would not be enough to fill either the new general-purpose lane or the new high-occupancy vehicle (HOV) lane. The 8-lane Alternative would carry about the same number of people as the 6-lane Alternative, but many more of them would be in single-occupant vehicles, which is contrary to regional and local policies encouraging greater use of transit and HOVs.
- Substantial rebuilding of portions of I-5 and I-405 would be needed to make the 8-lane Alternative work. For example, eight lanes would probably require that I-5 be widened from the SR 520 interchange all the way through downtown Seattle, requiring demolition of numerous residential and commercial buildings and billions of dollars in additional cost. On the Eastside, the SR 520/I-405 interchange would need to be completely reconstructed.

For these reasons, WSDOT, FHWA, and Sound Transit concluded that the 8-lane Alternative should not receive detailed study in the Draft EIS. If it were brought back into consideration at some future date, WSDOT would need to do further environmental analysis. See Chapters 3 and 4 of the Draft EIS, the 8-lane Alternative Report (Appendix U to the Draft EIS), and the Range of Alternatives and Options Evaluated Report (Attachment 8 to the SDEIS) for additional information about WSDOT's evaluation of an 8-Lane Alternative.

Tube/Tunnel

Through the course of SR 520 planning, many stakeholders have suggested that placing the highway in a tunnel might be preferable to rebuilding it at ground level or on bridges. WSDOT evaluated options for tunnels and submerged tubes under Lake Washington early in its development of options for SR 520 (1997-1999) and again as part of the mediation process (2007-2008) as a result of public comments on the Draft EIS. Tunnel options evaluated included bored tunnels, below the lake bottom; sunken tunnels, placed on the lake bottom; and floating tunnels, suspended below the lake surface. These evaluations concluded that although an underground highway would certainly have fewer visual and noise effects than an at-

grade or above-ground highway, the cost to design, construct, and operate a tunnel would be significant, and the impacts during construction would be substantial. Many physical and engineering factors make the SR 520 corridor an especially difficult location for siting tunnels, including:

- **Unconsolidated soils.** The bed of Lake Washington is covered with a thick layer of peat deposits, which are too soft to be tunneled through.
- **Environmental effects.** Effects to the fragile ecosystems of the Arboretum and Marsh and Foster islands would be severe. A submerged tube could interfere with navigation and fish passage, and would create extensive surface disturbance at each end where it entered the water.

Based on these issues related to feasibility, design, environmental effects, and cost, WSDOT eliminated cross-lake tunnels and an I-5 to Lake Washington tunnel from further consideration as alternatives for evaluation in the Draft EIS.

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 are associated with constructing a tunnel through this area, including:

- **Excavation.** Maintaining correct roadway geometrics would require significant excavation on Marsh and Foster islands in order for the tunnel to transition aboveground and connect to the Evergreen Point Bridge.
- **Effects to local traffic.** The tunnel concept would provide fewer opportunities for local traffic to access SR 520. The reduction in access could result in increases in street congestion in some locations.

There is a strong likelihood that resource agencies with jurisdiction would be unwilling to issue required permits for tunnel construction, and the tunnel concept would add billions of dollars to the SR 520 project costs. See the response to SDEIS comment C-040-050 for further discussion.

Multiple tunnel options were also evaluated in 2008 through the mediation process. One of these options, known as Option K, was selected for further evaluation in the 2010 SDEIS. Option K included a tunnel under the Montlake Cut connecting SR 520 to the NE Pacific Street and Montlake Boulevard E intersection (see Chapter 2 of the SDEIS). The SDEIS

provided an analysis of the environmental effects of Option K, which was found to have considerably greater effects to natural resources than the other design options evaluated in the SDEIS. In addition, resource agencies identified significant concerns related to the environmental effects of Option K, which could have resulted in delay or denial of permits as well as increased mitigation costs. The analysis showed that Option K would result in greater environmental effects, particularly on parks and natural resources, than expanding capacity across the Montlake Cut by constructing a new bascule bridge next to the existing Montlake Bridge. Thus, the Preferred Alternative does not include a tunnel for providing additional capacity across the Montlake Cut.

See the following documents for additional information on WSDOT's evaluation of tube and tunnel options:

- Chapters 3 and 4 of the Draft EIS
- 8-lane Alternative Report (Appendix U to the Draft EIS)
- Assessment of Tunnel Concept I-5 to Lake Washington Report (WSDOT and Sound Transit 2006)
- Range of Alternatives and Options Evaluated Report (Attachment 8 to the SDEIS)

Arboretum Bypass

The “Arboretum Bypass” was a design proposed by citizens that would have constructed the western portion of the west approach north of the existing structure, crossing Union Bay and coming to shore just east of Husky Stadium. From there it would have included a tunnel under the Montlake Cut to connect the new structure with the Portage Bay Bridge and Montlake Interchange. Although it would have avoided the need to acquire land from the Washington Park Arboretum, this design would have involved extensive new in- and overwater structures, open-cut excavation through the Montlake neighborhood to connect the tunnel with the Portage Bay Bridge and Montlake interchange, and significant associated environmental impacts and construction costs. Because other alternatives with lower impacts and costs had already been identified, WSDOT determined that the Arboretum Bypass was not a reasonable alternative.

1.2 Alternatives and Design Options Evaluated in SR 520, I-5 to Medina EIS

This section of the Comment Summary Report provides a high-level summary of questions, concerns, and opinions about the alternatives and design options evaluated in the 2006 Draft EIS. The largest proportion of comments expressed a preference for or against one or more of the alternatives evaluated in the Draft EIS. A large number of comments expressed support for, or opposition to, specific alternatives or options. The Pacific Street Interchange option generated over 800 “for” and

“against” comments, many more than any other design option. The summaries in this section provide an overview of opinions related to an alternative, option, or issue, and the reasons given. Rather than attempt to show all reasons discussed in the comments gave for these opinions, the summaries include a sample of up to 10 reasons for each issue or position.

1.2.1 No Build Alternative

Comments expressing opinions about the No Build Alternative were primarily supportive. The following is a sample of beliefs and opinions expressing support for the No Build Alternative:

- Minimizes effects to the environment and residential areas
- Lowers cost compared to replacing bridge structures
- Does not encourage single-occupancy vehicles or driving in general, as other proposed options would
- All other options evaluated in the Draft EIS would be ineffective

Some comments expressed opposition to the No Build Alternative, explaining that it would not meet regional transportation needs and would not address safety and vulnerability concerns. Comments also suggested WSDOT commission an independent panel to evaluate the need to replace the existing SR 520 bridge and consider converting one existing lane in each direction to an HOV lane.

Response:

FHWA and NEPA regulations require that a No Build Alternative be analyzed as part of environmental review (40 Code of Federal Regulations [CFR] 1502.14[b] and [d]). The No Build Alternative provides a baseline against which project analysts can measure and compare the effects of all the Build alternatives. WSDOT evaluated the No Build Alternative in both the Draft EIS and the SDEIS. In the Draft EIS, the No Build Alternative that was evaluated did assume that minor retrofits associated with maintenance and safety would continue. The No Build Alternative in the SDEIS assumed that, other than normal maintenance and repair activities, the SR 520 corridor between I-5 and Evergreen Point Road would remain exactly the same as it is today.

WSDOT found that the No Build Alternative is inconsistent with safety and reliability standards for the following reasons:

- The remaining design life of the Evergreen Point Bridge is currently estimated at just 10 to 15 years, and a severe storm could cause it to fail even sooner.
- The Portage Bay and west approach bridges are vulnerable to collapse in a severe earthquake; while seismic retrofit may be technically feasible,

it would have a similar construction cost to replacement, higher life cycle costs, and similar environmental impacts.

- To bring the floating bridge up to current design standards, the floating bridge must be completely replaced (see the discussion under “Retrofit” in Section 1.1 of this report).

Given the vulnerabilities of the existing SR 520 bridges, the No Build Alternative is not consistent with responsible stewardship of public facilities and safety. In addition, it would not meet the project purpose and need of improving mobility in the SR 520 corridor. See the Description of Alternatives and Construction Techniques Report (Appendix A to the Draft EIS) and the Range of Alternatives and Options Evaluated Report (Attachment 8 to the SDEIS) for additional information about the No Build Alternative.

1.2.2 4-lane Alternative

Comments regarding the 4-lane Alternative evaluated in the Draft EIS often stated the commenter’s preference for this alternative or offered suggestions for improving it. Supporters stated the following reasons for their 4-lane Alternative preference compared to the 6-lane Alternative:

- Minimizes bridge width, resulting in fewer visual, environmental, noise, and neighborhood effects
- Lowers costs
- Accelerates construction schedule
- Minimizes single-occupancy vehicle capacity, which should be discouraged
- Would allow arterial streets to continue to accommodate SR 520 traffic (commenters felt a larger bridge would increase capacity and overwhelm arterial streets)

Those opposed to the 4-lane Alternative provided the following reasons:

- Existing 4-lane bridge is already obsolete; replacement bridge should increase capacity
- Does not improve transit speed or reliability and does not allow for future high-capacity transit (HCT)
- Does not include lids to connect communities and improve the city’s park and trail systems

Comments also suggested WSDOT evaluate other options as part of a 4-lane Alternative, including tolling, providing an HOV lane or high-capacity transit in each direction within the 4-lane cross-section, adding a bike lane, and including lids or incorporating the Pacific Street Interchange option into the 4-Lane Alternative.

Response:

The 4-lane Alternative evaluated in the Draft EIS was designed as a “minimum footprint” alternative and included four general-purpose lanes with wider shoulders than currently exist in order to meet current highway standards. The 2006 Draft EIS demonstrated that although the 4-lane Alternative would improve safety and reliability, its ability to improve the movement of people and goods through the corridor would only be marginal. Therefore, FHWA and WSDOT concluded that the 4-lane Alternative did not meet the project purpose and need. This conclusion was documented in the Draft EIS.

In December 2006, in a report entitled *A Path Forward to Action*, Governor Christine Gregoire identified the 6-lane Alternative as the state’s preference for the SR 520 corridor. This preference was codified as RCW 47.01.408, which states that “The state route number 520 Bridge replacement and HOV project shall be designed to provide six total lanes, with two lanes that are for transit and high occupancy vehicle travel, and four general purpose lanes.”

In 2010, responding to public comment on the SDEIS regarding a transit-optimized 4-lane Alternative or a 4-lane Alternative with congestion management, WSDOT performed additional traffic analyses on these concepts and confirmed that they also would not satisfy the project purpose and need. The addition of the HOV lanes improves person-mobility to a much greater degree than any 4-lane option, particularly for users of transit and carpools. Chapter 2 of the Final EIS, and in particular Section 2.4, provides additional information about the 4-lane Alternative and why it was not studied further.

1.2.3 6-lane Alternative

The 6-lane Alternative and associated options generated a significant number of comments. Beliefs and opinions expressing support for the 6-lane Alternative as described in the Draft EIS can be summarized as follows:

- Provides much-needed increased highway capacity and alleviates congestion
- Completes regional HOV system, thereby improving transit and HOV mobility
- Accommodates stalled vehicles and prevents back-ups on the Evergreen Point Bridge
- Could accommodate potential high-capacity transit, such as light rail, in the future, within the footprint
- Encourages alternative forms of transportation, such as transit and non-motorized transportation

- Improves regional mobility, which is worth the cost and anticipated environmental effects
- Allows for future growth
- Provides a stormwater management system
- Provides new open space areas on lids

A sample of beliefs and opinions explaining opposition to the 6-lane Alternative includes:

- Increases single-occupancy vehicle capacity, which should be discouraged
- Expands bridge footprint; effects to the environment and surrounding neighborhoods are not worth the benefits six lanes would provide
- Adversely affects the Arboretum and Union Bay wetlands and increases traffic within the Arboretum
- Results in increased traffic on local arterial streets
- Costs too much, and the costs outweigh the benefits
- Extends construction schedule and associated effects
- Increases amount of shade, resulting in effects to vegetation and aquatic habitat

Some comments did not state a preference related to the 6-lane Alternative, but provided suggestions for further design or evaluation. This included providing more detailed design information, reducing the footprint of the alternative, ensuring the design could accommodate light rail in the future, and evaluating connections to I-5 and I-405.

Response:

In December 2006, in a report entitled “A Path Forward to Action,” Governor Christine Gregoire identified the 6-lane Alternative as the state’s preference for the SR 520 corridor. The Governor also noted the diversity of public opinions expressed in the Draft EIS and through public outreach efforts regarding the configuration and effects of the 6-lane Alternative and its design options.

The 6-lane Alternative would meet the project purpose and need and would provide two general-purpose lanes and one HOV lane in each direction to complete the regional HOV lane system across SR 520, as called for in regional and local transportation plans, and would strengthen regional transit services. The response in Section 1.2.2 of this report describes why the 4-Lane Alternative was determined not to meet the project purpose and need.

In spring 2007, at the Governor’s request, the Washington State Legislature passed ESSB 6099. The bill directed the Office of Financial Management to hire a mediator and appropriate planning staff to develop a 6-lane corridor

design for the Seattle portion of the project area. The mediation process resulted in three design options that were ultimately agreed upon by the group and evaluated in the SDEIS. These options are described in Chapter 2 of the SDEIS.

Preferred Alternative

In April 2010, WSDOT announced a preferred alternative for the SR 520, I-5 to Medina project. The Preferred Alternative is described in Chapter 2 of the Final EIS. The design of the Preferred Alternative is based on multiple factors, including public comments, design requirements, environmental analysis, and cost. Like the SDEIS design options, the Preferred Alternative includes six lanes (including one HOV lane and two general-purpose lanes in each direction). It would include a 14-foot-wide bicycle and pedestrian path with five scenic vantage points and pullouts. The path would be located on the north side of the bridge. The Preferred Alternative includes a number of design refinements that minimize the effects presented in the SDEIS. These refinements respond to comments made on the SDEIS and to WSDOT's work with many project stakeholders under ESSB 6392, which was passed by the Washington State Legislature in 2010 (see Chapter 1 of the Final EIS for discussion). The following Preferred Alternative features reflect some of the modifications to the options evaluated in the Draft EIS and/or SDEIS:

- **Narrowed roadway width.** Shoulder widths and lane widths have been narrowed in locations where safety and traffic operations would not be affected. Since the Draft EIS, WSDOT has reduced the lane and shoulder widths by a combined total of 16 feet in some locations.
- **Reduced floating bridge height.** As a result of comments received on the Draft EIS and SDEIS, the height of the floating bridge above the water has been lowered to reduce visual effects. At midspan, the floating bridge would now rise approximately 20 feet above the water, approximately 5 to 10 feet lower than the design described in the Draft EIS and the SDEIS. The bridge would be about 10 feet higher than the existing bridge.
- **Enhanced accommodation of potential future high-capacity transit.** Through coordination with Sound Transit, WSDOT has designed the Preferred Alternative to have enhanced compatibility with potential future light rail. Light rail could be accommodated either by converting the HOV lanes for rail use, or by constructing a new rail alignment between the eastbound and westbound lanes of the west approach bridge. Because rail transit in the SR 520 corridor is not programmed in current regional transit plans, any future project to add rail in the corridor would need to undergo an extensive planning and environmental review process by the responsible transit agency prior to implementation.

- **Modified design of the Portage Bay Bridge.** The Portage Bay Bridge includes six lanes plus a managed shoulder to improve traffic operations during peak hours, a landscaped median, and a reduced speed limit of 45 miles per hour to reduce noise levels.
- **Enhanced and expanded Montlake Lid.** The Montlake lid has been lengthened to 1,400 feet and extended fully across SR 520.

1.2.4 Pacific Street Interchange Option

The Pacific Street Interchange generated a relatively large number of comments. Although some public comments expressed strong support of the Pacific Street Interchange option, other comments from members of the public, regulatory agencies, and the University of Washington (UW) reflected serious concerns about the impacts of this option. Findings by the Seattle City Council indicated that the Draft EIS 6-lane Alternative and design options were too wide through the corridor and that mitigation for their construction effects needed to be further defined.

Comments expressed the following beliefs and opinions in support of the Pacific Street Interchange option:

- Improves access to UW and neighborhoods to the north
- Improves traffic conditions in the Montlake and University districts and the Laurelhurst neighborhoods
- Benefits the regional economy by increasing the connectivity of the study area
- Improves transit connections to the future light rail station near Husky Stadium
- Provides direct bicycle connection from the University District and the Burke-Gilman Trail to the Eastside
- Reduces impacts to the Montlake neighborhood
- Improves connections between parks
- Reduces width of the Portage Bay Bridge compared to “base” 6-lane Alternative

Following is a sample of beliefs and opinions expressed in opposition to the Pacific Street Interchange option:

- Benefits the Montlake neighborhood at the expense of the Arboretum; adversely affects the Arboretum, Marsh Island, and other outdoor, recreational, wetland and habitat areas
- Costs too much, and the costs outweigh the benefits
- Makes it easier to travel by car, which should be discouraged
- Harms the UW campus and Husky Stadium
- Harms navigation channels and the historic Montlake Cut

- Affects visual environment, including views toward Union Bay and views from Rainer Vista
- Results in traffic noise increases; potentially affects property values
- Adversely affects traffic in northeast Seattle outside of the study area
- Inconsistent with scale and character of surrounding areas

Response:

The Pacific Street Interchange design option for the 6-lane Alternative evaluated in the Draft EIS was eliminated from consideration following publication of the Draft EIS. The level of controversy and concern generated by the Draft EIS design options was a key factor leading to the establishment of the mediation process in 2007; that process is described in Chapter 1 of the SDEIS. Consequently, the design options resulting from mediation were the only ones carried forward into the SDEIS. These options are described in Chapter 2 of the SDEIS. Chapter 2 of the Final EIS provides additional background on the history of alternatives and design options evaluated for the SR 520, I-5 to Medina project.

In April 2010, WSDOT identified a preferred alternative for the SR 520, I-5 to Medina project. The design of the Preferred Alternative is based on multiple factors, including public comments, design requirements, environmental analysis and cost. See Chapter 1 of the Final EIS for a description of the planning and coordination processes for the SR 520, I-5 to Medina project, and Chapter 2 of the Final EIS for a description of the history of alternatives and of the Preferred Alternative.

1.3 Agency Coordination and Public Involvement

This category addresses comments on regional coordination; consultation, outreach, and stakeholder involvement; the planning process, schedule, and decision-making regarding the Preferred Alternative; available information and the project Web site; public meetings; and opportunities to comment. Topics are generally related to Chapter 1 of the Draft EIS. Many of the issues raised are addressed in Chapter 1 of the SDEIS and the Agency Coordination and Public Involvement Discipline Report (Attachment 8 to the SDEIS).

Comments and questions in this category can be summarized as follows:

- **External coordination and public involvement.** Comments inquired about the agencies, tribes, and stakeholders involved in the project, and how they have been engaged. Some comments expressed concern for the purpose, methods, or costs of public involvement and others stated their appreciation for WSDOT's engagement with the public.
- **Public meetings.** Some comments were received on the length of notice provided for public meetings or provided suggestions for meeting formats; for example, conducting a formal hearing rather than

an open house. Others provided positive feedback on the public meeting format and accessibility to knowledgeable project staff.

- **Communication tools.** Questions were raised about the public communication tools, materials, and the project Web site.
- **Draft EIS comment period.** Some comments described challenges with the commenting system, suggested improvements to the system, or asked questions about how the system works. Others inquired about how to confirm receipt of their comment or how WSDOT would respond to their comments. Some comments expressed appreciation for the opportunity to comment and for extending the comment period.

Response:

Agency Coordination

WSDOT and FHWA continue to serve as the lead agencies for the project. Other federal, state, and local regulatory agencies and tribes identified as cooperating agencies have been involved in the project through a variety of forums since publication of the Draft EIS. Please see the Agency Coordination and Public Involvement Discipline Report (Attachment 7 to the SDEIS) and the Agency Coordination and Public Involvement Addendum and Errata (Attachment 7 to the Final EIS) for information on agency and tribal coordination for SR 520, I-5 to Medina Project.

Public Involvement

Public involvement is an integral part of the SR 520 project, and has been implemented through the following methods:

- Sharing updated project information using accessible and available methods and venues, including project and program Web pages, e-mail updates, media press releases, and informational displays placed in strategic locations
- Hosting public meetings and providing briefings to existing community groups
- Staffing information booths where potentially interested members of the public are gathering (for example, public fairs, festivals, and events) to broaden involvement beyond those who attend public meetings

Audiences have included community groups, individuals, elected officials, and the media.

In addition, stakeholder forums have been available through the Engrossed Substitute House Bill (ESHB) 2211 mediation process in 2007-2008, the ESHB 6099 Legislative Workgroup in 2009, and the ESSB 6392 Workgroup and Arboretum mitigation planning process in 2010. Please see the Agency Coordination and Public Involvement Discipline Report (Attachment 7 to the SDEIS) and the Agency Coordination and Public

Involvement Addendum and Errata (Attachment 7 to the Final EIS) for information on public involvement efforts for SR 520, I-5 to Medina Project since publication of the Draft EIS.

The costs of every individual meeting have not been separately tracked. However, the overall project expenditures have been, and they are available for review on WSDOT's Web site.

Public Meetings

WSDOT held two public meetings for the Draft EIS that were scheduled over a month in advance. Some of the postcard notices were not delivered until the week of the meetings. However, other notification methods were used well in advance, including announcements on the project Web site, display advertisements in local newspapers, and notices posted at coffee shops, community centers, and libraries, as well as in the Draft EIS itself.

An open house meeting format, rather than a hearing format, was used for the meetings on the Draft EIS because WSDOT has found that many people have a greater level of comfort when they can speak with project staff individually, and because many people have limited time to spend at meetings. However, during the SDEIS comment period, in response to public comments on the format of the Draft EIS meetings, WSDOT hosted a public meeting that combined both the hearing and open house formats. Notification for the SDEIS public meeting was distributed with SDEIS availability announcements up to one month in advance of the meeting. Methods included legal notices, Web site updates, e-mail updates, press releases and media advisories, and a mailer distributed to 45,000 nearby residents one month before the hearing.

Please see the Draft EIS Public Comment Report and the SDEIS Summary of Comments at <http://www.wsdot.wa.gov/Projects/SR520Bridge/Library/technical.htm#env> for more information about the public meetings and associated notifications for each environmental comment period. Public meetings hosted by WSDOT on the SR 520, I-5 to Medina project are also described in the Agency Coordination and Public Involvement Discipline Report (Attachment 7 to the SDEIS) and the Agency Coordination and Public Involvement Addendum and Errata (Attachment 7 to the Final EIS).

Communication Tools

Pages 27 through 36 and 52 through 56 of the Agency Coordination and Public Involvement Discipline Report (Attachment 7 to the SDEIS) provide details on outreach and methods used by the project team to communicate with the public, including but not limited to informational kiosks, translated materials, community briefings, booths at a range of community events, e-mail announcements, announcements through local media, and the Project Dialogue Center.

Draft EIS Comment Period

WSDOT and FHWA met and exceeded State Environmental Policy Act (SEPA) and NEPA regulations regarding notification and comment periods. Both the Draft EIS and SDEIS comment periods were extended beyond the original 45-day period. The comment period for the Draft EIS was 74 days, and the comment period for the SDEIS was 84 days. WSDOT provided multiple methods for commenting during each comment period, including verbally or in writing at the public meetings, online through the project Web site, via e-mail, or in hard copy format delivered or mailed to the project office. Based on comments on the Draft EIS regarding the challenges of using the online comment system, WSDOT offered a simpler Web-based comment form online for the SDEIS comment period.

All public and agency comments received on the Draft EIS are included in Attachment 11 to the Final EIS, and all public and agency comments received on the SDEIS are included in Attachment 13 to the Final EIS, both of which are on the DVDs included with the Final EIS. They are also published on the project Web site at <http://www.wsdot.wa.gov/projects/SR520Bridge/>. Readers can see their own comments or review comments submitted by others by referencing the Index of Comments tables provided in these attachments and on the project Web site. For comments on the Draft EIS, readers may also view the summary comments and responses referenced in that table. However, comments are not indexed by address or neighborhood.

2.0 Design Refinements and Transit Connections

This section of the Comment Summary Report provides a high-level summary of questions, concerns, and opinions about transit and transit connectivity, and acknowledges the overall general support for light rail and bicycle and pedestrian connections. Comments and questions that requested additional design refinements related to transit and other modes were grouped into three main topics, each including several related issues:

- Transit and Other Modes
- Light Rail
- Bicycle/Pedestrian Connections and Amenities

The largest proportion of comments expressed support for transit and for transit priority in the Montlake area. Many comments also expressed concern for the loss of the Montlake Freeway Transit Station.

2.1 Transit and Other Modes

2.1.1 Transit and Other Modes

Following is a sample of comments and questions related to transit and other modes of transportation:

- Support for transit; statements that easy-to-use connections are important, transit has fewer environmental impacts than single-occupant-vehicles, transit is the fiscally and environmentally responsible option, transit would help the region reduce dependency on cars and oil, and transit's share of total trips can best be maintained and improved by bus priority on the way to and from SR 520.
- Requests that WSDOT consider modifying the proposed transit/HOV lanes to be used exclusively for transit, and that WSDOT further evaluate the HOV system, including providing better access to and from the SR 520 bridge for transit/HOV rather than dedicated transit/HOV lanes on the bridge itself.
- Concern that the proposed transit/HOV lanes will be converted to general-purpose lanes in the future.
- Support for HOV lanes; statements that a continuous HOV lane across the lake will be critical to meeting the demand for reliable transit services in the corridor and outside HOV lanes are inadequate.

Response:

WSDOT policy supports the idea that people should be able to easily and efficiently move through congested intercity corridors using many transportation options. The SR 520 project includes several elements that support people in choosing alternatives to driving alone, including:

- **HOV lanes.** The 6-lane Alternative design options for the SR 520, I-5 to Medina project, including the Preferred Alternative that WSDOT has identified, would extend the regional HOV system in the corridor across Lake Washington and to I-5, thereby completing the HOV system in the SR 520 corridor. This would encourage carpooling and enhance the transportation system's efficiency and reliability.
- **New HOV direct access ramps.** The project would provide HOV direct access ramps to and from the east at the Montlake Interchange. A new reversible HOV ramp would connect to the existing I-5 reversible express lanes south of SR 520. This ramp would operate westbound-to-southbound in the morning and northbound-to-eastbound in the afternoon.
- **A new bicycle and pedestrian lane.** The project includes a new bicycle/pedestrian lane, which would mean cyclists and pedestrians would not have to travel to I-90 to cross Lake Washington.

- **Designing the bridge for the potential future expansion of high-capacity transit.** The project is designed to accommodate future bus rapid transit in the SR 520 corridor, or to accommodate potential future light rail should the regional decision be made to implement light rail in this corridor. Through coordination with Sound Transit, WSDOT has designed the Preferred Alternative to have enhanced compatibility with potential future light rail compared to the SDEIS design options.
- **Transit reliability improvements in the Montlake corridor.** The Preferred Alternative would provide HOV lanes on Montlake Boulevard between the SR 520 corridor and the Montlake Triangle, along with transit signal priority improvements in the Montlake corridor, to improve transit speed and reliability.

The addition of HOV lanes to the corridor, with no increase in the existing number of general-purpose lanes, would improve the speed and reliability of transit service, thus providing an incentive to use transit. As noted in the discussion of project purpose and need on page 1-6 of the SDEIS, 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 SDEIS and the Final EIS, HOV and transit commuters would experience substantial travel-time benefits in 2030 with the addition of the HOV lane.

Chapter 8 (Transit Operations) of the SDEIS Transportation Discipline Report provides further discussion of effects on transit, quantifying how the project alternatives affect the SR 520 corridor bus service and person-moving capacity. Chapter 8 of the Final Transportation Discipline Report updates this information for the Preferred Alternative based on current modeling assumptions.

HOV lanes give priority to both transit and carpools, providing efficient choices to travelers using carpools, vanpools, and buses while maintaining effective use of the public roadway. The HOV lanes will help buses operate at consistent speeds and thus maintain schedule reliability, which are two characteristics of several associated with bus rapid transit and transit quality of service in general.

As with any transportation investment, analysis of the unique characteristics of the SR 520 corridor was required to evaluate how the transportation system will operate. The transportation analysis was performed under the assumption that use of the HOV lane would require three or more people in a vehicle. ESHB 6392 specifies that the HOV lane will be available only for vehicles with three or more passengers and stipulates that the legislature be informed when HOV lane speeds drop below 45 miles per hour more than 10 percent of the time. The three-person occupancy assumption was included in the Draft EIS, SDEIS, and Final EIS, resulting in free-flow operations in the HOV lane with bus service levels near 600 vehicles per

day. Because ESSB 6392 specifies the HOV lane vehicle occupancy of three or more people, the state would need to request legislative approval to modify this. WSDOT has no plans to convert the HOV lanes to general-purpose lanes, and such a conversion would require legislative approval.

The following links provide more information about WSDOT plans that support diverse transportation options:

- Public Transportation Plan (link: www.wsdot.wa.gov/Transit/default.cfm): This plan describes WSDOT's commitment and strategies to increase traditional transit, high-capacity transit, HOV lanes, and transportation demand management efforts.
- Washington's Transportation Plan (link: www.wsdot.wa.gov/planning/wtp/): This blueprint for statewide transportation programs and investment covers all modes of Washington's transportation system: roads, ferries, public transportation, aviation, freight rail, passenger rail, marine ports and navigation, bicycles, and pedestrians.
- Bicycle Transportation and Pedestrian Walkways Plan (link: www.wsdot.wa.gov/bike/default.htm): This plan's goal is to improve bicycle and pedestrian safety while increasing the number of people who bicycle and walk. Strategies for doing so include maximizing funding through partnerships; raising awareness about bicycle and pedestrian safety; and sharing information on bicycle and pedestrian issues between agencies, jurisdictions, and organizations in Washington State.

2.1.2 Transit Priority and Linkages (Montlake Area)

Many comments in this category exhibited support for a solution that prioritizes transit across the Montlake Cut. Topics included:

- Support for a multi-modal transit hub in the UW/Montlake area to connect University Link light rail with SR 520 bus service and potential future bus rapid transit or light rail.
- Comments related to the Montlake Triangle area, including concerns for how the project would link existing or planned transit and light rail facilities and service in the area, and requests that WSDOT develop an integrated plan that considers light rail, buses, and pedestrians within the area.
- Concern about the removal of the Montlake Freeway Transit Station, including statements that the flexibility and options for transit riders would be severely affected, and questions about the cost and process for replacing the functions of the existing transit station.
- Requests for WSDOT to ensure that transit routes to and from the Eastside stop at Montlake Boulevard, to prioritize transit access at 23rd Avenue E and Montlake Boulevard, and to further evaluate design improvements needed to accommodate transit facilities and transfers.

- Suggestions for transit/HOV improvements in the area, including dedicated HOV lanes on arterial streets in the Montlake area.
- Inquiries related to local bus service and light rail transfers.

Response:

Sound Transit and King County Metro Transit are the agencies that provide transit service in the project area. Because WSDOT, Sound Transit, King County Metro Transit, the City of Seattle, and UW all have plans, projects, or services that will affect transit rider and pedestrian access in the Montlake area, ESSB 6099 directed these agencies to prepare the 2008 SR 520 High-Capacity Transit Plan. The plan identified a vision for bus rapid transit in the SR 520 corridor and developed options for a Montlake Multimodal Center. The plan's commitment to bus rapid transit in the SR 520 corridor is contingent on replacing the SR 520 bridges, adding HOV lanes, and constructing critical transit facilities, including the Evergreen Point Freeway Transit Station and transit/HOV direct access facilities. It also would require additional funding to provide the recommended levels of transit service.

This plan's recommended multimodal transit hub in the Montlake Triangle area (which is bounded by Montlake Boulevard NE, NE Pacific Street, and NE Pacific Place) will provide important connections to local and regional services, including access to the UW campus, the UW Medical Center, and Husky Stadium; Sound Transit and King County Metro Transit bus transit service; multimodal access to SR 520; connections for pedestrians and bicycles to regional trails; and access to future Sound Transit University Link (U-Link) light rail service. The Montlake Multimodal Center is not part of the SR 520, I-5 to Medina project, but it is a part of the project's affected environment. Development of the Montlake Multimodal Center will be an action undertaken by Sound Transit and not by WSDOT. Several Triangle-area projects are in the planning and design or construction phases, and the SR 520 project provides an opportunity to leverage existing plans and projects to maximize investment in the area. Section 5.1 of the Final EIS provides more information on transit service and the multimodal center.

WSDOT continues to plan for transit infrastructure improvements and coordination with existing, planned, and potential future transit service as part of the SR 520, I-5 to Medina project. In March 2010, ESSB 6392 authorized WSDOT and the mayor and city council of the City of Seattle to convene a workgroup including Sound Transit, King County Metro Transit, Seattle Department of Transportation (SDOT), WSDOT, and UW, to study and make recommendations regarding how the SR 520, I-5 to Medina project could be refined to improve transit in the Montlake corridor, including connections between Montlake routes, the U-Link light rail, and SR 520 bus routes or future potential high-capacity transit on SR 520. This workgroup refined the Preferred Alternative to include details on transit priority and HOV lanes, bus stop locations, and transit connections. The

workgroup's coordination was designed to ensure that the SR 520, I-5 to Medina project would not adversely affect transit, pedestrian, and non-motorized facilities and operations at the future Montlake Multimodal Center, nor would it preclude future transit facility and service improvements. The findings of the workgroup are presented in the ESSB 6392: Design Refinements and Transit Connections Workgroup Recommendations Report (Attachment 16 to the Final EIS).

The workgroup made recommendations on how to improve transit operations between East Roanoke Street and the future Montlake Multimodal Center. Completion of the SR 520, I-5 to Medina project would enable SR 520 buses to use HOV lanes on Montlake Boulevard NE between the Montlake Interchange area and the Montlake Multimodal Center. Between the Montlake Interchange area and the Montlake Multimodal Center, where the light-rail station would be located, SR 520 buses would have transit signal priority and access to HOV lanes on Montlake Boulevard NE. Additional transit priority treatments beyond this could be implemented by the City of Seattle and King County Metro Transit.

Section 5.1 of the SDEIS and the Final EIS evaluate the effects of removing the Montlake Freeway Transit Station. Chapter 8 of the Final Transportation Discipline Report provides further, detailed analysis of these effects with the design refinements included in the Preferred Alternative. Although the Preferred Alternative would remove the Montlake Freeway Transit Station, transit connectivity would be improved on the Montlake lid with additional bus stops and enhanced access between neighborhoods and to the Eastside. Along with improved transit connections, the lid would also enhance bicycle and pedestrian movement.

The ESSB 6392 design refinements and transit connections workgroup made specific design recommendations to facilitate an adequate level of midday service between UW and Montlake and the Eastside. Further, with implementation of the Preferred Alternative, bus stops on the Montlake lid would serve buses, buses traveling between the University District and the Eastside during peak hours. The Montlake lid stops would also function as flyer stops during the off-peak periods so that passengers could access the SR 520 buses traveling between the eastside and downtown Seattle. U-Link light rail service, expected to be operational in 2016, will accommodate some of the trips that now use the bus stops. Please see Chapter 8 of the Final Transportation Discipline Report (Attachment 7 to the Final EIS) for updated information regarding the effects of removing the Montlake Freeway Transit Station, and the subsequent transit facilities, rider connections, and bus stops on the Montlake lid.

WSDOT continues to work closely with UW, Sound Transit, and King County Metro Transit as projects move forward in the Montlake Triangle and SR 520 project area.

2.2 Light Rail/HCT/BRT

Comments and questions about light rail, high-capacity transit, and bus/rapid transit (BRT) included:

- Support for accommodating light rail because it would result in lower emissions and reduce vehicular traffic.
- Requests that WSDOT design the bridge to accommodate a light rail system or other high-capacity transit in the future; the pontoons should be sized to allow for future mobility growth; the height and grade of the bridge structures should be compatible with future transit improvements.
- Support for constructing light rail now as part of the new SR 520 bridge.
- Suggestions for improving transit systems, such as considering a one-way loop for bus rapid transit using I-90 and SR 520.
- Requests for additional information, including evaluating effects to local bus routes from development of light rail service to Bellevue and Redmond via I-90, and evaluating a 4-lane Alternative that includes high-capacity transit.
- Opposition to mass transit because of inconvenience and concerns about wasting resources.
- Comments related to proposed and planned Sound Transit light rail projects, as well as comments regarding the 2007 Regional Transportation Investment District ballot measure.

Response (In Progress):

Need for Infrastructure to Support Transit

Although the SR 520, I-5 to Medina project does not provide high-capacity transit service, it does provide infrastructure to improve existing transit speed and reliability, and to accommodate potential future high-capacity transit. As noted in the discussion of project purpose and need on page 1-6 of the SDEIS, 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." Chapter 2 of the Final EIS describes how the design of the Preferred Alternative accommodates near-term implementation of BRT and longer-term implementation of light rail transit, should the region decide in the future that this is an appropriate mode for SR 520.

Consideration of Light Rail and Bus Rapid Transit on the SR 520 Corridor

The development and analysis of alternatives for the SR 520 project was described in Attachment 8 to the SDEIS and is summarized in Chapter 2 of the Final EIS. This process, conducted with the participation of regional

transit agencies, elected officials, and the public, gave extensive consideration to how and when SR 520 should accommodate high-capacity transit. The decision that I-90 should become the region's initial light rail corridor, while SR 520 would be designed for initial bus rapid transit and future accommodation of light rail, was made through extensive regional deliberation, was affirmed during that process, and has been reaffirmed in all subsequent planning documents for regional transportation and land use. Table 2-2 of the Final EIS illustrates the history of regional decision-making on east-west high-capacity transit routes.

WSDOT has worked with Sound Transit since 2003 to design for future rail compatibility in the corridor. Following issuance of the SDEIS, WSDOT did additional work with the City of Seattle and Sound Transit to identify changes that would enhance the corridor's rail compatibility. The Preferred Alternative reflects these design changes and allows for two future rail options: converting the HOV/transit lanes to light rail, or adding light-rail-only lanes. Both approaches would require the addition of supplemental floating bridge pontoons to support the additional weight of light rail, should the regional decision to add rail be made and funded. Such a decision would need to be planned and programmed by regional land use and transit agencies, funded by a public vote, and evaluated in its own environmental analysis.

The proposed mode of high-capacity transit in the SR 520 corridor in the foreseeable future is bus rapid transit. The vision for bus rapid transit in the SR 520 corridor has been identified in the SR 520 High-Capacity Transit Plan completed in 2008 by the state, King County Metro Transit, and Sound Transit. This plan finds that future demand for transit in the 520 corridor at least until 2030 would be met with bus rapid transit that would run in the proposed HOV lanes, thereby complementing Sound Transit's East Link. At the same time, the plan acknowledges that after 2030, significant increases in cross-lake travel may warrant dedicated high-capacity transit facilities in both I-90 and SR 520.

The Preferred Alternative includes HOV direct access ramps to and from the east; HOV lanes on Montlake Boulevard NE between the Montlake Interchange area and NE Pacific Street, where the future Montlake Multimodal Center is planned; and transit stops on the Montlake Boulevard lid. These facilities, along with the travel time and reliability improvements provided by completing the SR 520 HOV lane system, would support transit agencies in their delivery of future bus rapid transit service in the SR 520 corridor.

4-lane Alternative with HCT

The 2006 Draft EIS demonstrated that although the 4-lane Alternative would improve safety and reliability, its ability to improve the movement of people and goods through the corridor would only be marginal. Therefore,

FHWA and WSDOT concluded that the 4-lane Alternative did not meet the project purpose and need. In 2010, responding to public comment on the Draft EIS and SDEIS regarding a transit-optimized 4-lane Alternative, WSDOT performed additional traffic analyses on this concept and confirmed that this concept also would not satisfy the project purpose and need. See Section 2.4 of the Final EIS for further discussion.

Assumptions and Modeling Regarding East Link Light Rail on I-90

Although the 2007 Regional Transportation Investment District ballot measure was defeated, the Sound Transit 2 (ST2) measure was approved by voters in 2008. This measure funded development of the East Link light rail line across I-90 from Seattle to Redmond, as well as the completion of the North Link line to Northgate. The Final EIS transportation analysis accounted for all of the projects in ST2, including East Link, in the evaluation of the Preferred Alternative and the No Build Alternative. See Section 5.1 of the Final EIS and the Final Transportation Discipline Report in Attachment 7 of the Final EIS for further information.

Effects of the East Link light rail route on local bus routes are being evaluated in Sound Transit's EIS for that project. However, modeling performed for the SR 520 High-Capacity Transit Plan endorsed in 2008 by the state, King County Metro Transit, and Sound Transit showed that opening the East Link route, coupled with bus rapid transit service on SR 520 beginning in 2016, would absorb much of the demand for east-west transit service beyond the year 2030.

2.3 Bicycle/Pedestrian Connections and Amenities

Comments related to bicycle and pedestrian connections and amenities included:

- Emphasis on the importance of local and regional connectivity along the SR 520 bicycle/pedestrian path; support for the bicycle/pedestrian lane across SR 520 because it would result in lower emissions, less vehicular traffic, and less traffic noise.
- Suggestions for the design of the bicycle/pedestrian lane, such as locating it on the south side of the bridge, adding a protective Plexiglas barrier, covering the bike lane for protection from wind, adding restroom facilities, elevating the bicycle/pedestrian lane so it is not at the same level as traffic, providing areas where pedestrians can step out of the travel path for rest or for passing, and adding grade separations where appropriate.
- Suggestions for specific bicycle/pedestrian routes and connections, such as completing the waterfront trail through the National Oceanic and Atmospheric Administration (NOAA) property, including Montlake Boulevard crossings, and extending the path to Roanoke Street.

- Request for more information about lid design and analysis to ensure that lids function properly for pedestrians, bicyclists, and the general public.
- Concerns related to the bicycle/pedestrian lane because of the increased bridge width and increased exposure to exhaust from traffic.

Response:

Purpose of and Demand for a Bicycle/Pedestrian Path

The addition of a bicycle/pedestrian lane to the SR 520 corridor supports the project's purpose and need of improving mobility for people and goods across Lake Washington. The facility will increase opportunities for nonmotorized travel and commuting. Chapter 7 of the Transportation Discipline Report and Final Transportation Discipline Report describe effects on nonmotorized travel.

In 2008, WSDOT sponsored the SR 520 Health Impact Assessment, prepared by Puget Sound Clean Air Agency and Public Health – Seattle & King County. The report found that the project's proposed bicycle and pedestrian facilities in the new SR 520 corridor, in addition to increased transit service, would contribute to a healthy community by increasing opportunities for physical activity, improving opportunities for social interaction, and reducing greenhouse gas emissions and other air pollutants. View the Health Impact Assessment online at: <http://www.wsdot.wa.gov/NR/rdonlyres/EFDE4CC6-406F-48E4-BEFD-EF50B2842625/0/SR520HealthImpactAssessment.pdf>.

Based on the existing local and regional bicycle counts reported under “What are the existing nonmotorized characteristics of the study area?” in the SDEIS Transportation Discipline Report, projected crossings on the new SR 520 bridge (via bus) will increase and will warrant a 14-foot-wide bicycle and pedestrian lane.

Bicycle/Pedestrian Lane Design

Two of the primary considerations for design of bicycle/pedestrian facilities are personal safety and comfort. Key aspects of a design that determine safety and comfort are visibility, paving, grade (slope), signage, and protective barriers. The bicycle/pedestrian lane across the floating bridge is designed as a bicycle commuter facility, which means it would be level and straight to the extent possible. It would be 14 feet wide, would be designed consistent with American Association of State Highway and Transportation Officials (AASHTO) standards, and would meet Americans with Disabilities Act (ADA) requirements by maintaining a grade (slope) of 5 percent or less. The WSDOT Design Manual also includes standards and specifications that address safety and comfort for all aspects of bicycle/pedestrian path/trail design. The SR 520 project adheres to those standards. Bicycle/pedestrian facilities within the City of Seattle will also be

subject to city standards. WSDOT will continue to work with the City of Seattle through final design and construction to ensure that these facilities are designed to City of Seattle standards.

The lane would have safety railings where needed, lighting in the area between Montlake Boulevard and the East Approach, and pedestrian-scale path lighting in other areas where needed for safety. The safety railing between bicycle/pedestrian lane users and the edge of the roadway would be 54 inches tall, based on WSDOT standards. Where the path passes under SR 520 and other roadways, there would be a wall separating bicyclists and pedestrians from vehicular traffic. Five scenic vantage points with pull-outs would be spaced along the lane's north side. The lane would be designed to accommodate the level of usage projected today and into the future.

The bicycle/pedestrian lane would be located on the north side of the floating bridge, because of regional wind and weather patterns. This location would shield cyclists and pedestrians from the severe prevailing south winds and wave spray during the winter months. During the summer, prevailing winds come from the north, but are much less severe. WSDOT is evaluating whether to have a tall screen between the vehicle lanes and the path.

WSDOT is evaluating pervious concrete surfaces for trails and pathways constructed or replaced as part of SR 520 program projects. The feasibility of using this technology varies across the corridor, and continues to undergo evaluation.

Design details of the bicycle/pedestrian path and connections will continue to be developed as design development of the SR 520, I-5 to Medina project progress and will ultimately be presented to the public for discussion in upcoming outreach efforts.

Connections

In accordance with the requirements of ESSB 6392, WSDOT has worked collaboratively with the SDOT, the City of Seattle Pedestrian Advisory Board, and Seattle Bicycle Advisory Board to develop design refinements for bicycle and pedestrian facilities. The Preferred Alternative includes a revised and expanded Montlake lid that would improve bicycle and pedestrian connectivity across SR 520, reduce crossing distance for many pedestrians, and improve pedestrian safety. In addition to the regional trail across the floating bridge, bicycle connections would be improved by addition of an undercrossing beneath SR 520 between the Washington Park Arboretum and East Montlake Park, and an undercrossing beneath Montlake Boulevard connecting the new regional trail to the Bill Dawson Trail.

Bicycle and pedestrian access would be provided across the new Montlake Bridge to facilitate connections to the Burke-Gilman Trail on the University of Washington campus. An additional improvement recommended by the ESSB 6392 workgroup that could be implemented by the City of Seattle is a connection between the regional trail on SR 520 and the new bascule bridge, which would include bicycle and pedestrian improvements along Montlake Boulevard. Please see Chapter 2 of the Final EIS for descriptions of the bicycle and pedestrian paths and connections that are part of the SR 520, I-5 to Medina project. Also see Chapter 7 of the Final Transportation Discipline Report and in the Recreation Discipline Report Addendum (both in Attachment 7 to the Final EIS).

The Preferred Alternative also includes regional trail connections to the local network at 24th Ave E and Lake Washington Boulevard. As part of the Arboretum Mitigation Plan implementation (see Attachment 9 of the Final EIS), WSDOT will continue working with the Arboretum to optimize pedestrian and bicycle connections in the park, including funding contributions to a multiuse trail along Lake Washington Boulevard and implementation of recommendations from the Arboretum's Interpretive and Wayfinding Plan.

The bicycle/pedestrian path would connect with other proposed Eastside nonmotorized improvements at Evergreen Point. The design of nonmotorized connections on the Eastside was refined through coordination with the Eastside communities in the Medina to SR 202: Eastside Transit and HOV Project Environmental Assessment.

See the discussion above regarding the Montlake Multimodal Center, which would support pedestrian and bicycle transfers to light rail and bus, and improve connections to destinations in the Montlake Triangle and University of Washington areas. Implementation of the high-capacity transit Plan is not part of the I-5 to Medina Project, but WSDOT will continue to coordinate with other agencies to support multi-modal connections to the Project.

Section 24.1 of this Comment Summary Report provides discussion of comments and a response regarding concerns about a proposed nonmotorized route from the SR 520 bridge to the Madison Park neighborhood.

Lids

The primary purpose of the proposed lids is to reconnect communities and functional landscapes. They would provide open space with active and passive recreational opportunities, serve as neighborhood gateway elements, enhance circulation of pedestrians and cyclists, restore or create views, and provide access to existing and new transit stops. See Chapter 2 of the Final EIS for a description of the lids in the Preferred Alternative and SDEIS

pages 2-3, 2-7 through 2-9, 2-14, and 2-19 through 2-22 for a description of the lids in design options A, K, and L.

All three SDEIS design options and the Preferred Alternative include a lid over SR 520 between 10th Avenue East and Delmar Drive East. During design planning, the community identified pedestrian connections as one of the most important purposes for the 10th Avenue East/Delmar Drive East lid. The lid would function as a vehicle and pedestrian crossing, a landscaped area, and open space. A walkway across the lid would connect the two streets. The lid would range from 500 to 650 feet long (because of the angled lid edge) and would reconnect neighborhoods on both sides of the SR 520 corridor by providing walkways and open spaces above the SR 520 roadway. The lid would incorporate additional pedestrian connections between 10th Avenue East and Delmar Drive, redevelopment of the path from Bagley Viewpoint to Boyer Way, construction of a new viewpoint that will recreate the experience the Bagley Viewpoint was designed to provide, with vista points to overlook Lake Union, Portage Bay, and the panoramas east- and westward. Intersection connections on the lid would be designed for pedestrian and bicycle safety. Further design details are being developed by an interdisciplinary team that is looking at railings, lighting, wall/screen height, the viewing platforms, and architectural features and accents. See Chapter 2 and the Social Elements and Visual Quality and Aesthetics Discipline Report Addendum (Attachment 7 to the Final EIS) for further information.

The ESSB 6392 workgroup process included the development of design refinement recommendations to improve the bicycle and pedestrian environments near the SR 520 corridor including on the Montlake lid. As described above, the Montlake lid has been expanded and enhanced in the Preferred Alternative. It is a full, rather than partial lid, and would improve bicycle and pedestrian connectivity across SR 520, reduce crossing distance for many pedestrians, and improve pedestrian safety. Running from Montlake Boulevard to the Lake Washington shoreline, the lid would provide better pedestrian amenities in the central part of the Montlake neighborhood and connections to the Arboretum. Bicycle and pedestrian connections are described in Chapter 2 of the Final EIS; their effects are described in Chapter 7 of the Final Transportation Discipline Report and in the Recreation Discipline Report Addendum (both in Attachment 7 to the Final EIS). For additional information, also see the ESSB 6392: Design Refinements and Transit Connections Workgroup Recommendations Report (Attachment 16 to the Final EIS).

3.0 Project Costs, Funding, and Tolling

This section of the Comment Summary Report provides a high-level summary of the questions and concerns about the project's costs, funding, and tolling. The comments received related primarily to Chapter 1 of the

2006 Draft EIS. Similar comments have been grouped together and are summarized below into the following categories:

- Costs
- Funding
- Tolling

Chapter 1 of the 2010 SDEIS responds to many of the issues raised and summarized below. Chapter 1 of both the SDEIS and the Final EIS describe the purpose and history of the project, including the progress made since the Draft EIS was published in 2006 and updated discussions of costs, funding, and tolling. Below each comment summary is a high-level response that includes references to the SDEIS and Final EIS to help guide the reader to specific pieces of information. Each response is intended to address the larger group of comments; no individual responses were prepared.

3.1 Costs

This category acknowledges the concerns and requests for clarification about the project's costs and the assumptions used to estimate these costs, and whether these costs include mitigation or the costs for any increases in transit service. Questions and statements of concern included:

- Inquiries regarding the assumptions used to generate cost estimates, WSDOT's plans for addressing cost escalations or potential overruns, how value engineering or other cost-estimating methods would affect project costs, whether opportunities exist to reduce costs and how cost reductions could affect mitigation or environmental protections, and sources of funding for increased transit service.
- Requests for additional information, specifically about construction, operation and maintenance costs, mitigation costs, costs associated with increased levels of transit service, and costs of specific design elements (for example, lids, sound walls, property acquisitions).
- Concerns that overall costs have been underestimated, the Draft EIS does not adequately address mitigation measures or costs, and decision-makers cannot choose between alternatives without this information.

Response:

Estimating the cost of transportation projects is a fundamental responsibility of WSDOT. A very detailed cost evaluation was performed through the Cost Estimation Validation Process (CEVP®), and the costs disclosed in the SDEIS were generated during this process. CEVP® is updated every year for major projects and represents a "snapshot in time" for a specific project under the conditions known at that point in time. Using this process, the SR 520 program assigns a level of risk to various elements of the Environmental process, and that risk is translated into

personnel costs and delay costs that are applied and incorporated into the overall project cost. For more information about CEVP®, see the WSDOT Web site <http://www.wsdot.wa.gov/Projects/ProjectMgmt/RiskAssessment/>.

CEVP® conforms to industry standards for cost estimating and is suitable for comparing design options during project planning. During the CEVP® process, analysts use systematic project review and risk assessment methods to identify and describe cost and schedule risks, and evaluate the quality of the information available. An important part of the process is that analysts examine how risks can be lowered and cost vulnerabilities can be managed or reduced. Costs estimated during the workshop account for a host of project components and risks, including design, construction, mitigation efforts, potential delays at each step of project delivery, costs for legal challenges and litigation, and inflation. The process provides opportunities for WSDOT to improve final cost and schedule results. The output of the CEVP® process is a probabilistic range of costs. The range accounts for uncertainties defined in the workshop for cost and schedules. By WSDOT policy (IL 4071.01) the 60th percentile estimate number is used for the budgeting process.

The estimated project costs disclosed in the DEIS, SDEIS, and Final EIS all include costs for mitigation. Mitigation costs are always included in the preliminary engineering cost-estimating exercises that are used to help WSDOT accurately estimate and manage the costs of large projects. The costs of mitigation include costs associated with avoidance and minimization measures, which may be difficult to distinguish from the overall project construction costs. These costs, including compensatory mitigation costs, are typically not identified in separate line items because they involve not only construction permit and approval commitments not known until the environmental document is complete, but also agency and tribal agreements not easily estimated until near document completion. However, they are accounted for in estimated costs for design, permitting, property acquisitions, and construction.

Financing for transit operations in the SR 520 corridor is summarized in the Transit Planning and Financing Findings and Recommendations Report located on the workgroup Web site: <http://www.wsdot.wa.gov/Projects/SR520Bridge/6392workgroup.htm>.

3.2 Funding

This category acknowledges the concerns and requests for clarification regarding funding and the project's finance plan. Questions and statements of concern included:

- Concerns regarding the lack of discussion in the Draft EIS about the total financing required to fund all alternatives. Concern that it is

unreasonable to assume the project will realize sufficient funding from secured and anticipated funding sources.

- Inquiries related to a complete financing plan in light of the recently increased cost estimates and funding sources for the project.
- Statements that the Preferred Alternative must have reliable financing.
- Suggestions for funding the project, which ranged from using the existing tax base, federal funds, tolls, gas tax, Regional Transportation Investment District, a progressive income tax, and state funds. Other ideas included generating funds through lease agreements on the lids, and asking taxpayers to vote on how they want to pay for the project.
- How is the region going to pay for Alaskan Way Viaduct, light rail, and SR 520?

Response:

Major transportation projects often require innovative and complex funding solutions. The SR 520, I-5 to Medina project is no different. As discussed in pages 1-31 through 1-33 of the SDEIS, the state legislature has secured a variety of state and federal funding sources, including tolling the existing floating bridge, to help pay for the SR 520 program. The SR 520 program is developing a new finance plan designed to identify ways to fully fund the program and planned corridor improvements. This finance plan will incorporate recommendations from the ESSB 6392 workgroup, which looked at the issue of funding transit improvements in the SR 520 corridor. Chapter 1 of the Final EIS provides additional discussion about project costs and how WSDOT will address budget needs as the project advances. Please see the project Web site for up-to-date information on project financial information, including state and federal funding sources, and tolling information: <http://www.wsdot.wa.gov/Projects/SR520Bridge/financing.htm>.

The finance plan serves to advance the funding discussion and identify the risks and opportunities associated with each funding source.

Major projects within the region are funded by a variety of different sources. See <http://www.wsdot.wa.gov/Projects/Viaduct> for more information about funding the Alaskan Way Viaduct project and <http://future.soundtransit.org/cost.aspx> for more information about funding for Sound Transit projects. Washington state transportation budget planning, or identification of need in terms of projects and cost, is conducted in part by WSDOT's Systems Analysis and Planning Department. Project budgets are established into law by legislative action based on project priorities and available funding.

Revenues for the Transportation Budget come from a variety of sources including the state gas tax, federal programs, and other sources. Funding is distributed to the major transportation capital programs through legislative

action with consideration for individual projects. Prior to the start of the legislative session, WSDOT will submit a transportation budget proposal to the Governor for consideration. This budget is then reviewed and modified (as needed) by the Governor and becomes part of the Governor's state-wide budget proposal for legislative consideration. During legislative session the final project list is negotiated and established. A final budget proposal with budgets by project and phase of work is presented back to the Governor for consideration and signature into law.

Projects such as the SR16/ Tacoma Narrows Bridge, SR99/ Alaskan Way Viaduct, I-5/ Columbia River Crossing, and SR 520, I-5 to Medina project may receive some funding from the state-wide transportation program budget, but they also typically require some other source of funding to cover these unique programs. In 2009 the state legislature, through ESHB 2211, provided authorization for SR 520 to be tolled as a source of funding for the replacement of the Floating Bridge and Landing. In 2010, ESSB 6392 authorized tolling revenue to be used on the entire program.

3.3 Tolling

The majority of comments in this category supported the use of tolls to finance the new SR 520 corridor, stating that those who use the highway should pay for it and that tolls could help alleviate traffic congestion. These comments expressed different opinions about what to charge and when to enact tolling on additional roads. Those opposed to tolling write that it is unfair; some believe that taxes should be the primary way to fund transportation improvements.

Similar comments have been grouped together and are summarized below into the following categories:

- Toll Scenarios and Effects
- Tolling Technology
- Early Tolling

3.3.1 Toll Scenarios and Effects

Comments and questions about tolling scenarios and effects included the following:

- Concerns related to traffic diversions and traffic back-ups, property values, costs to drivers and effects of tolls on communities, future changes to the tolling policy, effects to I-90 from tolling SR 520, environmental justice effects, the likelihood that single-occupant drivers will use routes other than SR 520 to avoid the toll, and inefficiencies of tolling to pay for the project.
- Inquiries about how tolling fits into the SR 520 finance plan, how much revenue will be generated, how tolling amounts will be set and who will be tolled.

- Requests for more information on congestion pricing, variable rate tolling, tolling both SR 520 and I-90, tolling the Arboretum ramps, and effects to traffic conditions.

Response (In Progress):

As described in the SDEIS, ESHB 2211 established a Tolling Implementation Committee, which evaluated ten different approaches to tolling SR 520 and I-90. The www.wsdot.wa.gov/Partners/Build520/ Web site further explains the Committee's role in evaluating possible toll rates to learn about revenue, traffic effects, diversion and potential mitigation measures. The Committee evaluated a range of tolling scenarios based on the "reasonableness" of the tolls, how much bridge funding is generated, the diversion effects of the tolls, the performance of the bridge (congestion relief), and the impacts tolls may have on low income bridge users. All of the Committee's findings and answers to questions regarding toll rates, toll exemptions, traffic and diversion, and other general tolling questions can be found on the above Web site. The Committee submitted its final report to the legislature and the Governor on January 28, 2009, including discussion of potentially tolling I-90. Ultimately, the Washington State legislature decided to implement tolls only on SR 520; however, ESHB 2211 does contain language allowing the tolling policy to be reconsidered if there are significant effects on nearby transportation facilities. Traffic analysis completed for the Final EIS does not show substantial diversion from SR 520 to I-90 in the design year, primarily because improved transit choices would be available on both routes through the startup of East Link on I-90 and the improved transit mobility provided by the SR 520 HOV lanes (see Section 5.1 of the Final EIS). Although future region-wide tolling is being contemplated as part of the Puget Sound Regional Council's (PSRC's) Transportation 2040 Plan, no implementation steps are in place that would make tolling on I-90, or any other currently untolled routes in the region, a reasonable and foreseeable action.

As explained in Chapter 1 of the SDEIS and Final EIS, transit and HOVs are assumed to be exempt from the toll. Tolling on SR 520 will be completely automated, with no toll booths. The Final EIS analysis assumed a single-point toll.

Regarding concerns about property values, research indicates that the effects of a transportation project on property values cannot be calculated with certainty. Property values fluctuate constantly based on a variety of factors, including the general condition of the economy at the national, state, and local level. Thus, assessing a project's effect on the value of private property would be speculation at best. The NEPA process avoids such speculation when supporting evidence is lacking.

The Preferred Alternative would remove the Lake Washington Boulevard ramps, which would reduce traffic volumes in the Arboretum compared to

the No Build Alternative. However, WSDOT will continue coordinating with SDOT and the Arboretum and Botanical Garden Committee (ABGC) to further evaluate traffic management measures which could including tolling of Lake Washington Boulevard through the Arboretum to discourage traffic from accessing SR 520 via the Arboretum. Such measures could benefit the Arboretum experience.

WSDOT conducted an analysis of tolling effects on low-income populations as part of the EIS. See Section 5.3 of the Final EIS for information on this analysis.

3.3.2 Tolling Technology and Infrastructure

Comments and questions about toll collection technology and infrastructure included the following:

- Inquiries about how visitors or occasional users would pay the toll, how transponders will work for multiple cars, and how tolling will be enforced
- Concerns regarding personal privacy, safety, and security, such as the government being able to track individual citizens and potential misuse of personal information gained through tolling accounts
- Requests that tolls be collected electronically and other requests that at least one toll booth be staffed for drivers who need help

Response (In Progress):

The future of electronic tolling options in Washington State is discussed on WSDOT's Web site at: www.wsdot.wa.gov/Tolling/electronicolling.htm. As discussed on page 1-26 of the SDEIS, the SR 520 corridor will use all-electronic tolling collection (ETC), meaning that there will be no toll booths at all. Drivers on SR 520 will be able to cross without stopping to pay, allowing more traffic to flow at normal highway speeds. Electronic tolling was recently introduced in Washington State at the Tacoma Narrows Bridge. This new method of collecting tolls allows drivers to continue at normal highway speeds without stopping at a toll booth.

The use of ETC will require adequate enforcement through the use of technology to ensure its success. The primary goal of enforcement is to ensure that there is an acceptable level of compliance, and that enforcement efforts are fair and consistent. Using license plate readers along with name and address acquisition technology will create a quicker and more efficient enforcement process by automatically identifying toll evaders and demanding payment of the required tolls. Those without pre-paid accounts, including out of town visitors, would have their license plate photographed and be sent a bill in the mail (usually for a somewhat charge higher than the electronic toll rate). Those failing to pay the bill would be issued a toll infraction.

State law addresses the privacy issue for customer information and Washington State follows the most current payment card industry data security standards. In Washington State, toll payment monitoring photographs may only be used for toll enforcement purposes and must then be destroyed. Additionally, under the Public Records Act, an agency cannot provide any lists of names to a requestor seeking to use the list for commercial purposes. This provides some protection from the commercial use of information about those who purchase transponders for their vehicles. Finally, Washington code states further that personally identifying information of persons who acquire and use transponders or other technology to facilitate payment of tolls may be disclosed in aggregate form as long as the data do not contain any personally identifying information, and that such information may be released to law enforcement agencies only for toll enforcement purposes.

3.3.3 Early Tolling

Many comments requested that tolling be implemented in advance of project construction in order to:

- Alleviate or manage congestion
- Accelerate project funding
- Minimize project delays
- Allow WSDOT to reassess capacity needs and adjust project planning as needed
- Pay for various project components, such as quieter pavement testing or mitigation
- Pay for bus additional bus service

Response (In Progress):

As summarized in Chapter 1 of the Final EIS, at the time the Final EIS was written, early tolling was expected to begin on the SR 520 bridge in mid-2011. As explained on page 1-37 of the SDEIS, the SR 520 Variable Tolling Project implemented tolling on SR 520 in 2011 for the primary purpose of managing traffic congestion. This toll will remain in place until the construction of the SR 520, I-5 to Medina project, and would then be replaced with new tolls adopted by the Transportation Commission to provide project funding in accordance with the financing plan. Although the Legislature has authorized allocation of revenues from the Variable Tolling Project to fund the Pontoon Construction Project and the Eastside Transit and HOV Project, the toll would be removed when the bonds for those projects are repaid, which is expected to be before 2030. Therefore, if the I-5 to Medina project were not built, there would be no toll in effect in 2030, which is the point in time at which the No Build and Build alternatives are compared. This is why the baseline No Build assumption is that the SR 520 corridor would not be tolled.

For the most up-to-date information on tolling along SR 520, see the WSDOT Web site at <http://www.wsdot.wa.gov/Tolling/520tolling.htm>.

By law, tolls collected from SR 520 users, including both tolling of the existing bridge under ESSB 2211 and tolling following completion of the new bridge, can be used only for SR 520 improvements, operations, and maintenance. Redirecting tolling revenue to support transit service would require legislative changes that are unlikely in the foreseeable future.

4.0 Construction Activities

This section of the Comment Summary Report provides a high-level summary of questions and concerns about project construction activities. The comments received related primarily to construction effects (Chapter 8 of the 2006 Draft EIS). Similar comments have been grouped together and are summarized below into the following sections:

- Construction Activities
- Traffic Management
- Pontoon Construction, Transport, and Moorage

Chapter 3 of the SDEIS includes updated information about the construction durations, methods, and techniques. A high-level response is shown below each comment summary that includes references to the SDEIS and Final EIS to help guide the reader to specific information. Each response is intended to address the larger group of comments; no individual responses were prepared.

4.1 Construction Activities

Comments and questions about the construction schedule and process included the following:

- Inquiries regarding anticipated construction methods, activities, and sequencing for the project.
- Concerns about effects of staging areas, temporary bridges, and pile-driving.
- Requests that WSDOT consider constructing the entire project as one stage.
- Requests for additional information on truck traffic and haul routes.

Response (In Progress):

Chapter 3 of the SDEIS and Final EIS describes the anticipated construction methods, activities, and sequencing for the 6-lane Alternative and options and the Preferred Alternative. WSDOT does not propose that the information presented in this chapter is the only method to deliver the project; rather, this is a logical and sequential manner in which to construct the project.

The areas affected by construction and demolition and the duration and sequence of activities within the project area are shown in Exhibits 3-6, 3-7, 3-8, and 3-14 and described in detail on pages 3-14 through 3-17 of the SDEIS. Chapter 3 of the Final EIS includes updated information for the Preferred Alternative. The final construction sequencing in this area will require a balance between private properties north and south of the corridor and other environmental effects. Construction activities are also subject to various local, state, and federal agency permit requirements.

The highly urbanized character of the SR 520 corridor and the limited amount of existing transportation right-of-way pose a challenge in identifying construction staging areas for the SR 520, I-5 to Medina project. Pages 3-2 through 3-3 of the SDEIS discuss potential construction staging areas. Anticipated effects of those staging areas on neighborhoods, land use, natural resources and other disciplines are described throughout SDEIS Chapter 6, Effects During the Construction of the Project.

Temporary work bridge structures and the estimated duration for using those bridges are described in pages 3-14 through 3-16 of the SDEIS. Chapter 6 of the SDEIS discloses the effects of these work bridges under specific elements of the environment (such as ecosystems, recreation, water resources), as applicable. Additional details about the effects of work bridges can also be found in the Construction Techniques and Activities, Ecosystems, Water Resources, and Navigable Waterways Discipline Reports provided in Attachment 7 of the SDEIS. Chapters 3 and 6 of the Final EIS and the discipline report addenda in Attachment 7 to the Final EIS update this information for the Preferred Alternative.

WSDOT is collaborating with local jurisdictions and resource agencies to evaluate pile-driving methods, and the associated environmental effects. The results of a pile-driving study conducted by WSDOT, combined with geotechnical information, will inform pile installation methods for the SR 520 corridor, as well as help identify best management practices that will minimize or mitigate effects from pile-driving activities.

The SDEIS discussed the possibility of constructing the project in separate phases over time, with the vulnerable structures (the Evergreen Point floating bridge, west approach bridge, and Portage Bay Bridge) built first. This “Phased Implementation scenario” was analyzed for each environmental resource. As discussed in Section 2.8 of this Final EIS, due to the funding shortfall, FHWA and WSDOT still believe it is prudent to evaluate the possibility of phased construction of the corridor should full project funding not be available by 2012. Currently committed funding is sufficient to construct the Evergreen Point floating bridge and landings; a Request for Proposals has been issued for this portion of the project, with proposals due in June 2011. Accordingly, this Final EIS discusses the potential for the floating bridge and landings to be built as the first phase of the SR 520, I-5 to Medina project. This differs from the SDEIS Phased

Implementation scenario, which included the west approach and the Portage Bay Bridge in the first construction phase. Sections 5.15 and 6.16 of the Final EIS describe the effects associated with potential phasing.

In response to comments received on the Draft EIS, WSDOT refined haul routes and estimated truck trips for the 6-lane Alternative, and presented this information on pages 3-3 through 3-6 of the SDEIS. Additional detail about the effects of haul routes and truck trips on traffic can be found on pages 6-5 through 6-7 of the SDEIS. WSDOT further revised potential haul routes and estimates for the Final EIS, as discussed in Chapter 3 of the Final EIS.

As explained in Chapter 3 of the Final EIS, construction assumptions developed for the project identify major freeways such as I-5, SR 520, and I-405 as primary haul routes intended to carry most project truck traffic. However, there will be times when city streets will need to be used as secondary haul routes. Secondary haul routes for the SR 520, I-5 to Medina project were identified based on criteria such as shortest off-highway mileage, and providing access to locations needed for construction where direct highway access is unavailable.

Since publication of the SDEIS, WSDOT has refined potential haul routes to avoid using non-arterial neighborhood streets. Local jurisdictions can limit the use of non-arterial streets for truck traffic; therefore, efforts were made to identify designated arterial streets for potential use as haul routes. Local jurisdictions will determine final haul routes for those actions and activities that require a street use or other jurisdictional permit. The permit process typically takes place during the final design phase and prior to construction. WSDOT is coordinating with all cooperating agencies and affected local jurisdictions during the design and planning process for the SR 520, I-5 to Medina project, to minimize and mitigate construction effects on traffic and communities.

4.2 Traffic Management

Comments received about traffic and transportation conditions during construction included the following:

- Concerns about traffic movement, local roadway closures, pedestrian routes and maintaining connectivity, transit mobility, transit operations, employee parking, and traffic during construction.
- Concerns about a closure of the westbound HOV lane on the Eastside, and requested mitigation for impacts on bus routes and transit ridership.

Response (In Review):

Roadway closures and effects are discussed in detail on pages 3-5 through 3-7 of the SDEIS. The Final EIS and Final Transportation Discipline

Report (in Attachment 7 of the Final EIS) contain updated information regarding potential road closures and detour routes. Section 6.1, Transportation explains how ramp and road closures would affect traffic. During detailed design, WSDOT will prepare a Construction Traffic Management Plan in consultation with the affected communities. As this plan is developed, details regarding temporary street closures and detours will be determined with community input.

In planning for construction traffic management for the SR 520, I-5 to Medina project, WSDOT's efforts include coordinating with the UW, Sound Transit, King County Metro Transit, and the City of Seattle. Transportation demand management will be one component of construction planning. WSDOT's Public Transportation Division has a history of implementing transportation demand management plans to help keep people moving during intense construction closures. For more information about how WSDOT handles construction traffic planning, please see www.wsdot.wa.gov/Construction.

Since the publication of the Draft EIS, the SR 520 project team has determined that two westbound general-purpose lanes and one westbound HOV lane would remain open throughout construction from 5:00 a.m. to 9:00 p.m. weekdays.

4.3 Pontoon Construction, Transportation, and Moorage

Comments related to pontoon construction, transportation, and moorage included:

- Concern that the Draft EIS did not include an analysis of the effects from pontoon construction, transport, and moorage.
- Suggestions for specific pontoon materials or methods.
- Inquiries about pontoon construction site locations.

Response (In Progress):

The SR 520 Pontoon Construction Project will build pontoons sufficient to replace the existing bridge in the event of a catastrophic failure and to accommodate the planned SR 520 bridge replacement. More information on the SR 520 Pontoon Construction Project is available on <http://www.wsdot.wa.gov/projects/sr520bridge/>. As described in its purpose statement, the SR 520 Pontoon Construction Project is expressly intended to replace only the existing 4-lane capacity of the existing bridge. FHWA and WSDOT have completed an EIS for this project, and the Record of Decision was issued on January 11, 2011.

Construction of the additional supplemental stability pontoons needed to support a 6-lane bridge is covered in the SR 520, I-5 to Medina Bridge Replacement and HOV Project EIS. The floating bridge design does not

vary among the alternatives and options for the SR 520, I-5 to Medina project; any new 4-lane or 6-lane floating bridge would have the same pontoon configuration across the lake, independent of design variations in other geographic areas of that project.

Pages 1-36 through 1-38 of the SDEIS discuss the differences between the SR 520 Pontoon Construction Project, and the SR 520, I-5 to Medina project. Pontoon construction information can be found on pages 3-37 through 3-42 of the SDEIS. Anticipated effects resulting from pontoon construction are discussed in pages 6-108 through 6-112 of the SDEIS. The Final EIS updates this discussion.

Pontoon types were studied early on for the SR 520 project, and WSDOT concluded that steel reinforced concrete pontoons were the most appropriate design for the Evergreen Point Bridge replacement. WSDOT ruled out steel pontoons as a possible design because maintenance and life-cycle costs would be much greater, and the greater maintenance needs of these pontoons would have negative effects on traffic in the corridor.

Part 2: Built and Natural Environment

This section of the Comment Summary Report provides a high-level summary of the questions and concerns about the project's effect on the built and natural environment. The comments received related primarily to chapters 4, 5, and 8 of the 2006 Draft EIS. Similar comments have been grouped together and are summarized below into the following categories:

- Transportation
- Land Use & Economic Activity
- Social Elements
- Environmental Justice
- Parks and Recreation
- Visual Quality
- Cultural Resources
- Noise
- Air Quality
- Energy & Greenhouse Gases
- Water Resources
- Ecosystems
- Geology and Soils
- Hazardous Materials
- Navigation
- Indirect and Cumulative Effects
- Section 4(f)
- Section 6(f)
- Overall Format and Content
- Other

Chapters 4, 5, and 6 of the 2010 SDEIS responded to many of the issues raised and summarized below. Chapter 5 of the SDEIS focused on the permanent effects that the 6-lane Alternative options would have on traffic, communities, and ecosystems compared to the No Build Alternative. It also explained how the transportation system would operate with and without the project and how the options would differ. Chapter 6 of the 2010 SDEIS discussed how construction of the 6-lane Alternative would affect the built and natural environment in the project area and compared them to the extent that their construction methods, timing, and/or effects would differ from one another. The Final EIS provides similar information for the Preferred Alternative and compares its effects to the SDEIS options.

Below each comment summary we have prepared a high-level response that includes references to the SDEIS and Final EIS analyses to help guide the reader to specific pieces of information. Each response is intended to address the larger group of comments; no individual responses were prepared.

5.0 Transportation

5.1 Travel Demand Model

Commenters expressed concern regarding the assumptions, analysis methods, and conclusions of the travel demand model. Specific comments included:

- Inquiries about WSDOT’s analysis and methodology, including how figures were derived, whether mode-split forecasting is reliable, clarification on traffic and transportation measures in the traffic analysis, use of bidirectional versus unidirectional travel, accuracy of figures provided, and why the 6-lane Alternative does not generate significantly more demand for transit than the 4-lane Alternative.
- Requests for additional information, including revised traffic volume and congestion level forecasts, revised design and cost estimates for bus-rapid transit service, more specific information about transit changes in volume and travel times, and documentation of potential consequences of unfunded transit.
- Suggestions for modifying the travel demand model, including developing an alternative model based on increased use of public transit, and observations regarding travel demands and energy costs and availability.
- Doubt regarding WSDOT’s estimated decreases in traffic congestion described in the Draft EIS, assertions and concerns that the new Evergreen Point bridge would also become congested, available capacity would be quickly consumed, existing bottlenecks at I-5 and I-405 would not be improved, the 6-lane Alternative would actually increase single-occupant vehicle (SOV) traffic volumes, the number of SOV drivers converting to transit is over-estimated, and projected growth estimates are unrealistic.

Response:

WSDOT, in coordination with FHWA (the co-lead agency; see Section 1.6 of the SDEIS), selected the PSRC’s travel demand model because it is the model used for all major transportation planning projects in the region. Model validation was performed by the SR 520 Project Team and independently reviewed by transportation analysts from WSDOT’s Northwest Region office. The travel demand and traffic operations modeling processes are described in Chapters 3 and 4 of the Transportation Discipline Report and Final Transportation Discipline Report. Since the Draft EIS, several travel demand models for the SR 520, I-5 to Medina project have been created to answer questions at different stages of the planning process. The first SR 520, I-5 to Medina project demand model was based on the 1998 PSRC regional travel demand model and was used for the Draft EIS. The primary purpose of this model was to estimate the change in travel demand on the SR 520 corridor given the completion of a 4-lane, 6-lane, or 8-lane alternative. WSDOT’s analysis and methodology for this travel demand and traffic operations modeling process was described in Chapter 3 of the Draft EIS Transportation Discipline Report. Because the transit service characteristics documented in the Draft EIS, including frequencies and service routes, did not vary among the build alternatives, there were only slight differences in demand for transit.

Table 5.1-1 of the Final EIS compares transportation modeling in the SDEIS and Final EIS, providing information about modeling assumptions. Chapters 4 Transportation Discipline Report and Final Transportation Discipline Report discuss planned improvements (including transit) that are accounted for in the SDEIS and Final EIS transportation analyses. Chapter 8 in these reports provides more in-depth discussion of transit facility and service assumptions and expected changes in transit use with the alternatives and design options. Changes in the volume of trips using HOVs are discussed in Section 5.2 of this Draft EIS Comment Summary Report.

Chapter 5 of the Final Transportation Discipline Report presents WSDOT's findings for the Final EIS freeway analysis including revised traffic volumes and congestion diagrams. Chapter 5 describes freeway traffic volumes and operations on the SR 520 freeway mainline and ramps during morning (a.m.) and afternoon (p.m.) peak (highest use) periods. Transit changes in volume and travel times are presented in Chapter 8 of the Final Transportation Discipline Report.

King County Metro Transit and Sound Transit have been working closely with the state and have identified bus service needs on the SR 520 corridor as part of the SR 520 High Capacity Transit Plan. That plan identified the need for bus rapid transit service in the SR 520 corridor by the year 2016. Steps have already been taken by King County Metro Transit and Sound Transit to provide that level of bus service. Through the ST2 program and the Urban Partnership, those two agencies have secured funding for additional bus service to UW (Route 542) and they have improved service on other routes, such as routes 255 and 271. Because PSRC is the region's metropolitan planning organization, it is responsible for guiding the integration of transportation and land use planning. Therefore, WSDOT's traffic analysis is required to use PSRC's estimates for future population, employment, and travel patterns. These estimates are developed in partnership with local jurisdictions and agencies, including King County Metro Transit and Sound Transit. It is not within WSDOT's purview to evaluate scenarios that reflect planning assumptions different than PSRC's, such as increased population density, new travel patterns resulting from changed economic conditions, or new modes of transportation not anticipated by regional planning. However, the project's transportation demand model accounts for economic factors such as direct costs (parking costs, fuel costs, and tolls), available alternatives such as transit and its cost to riders, federal fuel efficiency standards (accounting for an average fleet fuel efficiency based on the forecast year), and other regional economic factors forecasted by PSRC, in predicting future travel demand. PSRC has conducted studies to evaluate the influence of changing fuel prices, vehicle technology, and greenhouse gas policies on future travel demand, and periodically updates its travel demand models with current assumptions; the project travel demand models are based on PSRC's current models. Chapter

3 of the Transportation Discipline Report (Attachment 7 to the SDEIS) and the Final Transportation Discipline Report (Attachment 7 to the Final EIS) provides information on travel demand modeling.

Under the Growth Management Act, WSDOT has a responsibility to provide transportation infrastructure that will accommodate the region's planned growth. Because there would still be unmet general-purpose demand on SR 520 even after project implementation—although all transit demand through 2030 could be accommodated within the HOV lanes—the project would not facilitate new regional growth, but would provide better transit and carpooling options to serve the growth that is already planned. For this reason, PSRC's Transportation 2040 includes a 6-lane configuration for SR 520. The project is also consistent with federal, state, and local policies (including City of Seattle policies) that call for completion of the HOV system to increase the range of transportation choices.

Transportation measures, such as level of service are explained in text boxes in Section 5.1 of the SDEIS and Final EIS, and in the Transportation Discipline Report and Final Transportation Discipline Report.

5.2 Freeway Volumes and Operations

Commenters expressed concern regarding the assumptions, analysis methods, and conclusions of the freeway volumes and operations analysis. Specific comments included:

- Concerns that adding an HOV lane would result in only minimal congestion relief, asserting that the analysis shows that travel times do not improve with any of the proposed options and that the travel time analysis should include transit travel times.
- Inquiries regarding operational improvements resulting from added shoulders and the width of the shoulders, potential displacement of capacity in areas that already experience congestion, and effects of the added shoulders on mobility in the corridor.
- Concerns that I-5 has insufficient capacity to handle traffic flows with the 6-lane Alternative and options; suggestions to improve the I-5 interchange and requests for evaluation of effects on transit operations from eliminating one express lane from I-5 and options to provide a direct connection to the I-5 express lanes without reducing capacity.
- Concerns that SR 520 and connecting streets and highways will continue to be congested unless improvements are made to the I-5, Montlake Boulevard, Eastside, and I-405 interchanges; and/or additional general purpose capacity is provided.
- Requests for additional information, including a comparison of time gained and lost for transit travelers (in addition to SOV travelers) and suggestions to reevaluate transit options compared to SOV travel; develop options that would improve connections to I-5, I-405, and

various Seattle and Eastside neighborhoods; and implement demand management tools (for example, converting the I-5 reversible lanes to HOV lanes).

Response:

Chapter 5 of the Final Transportation Discipline Report presents WSDOT's findings for the freeway volumes and operations analysis and Chapter 8 presents the findings for the transit operations analysis. As discussed in both chapters, the project would result in substantial congestion relief. In addition, the number of people traveling on the SR 520 corridor daily who would use HOV (carpools with three or more people, and bus) would increase by approximately 19,000 (39 percent) compared to the No Build Alternative. General-purpose vehicle demand would decrease by approximately 11,000 vehicles per day (10 percent) for the Preferred Alternative compared to the No Build Alternative. These changes would occur because of the corridor toll, improved HOV reliability, and reduced HOV travel times that would increase the incentive to carpool or take the bus.

The Preferred Alternative would improve traffic operations in the SR 520 corridor as a result of improved shoulders, lane configurations, and ramp designs.

As described in Chapter 5 of the Final Transportation Discipline Report, several bottlenecks along the I-5 and I-405 corridors currently limit the amount of traffic that can access SR 520. In Seattle, these areas include northbound and southbound I-5 across the Lake Washington Ship Canal Bridge and through downtown Seattle. The capacity of the I-405/SR 520 interchange and I-405 mainline through downtown Bellevue also limits the amount of traffic that can enter or exit the SR 520 corridor. Conditions are expected to worsen on I-5 and I-405 by the year 2030, both with the No Build Alternative and Preferred Alternative. Both the I-5/SR 520 (general-purpose and express lane) and I-405/SR 520 interchanges are included in the travel demand model and the freeway simulation models used to analyze project effects. The effects of congestion at these interchanges on the Preferred Alternative are described in detail in Chapter 5 of the Final Transportation Discipline Report (Attachment 7 to the Final EIS). Chapter 5 of the Final Transportation Discipline Report also includes an analysis of the I-5 express lanes.

The Preferred Alternative would improve access to SR 520 from Montlake Boulevard and from SR 520 to the north via the new bascule bridge, enhancing traffic circulation and alleviating some congestion in the Shelby/Hamlin area. Chapter 6 of the Final Transportation Discipline Report provides further information.

Chapter 8 of the Final Transportation Discipline Report presents WSDOT's findings for the transit operations analysis. It describes existing

and forecasted transit service and facilities, travel times, and transit reliability on the SR 520 corridor without and with the project. As part of the planning process required under ESSB 6392, which was passed by the Washington State Legislature in 2010, WSDOT coordinated with Sound Transit, King County Metro Transit, the City of Seattle, and UW to refine the Preferred Alternative. This coordination ensures that the SR 520, I-5 to Medina project will not adversely affect transit, pedestrian, and nonmotorized facilities and operations at the future Montlake Multimodal Center (currently known as the Montlake Triangle), and will not preclude future transit facility and service improvements. The Preferred Alternative would improve transit reliability in this area by providing HOV lanes on Montlake Boulevard between SR 520 and the Montlake Multimodal Center, and direct access HOV ramps to and from the east. The eastbound HOV access would be via the lid rather than via a loop ramp. See Chapter 1 of the Final EIS for a description of the ESSB 6392 process, and Chapter 2 for a description of the Preferred Alternative.

5.3 Local Volumes and Operations

5.3.1 Local Operations Analysis

Commenters expressed concern regarding the assumptions, analysis methods, and conclusions of the local traffic analysis. Comments included:

- Requests for clarification of local streets evaluated, potential traffic impacts, anticipated “cut-through” traffic from modifications to other streets and intersections, potential effects on arterial streets from traffic exiting SR 520, and how the levels of service in congested areas were calculated.
- Concern that congestion on arterial streets (for example, Montlake Boulevard, Boyer Avenue, Interlaken Boulevard, Delmar Drive, East Lynn Street, 23rd Avenue, NE 45th Street, Sandpoint Way, 25th Avenue NE, Pacific Street) has not been adequately addressed; concern that congestion in some neighborhoods would cause diversion to other neighborhoods.
- Suggestions for reducing traffic in various neighborhoods by installing traffic lights and by scheduling hauling only during certain hours.
- Concern for pedestrian and bicycle safety.

Response:

Based on standard methodology, the local study area reported in the traffic analysis was determined by the change in traffic volumes on the local streets with the No Build Alternative versus the build alternatives; only intersections where traffic volumes would increase by more than 5 percent were included. Five percent was selected as the criterion because a change in traffic of that amount could result in measurable operational changes. If traffic volume increases were less than 5 percent on adjacent streets, the

intersection was not included in the analysis. Thus, all intersections not included in the local study area would experience an overall change in traffic volumes during the a.m. and p.m. peak hours of less than 5 percent with implementation of the project.

The methodology used for evaluating level of service at local intersections is described in Chapter 4 of the Transportation Discipline Report and Final Transportation Discipline Report. The chapter includes discussions regarding how local operations were analyzed, and definitions for level of service, volume-to-capacity ratio, and queue spill-back area. Chapter 6 of the Transportation Discipline Report and Final Transportation Discipline Report provides a comprehensive description of local traffic volumes and operations for Seattle-area intersections affected by the SR 520 improvement options. This chapter describes the relationship between local intersection operations and freeway-related congestion. For the Final EIS, only the Montlake interchange area was evaluated for local effects, because the Preferred Alternative would result in minimal changes in traffic volumes (less than 5 percent), traffic circulation patterns, and traffic operations in other areas as compared to the No Build Alternative. Local streets in other areas such as the I-5/SR 520/East Roanoke Street, I-5/NE 45th Street, I-5/Mercer Street, and I-5/Stewart Street interchange areas were evaluated in the Draft EIS, SDEIS, and Final EIS because of the potentially broader-reaching effects of the alternatives and options evaluated in these documents.

The effects on traffic resulting from the design options presented in the SDEIS were discussed in Chapters 5 and 6 of the Transportation Discipline Report. Chapter 6 of the Transportation Discipline Report described in detail how traffic conditions on Montlake Boulevard would be improved by Options A, K, and L. The Final Transportation Discipline Report in Attachment 7 to the Final EIS provides new analyses of congestion and access restrictions around Portage Bay under the Preferred Alternative. The Preferred Alternative would improve traffic operations on the SR 520 corridor as a result of improved shoulders, lane configurations, and ramp designs. This improvement would benefit traffic operations on Montlake Boulevard by reducing the level of congestion from SR 520 that affects Montlake Boulevard traffic flow. The Preferred Alternative would also improve access to SR 520 from Montlake Boulevard and from SR 520 to the north via the new bascule bridge, enhancing traffic circulation and alleviating some congestion in the Shelby/Hamlin area.

The Preferred Alternative would improve traffic conditions on Montlake Boulevard. For example, reconstructing the SR 520 eastbound on-ramp at Montlake to include a second general-purpose lane would improve traffic operations on Montlake Boulevard southbound substantially, reducing the current southbound backups. There would be no adverse effect on access to the Seattle Yacht Club. Please see Chapters 5 and 6 of the Final

Transportation Discipline Report for discussions of the improvements proposed as part of the Preferred Alternative and their effects on freeway and local traffic operations in the Montlake area.

In accordance with the requirements of ESSB 6392, WSDOT has worked collaboratively with the SDOT, the City of Seattle Pedestrian Advisory Board, and the Seattle Bicycle Advisory Board to develop design refinements for pedestrian and bicycle facilities with the Preferred Alternative. These design refinements would improve safety and enhance the pedestrian and bicycle experience in the Montlake interchange area.

A qualitative assessment of key pedestrian and bicycle travel routes in the Montlake interchange area has been conducted since the SDEIS was published. Chapter 7 of the Final Transportation Discipline Report provides this assessment, which includes an evaluation of the following criteria: safety, connectivity, efficiency, and capacity for seven primary travel routes. Chapter 7 also provides updated and additional information on project effects to pedestrian and bicycle facilities and service.

5.3.2 Lake Washington Boulevard

Comments discussed potential traffic effects on Lake Washington Boulevard to the south as drivers would access SR 520 via Lake Washington Boulevard, and expressed concerns about pedestrian and bicycle safety as a result of traffic in the Arboretum. Commenters also suggested WSDOT reduce traffic in the Arboretum by removing the Lake Washington Boulevard ramps and evaluate alternative routes to access SR 520.

Response:

The Preferred Alternative would eliminate the existing Lake Washington Boulevard eastbound on-ramp and westbound off-ramp and the R.H. Thomson Expressway ramps. Westbound SR 520 traffic would access Lake Washington Boulevard via a new intersection located on the Montlake Boulevard lid at 24th Avenue E. The design refinements included in the Preferred Alternative would minimize effects on the Washington Park Arboretum relating to vehicle volume and speed, ease of visitor access, and the quality of experience available to Arboretum users.

Under the Preferred Alternative, removal of the Lake Washington Boulevard ramps would reduce traffic volume and congestion on the portion of Lake Washington Boulevard within the Arboretum, compared to the No Build Alternative. Please see the Section 5.1 of Final EIS and Chapters 5 and 6 of the Final Transportation Discipline Report (Attachment 7 to the Final EIS) for discussions about the effect removing the Lake Washington Boulevard ramps would have on traffic in the Montlake interchange area. Also see Chapter 7 of the Final Transportation Discipline Report for information regarding project effects on

nonmotorized transportation. As part of the Arboretum Mitigation Plan, WSDOT has also committed to fund traffic calming measures along Lake Washington Boulevard, and to work with SDOT on additional measures to manage traffic in the Washington Park Arboretum.

5.4 Freight

Comments and questions about how the design accommodates freight included:

- Address freight in a way similar to how other modes were addressed, such as light rail, bicycle and pedestrian traffic, and parking.
- What are the truck design vehicles for the project area?
Recommendation for consideration of a WB 67 design vehicle on the Major Truck Streets affected by the project.
- The City of Seattle uses a truck design envelope of a 20-foot-high by 20-foot-wide vehicle for over legal loads on major truck routes. The 20-foot clearance needs to be considered under both roadway and pedestrian bridges.
- Suggestions for avoiding and minimizing potential adverse effects on freight mobility, such as keeping grades as level as possible (preferably no more than 5 percent), revising the ramp design for the westbound SR 520 to I-5 merge to make it safer and easier for trucks, and ensuring vertical and horizontal clearances would allow passage of oversize loads.

Response:

The project is intended to support freight mobility in the region. WSDOT recognizes that SR 520 is an important regional transportation corridor for moving goods and freight as well as commuters. The project can be expected to comply with the WSDOT guidelines for design vehicles within the limited access area. The design vehicle for intersections will be determined during the final design process. WSDOT's standards, which the project must meet, are consistent with current AASHTO standards of safety and reliability. The width and configurations of the lanes and shoulders would be designed to accommodate anticipated traffic in the corridor, and the roadway would meet legal vertical and horizontal clearances and grade requirements. At this point in the design process, the SR 520 grades throughout the corridor would be 5 percent or less, regardless of current grades. Oversized freight taller than 16.5 feet would not be able to travel across SR 520.

WSDOT continues ongoing coordination with the City of Seattle and other local jurisdictions to consider the effects of the proposed designs on city operations. The needs of trucks carrying freight must also be balanced with the needs of motorists, pedestrians, transit and bicyclists.

6.0 Land Use & Economic Activity

6.1 Property Acquisitions

Comments and questions about property acquisitions included the following:

- Questions about property acquisitions: how WSDOT will pursue partial versus whole parcel acquisitions and how does fair market value apply to publicly owned properties like the Arboretum and UW?
- Questions and concerns regarding specific properties, such as the Museum of History and Industry (MOHAI) property, Queen City Yacht Club, Bayshore condominiums, NOAA's Northwest Fisheries Science Center and UW properties. Comments provide suggestions for avoiding and minimizing adverse effects on these properties, potential mitigation measures for areas where impacts cannot be avoided, and coordination efforts for identifying replacement for properties or their use as needed.
- Requests that WSDOT evaluate design options that would eliminate or reduce right-of-way needs, and that acquisition should include whole parcels only and not partial acquisition.

Response:

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. If the project results in “real” property impacts (fee area acquisitions), the owner will be compensated fairly. In addition to paying the owner the market value for the property needed for the project, owners are also to be paid for any loss in market value (damages) to their remaining property. If the portion that remains should be of such a size or shape as to have little or no value or utility to the owner, the state would offer to purchase it. More information can be found at <http://www.wsdot.wa.gov/realestate/> in the brochure titled “Transportation Property Needs and You.” WSDOT cannot compensate a property owner unless there is a “real” property impact (fee area acquisition). 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.

Because UW property is a state institution, it is exempt from the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act. WSDOT and UW would instead review the deed restrictions and funding commitments tied to the property to be acquired for right-of-way purposes. These deed restrictions and commitments would be used as a guide through the acquisition process. The federal Uniform Relocation Assistance and

Real Property Acquisition policies also would not apply to the Washington Park Arboretum because it is a Section 6(f) property. The Section 6(f) statute (Title 16, United States Code, Section 460l) requires that lands acquired and/or developed using funds from the Land and Water Conservation Fund (LWCF) that are converted to uses or functions other than those for which the funding was approved must be replaced with other property. The replacement property must be of at least equal fair market value as the converted property, and of reasonably equivalent usefulness and location. See the Draft Section 4(f)/6(f) Evaluation (Attachment 6 in the SDEIS) for more information.

The MOHAI building would be removed (location shown in Exhibit 5.2-5 of the SDEIS). The Seattle City Council adopted Resolution 31092 on September 28, 2008, to authorize the parks director to negotiate relocating the museum, including the MOHAI collection, to a regional museum located at Lake Union Park. The negotiation to move the MOHAI was approved on July 6, 2009, although it may be some time before the relocation is complete. If MOHAI has not moved to another site before construction of the project, WSDOT would assist MOHAI in moving to suitable replacement facilities. WSDOT would also compensate Seattle Parks and Recreation and the Seattle-King County Historical Society for the loss of the MOHAI facilities in accordance with applicable WSDOT policies and regulations for right-of-way acquisition.

WSDOT analyzed the advantages and disadvantages of reducing the footprint of the Portage Bay Bridge where possible while complying with safety and operational standards. Because of the addition of HOV lanes 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. Since the SDEIS was published, FHWA and WSDOT have developed a Preferred Alternative that incorporates key features, including an alignment shift to the south at the east end of the Portage Bay Bridge. A map showing the Portage Bay Bridge footprint is in Chapter 2 of the Final EIS. As shown, the Preferred Alternative includes a managed shoulder rather than an auxiliary lane on the Portage Bay Bridge, thus reducing roadway width and associated effects on NOAA property as compared to Option A.

6.2 Economic Effects

Comments and questions about the economic effects from the project included the following:

- Questions and concerns regarding the potential effects of tolls on regional businesses and the economy, project effects on property values within adjacent neighborhoods, and potential changes to quality of life in affected neighborhoods.
- Request for economic compensation for reduced property value resulting from potential increases in traffic noise; support for including

lids in the project design in the hopes that this would lead to increased property value.

- Concern regarding and requests to further evaluate potential financial effects to University District businesses, including the businesses in and around University Village, UW's Husky Stadium, and the Intercollegiate Athletics Department (ICA).

Response:

WSDOT recently completed an environmental assessment (EA) on the effects of SR 520 variable tolling. The report concluded that businesses that use SR 520 to deliver goods and services around the region would experience higher transportation costs as a result of the toll, compared to the No Build Alternative. However, these businesses would also benefit from improved trip reliability across SR 520 and a corresponding increase in productivity as a result of the project. This benefit would generally offset the higher transportation costs. See <http://www.wsdot.wa.gov/Tolling/520tolling.htm> for more information.

Effects on property values in the project area resulting from tolling, project construction, or project operation are not typically analyzed as part of an EIS. Research indicates that the effects of a transportation project on property values cannot be calculated with certainty because property values fluctuate constantly based on a variety of factors, including the general condition of the economy at the national, state, and local level.

The financial effects on University District businesses, including Husky Stadium and the ICA, were not studied in detail; however, the SDEIS does acknowledge that construction of Options K and L would result in a reduction in parking and associated revenues for UW. WSDOT will continue to work with UW as needed to better time and plan construction activities, and to determine which actions will be taken to mitigate the effects from loss of parking. Coordination with the affected parties, such as the City of Seattle, UW, and private property owners, will continue as design development progresses.

6.3 Plans and Policies

Comments and questions about the Comprehensive Planning analysis and the conclusions reached included the following:

- Comments regarding driving and commuting, primarily stating that existing modes of transportation and commuting are unsustainable. Comments suggest developing methods to allow people to reduce or eliminate their commute, incentivizing alternative (non-SOV) commuting, using project funds for environmentally sustainable transportation options, replacing SR 520 with dedicated mass transit, and encouraging people to work and live in the same areas. Commenters also assert that the project expands capacity, encourages

people to drive more instead of using alternative forms of transportation, and allows people to live further away from their place of work.

- Statements about population growth; for example, assertions that project allows for accelerated growth in the region that is not sustainable, that the Draft EIS does not fully consider regional growth models that would reduce the need for additional highway capacity, and that increasing populations will generate more traffic that we cannot afford to let enter the city.
- Support for consistency with the Growth Management Act by providing multi-modal centers in the region and considering impacts and benefits on land use and future development.

Response:

At a state level, policy directives for land use decisions and transportation networks within the state are established in the State of Washington's Growth Management Act. At a regional level, planning for growth and transportation is conducted by the PSRC, which is an association of cities, towns, counties, ports, and state agencies that serves as a forum for developing policies and making decisions about regional growth management and environmental, economic, and transportation issues in the four-county central Puget Sound region of Washington State. The PSRC works with the central Puget Sound counties (King, Pierce, Snohomish and Kitsap), cities and towns, ports, tribes, transit agencies, and the state to build a common vision for the region's future expressed through Vision 2040 (the regional growth strategy) and Transportation 2040 (the detailed functional implementation plan).

The regional growth strategy within Vision 2040 describes a preferred land use pattern of urban centers to minimize environmental impacts, support economic prosperity, promote adequate and affordable housing, improve mobility, and make efficient use of existing infrastructure. This strategy supports concentrating population and employment growth in regionally designated growth centers. See <http://www.psrc.org/growth/vision2040> for more information. The largest share of growth is distributed to metropolitan and core cities; that is, places with designated regional growth centers that are already connected by major transportation corridors and high-capacity transit. These centers serve as hubs for regional transportation, public services, and amenities. Vision 2040 is the policy document containing the region's growth strategy.

The PSRC models and assesses the effects of this land use pattern on travel forecasts in order to estimate the effect on the transportation system of the region over time. This information provides the basis on which the investments in Destination 2030 (the region's current comprehensive long-range transportation plan at the time of the Draft EIS and SDEIS), and the

updated version of that plan, Transportation 2040 (adopted in 2010), are identified. The key transportation improvements needed to serve the planned land uses as identified by local governments are described in Destination 2030 and Transportation 2040.

Transportation 2040 identifies the SR 520 Floating Bridges as a project necessary to support development of the centers identified in Vision 2040 and to keep freight moving to support a strong economy. It also identifies relying directly on users of the new highway capacity to pay for improvements through tolling, which would also have positive effects on reducing congestion and emissions. See <http://psrc.org/transportation/t2040/t2040-pubs/final-draft-transportation-2040> for more information.

The Preferred Alternative is consistent with the policy directives for land use decisions and transportation networks, as set by the PSRC and the State of Washington's Growth Management. Destination 2030 and Transportation 2040 identify a new 6-lane SR 520 (four general-purpose lanes and two HOV lanes) as a project deemed "strategic to the region." A 6-lane SR 520 is assumed in PSRC's regional traffic model as a key facility needed to serve planned land uses under Vision 2040 and local land use plans.

WSDOT intends to operate SR 520 as a 6-lane corridor and has no plans to restripe it in the future. The width of the new 6-lane SR 520 corridor and the width of the new floating bridge would not allow conversion to eight lanes without physical widening of the roadway. This would result in a new project that would need to undergo separate environmental review.

See Section 5.1, Travel Demand Model, above in this Comment Summary Report regarding how traffic modeling conducted for the project accounts for regional travel patterns as well as economic factors such as anticipated future fuel costs and associated changes in behavior. See Section 1.0 above regarding the range of alternatives studied. See Section 5.2 above regarding congestion in the SR 520 corridor and regarding effects on I-5 and I-405. See Section 2.0 above regarding design for transit connections, how the provides infrastructure for bus rapid transit and accommodates potential future light rail, and the nonmotorized facilities included in the project, all of which provide alternatives to SOVs.

6.4 Permitting

Comments and questions about permitting included:

- Guidance for the project's permitting process. The project will likely require a shoreline variance and Conditional Use permits from the Washington Department of Ecology (Ecology). The bridge operations facility will require a Special Use permit from the City of Medina. Replacing parking for the Seattle Yacht Club and moorage for the

Queen City Yacht Club may also require shoreline variances, as these private clubs are considered nonconforming uses.

- Suggestions for environmental compliance and other regulatory requirements, including information regarding the Shoreline Management Act, evaluation of Washington Administrative Code (WAC) 173-27-370 regarding Lake Washington as a Shoreline of Statewide Significance, review of the criteria listed in WAC 173-27-160 regarding a Conditional Use permit for Shoreline Master Programs within Medina and Hunts Point, and evaluating potential effects to navigable waterways and appropriate mitigation measures.

Response:

The SR 520 Program (Program) is aware of the requirements of the State Shoreline Management Act (SMA) and will comply with all applicable provisions of the SMA. The Program is currently working with the City of Seattle, City of Medina, and Ecology to address provisions that may trigger permits or variances. The determination of proposed bridge and associated structure height will be forthcoming. This includes the City of Seattle Shoreline Program Update, which is currently in development. The Program is currently working with the City of Seattle and the Department of Ecology to address provisions that may trigger a Conditional Use permit. The determination of a Preferred Alternative and the applicability of proposed local Shoreline Master Program requirements are forthcoming.

There are currently no anticipated effects on Seattle Yacht Club parking. However, temporary relocation of some Queen City Yacht Club moorage slips would be required. After construction is complete, support columns for the new Portage Bay Bridge would be located very close to the docks at Queen City Yacht Club. WSDOT anticipates that the Preferred Alternative would result in the loss of one full boat slip at Queen City Yacht Club. The SR 520 Program will work with the City of Seattle to determine if this action will require a substantial development permit or variance under their current or proposed Shoreline Master Program.

7.0 Social Elements

7.1 Neighborhoods

Comments and questions about the effects of construction on neighborhoods included:

- Concerns that the Draft EIS understated the extent of construction and operation effects on the nearby communities, including the houseboat community, Bayshore Property, Eastlake neighborhood, UW, and Montlake neighborhoods.
- Concerns regarding construction effects on surrounding neighborhoods from traffic detours, haul routes, temporary transit

changes, noise, dust, and vibration; concerns that project operations will result in permanent effects to neighborhoods.

- Requests that WSDOT provide a more thorough estimate of potential construction and operation effects on the quality of life in the affected neighborhoods, clarify how effects will be mitigated, evaluate and describe neighborhood enhancements, incorporate aesthetic improvements, art, and community values into the project design, and pursue thorough coordination with communities to minimize construction effects and identify appropriate mitigation.
- Suggestions to reduce or minimize potential effects to surrounding neighborhoods, such as eliminating nighttime work to reduce noise and light pollution.
- Suggestions to prepare neighborhood-specific mitigation plans that would consolidate mitigation measures across disciplines and add specificity to address neighborhood-specific impacts.

Response:

Information on operational and construction effects on neighborhoods can be found in Sections 5.3 and 6.3 of the SDEIS. A detailed analysis can be found in the Social Elements Discipline Report (Attachment 7 of the SDEIS).

The Social Elements Discipline Report (Attachment 7 of the SDEIS) was updated to include detailed analyses of construction effects for each neighborhood within the study area (see pages 44 through 71). As discussed, effects would vary by neighborhood depending on the location and the timeline of construction activities. Construction effects would include increased noise and dust levels, degraded visual quality, and increased congestion as a result of construction activities.

The Social Elements Discipline Report also analyzes effects during project operation. As discussed on pages 77 through 94, there would be several long-term benefits that would improve community cohesion for the neighborhoods in the study area. The analysis addresses how community cohesion would be affected by the addition of lids, and how the project would affect noise levels, regional and community growth, recreation facilities, community services, and pedestrian, bicycle, and transit facilities.

Based on community and agency feedback, several design refinements have been made to the Preferred Alternative. The Preferred Alternative includes an enhanced and expanded Montlake lid, nearly 1,400 feet in length, designed to create a better pedestrian amenity in the central part of the Montlake neighborhood while providing a better location and environment for the regional bus stops that would be incorporated into the transit/HOV direct access ramps (see Chapter 2 of the Final EIS). It would be a full rather than partial lid, and the Preferred Alternative would include features

on the Montlake lid that would reconnect previously divided areas, such as bike paths, open space, and pedestrian amenities. As part of community outreach, staff continue to develop preliminary conceptual sketches, including site analyses, context diagrams, plans, sections, elevations, and perspectives, to convey the bridge design issues and possible lid and roadway landscape treatments. The Urban Design Team continues to work with the bridge engineers to design a floating bridge that is less obtrusive when seen from a distance and more aesthetically pleasing when seen up close. The project will initiate a public process to share this information with the stakeholders once it has been developed.

WSDOT acknowledges that construction will affect the natural and built environment in the project area and has identified best management practices and mitigation measures to reduce or minimize the effects (see Chapter 6 of the SDEIS and Final EIS). WSDOT is also developing a community construction management plan to address overall construction effects in the project area. The Final EIS and Construction Techniques and Activities Discipline Report Addendum (Attachment 7 to the Final EIS) contain updated haul routes and estimates of haul truck trips for the Preferred Alternative. Estimated truck peaks and averages represent a worst-case condition for each study location. Work sites could be accessed by more than one route, which could result in lower actual truck volume than the estimate during construction at some locations. In general, the estimated number of truck trips along arterials would be relatively low compared to overall arterial volume (see the Social Elements Discipline Report Addendum in Attachment 7 to the Final EIS). The truck volume estimates will continue to be updated as construction planning and scheduling are finalized, and WSDOT will work with the affected communities to avoid and minimize effects. See also Chapter 10 of the Final Transportation Discipline Report (Attachment 7 to the Final EIS) for a more specific discussion about haul routes, volumes, duration and scheduling.

Regarding construction effects, 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. Please see the addenda to the Construction Techniques and Activities, Noise, Social Elements, Visual Quality, and Aesthetics Discipline Reports (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. This may include seeking a noise variance and other approvals for construction activities as appropriate.

For additional information regarding specific mitigation measures, see the addenda to the Noise, Social Elements, and Air Quality Discipline Reports in Attachment 7 of the Final EIS.

7.2 Health Impact Assessment

Questions and comments regarding a health impact assessment (HIA) included the following:

- Suggestions that WSDOT conduct a HIA for the SR 520 project, and take measures to avoid potential effects from the project on human health as a result of noise, air quality, and water quality.
- Requests that WSDOT provide appropriate mitigation for identified effects to human health.

Response:

The SR 520 Health Impact Assessment: A Bridge to a Healthier Community (King County 2008) was led by King County Public Health and the Puget Sound Clean Air Agency. The HIA, one of the first completed for a transportation project in the United States, examined how the project could affect various parameters of public health. The HIA recommended measures that could be incorporated to improve the region's overall quality of health. Protecting human health is the one of the reasons behind many of the studies conducted as part of an EIS. See Chapters 5 and 6 of the Final EIS for discussion of measures that are part of the Preferred Alternative that would avoid, minimize, or mitigate effects.

WSDOT will continue to work with adjacent neighborhoods to enhance features of the project essential to promoting the health of residents and their communities, including the Arboretum. WSDOT and other state and federal agencies will continue to work together to respond to the overarching issues of air pollution from emissions associated with transportation.

7.3 Police/Fire

Comments and questions about police and fire service included the following:

- Information about emergency compliance for the project. WSDOT will need to develop an incident response plan, which should identify methods for responding to flammable liquid spills on the floating bridge; structures such as sound walls may need ventilation or other safety measures; emergency response vehicles will need access to construction sites; the project's compliance with National Fire Protection Association (NFPA) 502 should be evaluated.
- Requests for more information, including construction effects on emergency response such as fireboats, Seattle Fire Department access

during temporary closures, and potential effects from barge and other water-based activities.

- Requirements for additional coordination, including working closely with the Seattle Police Department and Seattle Fire Department.
- Concern for access to the UW Medical Center and Children’s Hospital during construction for emergency and nonemergency vehicles.

Response:

Section 5.3 of the SDEIS and Final EIS, and the Social Elements Discipline Report and Addendum evaluate the potential effects that project construction and operation will have on police, fire, and medical emergency services. WSDOT is coordinating with the Seattle Fire Department to ensure there are no disruptions to fire boat service during construction of the SR 520, I-5 to Medina project. WSDOT will continue to coordinate with emergency services located throughout the SR 520 corridor to ensure continued emergency access to all properties, and to minimize the effects on emergency response during construction.

WSDOT and the City of Seattle are working together to review the anticipated effects of the project on Seattle neighborhoods, utilities, and services. Ongoing coordination between WSDOT and the City will continue to identify measures that will minimize the effects of project construction to the extent practicable.

In addition to creating lid concepts in the mediation process, WSDOT engineers are designing the lids to meet WSDOT, AASHTO, and NFPA 502 design standards. WSDOT design standards (which either reference or incorporate many AASHTO standards) can be found in various guiding manuals at <http://www.wsdot.wa.gov/publications/manuals/>.

NFPA 502 design standards can be found at [http://www.nfpa.org/categoryList.asp?categoryID=124&URL=Codes & Standards](http://www.nfpa.org/categoryList.asp?categoryID=124&URL=Codes%20&Standards).

7.4 Utilities

Comments and questions about utilities included the following:

- Acknowledgement of major underground utility corridors near the project (Pacific Avenue and Montlake Boulevard) and potential effects to utilities, including water lines, the water distribution system, and two large pipelines (at Federal Avenue E and Montlake Boulevard).
- Requests to plan temporary and permanent power supply routes in the early design stages; rebuild the 24th Avenue E bridge to accommodate Seattle City Light distribution lines; and coordinate with Seattle Public Utilities to identify damaged or undersized utilities for replacement, utility relocations, and in-place utility protection.

- Inquiries regarding the power demand for the new bridge and coordinating the power supply with the UW light rail station.
- Requests for more information about mitigation for service disruptions and best management practices.

Response:

WSDOT is developing a Utility Relocation Plan to identify utility conflicts associated with the SR 520, I-5 to Medina project, and outline goals and strategies for resolving those conflicts. WSDOT will keep all known utility providers informed as the project advances, and will include the utility providers as necessary during project development to resolve utility conflicts. Typically, WSDOT coordinates with utility providers to develop Memoranda of Understanding regarding such things as advance notice of utility disruption and outage durations. WSDOT will follow guidelines outlined by the WSDOT Utilities Manual, which explicitly outlines coordination efforts, roles and responsibilities, and relocation processes.

WSDOT and its contractor(s) will cooperate with PSE regarding any service disruptions.

8.0 Environmental Justice

8.1 Environmental Justice (Analysis)

Comments about the environmental justice analysis included the following:

- Concern about building freeways and expressways through the poorer sections of cities.
- Concern for the potential effects of tolling on low income populations, minority populations, and those traveling to and from medical appointments and schools.
- Requests to sufficiently address effects of tolling and mitigation measures in environmental documentation.
- Suggestions for alternatives to using the Evergreen Point Bridge in order to avoid the toll and toll exemptions for specific persons or populations.
- Concern regarding potential effects to tribes, including effects to tribal fishing from bridge construction and operational effects on fish resources and habitat from the proposed larger bridge structure. Comments identify a need for a Supplemental Draft EIS to address environmental justice effects on the Muckleshoot Tribe.

Response:

Effects on low-income populations were considered in the Environmental Justice Discipline Report and Addendum and summarized in the SDEIS and Final EIS. WSDOT conducted its environmental justice evaluation by analyzing census data, and conducting geographic information system (GIS)

mapping to compare the poverty and minority status of those who would and would not be affected by the project. The distribution of low-income and minority populations along the corridor is described on pages 4-21 and 4-22 and depicted in Exhibit 4.3-2 of the SDEIS. With the exception of the University District, the analysis indicates that neighborhoods along the corridor have relatively low proportions of low-income populations compared to adjacent, unaffected neighborhoods.

Since the SDEIS, a Preferred Alternative has been developed by FHWA and WSDOT that involves replacing the Montlake Freeway Transit Station with transit access on the proposed Montlake lid. The lid design was revised since the SDEIS in part to accommodate freeway transit connections. In the future, transit access would no longer be from the Montlake Freeway Transit Station and would be slightly different during peak and non-peak hours. During the peak period, transit service is planned to provide more direct access to and from the University. For example, travelers would need to board a bus near the University hospital transit stop because the bus would then proceed directly onto SR 520 without any further stops. However, during off-peak hours, buses would leave SR 520 and stop on the Montlake lid to pick up riders and then return to SR 520.

The discussion of environmental justice effects on page 5-50 of the SDEIS acknowledged the reduced access to tribal fishing areas resulting from the larger bridge. An updated discussion of the effects of project operation on usual and accustomed fishing areas is provided in Section 5.3 of the Final EIS and in the Environmental Justice Discipline Report Addendum (Attachment 7 to the Final EIS). WSDOT and FHWA will continue to coordinate closely with the Muckleshoot Indian Tribe to quantify the extent to which the wider bridges will affect access to the tribe's usual and accustomed fishing areas and to develop mitigation for adverse effects on treaty fishing activities.

9.0 Parks and Recreation

9.1 Recreation

Comments and questions regarding recreation include the following:

- Requests for additional information or for WSDOT to present information in a different way. This includes formatting the Draft EIS in a way that allows the reader to compare the recreational effects across design options, quantifying overall parks effects in the document, considering traffic noise effects associated with an elevated roadway, and describing efforts to renovate wildlife/wetland habitat in East Montlake Park by Seattle Parks and neighborhood volunteers.
- Inquiries regarding specific recreational resources, such as the UW climbing wall, and maintaining access to recreational resources during construction.

- Concerns regarding overall loss of access and use of park areas during construction. Areas of concern include the Arboretum water trails and shorelines, Lake Washington shoreline, Foster Island Trail, the parking area and access near the UW and East Montlake Park, access to Montlake Playfield, areas near the UW Waterfront Activities Center, and access for pedestrians from Boyer Avenue to Roanoke Park and the local sidewalk/stairway network in the vicinity of construction.
- Suggestions for avoidance, minimization, and mitigation measures for recreational effects of the project, including no net loss of parkland; no net loss or impairment to the plant collection and wildlife or future health; no net less of physical meeting and office facilities; no net increase in negative effects on the Arboretum, including visual, air quality, light, green space, educational opportunities, or international reputation or significance; support for elements of a plan for long-term improvements to the south Portage Bay park and shoreline area; and improvements to South Portage Bay Park and the Montlake Playfield.

Response:

The organization of the SDEIS differs substantially from the Draft EIS. The structure of the SDEIS analysis has been changed so that it is easier to compare the options with one another. Information has been consolidated according to element of the environment. Effects during project operation are discussed on pages 5-53 through 5-64 and effects during construction are discussed on pages 6-38 through 6-50 of the SDEIS. The Recreation Discipline Report Addendum (Attachment 7 to the Final EIS) provides a detailed analysis of effects, including noise effects from the elevated roadway through the Arboretum. The analysis found that there would be no negative noise effects because the Preferred Alternative would actually reduce noise in the corridor compared to existing conditions. Effects on specific recreational resources including UW recreational facilities and the climbing wall are discussed in detail within the SDEIS Recreation Discipline Report on pages 49 through 52.

Pages 6-40 through 6-49 of the SDEIS discuss loss of access and use of park areas during construction. As discussed, the project would require acquisition and construction easements of parts of the Bagley Viewpoint, Interlaken Park, Montlake Playfield, McCurdy Park, East Montlake Park, the Washington Park Arboretum, and UW campus facilities. It would also require periodic closures of portions of the Bill Dawson Bike Trail (Montlake Bike Path) and the Arboretum Waterfront Trail that runs under SR 520. WSDOT will prepare a detour plan in coordination with Seattle Parks and Recreation to ensure that access to these areas is maintained during construction. See Chapter 9 of the Final EIS for more information. In compliance with federal and local regulations, WSDOT will provide mitigation for effects to recreational resources from project construction. WSDOT's coordination with regulatory agencies has resulted

in the identification of a number of mitigation measures that could be used to reduce the effects of construction on Foster Island, and include routing trails and bicycle routes around construction sites to minimize trail closures; employing best management practices to reduce the effects of noise, dust, vibration, and glare; and implementing detours and traffic control measures to maintain access to recreational activities. These mitigation measures would maintain recreation throughout the construction period, and would allow for the enjoyment of many areas adjacent to construction sites. Please see the Recreation Discipline Report Addendum (Attachment 7 of the Final EIS) for more information.

Section 5.4 of the SDEIS discusses potential effects on park and recreation facilities within the project area and contains an overview of possible measures to minimize and mitigate these effects. Since the Preferred Alternative was developed, WSDOT has worked closely with both resource agencies and agencies with jurisdiction over parks to develop more specific and detailed mitigation measures for project impacts. For a more comprehensive discussion of mitigation measures proposed for wetlands, please see the Ecosystems Discipline Report Addendum (Attachment 7 of the Final EIS) and the Conceptual Wetland Mitigation Report (Attachment 9 of the FEIS). For more detail on mitigation measures pertaining to the Arboretum, please see the Final Section 4(f) Evaluation (Chapter 9 of the Final EIS) and the SR 520 Arboretum Mitigation Plan (Attachment 9 to the Final EIS).

As part of the Section 6(f) resource mitigation process, WSDOT will provide funding to the City of Seattle and UW for the purchase and/or development of the Bryant Building site. The acquisition of this 3.9-acre site would compensate for project use of other recreational facilities, and would create a new waterfront park area on Portage Bay. This area would be developed for public use and would include a hand-carry boat launch area. See the Section 6(f) Environmental Evaluation in Attachment 15 to the Final EIS.

9.2 Recreational Boating

Comments and questions about recreational boating included:

- Requests for additional information about potential changes to or restrictions of recreational boating opportunities in areas of the Arboretum, Portage Bay, Union Bay, and from the UW Waterfront Activities Center; requests for continued coordination to discuss mitigation measures and how access to these facilities can be maintained during and after construction.
- Questions about how the project would affect UW's rowing program and associated events; in particular, how the new bridge columns would affect the use of this area, create adverse aesthetic impacts, and force changes to the rowing program.

- Concerns about construction effects on opening day of boating season events and on boating activities in general.
- Concerns about the effects of construction and operation on properties that provide boating moorage and access, including potential project effects on Dock 3 moorage at the Queen City Yacht Club, moorage at and access to the Bayshore Marina, and access to Dock 1 moorage at the Seattle Yacht Club.
- Mitigation suggestions, such as compensating for or replacing the properties affected at the yacht clubs.

Response:

The Recreation Discipline Report Addenda, and Final Cultural Resources Assessment and Discipline Report (Attachment 7 of the Final EIS) provide more information about recreational boating and the effects from project construction and operation. As discussed in the Recreation Discipline Report Addendum, construction of the Preferred Alternative would not restrict launch of hand-carried boats from existing launch sites in south Portage Bay. However, access near and beneath the Portage Bay Bridge would be limited at times during construction for reasons of public safety.

In addition, movement of small watercraft around Foster Island would be limited at times when overhead work is under way.

There would be no effect on boating traffic to and from events at Husky Stadium because there would be no work on bridges near the shoreline area of Union Bay at this location and no impediments to vessel traffic in the vicinity. The nearest construction activities to the moorage area would be on land, for installation of the outfall pipe for the stormwater facility located on the UW Open Space; however, there should be no effect on boat moorage with that activity. WSDOT is coordinating with UW and the boating communities to create construction schedules that minimize effects to the University's rowing program and associated events. Additionally, WSDOT would work with UW to coordinate construction activities to minimize construction on game days and for other special events.

Construction of the new bascule bridge across the Montlake Cut would occur mostly on land. The footings are not in the water and the bridge spans themselves would be constructed and assembled largely on land. There would be limited effects to boating traffic through the Montlake Cut with this construction activity. Pontoons would be towed through the Ship Canal channel, Portage Bay, the Montlake Cut, and into Lake Washington with no stopping. Their presence and activity would be similar to a gravel barge that is of similar size that travels through the Montlake Cut every day. Passage of the gravel barge does not result in a complete closure of the Cut. For the Preferred Alternative, 77 pontoons would be towed through the Montlake Cut to Lake Washington at various times over a 2-year period. There would typically be 3 to 4 pontoons towed per month during this

period and sometimes up to 12 per month. WSDOT would minimize effects on recreational boating by not towing pontoons through the Montlake Cut during the traditional Opening Day ceremonies, as well as the week before and the week after Opening Day.

As shown in Exhibit 6.2-2 of the SDEIS, construction easements for the work bridges on either side of Portage Bay would affect the private dock for the Portage Bayshore condominiums (south side of Portage Bay Bridge) and several moorage slips at the Queen City Yacht Club Dock 3 (north of the Portage Bay Bridge). These facilities would be displaced or restricted during construction. See pages 3-14 through 3-17 of the SDEIS for additional details regarding the anticipated methods, activities, and sequencing for Portage Bay Bridge construction. The Seattle Yacht Club has no docks or moorage slips within the construction easements.

With the Preferred Alternative, after construction is complete, support columns for the new Portage Bay Bridge would be located very close to the docks at Queen City Yacht Club. WSDOT anticipates that the Preferred Alternative would result in the loss of one full boat slip at Queen City Yacht Club. Access to the finger piers on the north side of the Bayshore Condominium dock would require passage between bridge support columns with approximately 17 feet of clearance. The column located near the last finger pier slip on the north side of the condominium dock would limit the size and type of boat that could be moored in that slip. Vessels moored on the outer end of the dock may need to be positioned so that they do not extend beyond the north end of the finger pier.

Future discussions with the staff of the Queen City Yacht Club and the Portage Bayshore condominiums will be necessary to determine the feasibility of replacement moorage within the existing area of the facility during and after construction in order to avoid any financial hardship. WSDOT Real Estate Services will work with affected businesses and property owners through the Relocation Assistance Program, administered in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. More information about the types of assistance available can be found at www.wsdot.wa.gov/realestate/.

9.3 Washington Park Arboretum

Comments and questions about the Washington Park Arboretum included the following:

- Requests for more information regarding permanent and temporary effects to the Arboretum; statements that the Draft EIS did not adequately study the effects on the Arboretum, including traffic, visual, noise, air quality, light, green space, educational opportunities, or regional and international reputation or significance.

- Concern for potential effects to the Arboretum, explaining that these effects would not be worth the project benefits; concern for the health of plant collections due to air pollution and stormwater runoff, both during project construction and project operations; concern for maintaining access to the Arboretum Waterfront Trail and Marsh Island; concern for loss of wetland and wildlife areas.
- Concern regarding changes to Lake Washington Boulevard, such as potentially increased traffic volumes and the effects of this on the scenic and historic character of Lake Washington Boulevard through the Arboretum; suggestions that the project should aim to reduce traffic through the Arboretum.
- Suggestions for avoidance, minimization, and mitigation measures, such as avoiding the WSDOT peninsula during construction, replacing the Arboretum parking lots at the MOHAI facility, limiting or discouraging traffic through the Arboretum, and implementing the Arboretum Master Plan.

The project also received 45 comment letters from arboretums and botanical gardens around the world expressing concern for construction and operational effects of the project on the Washington Park Arboretum. These letters included the following comments:

- Requests that project development consider future generations and protect the Arboretum, which has cultural, historical and ecological significance internationally.
- Concern for visual effects from the higher bridge profile, traffic on Lake Washington Boulevard, effects on wetlands, and construction effects due to the temporary structures and length of time needed to construct the project.
- Requests that WSDOT commission an independent study to evaluate alternative construction modes and project options.

Response:

WSDOT agrees that the Washington Park Arboretum is a special place and aims to minimize, as much as possible, any negative effects to the park that would occur as part of the project. WSDOT has studied a range of potential effects as part of the SDEIS process, including transportation, visual quality and aesthetics, noise, air quality, and recreation. All effects are measured in comparison to the No Build Alternative. Although there is no clear way to quantify social costs, we are communicating the potential negative effects on the Arboretum so that decision-makers can weigh the options and make informed choices. We recognize that each person uses their own personal values when evaluating the project and those personal values can be difficult to assess.

One of WSDOT's key efforts under ESSB 6392 was to work with the ABGC, of which Seattle Parks and Recreation is a member, to identify appropriate mitigation for effects of the SR 520, I-5 to Medina project on the Washington Park Arboretum. This work involved review of the Arboretum Master Plan and commitments by WSDOT to provide funding toward a number of projects in the plan. This 8-month coordination effort resulted in the Arboretum Mitigation Plan, which is included in Attachment 9 of the Final EIS.

Over the long term, the Preferred Alternative, compared with the No Build Alternative, would improve regional air quality and reduce noise in the Washington Park Arboretum. As documented in the SDEIS and Final EIS and in the Air Quality Discipline Report and Addendum, criteria pollutant emissions and air toxics would decrease from existing conditions by 2030. In addition, the reduction in traffic on Lake Washington Boulevard compared with the No Build Alternative would result in further reduced vehicle emissions in the Arboretum. Therefore, air quality in the Arboretum with the Preferred Alternative is expected to be similar to, or slightly improved over, No Build Alternative conditions. With the Preferred Alternative, noise levels in the Arboretum in the areas closest to SR 520 would be reduced by several decibels compared to the No Build Alternative. The proposed noise reduction approach would also avoid the aesthetic effects of noise walls in this natural area.

The Preferred Alternative has benefited from extensive input from agencies and the public during NEPA/SEPA evaluation, and as a result has further minimized effects on the Washington Park Arboretum compared with designs studied previously. The Preferred Alternative would remove the existing Lake Washington Boulevard ramps to and from SR 520, reduce traffic volumes and noise levels in the Arboretum, and reduce air pollutant emissions. In addition to the reduction in traffic associated with the existing Lake Washington Boulevard ramps, the Preferred Alternative has been designed to minimize the footprint of SR 520 across Foster Island to the maximum extent possible while complying with safety and operational standards, and while accommodating potential future light rail through the corridor. Footprint in the Arboretum has been refined, with right-of-way acquisition reduced compared to the SDEIS options. In addition, a constant-slope profile would improve the clearance of the crossing above the Arboretum Waterfront Trail from its existing 8 feet to between 14 and 20 feet. The higher clearance would also improve conditions for wetland vegetation east and west of the island. Please see the Ecosystems Discipline Report Addendum (Attachment 7 to the Final EIS) for further discussion of effects on wetlands. Also see the Final Cultural Resources Discipline Report and Addendum (Attachment 7 to the Final EIS) for discussion effects on the Arboretum and Foster Island as cultural resources.

WSDOT worked with the ABGC to develop a mitigation plan for the Arboretum as required by ESSB 6392. The group identified Arboretum resources that could be affected by the SR 520, I-5 to Medina project; clarified effects on identified resources; identified appropriate mitigation opportunities within the Arboretum for these effects; provided an information link to and from legislative and regulatory technical working groups; and submitted a final plan to the Governor and the Transportation Committees of the Washington State Legislature in December 2010. WSDOT will continue to work with the ABGC to ensure that project effects on the Arboretum will be minimized as much as possible and to implement the agreed-upon mitigation for remaining adverse effects. As part of the plan, WSDOT will develop a design review plan for landscaping and recreational facilities within the right-of-way to minimize effects of the new bridge on the Arboretum. Because Foster Island is a Traditional Cultural Property, this effort will also include the tribes.

10.0 Visual Quality

10.1 Visual Quality

Comments and questions regarding visual quality included the following:

- Visual simulations should be revised and expanded. The visual simulations in the Draft EIS misrepresent the scale, appearance, and intrusive visual effects of the project, and lack sound walls. Additional visual simulations would be useful to understand effects from the driver's perspective and at eye-level to understand the human scale; a video simulation would help viewers understand visual effects. Visualizations should be provided or reevaluated at Webster Point, Laurelhurst, southern UW campus, northern Arboretum, Lake Washington Boulevard, Roanoke Park, North Capitol Hill, Broadmoor, the Montlake Bridge, Marsh and Foster Islands, and south Lake Union.
- A comparison of visual effects across project alternatives and options would be useful. The discussion of the alternatives in the Draft EIS is fragmented and the alternatives are hard to compare. The visual character discussion in the Draft EIS is deficient and should provide a more detailed description of views from Roanoke Park, Portage Bay, and Madison Park.
- Concerns regarding visual effects resulting from the increased bridge profile and width, sound walls, a second Montlake bridge (detracting from the character of the existing bridge), and nighttime lighting.
- Additional information is needed regarding visual effects from construction lighting and glare, and the use of properties during construction.

Response:

The viewshed was updated as part of the SDEIS analysis. It was defined as the area that one can see and that can be seen from the SR 520 corridor. The viewshed was determined by GIS topographic maps and repeated site visits to the entire corridor and does include upper floors of buildings along shorelines. The updated viewshed as shown in Exhibit 5.5-1 of the SDEIS includes the southern UW campus, northern end of the Arboretum, and Lake Washington Boulevard. Portions of Roanoke Park and north Capitol Hill were not included in the viewshed because views of Portage Bay and SR 520 are blocked by buildings, changes in topography, and mature trees along streets. Pages 26 through 27 of the SDEIS Visual Quality and Aesthetics Discipline Report explain how the viewpoints for visualizations were chosen. For a 6-mile-long corridor not every view could be simulated; this would be prohibitively expensive, which is why key viewpoints were defined.

The purpose of visualizations is to illustrate what a view would look like to a person walking or driving through a public space and to convey what the experience of being in or looking at the new view might be like. A key goal of visualizations is to provide the most accurate data possible. The visualizations were created using engineering drawings with the width, height, and depth of the project elements placed into a still background photograph using specialized, accurate software. The perspective and scale of the project elements were adjusted to match that of the background photograph so that the structures correctly represent the massing, scale, and location defined by the engineering drawings. This type of visualization has the advantage of illustrating the changes in a real setting.

The SDEIS Visual Quality Discipline Report included a new visual quality analysis with visualizations from 22 viewpoints. Many additional visualization viewpoints were evaluated as shown in Exhibit 9 (a plan view map showing the viewpoint locations) and in Attachment 2 (Visualizations) of the SDEIS Visual Quality and Aesthetics Discipline Report. The new viewpoints included views from Webster Point looking south, views of the proposed second bascule bridge (Options A and L), views of Portage Bay both to and from the Portage Bay Bridge, and other views toward Lake Washington and Medina. In addition, the visualizations have been updated to include sound walls for Option L to reflect the preferences of the mediation participants and for comparison purposes (see responses to Noise comments for more information regarding noise walls). WSDOT also developed an informational video fly-through for each of the three design options. These computer-generated videos can be seen at WSDOT's website www.wsdot.wa.gov/Projects/SR520Bridge/bridgeproject.htm.

Many photos and simulations have also been included in Chapter 2, Chapter 3, and Section 5.6 in the SDEIS to ensure that the full extent of the improvements is covered. In addition, the organization of the SDEIS

differs substantially from the Draft EIS. The structure of the SDEIS analysis has been changed so that it is easier to compare the options against one another. Information has been consolidated according to element of the environment. Effects during project operation are discussed on pages 5-77 and 5-78 and effects during construction are discussed on pages 6-50 and 6-57 of the SDEIS.

Pages 31 through 39 of the SDEIS Visual Quality and Aesthetics Discipline Report provide an updated discussion of the visual character of each landscape unit. The visual character is defined as the existing visible land and water forms, vegetation, development, and transportation and utility facilities.

Construction lighting would affect areas near a construction site if nighttime work was performed there. Lights would have some form of shielding to reduce the amount of light spillover, but for safety reasons the lights must be bright to provide good visibility. In addition, the lights will typically be on tall poles, which means that spillover into residential areas would be likely and noticeable. These effects would be common to all landscape units.

Also see responses to comments in Section 12.4, Noise and Vibration - Construction regarding construction work hours.

10.2 Context Sensitive Design

Comments and questions regarding the design and aesthetics of the project included the following:

- Suggestions for project designs, including using Context Sensitive Design, following the guidance developed in the Corridor Aesthetic Handbook that has been developed for the project; considering edge treatment and opportunities for landscape and art to both enhance and visually buffer the roadway, reflecting simplicity, boldness and elegance; designing project structures and components within a regional context; and identifying opportunities for regional significance within the design.
- General concerns regarding the bridge structure and how it can be designed to maintain the scenic views across Lake Washington and Portage Bay.
- Suggestions for incorporating the bridge into the project surroundings, designing the bridge to fit within the context of the Foster/Marsh Island wetland complex and exploring “green” bridge designs through the Arboretum that enhance and promote wildlife habitat even on bridge structures.
- Suggestions that WSDOT follow Leadership in Energy and Environmental Design (LEED) principles for the project design.

Response:

WSDOT has a strong commitment to developing projects in accordance with the Context Sensitive Design/Solutions (CSD/CSS) philosophy. The SR 520 Program's CSD/CSS process is both collaborative and interdisciplinary and places great emphasis on understanding the relationship between land use form and function and transportation design and, at the same time, engaging and involving community stakeholders in the design process. See the following Web sites for more information:

- WSDOT CSS Web site: <http://www.wsdot.wa.gov/TA/Operations/LocalPlanning/contextsensitivesolutions.html>.
- Building Projects that Build Communities publication: http://www.wsdot.wa.gov/biz/csd/BPBC_Final/Understanding
- Flexibility in Transportation Design publication: <http://www.wsdot.wa.gov/eesc/design/Urban/PDF/UnderstandingFlexibilityInTransportationDesignWashington.pdf>

One of the first steps in the SR 520 Program was the formation of the Design Advisory Group (DAG) whose purpose was to explore and articulate an aesthetic vision for the new SR 520 facilities. The DAG was an important step in the on-going community information and outreach process that began with the Trans-Lake Washington Study and will continue through design and construction. The result of the DAG efforts, which took place between January and June 2006, was the Corridor Aesthetics Handbook (CAH). See the following Web site for more information regarding the SR 520 Design Advisory Group Handbook: <http://www.wsdot.wa.gov/Projects/SR520Bridge/library-technical>.

The CAH provides a statement of the communities' preferences for the aesthetic character of SR 520. The preferences as expressed in the CAH are thematic visions and aesthetic goals and principles. The SR 520 Project Team sees the corridor aesthetics work with the DAG as an important first step in the process to establish urban design guidelines. The information in the CAH will be used by the WSDOT Design Team as the primary reference for community aesthetic preferences as they begin to further develop and define the aesthetic guidelines for the facility and its corridor. Development of these guidelines will include the work of bridge designers, architects, landscape architects, lighting designers, and other specialists who will be preparing the final design packages for the project. It is important that the DAG and Project Team provide the overall aesthetic direction for these specialists to consider and try to incorporate as the project moves forward in design. These discussions and components will serve as the building blocks for what will ultimately become the urban design guidelines for a Preferred Alternative. These guidelines will provide the details needed to achieve the aesthetic vision as articulated in the CAH. The guidelines will

integrate community values, urban design principles, and Washington WSDOT standards, and will address such elements as:

- Corridor walls
- Lid edges and portal entries
- Bridge pier walls and abutments
- Community lid landscape and architecture elements
- Color
- Pedestrian barriers
- Structures
- Illumination
- Wayfinding and signage
- Plantings
- Transit facilities
- Viewing platforms

The Urban Design Team is working with the bridge engineers to design a floating bridge that is less obtrusive when seen from a distance and aesthetically pleasing when seen up close. The overarching aesthetic design goal is to create a legacy bridge that is not intrusive visually and that signifies its importance as a regional and scenic bridge. The proposed floating bridge would be supported on trusses recessed under the roadway deck. Moving the trusses inboard (away from the edge of the road deck) in this way would place them in the shadow of the deck, making them less visible when seen from a distance. As an assembly the trusses would create an interesting and open pattern when seen from near and middle distances. The program will initiate a public process when the information has been developed to share this information with the stakeholders.

With the Preferred Alternative, the height of the bridge over Foster Island would increase, and clearance below the bridge would range from 14 to 20 feet compared with about 8 feet today. The increased clearance would improve conditions for wetland vegetation and would improve the user experience in this part of the park. The higher profile would also aid in reducing noise. WSDOT is working in partnership with interested Indian tribes and the ABGC to develop an appropriate revegetation plan for the area under the bridge span, which could enhance the visual environment for recreational users. WSDOT has shared visualizations of the Preferred Alternative with the ABGC and has committed, as part of the Arboretum Mitigation Plan, to work with the ABGC on aesthetic enhancements at the Foster Island crossing. Visual quality in the Arboretum would benefit in other areas, primarily from the removal of the Lake Washington Boulevard and R.H. Thomson ramps.

Although the LEED Green Building Rating System standards do not apply to the roadway corridor itself, WSDOT will work toward obtaining LEED certification for the bridge maintenance facility. LEED standards are designed for rating new and existing commercial, institutional, and residential buildings. They are based on accepted energy and environmental principles and strike a balance between known, established practices and emerging concepts. Each rating system is organized into five environmental categories: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, and Indoor Environmental Quality. See <http://www.usgbc.org/Default.aspx> for more information.

11.0 Cultural Resources

11.1 Cultural Resources (Analysis)

Comments and questions about the cultural resources analysis included the following:

- Inquiries regarding the eligibility of the Montlake Historic District for listing in the National Register of Historic Places.
- Requests to expand the area of potential effects (APE) and suggestions that more consideration be given to the Queen City Yacht Club; that other historic structures, such as the Seward School and structures in Laurelhurst and Broadmoor, be analyzed; and that the Seattle Yacht Club be listed as a historic resource separate from the Montlake Historic District.
- Requests that WSDOT conduct a thorough Section 106 review of all historically significant areas, including the Olmsted landscapes (UW, all of the area that was historically part of the Arboretum, and Lake Washington Boulevard), the UW Aquatics Center and Marsh Island; requests for an analysis of effects on visitors to these resources and to the pedestrian corner at Pacific Street.
- Requests from community groups and individuals to be considered a consulting party to Section 106 and any related memorandum or programmatic agreement.
- Request for greater consideration of Duwamish history and respect for Foster Island as a burial site; WSDOT should consider the proximity of the bridge to this burial area and conduct an archaeological survey of Foster Island prior to further planning.
- Requests that the existing bridge should be documented and information made public before demolition.
- Requests for WSDOT to analyze and identify mitigation for vibratory effects on historic properties.

Response:

Eligibility of the Montlake Historic District for the National Register of Historic Places (NRHP) was determined in the Section 106 Evaluation and Identification process. The State Historic Preservation Officer (SHPO) concurred on the District's eligibility in August 2009. The Section "How would effects on cultural and/or historic resources compare between the alternatives?" in Chapter 4 of the Draft EIS was clear that the District is considered eligible for the NRHP, but is not listed. Regardless of whether a property is listed or has been determined eligible but is not listed, it is treated the same under Section 106.

To evaluate the proposed project's potential effects on cultural resources, WSDOT, in partnership with the Washington State Department of Archaeology and Historic Preservation (DAHP), established the project's APE, which is the geographic area within which an undertaking may directly and indirectly cause alterations in the character or use of historic properties (36 CFR 800.16). The APE for the SR 520, I-5 to Medina project was concurred upon by the Washington State Department of Archaeology and Historic Preservation. See the Final Cultural Resources Assessment and Discipline Report (Attachment 7 to the Final EIS) for discussion of the APE; see page 16 of the Cultural Resources Discipline Report for discussion of what is considered in determining the APE.

The Final EIS APE accounts for all property on which construction or demolition would occur, all potential construction staging and laydown areas, all potential haul routes, and all potential permanent and temporary property acquisitions and easements. The APE also includes a buffer area around the construction footprint sufficient to encompass historic structures; commercial buildings; and residences, historic districts, and public facilities (including parks and bridges) that might be directly or indirectly affected by demolition, change of land use, noise, dust, vibration, visual quality, or other effects. Further, it encompasses an additional area to include the entire Roanoke Park Historic District, the entire Washington Park Arboretum, a 2-mile-long segment of Lake Washington Boulevard, and all of the navigable waters of Portage Bay.

Coordination with the SHPO and consulting parties has substantially increased since the Preferred Alternative was identified. Establishing the design of the Preferred Alternative allowed WSDOT to better assess the potential effects on cultural resources. Since the SDEIS was published, the APE has been revised as described above, new consulting parties have been added, and additional information has been submitted to the DAHP and consulting parties for comment and review (see the Final Cultural Resources Assessment and Discipline Report in Attachment 7). Section 106 consultations culminated with the signing of the Programmatic Agreement.

Because of Foster Island's significance to area Native American tribes, it is also recognized as a traditional cultural property (TCP) and has been determined eligible for the NRHP under Criterion A because of its association with events important to history. The Preferred Alternative and all of the SDEIS options would affect this property, and appropriate mitigation measures have been developed in consultation with WSDOT, FHWA, the SHPO, and interested tribes to mitigate the potential adverse effect.

Following identification of the Preferred Alternative and consultation with the affected tribes and the SHPO, WSDOT conducted archaeological investigations on Foster Island in all areas of anticipated ground disturbance from the project. No significant archaeological sites were uncovered, and therefore the section of Foster Island within the limits of construction is not eligible for the NRHP under Criterion D.

WSDOT has worked with the affected tribes to develop the design for the bridge span that crosses the island. This coordination has helped WSDOT minimize disturbance to this traditional cultural property.

A Programmatic Agreement is being used as the formal, legally binding document between FHWA, the Advisory Council on Historic Preservation (ACHP), the SHPO, WSDOT, and the Section 106 consulting parties. Regulations from the ACHP include the following provision for programmatic agreements.

A programmatic agreement may be used:

- (i) When effects on historic properties are similar and repetitive or are multi-state or regional in scope
- (ii) When effects on historic properties cannot be fully determined prior to approval of an undertaking
- (iii) When nonfederal parties are delegated major decision-making responsibilities
- (iv) Where routine management activities are undertaken at federal installations, facilities, or other land-management units
- (v) Where other circumstances warrant a departure from the normal section 106 process. (36 CFR 800.14)

The Programmatic Agreement between FHWA, the ACHP, the SHPO, WSDOT, and the Section 106 consulting parties contains the terms and conditions agreed upon to resolve the adverse effect from construction and operation of this project. Discussions and negotiations among FHWA, the ACHP, the SHPO, WSDOT, and the Section 106 consulting parties for this Programmatic Agreement took place during fall 2010 and winter 2011. The Section 106 Programmatic Agreement is in Attachment 9 to the Final EIS.

In addition to the Programmatic Agreement, WSDOT is working in partnership with the Section 106 consulting parties to develop a community construction management plan. The community construction management plan will contain specific mitigation measures designed to protect historic resources from construction effects. It also addresses quality of life issues. The community construction management plan will include a number of stipulations, including, but not limited to:

- The use of best management practices to minimize construction noise, air emissions, and visual effects.
- Limitations on various types of construction activity by time of day or day of week.
- Estimates of haul route traffic during average and peak construction periods and provisions to minimize its effects on properties along the haul routes.
- Management of detour routes to ensure that access to homes, business, and public facilities and services is maintained.
- Special protective measures for facilities that have been determined to be at risk from vibration.
- Measures designed to protect the setting and integrity of historic properties and districts.
- Contact information for a hotline to resolve construction-related issues.

11.2 Olmsted Resources

Comments and questions about Olmsted-designed cultural resources included the following:

- Requests for further evaluation of Olmsted resources in the APE, including the entire Arboretum (rather than portions of it), the UW campus, Lake Washington Boulevard, Montlake Boulevard and Interlaken Park and Boulevard.
- Comments regarding the APE, primarily noting that it is too narrow and should be expanded. It does not include all of the Olmsted resources, and potential effects are “numerous and significant.”
- Concerns regarding potential effects to Olmsted resources as a result of expansion of SR 520; statements that the landscape that Olmsted intended will be degraded and that this is a historic site that will be lost forever with the expansion of SR 520; appropriate mitigation should be applied.
- Observations and corrections about the analysis presented in the Draft EIS, including the lack of analysis of the Olmsted-designed resources as a system, and that the description of the Wilcox Bridge is inadequate and that it should be further evaluated within the APE.

Response:

The system of Olmsted parks and boulevards was analyzed to the extent that it was included in the updated APE in the Final Cultural Resources Assessment and Discipline Report. To evaluate the proposed project's potential effects on cultural resources, WSDOT, in partnership with the DAHP, established the project's APE, which is the geographic area within which an undertaking may directly and indirectly cause alterations in the character or use of historic properties (36 CFR 800.16). The APE for the SR 520, I-5 to Medina project was concurred upon by the DAHP. See the Final Cultural Resources Assessment and Discipline Report (Attachment 7 to the Final EIS) for discussion of the APE; see page 16 of the Cultural Resources Discipline Report for discussion of what is considered in determining the APE.

Part of the Rainier Vista is within the APE, but Rainier Vista was previously determined not NRHP-eligible. The updated Historic Property Inventory (HPI) form for Rainier Vista found that it is not eligible because of a lack of integrity. The updated and original HPI forms are included in Attachments 3 and 4 to the Final Cultural Resources Assessment and Discipline Report. Effects on views from Rainier Vista are evaluated in the SDEIS Visual Quality Discipline Report.

12.0 Noise

12.1 Noise (Analysis)

Comments and questions regarding the Draft EIS noise analysis included:

- Comparison of estimated noise levels under the 4-lane and 6-lane Alternatives. The Draft EIS indicates that the 6-lane Alternative would improve noise levels as compared to the 4-lane. Some commenters state that this is not fair because the 6-lane Alternative includes lids and it is not logical to suggest that more vehicles will not result in more noise.
- Requests for more information on the noise standards applied to park areas, such as Montlake Park and the Arboretum.
- Requests for more noise analysis information, including an evaluation of noise effects broader than just those that approach or exceed FHWA's noise abatement criteria, analysis of noise levels at living spaces above ground level, analysis of lids to address traffic noise for both the 4-lane and 6-lane alternatives, a more comprehensive noise analysis that includes all affected neighborhoods, potential increases in noise levels from reflected traffic noise, information about addressing noise in the Eastlake and UW neighborhoods, and noise contour maps showing noise effects based on various noise wall heights.

- Concerns for the effects of traffic noise on nearby residences, including potential physical and psychological health effects.

Response:

Methodology and Study Area

Noise analysis for the Draft EIS, SDEIS and Final EIS has been consistent with current FHWA methodology, which is the accepted standard for modeling and mitigation of highway traffic noise. The study area includes both sides of SR 520 and the Seattle neighborhoods of Portage Bay, Roanoke, North Capitol Hill, Montlake, University of Washington, Washington Park Arboretum, Madison Park, Laurelhurst, and Medina. The noise studies performed for all three documents used identical methods; however, because new roadway alignments were included in the SDEIS, the SDEIS required a more detailed analysis of potential effects near the UW, the Montlake neighborhood, and other nearby areas than the Draft EIS. WSDOT policy requires that all properties within 500 feet of the proposed right-of-way be examined for noise effects. For this project, WSDOT went much further than required and included many residences and other land uses that were outside the required 500-foot limit. The basis for choosing this extended study area is discussed in the Draft EIS Noise Discipline Report (Appendix M of the Draft EIS) and the SDEIS Noise Discipline Report (Attachment 7 to the SDEIS). FHWA and WSDOT policy do not require noise modeling above the ground level for residential uses.

The noise analyst performed a detailed reconnaissance of the project vicinity to identify all noise-sensitive properties within 500 feet of the SR 520, I-5 to Medina project, and roadways farther than 500 feet from the SR 520, I-5 to Medina project that could experience increases in traffic volumes and noise under the proposed action. The Draft EIS Noise Discipline Report noted that some locations would have lower noise levels with the 6-lane alternative than the 4-lane alternative due to lids. However, based on the Draft EIS transportation analysis, WSDOT determined that the 4-lane alternative would not provide enough improvement to mobility to satisfy the project purpose and need.

Noise Effect and Abatement Criteria

The traffic noise effect criteria used for the Draft EIS, SDEIS, and Final EIS are from the U.S. Department of Transportation, 23 CFR 772; Procedures for Abatement of Highway Traffic Noise and Construction Noise (FHWA 1996). The criterion for highway traffic noise for residences, churches, schools, recreational uses, and similar areas is an exterior hourly equivalent sound level (Leq) that approaches or exceeds 67 decibels (dB). Parks are considered recreational uses. The criterion applicable for other developed lands, such as commercial and industrial uses, is an exterior Leq that approaches or exceeds 72 dB. No criterion exists for undeveloped lands or for construction noise.

WSDOT's Traffic Noise Analysis and Abatement Policy and Procedures (March 2006, available at <http://www.wsdot.wa.gov/NR/rdonlyres/26528ACC-7437-427C-BE81-F6FFA9C3BFD2/0/WSDOTNoisePolicy.pdf>) states that a traffic noise effect occurs when predicted project-related noise levels approach, within 1 dB, the criteria level, or substantially exceed existing levels. WSDOT considers a 10-decibel increase in noise as substantial. Based on these criteria, project effects on residential uses would occur at 66 dB and effects on commercial uses would occur at 71 dB.

FHWA's and WSDOT's standards for noise abatement and mitigation are intended to protect human health and welfare.

Lids are not considered noise mitigation under WSDOT noise policy. However, the lids included in the SR 520, I-5 to Medina project are an integral part of the project.

Noise Results in Laurelhurst

The traffic noise analysis for the Draft EIS showed that with noise walls, the future noise levels under either the 4-lane or 6-lane alternative would be lower for most noise-sensitive properties in the corridor than under the No Build Alternative. The study also showed that the actual difference between a 4-lane and a 6-lane alternative would be negligible, because the difference between the two alternatives would be less than 3 dB at virtually all locations along the corridor. Three dB is the smallest changes in noise level that a human ear can perceive. In the Laurelhurst neighborhood, existing noise levels considered during the Draft EIS analysis did not approach or exceed noise abatement criteria. Both the 4-lane Alternative and the 6-lane Alternative would have raised levels by 1 to 5 dB, resulting in noise levels that would still be well below the noise abatement criteria. Further, the difference between the 4-lane and 6-lane alternatives in Laurelhurst would not be perceptible. No noise level effects were identified in Laurelhurst with any of the Draft EIS alternatives or design options, SDEIS design options, or the Preferred Alternative. With the Preferred Alternative, noise levels in Laurelhurst would increase by 1 to 2 dB over existing conditions during peak hours, an increase that would not be perceptible.

12.2 Noise Abatement

Comments and questions about noise abatement included:

- Suggestions for noise abatement measures, such as optimizing the design of the Portage Bay Bridge to achieve the greatest reduction in noise impacts while minimizing the visual effects, using quieter pavement or rubberized asphalt, reducing the speed limit on sections of SR 520, and using an absorptive material on noise walls or roadway pavement.

- Inquiries regarding methods to address traffic noise, measures proposed to address noise on the north side of Portage Bay Bridge, and the effectiveness and location of noise walls.
- Statements both supporting noise walls and opposing noise walls, primarily related to their height and visual effects.
- Requests for more information about noise mitigation; statements that the identified abatement measures will not be enough.

Response:

Based on public and stakeholder comments and concerns about the effect of noise walls on the visual quality and aesthetics in the area, WSDOT has included a number of noise reduction strategies in the Preferred Alternative that would reduce noise in the Seattle portion of the project to the point where noise walls are not recommended for the Preferred Alternative in this area, except potentially along I-5 in the North Capitol Hill area where the reasonableness and feasibility of a noise wall is still be evaluated. The proposed noise reduction strategies include 4-foot concrete traffic barriers with noise-absorptive coating, modifications to the structure's profile in the Portage Bay area, reducing the speed limit through the Portage Bay area to 45 mph, encapsulating expansion joints, and using noise-absorptive materials around the Montlake and 10th Avenue E/Delmar Drive E lid portals. These strategies result in a reduction in noise levels in many areas of the corridor, without noise walls, as compared to existing and No Build conditions. Compared to No Build conditions, the Preferred Alternative would reduce the number of residences where noise levels exceed FHWA noise abatement criteria. See Section 5.7 of the Final EIS and the Noise Discipline Report Addendum (Attachment 7 of the Final EIS) for future (2030) noise levels is specific locations.

Quieter concrete pavement is included as a design feature for Option A, Option K, and the Preferred Alternative; however, because it is not an FHWA-approved mitigation measure and because future pavement surface conditions cannot be determined with certainty, it is not included in the noise model for the project.

WSDOT will continue to consider other noise reduction methods as design development progresses.

12.3 Noise Walls (Aesthetics)

Comments and questions regarding the noise walls and visual quality included the following:

- Opposition to noise walls because of their visual effect; suggestions that WSDOT consider the tradeoffs and better describe effects in order for residents to make an informed decision about the noise walls.

- Suggestions for alternatives to concrete noise walls or improving the aesthetics of noise walls, including using a Plexiglas noise wall across Portage Bay Bridge to preserve views for both motorists and distance views from nearby residences; including a mural or vegetation to soften the look of noise walls; refining the height, form, and materials used for the walls; and developing paintings or other artistic designs for the noise walls.
- Concern for sound wall aesthetics; suggestion to soften the visual impact with foliage or murals; the height, form, and materials need to be further defined.
- Inquiries regarding maintenance, graffiti removal, and whether WSDOT will have a sufficient operating budget for maintenance.

Response:

Federal and state-funded road projects are required to comply with the WSDOT Traffic Noise Analysis and Abatement Policy and Procedures Manual, which was prepared in compliance with FHWA policy and the requirements set out in 23 CFR 772. Noise levels from new road projects that exceed FHWA's noise abatement criteria must provide noise abatement and/or mitigation. The abatement/mitigation can involve the use of noise walls; however, there are many other ways to abate noise. With the Preferred Alternative, noise walls are not recommended in Seattle (except potentially along I-5 in the North Capitol Hill area where the reasonableness and feasibility of a noise wall is still be evaluated) because of the noise reduction that would result from the noise reduction strategies that are included in this alternative (see Section 12.2 above).

The aesthetics of noise walls have received a great deal of attention in meetings and workgroups as part of the planning process for the SR 520, I-5 to Medina project. As new noise abatement solutions are considered for the project, it is important to evaluate the context of the proposed solution and the effect on the visual experience for those who travel through the corridor, as well as those who look toward the highway. Noise abatement must be done in a way that preserves or enhances and does not negatively affect the visual quality of the environment. The goal will be to maintain visual quality and to avoid the introduction of inconsistent or conflicting elements concerning line, form, color and texture. In areas where noise walls are recommended, nearby property owners will determine whether they will be implemented. Further, WSDOT has established guidelines for context-sensitive design for the SR 520, I-5 to Medina project. Consistent with these guidelines, where noise walls are warranted, WSDOT will evaluate how noise wall types, textures, and colors combine to create a continuous and harmonious visual experience. The final surface treatments and vertical profiles will be the result of these various design considerations and the communities' input.

There is currently no policy against the use of transparent noise walls; however, they must meet acoustical guidelines and safety requirements. Where noise walls are recommended, transparent sound walls will be considered for certain locations where they may be desirable. Other considerations affecting the decision will include accessibility and maintenance. WSDOT is currently testing the use of transparent walls along a section of I-5 to determine maintenance and longevity factors.

Plantings will be used to mitigate the effect of introducing a noise wall or other noise abatement feature into the viewscape. Trees, shrubs, groundcovers, grasses, and vines, as determined appropriate, will be incorporated to soften, buffer, and break up the horizontal line of walls. Any new plantings must be sustainable over time and maintenance requirements must be considered. Design standards (clear zone and sight distance requirements) and the width of the right-of-way will guide planting type and location. Planting type and location will be one of the many elements addressed in the urban design guidelines for this project.

WSDOT will continue its current maintenance practices for covering or eliminating graffiti on sound walls. WSDOT maintenance staff will be part of future planning and design, in order to ensure that graffiti and other maintenance issues are fully addressed. Funding for such activities will be part of WSDOT's regular operating budget, which is set by the legislature.

12.4 Noise and Vibration (Construction)

Questions and comments about construction noise levels and vibration included the following:

- Requests for clarification on hours of construction, pile-driving effects, and construction processes for noise mitigation during construction.
- Request to monitor noise levels during construction and describe how noise will be mitigated during evening and nighttime work if a noise variance is granted.
- Suggestions for reducing noise during construction, such as installing sheet piles using a silent piler (GIKEN or equivalent), following the City of Seattle's performance standards, using mufflers on fossil-fuel-powered equipment, and installing noise walls in and around construction sites when effective.

Response:

The construction noise levels presented in the Draft EIS, SDEIS, and Final EIS are the worst-case predicted noise levels that would be expected during the heaviest construction periods when the activities are nearest to sensitive properties. Actual construction noise levels would vary with activity and would typically be lower than those presented. Noise levels from pile-driving that are presented in the Draft EIS, SDEIS, and Final EIS are

typical noise levels as measured from pile-driving recently performed in the greater Northwest area. Although some mitigation measures for pile-driving have been recommended by local jurisdictions, WSDOT has performed extensive testing of noise and vibration mitigation and, to date, most have not proven to be effective for this type of project.

The project will be required to follow local noise regulations for all construction activities. The City of Seattle recently updated their noise control ordinance, contained in Chapter 25.08, Noise Control of the Seattle Municipal Code (SMC). Sounds created by construction activities are discussed in SMC Chapter 25.08.425. WSDOT would comply with SMC Chapter 25.08.425 or obtain a noise variance from the City in accordance with SMC Chapter 25.08.655, Major Public Project Construction Variances.

Evaluating and managing noise related to construction is an ongoing process for WSDOT that only ends when construction ends. WSDOT would obtain a noise variance prior to start of work if the work is expected to exceed allowable levels established by City of Seattle code. It is anticipated that the applicable construction permits and approvals obtained from the City of Seattle for construction would help manage pile-driving activities to account for the surrounding environment and that best management practices would be required to minimize noise generated from pile-driving. In addition to measures identified in the Noise Discipline Report Addendum (Attachment 7 to the Final EIS), site-specific solutions for mitigating construction and operation noise will be developed by WSDOT during detailed engineering design, along with the involvement of community and neighborhood organizations.

WSDOT's construction management procedures include steps to monitor and manage noise during construction. The WSDOT Environmental Procedures Manual, WSDOT (February 2010) defines the procedures that WSDOT will use to ensure compliance with all applicable environmental laws and regulations, including noise codes, throughout construction. WSDOT has also developed an Environmental Compliance Assurance Procedure for construction projects. The procedure is designed to enable WSDOT to recognize and eliminate environmental violations, including those related to noise code issues, during construction, and to ensure prompt notification to management agencies if issues should arise. WSDOT implements this procedure to address the public health, safety, and welfare of nearby residents, the traveling public, and onsite workers.

There will be times, at certain locations along the corridor, where noise levels may be high for an extended period of time, such as during construction of the temporary structures and for utility relocations. The project construction manager will provide updates on project construction that will be made available to the general public. Targeted mailings, updates via the Program's Web site, reader boards, telephone hot-lines, and other

methods could be used to keep the general public informed of project progress and upcoming periods of heavy construction. As the project moves forward, more information and details on these construction-related issues will be provided.

WSDOT will develop a construction vibration monitoring plan for the project. The plan will provide guidelines for monitoring construction vibration near sensitive properties and structures to avoid damage during construction. Monitoring would take place if vibration from impact construction methods is expected to exceed a certain threshold. Such methods include pile driving, and vibratory sheet pile installation. Adjacent land uses that could be affected by construction noise and vibration are discussed in the Noise Discipline Report Addendum (Attachment 7 to the Final EIS) and in Chapter 6 of the Final EIS.

13.0 Air Quality

13.1 Air Quality (Analysis)

Comments and questions about the air quality analysis and the conclusions reached included the following:

- A request for more information regarding how the design options meet air quality standards in the project area, effects of and mitigation for toxic air pollutants, a comparison of air quality existing emission levels were maintained, and a vision for air quality improvements rather than just meeting standards.
- An observation that this project may improve air quality through shortened queues or increased average vehicle speeds.
- Concerns for potential effects to air quality, stating that there should be no decrease in air quality from a new bridge or from bridge construction; specific concern for the threat of air pollution on plants in the Arboretum.
- Inquiries about the model and assumptions, including why the model assumes a decrease in emissions in general and thus shows that regional emissions would be lower than existing conditions.
- Requests for clarifications, including the tolling structure and assumptions used in the air quality analysis and that carbon monoxide (CO) and carbon dioxide (CO₂) are different emissions with different characteristics and impacts, requiring different mitigation.

Response:

Conclusions presented in the SDEIS and Final EIS concerning local and regional air quality are based on the quantitative modeling of criteria pollutants using standard methodology, as described in the Air Quality Discipline Report. Air quality is studied as part of an EIS for its effects on human health and other aspects of the environment such as plants, animals,

and physical structures. The National Ambient Air Quality Standards (NAAQS) are established by the U.S. Environmental Protection Agency (USEPA) for pollutants considered to be harmful to public health and the environment.

As documented in the SDEIS and Final EIS and in the Air Quality Discipline Report and Addendum (Attachment 7 to the Final EIS), criteria pollutant emissions would decrease from existing conditions by 2030. A quantitative analysis of mobile source air toxics (MSATs) was conducted for the Preferred Alternative. The analysis found that all MSAT emissions would decrease in the design year compared to existing conditions. Modeling completed for the Preferred Alternative shows that vehicle miles traveled (VMT) would decrease compared to the No Build Alternative, which would result in a slight decrease in both criteria pollutants and MSATs.

A detailed analysis was performed for CO because the Puget Sound region is designated CO maintenance (formerly was not in attainment of the NAAQS). The CO analysis found that the CO NAAQS would not be violated as a result of this project. It was assumed that if the worst-case intersections did not cause a violation of the NAAQS, then the remaining intersections would not cause a violation of the NAAQS. The area is in attainment of the NAAQS for the remaining criteria pollutants. A project-level analysis for the other criteria pollutants is not warranted because a new transportation project is not likely to cause a new violation of the NAAQS. Please see the responses to Comments C-023-002 and C-032-009 for more information.

Maintaining good air quality is important to a community's well-being and the health of the environment. WSDOT will continue to work with adjacent neighborhoods to enhance features of the project essential to promoting the health of residents and their communities, including the Arboretum. Although no specific mitigation measures are proposed for project operations, WSDOT and other state and federal agencies will continue to work together to respond to the overarching issues of air pollution from emissions associated with transportation.

13.2 Air Quality (Construction)

Comments and questions about air quality during construction included the following:

- Inquiries about actions to control fugitive dust, mitigation for diesel particulate emissions caused by construction, and localized effects to air quality from closing the westbound HOV lane during construction.
- Requests that WSDOT use construction equipment that runs on low-sulfur diesel fuel and WSDOT conduct air monitoring before, during, and after construction per Environmental Health Division suggestions.

- Concerns for the effects of diesel particulate emissions caused by construction equipment and delay or diversion of highway traffic; requests that WSDOT mitigate for potential increased emissions.

Response:

Information on air quality effects and mitigation during construction can be found in Chapter 6 of the SDEIS and Final EIS. The Final EIS includes a quantitative analysis of emissions during project construction (see Section 6.8 of the Final EIS and the Air Quality Discipline Report Addendum (Attachment 7 to the Final EIS). WSDOT will continue to work with the Puget Sound Clean Air Agency (PSCAA), Ecology, and the City of Seattle as needed to better time and plan construction activities, and to determine which actions will be taken to control fugitive dust and to mitigate any increases in diesel emissions.

Readily available technology and WSDOT's existing procedures and practices can help reduce air quality concerns during the 7-year construction period. At present, WSDOT follows accepted industry practices to control dust on its construction vehicles and at its sites. WSDOT is also an active participant in many voluntary programs to reduce exposure to diesel emissions, including the use of cleaner fuels, the installation of retrofit emissions control technology, and department no-idle policies. WSDOT also encourages its contractors to reduce idling time of equipment and to use newer construction equipment or equipment with add-on emission controls. Measures to reduce air quality emissions during construction are discussed on pages 33 through 34 of the SDEIS Air Quality Discipline Report, and will be further defined in the Final EIS. Fugitive dust will be controlled by the contractor(s) in accordance with the Memorandum of Agreement between WSDOT and PSCAA Regarding Control of Fugitive Dust from Construction Projects (October 1999). The following measures are typically employed to control dust (PM₁₀) and transmission of particulate matter: exposed soil would be sprayed with water to reduce emissions of PM₁₀ and deposition of particulate matter; wheel washers could be provided, where applicable, to remove particulate matter that would otherwise be carried off-site by vehicles to decrease deposition of particulate matter on area roadways; particulate matter deposited on public roads would be removed to reduce mud on area roadways; and dirt, gravel, and debris piles could be covered or wetted during periods of high wind when the stockpiles are not in use. As stated in the Medina to SR 202: Eastside Transit and HOV Project Environmental Assessment, SR 520 will remain open between 5:00 am and 9:00 p.m. on weekdays throughout construction and will operate with all lanes, including the westbound HOV lane. Thus, closure of the HOV lane would not occur during peak hours and would not affect the majority of transit trips or result in associated changes in air quality effects.

14.0 Energy & Greenhouse Gases

14.1 Greenhouse Gases (Analysis)

Comments and questions about global warming, greenhouse gas (GHG) emissions, and energy included the following:

- Request for additional information regarding methods for achieving a net reduction in GHG emissions for each alternative over a 2006 baseline, the effect on GHGs, mitigation measures for protecting the global climate, and the project's anticipated CO₂ emissions.
- Questions about the project's consistency with the Seattle Mayor's 2006-2007 Environmental Agenda, consistency with City of Seattle's commitment to reduce GHG emissions by 680,000 metric tons, and whether the projected reductions in vehicle pollutant emissions could be reduced to be consistent with the goals of the Seattle Mayor's Climate Protection Agreement.
- Statements emphasizing the importance of reducing driving, explaining that climate change is an urgent challenge, driving is the region's largest single contribution to global warming; and assertions that increasing traffic lanes will cause more driving and produce more GHGs, the public should be encouraged to transition away from SOVs, and added capacity perpetuates sprawl.
- Statements about global warming, such as assertions that keeping SR 520 to four lanes because this is best from a global warming perspective, and that the focus of air quality analyses should be shifted away from CO to GHGs and toxic air pollutants.

Response:

As discussed in Section 5.9 of the Final EIS, long-term emissions of GHGs would be lower under the Preferred Alternative than under the No Build Alternative, thereby reducing the long-term contribution of the SR 520 corridor to global climate change. The GHGs emissions analysis for operation of the project was based on VMT for each 15-minute period for each roadway link (see page 37 of the Energy Discipline Report) as estimated in the project's transportation model. VMT for each link was multiplied by the relevant speed-based emission factor for GHGs. Because of reduced congestion and improved speeds, along with more efficient vehicles, the per vehicle GHG emissions are expected to decrease in the future build scenarios.

The addition of a dedicated lane for transit and HOV, along with the reduction in general-purpose demand achieved by tolling (compared to the No Build Alternative), would offer opportunities to reduce GHG emissions consistent with the Seattle Mayor's Climate Protection Agreement. As discussed in Section 5.9 of the Final EIS, the Preferred Alternative would

result in a 4 percent reduction in VMT in the project area compared to the No Build Alternative, with a corresponding 4 percent reduction in annual fuel consumption. The reduction in VMT results in a reduction of approximately 10 percent in GHG emissions compared to the No Build Alternative, which is consistent with state legislation calling for such reductions, and would contribute to other regional and national reduction efforts. It should be noted that this estimate does not take into account the estimated 60 percent increase in transit ridership that would be achieved if bus rapid transit is implemented in the corridor as part of the SR 520 High-Capacity Transit Plan.

15.0 Water Resources

15.1 Water Resources (Analysis)

Comments and questions regarding the water quality analysis methodology included the following:

- Suggestions regarding evaluation parameters and metrics, such as including dissolved metals as well as total metals to show water quality effects, providing data on additional water quality parameters to better understand the ecological effects, and using metrics that can more easily be compared to standards and analyzing dissolved metals in addition to total metals. A suggestion was made to use the same pollutant load calculation methods as resource agencies.
- Requests for additional information, including supporting documents, demonstration of compliance with the water resource inventory area (WRIA) 8 Chinook Salmon Conservation Plan, further discussion of pollutant loading and zinc increases, and the effects of the increased bridge height on the stormwater system.
- Statements regarding water quality and stormwater management, such as that water quality should be as good as or better than existing conditions, the project should result in a decrease in stormwater runoff, stormwater wetlands should be constructed to adequately handle heavy metals and other contaminants, and toxic spills should be planned for and contained. An observation was made that most of the pollution in Lake Washington is from stormwater runoff.
- Requests that water quality monitoring be conducted during construction and operation of the bridge and that water quality, aquatic habitat, wetlands, and green spaces be protected.

Response:

The pollutant loading analysis was conducted for the NEPA analysis comparing the pollutant loads in pounds/year for existing conditions (No Build Alternative) with the SDEIS options. The purpose of this comparison was to determine whether or not the project would improve conditions. As

such, determining whether pollutant loads increase or decrease relative to existing conditions was an appropriate metric. The pollutant loading model used in the Draft EIS and SDEIS analysis measured quantities of pollutants in Washington State highway runoff to best represent the conditions experienced on the existing and future highway roadways. Existing total metals were compared to the total metals that would enter the environment from the proposed project. This analysis was updated for the Preferred Alternative in the Water Resources Discipline Report Addendum and Errata and in the Final EIS.

The project design complies with all regulations established by Ecology in managing and treating stormwater and, as such, presumptively complies with federal and other state regulations. Stormwater facilities would be designed to remove sediments and reduce dissolved metals entering the receiving bodies. A higher bridge design would not affect the overall stormwater treatment design, but did affect the size and location of some facilities. The stormwater designs evaluated in the Draft EIS and in the SDEIS and Final EIS were developed consistent with the regulations and requirements of WSDOT's Highway Runoff Manual (HRM), which identifies whether or not flow control is necessary to protect the receiving environment, and the level of water quality treatment required to similarly protect these water bodies. Any discharges from the proposed highway's roadway would comply with water quality and quantity regulations by following the guidance and requirements included in WSDOT's HRM.

The project would conduct all monitoring as required by Ecology from the all known, available, and reasonable technologies (AKART) study and WSDOT's National Pollutant Discharge Elimination System (NPDES) stormwater permit. Sediment loads during project construction would be controlled through development and implementation of a Temporary Erosion and Sedimentation Control Plan by the construction contractor(s). The reduction in total suspended solids levels discharged from the proposed bridge's roadway would contribute to the improvement of sedimentation issues in Portage Bay and Lake Washington once the bridge is constructed and under operation.

15.2 Stormwater Treatment

Comments and questions regarding stormwater treatment included the following:

- Requests for more information regarding treatment facilities, such as the size and location of the stormwater treatment facilities, differentiating between water quantity and water quality requirements, describing WSDOT's previous experience with treatment lagoons within the pontoons, comparing stormwater impact scenarios for each alternative, and describing compliance with federal, state, and local stormwater regulations.

- Inquiries about stormwater discharge, maintenance of the stormwater facilities, whether stormwater facilities would be fenced, whether the MOHAI facility is big enough for a stormwater treatment wetland, and whether underground and underwater technologies would work for treating runoff.
- Suggestions for stormwater management and/or treatment methods, such as enlarging the stormwater system from Montlake Boulevard to NE 45th Street, using a water quality wet vault for stormwater for the Lake Union and Portage Bay basins, constructing spill lagoons in the Lake Washington basin, implementing high-efficiency street sweeping on the bridge, conveying stormwater from the floating bridge to shore and using a pervious surface for trails and paths; a statement that an emerging best management practice might be inappropriate for this project.
- Concern for the potential effects of stormwater facilities on MOHAI, the natural habitat, visual quality, and recreational use of Portage Bay and wetlands in the project area.

Response:

Information regarding stormwater treatment facilities type, size, and location were provided in the SDEIS Water Resources Discipline Report and were updated in the Water Resources Discipline Report Addendum and Errata and in the Final EIS. The stormwater treatment approaches were developed following the guidelines and regulations of WSDOT's HRM. This manual provides explicit guidance on the level of flow control and water quality treatment required for specific water bodies, and has been given equivalence with Ecology's Stormwater Management Manual for Western Washington.

Spill containment lagoons for the floating bridge were discussed on pages 5-21 and 5-22 of the SDEIS, as well as in the Water Resources Discipline Report (Attachment 7 to the SDEIS). The AKART study recommending the containment lagoons, along with high-efficiency sweeping, as the appropriate treatment technology for the floating bridge was conditionally approved by Ecology. This report is available concurrently with the Final EIS. Additional information on the AKART study is provided in the Water Resources Discipline Report Addendum (Attachment 7 to the Final EIS).

Compliance with the HRM supports the conclusion that the designed treatment systems will presumptively comply with all state and federal regulations for controlling and treating stormwater. The HRM identifies Lake Washington as being exempt from flow control and only requires basic treatment. Project area streams require both flow control and enhanced treatment; however, WSDOT has made a commitment to install enhanced water quality treatment where feasible for all discharges to Lake Washington. Specific information on the actual design parameters are

available in the supplemental material prepared for the SDEIS. All stormwater facilities are sized according to need based on runoff volume calculations as specified by the HRM and Ecology. All facilities would be in compliance with the HRM, including maintenance and monitoring.

Effects on the natural habitat, visual quality, and recreation from construction and operation of the project, including the stormwater facility at MOHAI, are described in the Ecosystems, Visual Quality, and Recreation sections of the SDEIS, respectively. Further details can be found in the SDEIS discipline reports on these respective disciplines.

15.3 Pier Treatment Wetlands

Comments regarding the use of pier treatment wetlands included:

- Statements of support for the pier treatment wetlands.
- Concerns for maintenance of the pier treatment wetlands, including an inquiry about how the vegetation would be kept alive.
- Requests for additional information about the ability of proposed pier treatment wetlands to meet state and federal water quality standards, and the locations of the pier treatment wetlands proposed for the different options.
- Inquiries about whether the pier treatment wetlands are being proposed as mitigation for wetland fill and whether the stormwater treatment wetland is proposed within existing wetlands.

Response:

Pier treatment wetlands are no longer a part of the project as documented in the SDEIS, and as such are not discussed in the SDEIS or Final EIS.

15.4 Water Resources (Construction)

Comments and questions regarding effects of construction on water resources included the following:

- Request for more information regarding construction effects, including the degree of potential effects from increased turbidity, specific locations of potential erosion and sediment disturbance, and the effects on water quality of constructing the work bridges.
- Request for more information regarding performance standards for turbidity and suspended sediments, and the potential for spills of hazardous materials, including methods for and implementation of spill containment.
- A recommendation that WSDOT consider and treat construction effects as long-term because of the length of construction.

- Requests that WSDOT develop and implement best management practices, erosion and spill control plans, and detailed performance standards to minimize effects from construction.

Response:

Construction effects were addressed at a summary level in the Draft EIS and the SDEIS rather than in specifics for two reasons. First, until the selection of the contractor(s), specific construction techniques are not available for detailed review. Secondly, and more importantly for this analysis, the conditions of the required state NPDES Construction Stormwater Permit include a number of requirements that must be met by the contractor in order to assure that the construction phase does not adversely affect water quality in the project area. Please refer to Section 6.10 Water Resources in the SDEIS and the Final EIS. The SDEIS Water Resources Discipline Report and the Water Resources Discipline Report Addendum and Errata (in attachment 7 to the Final EIS) also contain updated information.

Developing and implementing the temporary erosion and sediment control (TESC) plan and the Spill Containment and Control (SPCC) plan to prevent adverse water quality effects during construction as required under the NPDES permit will be the responsibility of the contractor(s). In general, the TESC plan focuses on controlling sediments and turbidity in adjacent water bodies, while the SPCC addresses the prevention and control of hazardous waste spills (primarily petroleum compounds) in the construction area, as well as any necessary cleanup of spills if they occur. These plans will be developed during project permitting. The conditions of these plans will be reviewed by Ecology prior to construction of the proposed project. These plans will also include monitoring activities and review and inspection by Ecology during construction to ensure compliance with all water quality regulations.

The existing bridges and roadways would continue to be used for vehicle traffic during construction of the replacement bridge, which would span multiple years. During this period, the levels of pollutant loading from operations would be generally not change from existing conditions.

All proposed stormwater treatment facilities would be constructed and in place prior to opening new lanes and replacement bridges to new traffic, ensuring that pollutant loads would decrease as new pavement is made available for use. The TESC and SPCC plans will be in place during the entire construction period. Concerns raised over the findings of the Korstrom and Birtwell study (2006) (which used 50,000-nephelometric turbidity-unit [NTU] turbidity levels in its experimental exposure of salmon to turbid waters) are unrealistic under the typical conditions required by Ecology (turbidity levels less than 25 NTU and increases over background of 5 NTU), and as such this study is not applicable to the conditions most

likely to be experienced during construction of the proposed project. Information regarding the installation of construction work bridges is discussed in Chapter 3 Construction Activities of the SDEIS and Final EIS. Specific effects from construction on aquatic habitats are described in the SDEIS Ecosystems Discipline Report and in the Ecosystems Discipline Report Addendum and Errata. Also see responses to comments in the following sections: Eastside, Effects (Operational), Methodology, Pacific Street Interchange, Pier Treatment Wetlands, and Stormwater Treatment.

16.0 Ecosystems

16.1 Wetlands

16.1.1 Wetlands (Regulations, Ratings, and Analysis)

Comments and questions about wetland regulations and ratings included:

- Requests that the updated wetland rating system and other wetland regulations and policies, including the City of Seattle Municipal Code, revised Ecology standards, and Washington Function Assessment Method, be used to classify wetlands, determine buffer widths, and describe wetland functions.
- Request that the Draft EIS and Ecosystems Discipline Report be revised to be consistent in terms of wetland ratings and impacts, that wetland impacts be broken down by Cowardin class or Hydrogeomorphic type, and that some wetlands be characterized as Category I rather than Category II.
- Clarification that the USEPA oversees administration of the Clean Water Act and jointly administers the wetlands program with the U.S. Army Corps of Engineers.
- Requests for additional analysis of effects, including clarifying the differences in wetland effects between the different project alternatives, considering wetland effects from shading of the proposed structures, quantifying fill from the proposed stormwater pond outfall near MOHAI and as part of wetland fill calculations, developing a matrix to more clearly compare wetland and buffer effects resulting from both fill and shading, and recalculating the wetland effects from bridge columns in Portage Bay.
- Request that discrepancies between information in the DEIS's exhibits and Appendix E be addressed, including areas of existing wetlands and wetland effects.
- Concern that the social, educational, aesthetic and ecological values of the wetlands would be negatively affected by the proposed project.
- Concern that the Draft EIS minimizes or dismisses negative environmental effects.

- Requests to minimize the potential adverse effects on wetlands by using the existing alignment rather than the proposed alignment, and through abiding by the laws described in SEPA.

Response:

Page 2-2 of the SDEIS Ecosystems Discipline Report describes the methodology used to rate and categorize wetlands in the project area. The Washington State Wetland Rating System for Western Washington developed by Ecology (Hruby 2004) was used to rate and assess the functions of the wetlands. In addition, the latest versions of all applicable regulations, including the Seattle Municipal Code, were used in the SDEIS analysis.

To address the comments on the Draft EIS, WSDOT conducted further studies and analyses, which are discussed in the SDEIS and SDEIS Ecosystems Discipline Report published in 2009. The SDEIS updates and clarifies many of the concerns regarding the DEIS, including discrepancies between the DEIS and the DEIS Ecosystems Discipline Report, wetland ratings, the presentation of the alternatives, omissions, and errors.

The SDEIS Ecosystems Discipline Report provides a detailed discussion of effects of the No Build Alternative and Options A, K, and L on wetlands. Furthermore, the potential effects of the Preferred Alternative were evaluated using the same methods as those used to evaluate the No Build Alternative and the SDEIS options. The potential effects of the Preferred Alternative are described in the Ecosystems Discipline Report Addendum and Errata (Attachment 7 of the Final EIS).

All wetlands in the project vicinity, including around the Arboretum, are important to the ecosystem. Construction effects are defined in the SDEIS and Final EIS as effects that would occur while the new bridge, roadways, ancillary facilities and any mitigation features are being built. Operational effects are effects that would occur while the new bridge, roadways, ancillary facilities and any mitigation features are in use. WSDOT is required to design a project that results in no net loss of wetland functions.

16.1.2 Wetlands (Shading Effects)

Comments and questions about shading of wetlands included:

- Requests for more information and detail, including shading effects caused by the increased width of the bridge, support from scientific literature and a light and shade study, more precise quantifications of shading effects on wetlands, and additional discussion regarding the effects of shading from temporary structures.
- Request that compensation for shading effects needs to reflect wetland ratings and the extent of function loss for a particular wetland.

- Statement that agency approval and confirmation is needed for mitigation required for shading.
- Concern for trees that would be shaded by the SR 520 bridge.

Response:

To address the comments on the Draft EIS, WSDOT conducted further literature review, field studies, and analysis for the SDEIS, and further updated the analysis for the Final EIS. Shading effects are summarized in Sections 5.11 and 6.11 of the Final EIS. For more detailed discussion, refer to Ecosystems Discipline Report Addendum and Errata (Attachment 7 of the Final EIS) and the Wetland Vegetation Response to Shade Special Study Technical Memorandum (WSDOT 2009a).

The results of the SDEIS shade special study suggest that the construction work bridges and the detour bridge associated with SDEIS Option K would shade wetland vegetation in Portage Bay and the Arboretum. Because the shading could occur for more than 5 years in some areas, it is expected that wetland vegetation and associated functions would be affected during this construction period. There are no specific regulatory mitigation ratios for shading effects on wetlands.

Since the publication of the SDEIS, WSDOT has worked with the agencies and Muckleshoot Tribe through the Natural Resources technical working group (TWG) to evaluate the effects of shade on wetlands. The intensity of permanent shade based on bridge height has been incorporated into the operation effects analysis and associated mitigation. As a result, WSDOT developed mitigation measures for wetland shading (from both construction and operation) in consultation with the regulatory agencies and the City of Seattle. WSDOT determined the amount and type of mitigation based on the goal of replacing lost or impaired wetland functions associated with the shaded areas and with approval by the regulatory agencies.

16.1.3 Wetlands (Construction)

Comments and questions related to construction effects included:

- Statements that construction-related and qualitative effects on wetlands and buffers are not adequately addressed in the Draft EIS or appendices, effects on wetlands from the installation and removal of pilings are downplayed, and the duration of a temporal loss should include the time it takes to replant and re-grow the vegetation that was lost as a result of construction.
- Request to include a table to compare construction effects for each project alternative, include effects resulting from shading and pilings from temporary bridges and barges, and that the exhibits be expanded to show the potential effects on wetlands for all alternative and options by waterbody or subbasin.

Response:

The SDEIS and Final EIS include more detail regarding construction effects to ecosystems than does the DEIS. Refer to Section 6.11 of the SDEIS and Final EIS, and the SDEIS Ecosystems Discipline Report and Ecosystems Discipline Report Addendum and Errata (Attachment 7 of the Final EIS). The Final EIS includes an updated qualitative discussion as well as tables of potential effects to wetlands and buffers from construction clearing, filling, and shading. In addition, the potential effects of the Preferred Alternative were evaluated using the same methods as those used to evaluate the No Build Alternative and the SDEIS options. See the Final EIS and the Ecosystems Discipline Report Addendum and Errata (in Attachment 7 to the Final EIS) for details.

Construction effects are defined for the project as effects that would occur while the new bridge, roadways, ancillary facilities and any mitigation features are being built. Many of the effects related to construction may occur over a number of months or years. In general, those effects that occur for a period of time shorter than a year would be considered short-term temporary, and they would be mitigated shortly after completion of construction. Those that occur for more than 1 year, such as pilings for work bridges, would be considered long-term temporary effects. The mitigation plan will include mitigation for both short-term and long-term temporal loss of wetlands as required by the agencies.

16.1.4 Wetlands (Mitigation)

Comments and questions regarding wetland mitigation included:

- Requests for more detail regarding the mitigation approach and wetland mitigation opportunities, including wetland replacement ratios, how WSDOT will ensure mitigation plans are completed, potential on-site mitigation, mitigation for indirect effects to wetlands, how mitigation would be funded and maintained, how WSDOT would mitigate for the temporal loss of wetlands, and what avoidance and minimization measures will be used.
- Inquiries regarding wetland mitigation, such whether WSDOT has determined if enhancement of low-quality wetlands could be pursued as mitigation for temporary construction and shading effects, and whether potential mitigation opportunities would provide sufficient mitigation for effects on wetlands.
- Suggestions for wetland mitigation, such pursuing mitigation on-site or nearby in Seattle and Eastside jurisdictions, replacing wetlands with the same quality wetlands as those lost, pursuing wetland creation through property acquisitions, mitigating for effects from construction and shading, characterizing mitigation opportunities within a landscape

perspective, and pursuing specific mitigation sites (for example, Luther Burbank Park on Mercer Island).

Response:

In response to comments on the Draft EIS, additional studies and analyses have been completed for the SDEIS and Final EIS. An integrated mitigation approach was designed to avoid, minimize, and compensate for unavoidable effects. WSDOT used project design features and best management practices to avoid and minimize effects from construction and operation. WSDOT engaged several regulatory agencies in collaborative TWGs to assist in developing appropriate mitigation for project effects. WSDOT also assembled a team of scientists to prepare formal mitigation plans required for project permitting. These mitigation plans incorporate field investigations, scientific research, and the collective knowledge from the TWG and mitigation team.

An Initial Wetland Mitigation Report was prepared in the fall of 2009 for agency review. WSDOT identified candidate sites for wetland mitigation using a hierarchical selection process based on the watersheds in the study area. The process provided a list of sites that would not only provide mitigation appropriate to the level of project effects, including construction effects, but would also provide benefits extending beyond the site boundaries. Mitigation opportunities are presented in Section 5.11 of the Final EIS and the Ecosystems Discipline Report Addendum and Errata (Attachment 7 of the Final EIS). In addition, a more detailed Conceptual Mitigation Plan was prepared after a preferred alternative was identified. This report is in Attachment 9 of the Final EIS.

In June 2010, the 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 Preferred Alternative. This process also informed ongoing Endangered Species Act (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 UW.

The TWG worked through a series of eight all-day meetings. Initial meetings discussed construction activities and operation of the project in key geographic zones, while later meetings focused on project-wide construction sequencing, impacts, and mitigation. Between meetings, the project team used input from participants regarding ideal mitigation characteristics to determine which potential mitigation sites and opportunities would best fit the identified impacts. At the final two meetings, the TWG considered the full set of identified impacts and mitigation for construction, operational, and cumulative effects.

The meetings provided guidance for natural resources mitigation, addressing topics such as in-water work windows, best management practices, wetland impact calculations and mitigation approach, aquatic resource impact calculations and mitigation approach, and proposed stormwater treatment methods. The guidance that WSDOT received through the Natural Resources TWG process was incorporated directly into the Biological Assessment (Attachment 18 of the Final EIS), conceptual wetland and aquatic mitigation plans (Attachment 9), and the Final EIS. The project team continued to work with individual agencies and the Muckleshoot Indian Tribe Fisheries Division after the Natural Resources TWG concluded in order to resolve outstanding issues related to specific jurisdictional requests.

16.2 Fish and Wildlife

16.2.1 Fish and Aquatic Resources (Effects)

Comments and questions requesting more information regarding the assessment of fish and aquatic resources included:

- Requests for additional analysis of existing conditions in Lake Washington, including aquatic habitat conditions, ESA-listed fish species (such as steelhead) and other important fish species, fish migration patterns, and ecological interactions (such as food chain mechanisms and the role of lake water temperature and circulation).
- Requests for additional details describing the project operation's effects on fish and aquatic habitat, including specific quantities and areas for effects from culverts, overwater shading, noise, and light, addressing the condition of riparian areas after project completion, and addressing the potential for an increase in predator habitat from the bridge.
- Requests for more information regarding effects of the new bridge on juvenile and adult salmon migration, and concern that the proposed alternatives have negative effects on salmonid migration, for which there is no satisfactory mitigation.
- Requests for more information regarding the bridge maintenance facility and its potential effects on fish. Several comments also recommended specific design elements for the bridge maintenance facility, considered necessary to minimize potential negative effects.
- Requests for additional detail in the descriptions of the construction elements and effects, including specific quantities, durations, and intensity, rationale for whether construction elements are considered a significant problem, and descriptions of how mitigation for existing bridge demolition and bridge pile removal will be conducted and enforced.
- Requests that construction effects on fish and fish habitat be addressed more thoroughly, such as analyzing noise and light from construction

and describing how timing will be used to avoid and minimize these effects. Concerns for effects on salmon from water quality during construction, such as increased fine sediments and temperatures, and that these effects may not be offset by the overall improvement in water quality, as stated in the Draft EIS. Requests that effects from construction (such as fish injury and mortality), as well as mitigation measures, be monitored according to a detailed monitoring plan in order to sufficiently avoid and minimize those effects.

- Requests for WSDOT to work directly with regulatory agencies to establish appropriate work windows, determine timing of specific construction activities, and identify appropriate avoidance and minimization measures (such as best management practices).

Response:

Based on comments on the Draft EIS, additional analyses have been conducted and were included in the SDEIS and SDEIS Ecosystems Discipline Report. These documents provide more detailed information and clarifications regarding the existing shorelines, riparian areas, predator species and predation, sockeye spawning habitat near the existing Evergreen Point Bridge, and additional prevalent Lake Washington fish species. Pages 3-13 and 3-14 of the SDEIS Ecosystems Discipline Report provide an updated list of the federal and state statuses of all prevalent Lake Washington fish species. These analyzes were further updated for the Final EIS.

WSDOT has expanded the discussion regarding the known effects on juvenile salmonids from overwater and in-water structures and shading, including increased risk of predation (see the Ecosystems Discipline Report Addendum and Errata in Attachment 7 to the Final EIS). The assessment of the expected project contribution to a cumulative effect on salmon is based on the short time that juvenile and adult salmon are present in the project area, in contrast to their overall migration range. Refer to Chapter 7 of the Final EIS for the indirect and cumulative effects analysis.

A fish tracking study conducted in 2008 and 2009 (Celedonia et al. 2008 and 2009) provided information about fish migratory behavior near the existing Evergreen Point Bridge. The study found limited evidence that the bridge attracted either juvenile salmon or their predators. There was no evidence that salmon were sufficiently concentrated to attract predators. Available information indicates that the existing Evergreen Point Bridge does not substantially alter migration paths for juvenile salmonids. There is no indication that these changes could measurably affect the overall reproduction and survival of fish populations. Additional information is provided in Section 5.11 of the Final EIS, Ecosystems Discipline Report Addendum and Errata (Attachment 7 to the Final EIS), and in the Biological Assessment submitted to the National Marine Fisheries Service (NMFS) for Endangered Species Act Consultation.

Predators are discussed in the fish and aquatic resources section in Sections 5.11 and 6.11 of the SDEIS, the SDEIS Ecosystems Discipline Report, the Final EIS, and the Ecosystems Discipline Report Addendum and Errata (Attachment 7 to the Final EIS).

The design and layout of the bridge maintenance facility dock have changed since the Draft EIS was published in 2006. The current dock design concept would provide moorage for two workboats with a T-shaped dock, and minimizes environmental effects such as shading and shoreline armoring. The maintenance facility dock would add an overwater structure in the shallow nearshore environment that could affect migration and rearing behavior of juvenile salmonids in the area, as well as predator fish behavior. WSDOT is coordinating with NMFS and Washington State Department of Fish and Wildlife on the effects on fish from the bridge maintenance facility. Refer to Sections 5.11 and 6.11 of the Final EIS and the Ecosystems Discipline Report Addendum and Errata (Attachment 7 to the Final EIS) for more information.

A separate description of how the project would be constructed is presented in Chapter 3, Construction Activities, in the Final EIS. A detailed analysis of construction effects on fish, including water quality, is found in Section 6.11 of the Final EIS and the Ecosystems Discipline Report Addendum and Errata (Attachment 7 of the Final EIS). Construction effects on riparian buffers (which overlap with wetland buffers in the Portage Bay and Arboretum portions of the project area) are discussed in the Wetlands section and Wildlife and Habitat section of the Ecosystems Discipline Report Addendum and Errata, as well as Section 6.11 of the Final EIS.

Section 6.11 of the Final EIS and the Fish and Aquatic Resources section of the Ecosystems Discipline Report Addendum and Errata (Attachment 7 of the Final EIS) describe effects on fish from work bridges, barges, and night lighting used for construction, as well as the various pile-driving methods WSDOT tested to better identify anticipated in-water noise levels and potential mitigation measures. Results of the pile-driving test project and of additional bridge lighting analyses are provided in the Ecosystems Discipline Report Addendum and Errata.

Since May 2007, the ESA Steering Group, consisting of WSDOT, NOAA Fisheries, and U.S. Fish and Wildlife Service (USFWS), has met biweekly to provide a forum for early ESA Section 7 consultation. The purpose of the ESA Steering Group has been to identify important issues or challenges and work together to establish the appropriate analytical framework for the consultation. Since publication of the SDEIS, the ESA Steering Group has met approximately 35 times to work through a variety of technical topics. The ESA Steering Group's work culminated in WSDOT's submittal of the Biological Assessment in November 2010 (Attachment 18). The project

team completed consultation in April 2011 and received Biological Opinions from both NOAA Fisheries and USFWS.

16.2.2 Wildlife and Habitat (Effects)

Comments and questions requesting more information regarding the assessment of wildlife and habitat included:

- Request that a more holistic definition of habitat and environmental impacts inform the analysis (beyond simple vegetation removal and wetland fill), and for a more detailed analysis and comparison of potential effects on specific bird species under each alternative and option.
- Request that an inventory of plants and animals and their interactions be conducted.
- Concern that the Draft EIS underestimates current wildlife use in the project area, and requests that analyses and effect determinations be expanded to include additional areas such as the Union Bay Natural Area and the bird refuge at the University Slough.
- Concern that several important analyses are either not performed, or performed using questionable assumptions or inappropriate analysis.
- Request that WSDOT examine effects of construction on wildlife usage of the shore of Portage Bay, and that construction timing take nesting seasons into account.
- Requests that the effects on bald eagles, particularly from pile-driving activities, be addressed more clearly and thoroughly.
- Concerns that the project would have permanent negative effects on wildlife and habitat, specifically to over-water and over-wetland shading, the beaver lodge north of the existing bridge, loss of wetland habitat, and effects on Foster Island.

Response:

In response to comments on the Draft EIS, WSDOT reevaluated effects to wildlife and habitat from construction and operation of the project.

Ecosystems analysts looked for the occurrence of wildlife and wildlife habitat up to 0.25-mile from the proposed project alignment, and for bald eagle nest sites within 1 mile of the proposed project alignment. Exhibit 4-3 in the SDEIS Ecosystems Discipline Report lists the federally- and state-listed wildlife species occurring or potentially occurring in the study area, which includes the shorelines of Lake Union, Portage Bay, and Union Bay. Two federal species of concern, bald eagles and peregrine falcons, may occur in the study area. In addition to these two species, several state-listed species are known to occur in the study area. There are minimal effects on these federally- and state-listed wildlife species from project operation, mainly from vegetation and habitat removal. The SDEIS, Final EIS, Ecosystems Discipline Report, and Ecosystems Discipline Report and

Addendum and Errata (Attachment 7 to the Final EIS) provide more information about effects to listed wildlife species.

Foraging patterns of these species could be affected by the project during construction. Effects to wildlife and habitat are discussed in Sections 5.11 and 6.11 in the Final EIS and in the Ecosystems Discipline Report Addendum and Errata. These sections include discussions of effects from light, noise, shading and loss of habitat.

Pile-driving and other construction activities could affect bald eagles during nesting. There should be suitable foraging habitat outside the project area for the bald eagles during construction. Since the publication of the Draft EIS, the bald eagle was delisted from ESA; however, they are still federally protected under the Bald and Golden Eagle Protection Act. Effects to bald eagles are included in the SDEIS Ecosystems Discipline Report and the Ecosystems Discipline Report Addendum and Errata.

The project is designed to avoid and minimize effects to the greatest extent practicable. However, there would be a permanent loss of wildlife habitat under all options, mainly from vegetation and habitat removal and increased shading. The Preferred Alternative has a smaller permanent loss of wildlife habitat (from vegetation removal and shade) than the SDEIS options.

16.2.3 Fish and Wildlife (Mitigation)

Comments and questions regarding mitigation for effects to fish and aquatic resources included:

- Requests for more detailed information on the mitigation plan, including how avoidance measures would be implemented, proposed habitat enhancements, how mitigation measures sufficiently compensate for cumulative effects, how the mitigation addresses overall watershed health as well as short-term, long-term, direct, and indirect effects, and how mitigation will be funded.
- Recommendations of specific mitigation measures and mitigation approaches, such as restoring the Black River, improving south Portage Bay, mitigating for barges associated with the project, removing fish passage barriers, and considering mitigation within the context of the overall watershed.
- Concern that the proposed mitigation in the Draft EIS may not be sufficient for unavoidable effects and that it may also improve predation opportunities, resulting in a negative effect on fish.
- Requests that WSDOT coordinate with agencies and the Muckleshoot Indian Tribe to develop mitigation strategies to address and analyze both construction effects and operational water quality effects.
- Requests for more detailed information on the mitigation plan, including how the mitigation plan is adequate in protecting plants and

animals, whether the mitigation plan addresses City of Seattle requirements for habitat mitigation, how mitigation will be funded, and mitigation for loss of trees larger than 6 inches in diameter.

- Suggestions regarding specific mitigation measures, such as minimizing the number of larger trees removed, ensuring a net gain in vegetation and no net loss in wildlife habitat, restoring and improving recreational access to Portage Bay, prioritizing the Washington Park Arboretum, Foster Island, and Marsh Island, and building green bridge structures enhanced for wildlife.
- Concerns regarding wildlife and habitat mitigation, including the difficulty of successfully salvaging and moving plant collections in the Washington Park Arboretum, and the project's potential effects on the quality of the environment.

Response:

The SDEIS, Final EIS, SDEIS Ecosystems Discipline Report and the Ecosystems Discipline Report Addendum and Errata provide information about the specific actions to avoid and minimize construction and operational effects on fish and aquatic resources that WSDOT has incorporated into the Preferred Alternative design.

Because of the different types of potential project effects on fish and aquatic resources, and the paucity of mitigation opportunities in the project corridor, WSDOT will conduct mitigation activities at more than one location within the WRIA 8 watershed. An element of the aquatic resource mitigation plan would include revegetation of selected shoreline habitats on Lake Washington. The screening exercise for aquatic sites, fully documented in the Initial Aquatic Mitigation Report (Attachment 7 of the SDEIS), consisted of a three-part process that screened all the potential parcels within the geographic study area (a large portion of the Lake Washington basin) down to a manageable number that still provided the types and quantity of aquatic functional life to adequately compensate for the estimated effects of the project on aquatic resources. Seven sites were selected and ranked by their potential to benefit aquatic resources. Project mitigation was discussed in detail during the Natural Resources TWG meetings held from June to October 2010 (the TWG included regulatory agencies, UW, and the Muckleshoot Indian Tribe).

Agency comments on the Initial Aquatic Mitigation Report have been incorporated into the Conceptual Aquatic Mitigation Plan, for permit submittals in February 2011. This plan is in Attachment 9 to the Final EIS and is part of the permit applications. Project mitigation is summarized in Sections 5 and 6 of the Final EIS. The mitigation approach is specifically designed to fully mitigate for all the negative effects of the project on aquatic resources.

WSDOT has worked with regulatory agencies, UW, and the Muckleshoot Indian Tribe through the Natural Resources TWG to determine appropriate mitigation measures. The Final Ecosystems Discipline Report Addendum and Errata provides a list of the mitigation measures that WSDOT would use to avoid and minimize effects on wildlife and habitat during construction and operation of the project.

Some of the wildlife and habitat loss would be mitigated as part of mitigation required for effects to wetlands and aquatic resources. The wetland mitigation plan will include revegetation of cleared habitat during construction, and enhancing or creating new wetland habitat. Refer to the mitigation discussion the Ecosystems Discipline Report Addendum and Errata (Attachment 7 of the Final EIS) for more information.

WSDOT would work with the City of Seattle and the Washington Park Arboretum to develop a planting strategy to offset permanent effects on regulated shoreline habitat. See the Ecosystems Discipline Report and Addenda for additional information.

17.0 Geology and Soils

Comments and questions regarding geology and soils included:

- Inquiries regarding expected effects from pile-driving and soil dewatering, whether the accelerometers placed into Union Bay prior to the 1965 earthquake provide relevant data for the project today, construction effects on surficial processes, frequency and magnitude of potential landslides, and how fill will affect water depth.
- Requests for more information related to slope failures that occurred during the construction of the original SR 520, potential risks associated with geologic hazards, the quantity and location of any material that may need to be removed and filled with stronger material to address seismic concerns, and additional detail regarding the slope stability studies conducted by Shannon and Wilson for the project.
- A suggestion that the measurements of intensity, ground acceleration, and ground velocity be combined with information about the type and thickness of sediments to determine the likelihood of liquefaction and presented as maps along the proposed alignments.

Response:

Since the SDEIS was published, WSDOT has completed additional geotechnical investigations, the results of which are being used to evaluate and refine the design of the east approach and bridge maintenance facility. Please see the Section 5.12 of the Final EIS and the Geology and Soils Discipline Report Addendum (Attachment 7 to the Final EIS) for discussions about construction and operational effects of these facilities on surrounding steep slopes and groundwater resources. Permit applications

will fully address the SR 520, I-5 to Medina project elements and will provide the necessary level of detail to meet regulatory requirements. WSDOT will comply with all applicable City of Medina regulations.

In the SDEIS Geology and Soils Discipline Report, pages 41 through 63 discuss the potential for landslide hazards, slope failures, and the resulting effects. The analysis is an updated evaluation from that provided during the Draft EIS, and considers the results of additional geotechnical investigations performed since publication of the Draft EIS. Effects analyses include a review of the risks associated with geologic hazards such as earthquakes and tsunamis, slope stability during construction and operation, the effects of dewatering activities, and a summary of existing conditions that pose a risk to the project and surrounding areas.

The SDEIS Geology and Soils Discipline Report incorporates new geotechnical information gathered after the publication of the Draft EIS and evaluates this information with regard to seismic hazards in the corridor. Two technical reports, the Montlake Cut Tunnel Expert Review Panel Report (June 2008) and the Proposal K- Tunnels at East Montlake and the Arboretum Conceptual Design and Cost Estimate (March 2008) provide additional detail about the feasibility, implications, and effects on geology and soils of a tunnel in the project area. These reports can be found at <http://www.wsdot.wa.gov/Projects/SR520Bridge/Library/technical.htm>.

Pages 41 through 63 of the SDEIS Geology and Soils Discipline Report evaluate the effects of cut-and-fill construction activities, soil amendment activities, and seismic hazards associated with the SR 520, I-5 to Medina project.

Construction activities and fill associated with the new Portage Bay Bridge are not expected to change the water depth in Portage Bay. No dredging activities are anticipated to occur, and the fill will be limited to the new columns, which will not change the depth of the bay.

18.0 Hazardous Materials

18.1 Hazardous Materials (Analysis)

Comments and questions about hazardous materials included:

- Requests for more information regarding the potential for identified contaminated sites to adversely affect waterbodies and fisheries resources, additional sediment quality data, whether contaminated sediments within the existing bridge footprint would be disturbed, and specific mitigation measures including prevention of over-water release.

Response:

The SDEIS Hazardous Materials Discipline Report addressed the general hazardous materials effects and mitigation in the study area, including the potential for encountering contaminated soil, sediment, and groundwater, releasing hazardous materials used at construction sites, generating hazardous building materials through demolition, encountering underground storage tanks or leaking underground storage tanks, and generating accidental spills and developing spill mitigation. Pages 3-47 through 3-51 of the SDEIS Ecosystems Discipline Report addressed those construction activities that could affect aquatic resources, including the disturbance of bottom sediments and the potential for spills of hazardous materials. Page 40 of the Hazardous Materials Discipline Report acknowledged that existing sediment quality data are limited and the previous samples were not collected from areas directly affected by construction. The risk of encountering contaminated sediments during construction is unknown. Excavated sediment would need to be tested and disposed in accordance with applicable regulations.

Specific measures for containment of pollutants to protect water quality during in-water and over-water construction are listed in Section 6.10 Water Resources (page 6-77), and in 6.11 Ecosystems (page 6-99) of the SDEIS.

Stormwater treatment on the bridge is described in Section 5.10 Water Resources (pages 5-121 and 5-122) of the SDEIS. As explained, the floating bridge design includes separate, enclosed spill-containment lagoons within the supplemental stability pontoons. These lagoons would provide an area where roadway spills of petroleum or floatable substances would be contained to allow for efficient cleanup.

19.0 Navigation

19.1 Navigation (Analysis)

The questions and comments about navigation included:

- General concerns about the height of the navigation channels proposed in the Draft EIS; statements that the clearance under the western high rise would not be sufficient for large yachts or sailboats and certain fire boats. The Seattle Fire Department noted an anticipated delay in emergency response time with the Draft EIS concept that required them to cross under the floating bridge on the east side of the lake.
- Support for the lowest possible Eastside SR 520 high rise (no taller than would allow for the proposed 70-foot clearance).
- Requests for more information regarding the types of marine traffic using the Ship Canal, how the second Montlake bridge would meet navigational standards, and for thorough coordination with the Seattle

Fire Department regarding the clearance and corresponding draft needed to cross under the western high rise.

Response:

In response to comments received on the Draft EIS, as well as other design considerations, changes to the bridge design were made. Clearance under the western portion of this bridge has been raised to approximately 41 feet to allow for passage of taller recreational vessels and Seattle Fire Department boats.

In addition to ensuring that the design of all elevated structures and limited access highways will comply with NFPA 502 and other applicable codes, it should be noted that Coast Guard approval of the final design will be required prior to construction. The Coast Guard approval will not be issued until appropriate mitigation for navigational issues has been determined.

Use of area waterways by both commercial and recreational vessels can be found on pages 28 through 50 of the SDEIS Navigable Waterways Discipline Report. This information summarizes current and future recreational, commercial, and industrial uses of the Ship Canal, Lake Union, Union Bay and Lake Washington. Additional information is provided on current and future military uses, as well as issues associated with public safety and fire boat access requirements.

20.0 Indirect and Cumulative Effects

20.1 Indirect and Cumulative Effects (Analysis)

Comments and questions regarding the indirect and cumulative effects analysis included:

- Inquiries regarding methods for modeling cumulative effects for various disciplines (for example, qualitative versus quantitative modeling), where the methods recommended by the President's Council on Environmental Quality (CEQ) can be found in the document, and more information regarding the analytical process used to identify cumulative effects.
- Statements about regional population and job forecasts for the year 2030, such as that forecasts are incorrect and too restrictive, the assessment should be based on the most recent forecasts prepared by the PSRC; and assertions that the project would encourage additional sprawl in east King County, the reverse commute (from west to east) and its likely effect on Eastside population growth should be considered, and that it is unlikely that growth trends would not differ much between the No Build Alternative and the Build alternatives.
- Statements regarding additional projects and future actions that should be taken into account, including I-5 improvements from Boeing Access Road to Northgate, I-5 improvements from I-405 in Tukwila to I-405

in Lynwood, a planned addition to the UW Medical Center, the Mercer Corridor Project, planned modifications to the UW Marina on Portage Bay, and plans described within UW's Long-Term Physical Development Plan, the Arboretum Master Plan and Sound Transit's plan for the new University light rail station at Husky Stadium.

- Requests for additional information on cumulative effects to traffic and transportation, including likely contributions by the Alaskan Way Viaduct and Seawall Replacement Project and the Mercer Corridor project, effects from tolling the SR 520 corridor on surrounding highways such as I-90 and SR 522, and increased traffic in adjacent neighborhoods and effects on transit service.
- Requests for more information regarding indirect and cumulative effects on fish, wildlife, and wetlands, such as considering effects from modifying shorelines and adding overwater structures, addressing effects from constructing the pontoons off-site and transporting them to the project area, addressing and mitigating for effects such as vegetation loss and non-endangered wildlife habitat loss that are not addressed separately, evaluating effects from constructing pontoons through the Hood Canal project, and including additional information from Appendix J in the Draft EIS text.

Response:

To conduct the cumulative effects assessments, WSDOT followed CEQ's January 1997 guidance document, *Considering Cumulative Effects under the National Environmental Policy Act*. Draft EIS Appendix J, *Indirect and Cumulative Effects Discipline Report*, provides more detail about the cumulative effects methodology used to prepare the assessments summarized in the Draft EIS.

WSDOT recognizes the value of using forecasts prepared and published by the PSRC as a basis for cumulative effects assessments presented in NEPA documents. This approach has been adopted as standard practice for the SDEIS and other WSDOT NEPA documents prepared for proposed transportation projects within the Puget Sound region. WSDOT agrees that defining the cumulative effects study area too narrowly can under-represent the number of reasonably foreseeable future actions likely to interact with the proposed action to produce cumulative effects. The SDEIS defines the cumulative effects study areas more broadly and on the basis of the geographic extent of each potentially affected resource.

WSDOT acknowledges that the cumulative effects assessments did not include several noteworthy transportation and facility improvement projects as reasonably foreseeable future actions. This omission has been corrected in the Final EIS, although some actions are considered in the direct effects analysis. For the SR 520, I-5 to Medina project, travel demand models were used that incorporate a number of future projects as well as taking into

account transportation effects of past and present actions. Thus, the models themselves yield information on direct, indirect, and cumulative effects. For example, future planned, programmed, and funded projects such as the Alaskan Way Viaduct, portions of I-405, Sound Transit's East Link, North Link (and the extension to Lynnwood), and University Link (including the Husky Stadium Station) are considered in the direct effects assessment (see Chapter 4 of the Final Transportation Discipline Report and the Final Indirect and Cumulative Effects Discipline Report). A separate cumulative effects model was used to evaluate the effects of transportation projects that are planned to be complete by 2030 but were not programmed or funded at the time of the direct effects analysis, including the Mercer Corridor Improvements Phase II (see Exhibit 8 in the Final Indirect and Cumulative Effects Discipline Report).

CEQ and WSDOT guidance does not provide explicit requirements for how to identify other present and reasonably foreseeable actions. Rather, it allows agencies to determine the level of analysis appropriate for their projects (AASHTO 2011; WSDOT, FHWA, and EPA 2008). The CEQ guidance does not require an inclusive list of projects, but instead suggests evaluating both individual actions, when they are reasonably well known, and groups of actions, which are typically included in documents such as transportation plans and master plans. These regional planning documents (such as PSRC's *Vision 2040* and *Transportation 2040*), local planning documents (such as the City of Seattle Comprehensive Plan and the King County Roads Services Capital Improvement Program), and master plans (such as the University of Washington Campus Master Plan and the Washington Park Arboretum Master Plan) provide estimates of future growth and development that encompass many individual projects. Therefore, it is appropriate for the cumulative effects analysis to rely on these planning documents in identifying regional trends rather than to attempt to catalogue all foreseeable projects in the region.

In the SDEIS, the reasonably foreseeable actions were presented on maps. The list of projects shown in Table 7-2 of the Final EIS is different from those projects presented in the SDEIS. For the SDEIS, WSDOT identified a large number of individual transportation and development projects in local and regional land use, transportation, and master plans. In the Final EIS, WSDOT determined that, consistent with the CEQ and WSDOT guidance, most of these projects would be more appropriately evaluated within groups of reasonably foreseeable actions. The projects considered individually in the Final EIS (shown in Table 7-2) are transportation projects with particular proximity or relevance to the SR 520, I-5 to Medina project and were identified through the transportation modeling effort.

To identify groups of reasonably foreseeable actions, WSDOT relied on adopted regional and local land use and transportation plans, consistent with CEQ guidance. The other projects that were identified individually in

the SDEIS are still included in the analysis of trends as components of their respective planning documents. Smaller projects are also included in the analysis of trends as components of their respective planning documents. See Chapter 7 of the Final EIS for discussion of how reasonably foreseeable actions were identified.

Along with cumulative effects on transportation, potential cumulative effects relating to air quality, water quality, and noise were also assessed quantitatively. This is because regulations have established quantitative standards for these disciplines, and because air quality, water quality, and ambient noise are in themselves cumulative effects for which computer-based models have been developed. Although the modeling methods and results for air quality, water quality, and ambient noise were presented in the direct effects sections, they capture the effects of other past, present, and reasonably foreseeable actions on each of these disciplines, thereby quantifying the expected cumulative effect. In addition, WSDOT estimated and disclosed potential cumulative effects relating to wetland and habitat losses by adding together past, present, and reasonably foreseeable future wetland removals resulting incrementally from individual development projects.

WSDOT does not mitigate cumulative effects because it does not have jurisdiction over the many non-WSDOT projects that contribute to cumulative effects. However, WSDOT is required to disclose cumulative effects and to suggest practical mitigation options that could be taken by the responsible parties. Therefore, the Final EIS suggests ways through which cumulative effects could be mitigated by public agencies and private developers beyond WSDOT's jurisdictional responsibilities. Mitigation for direct effects associated with long-term option of the project is addressed in Chapter 5 of the SDEIS and Final EIS. Mitigation for construction effects is addressed in Chapter 6 of the SDEIS and Final EIS.

The Final EIS analyzes ways in which tolling of the SR 520 corridor could indirectly affect other resources and disciplines, including traffic on the I-90 corridor. WSDOT is examining ways by which unintended adverse effects of SR 520 tolling on users of other streets and highways could be avoided or reduced. The Final EIS includes a discussion of this topic.

In the State of Washington, transportation investments do not determine future land use patterns. Instead, population growth and development patterns are planned for under the Growth Management Act (GMA). The GMA requires the state and local governments to work cooperatively to identify and protect critical areas and natural resource lands, designate urban growth areas, and prepare comprehensive plans and implement them through capital investments and development regulations. Mandated growth management planning in Washington state ensures that transportation projects do not induce growth or development. Instead, growth and development are managed through comprehensive planning at

local and regional levels, and transportation projects must be compatible with this planning. For this reason, the project would not have indirect effects on land use or population distribution involving induced growth. Thus, widening SR 520 to six lanes would not lead to increased urban or suburban sprawl on the east side of Lake Washington, because population growth and density are managed at the local level through community planning and zoning and local regulations must be consistent with GMA. Additionally, the project would add HOV lanes but not general-purpose lanes. An easier commute from west to east at the end of the day would not induce population growth on the Eastside, because Eastside communities manage their growth and establish growth patterns and limits. WSDOT transportation improvement projects are designed to be consistent with community growth targets.

The Final EIS cites the PSRC's updated forecast that by the year 2030, the regional population will grow by 1 million people and traffic will increase by 40 percent. It also presents the results of travel demand modeling conducted specifically for the project, confirming that travel demand in the Seattle area will increase. Improvements to SR 520 would not cause that growth but are necessary to accommodate it. The purpose of the project is to improve mobility for people and goods across Lake Washington within the SR 520 corridor from Seattle to Redmond in a manner that is safe, reliable, and cost-effective, while avoiding, minimizing, or mitigating adverse impacts on affected neighborhoods and the environment. The Final EIS examines effects of the project on traffic on local streets and key intersections based on modeling of conditions with and without the project, and discusses measures WSDOT would take to minimize adverse effects on neighborhood streets during project construction and operation. These are direct effects and are discussed in Section 5.1 and the Final Transportation Discipline Report.

WSDOT concurs that as Seattle's population density has increased over the years, the Arboretum has been subjected to a declining trend in air quality, and that increasing traffic volume driven by population growth has contributed to that trend. However, long-term operation of the proposed project under any of the build alternatives is not expected to contribute to a cumulative decrease in air quality, compared to the No Build Alternative. The evaluation that demonstrates this is contained in Section 5.8 of the SDEIS and Final EIS, and the Air Quality Discipline Report and Addendum (Attachment 7 to the Final EIS).

During construction, local, transient increases in particulate matter, CO, nitrogen oxide, and volatile organic compounds would occur. A quantitative analysis of construction emissions is provided in Section 6.8 of the Final EIS and the Air Quality Discipline Report Addendum.

In response to comments on the Draft EIS, more analysis was done regarding indirect and cumulative effects to wetlands (see Chapter 7 of the

SDEIS and the SDEIS Indirect and Cumulative Effects Analysis Discipline Report.

20.2 Indirect and Cumulative (Construction)

Comments regarding indirect and cumulative effects caused by construction included:

- Statements regarding potential concurrent construction periods for the SR 520 project and other regional projects, such as Sound Transit's University Link light rail, that may result in increased effects to specific neighborhoods or facilities. The Laurelhurst neighborhood, UW's Intercollegiate Athletics Program, UW Medical Center, UW Physicians, and UW Medical School were all specifically mentioned in comments.
- Concerns regarding resolution of design conflicts between the SR 520 and University Link projects.
- Request for more detailed information regarding construction impacts with respect to other regional projects (for example, University Link, North Link, UW Medical Center, and projects on I-5 and I-405), and coordination of the Alaskan Way Viaduct and SR 520 projects construction schedules.

Response:

During construction of the SR 520, I-5 to Medina project, other planned development and transportation improvement projects will also be under construction. WSDOT examined the potential for construction effects of the SR 520, I-5 to Medina project to overlap in time and vicinity with the construction effects of other projects, producing concurrent construction effects. These issues are analyzed in sections 6.1 and 6.18 of the Final EIS.

WSDOT determined that there would be potential for the Rainier Vista project, Husky Stadium Renovation project, and University light rail station construction along with the SR 520, I-5 to Medina project to contribute to concurrent haul traffic along the SR 520 corridor between I-5 and the SR 520/Montlake Boulevard East interchange associated with. The effect would start in 2012 and extend through late 2015, but would depend on the specific construction activities under way and the quantities of materials being hauled to and from the construction sites. The extent of potential haul-related effects on traffic congestion and air quality cannot be predicted on the basis of currently available information. However, all four of the concurrent construction projects will operate in accordance with construction management plans with requirements for managing and coordinating haul traffic.

21.0 Section 4(f)

21.1 Section 4(f) Analysis

Comments and questions regarding the Section 4(f) analysis included the following:

- Requests for more information, specifically regarding measures to avoid and minimize effects to Section 4(f) resources, how the Bagley Viewpoint, East Montlake Park, and Burke-Gilman Trail would qualify for a *de minimis* finding, what measures would be implemented to ensure there is no net loss of publicly held parkland, open space, or impairment to the plant collection and wildlife in the Arboretum, and effects from and definitive mitigation plans for using park land for construction staging.
- Requests that the submerged lands near Montlake Playfield and in the Arboretum and the East Montlake Park, McCurdy Park, Bagley Viewpoint and the Japanese Garden be evaluated as Section 4(f) resources.
- Requests that the Section 4(f) analysis consider required relocation of some resources from the MOHAI site to the Arboretum, increased traffic loads on Lake Washington Boulevard, and the inability of the historic character of the area to be restored if the ramps are removed.
- A request that the Seattle Yacht Club and the Montlake neighborhood be integrally involved in the construction process.
- Concern for effects to the Arboretum and access to the Arboretum Waterfront Trail during construction.

Response:

Section 4(f) of the U.S. Department of Transportation Act of 1966 (23 United States Code 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. In compliance with Section 4(f), WSDOT has evaluated whether there were feasible and prudent alternatives that would avoid the use of Section 4(f) properties. This evaluation was done for both the corridor as a whole and on a resource-by-resource basis, and was described on pages 121-133 of the Draft Section 4(f)/Section 6(f) Evaluation in Attachment 6 to the SDEIS. The analysis concluded that there were no feasible and prudent alternatives to the use of Section 4(f) resources.

The design of the Preferred Alternative includes a number of design refinements to minimize harm to Section 4(f) properties. It has been

determined to result in the least net harm on Section 4(f) resources compared to all feasible and prudent alternatives (see Section 1.2.2 in this Comment Summary Report for a discussion of why the 4-lane alternative does not meet the project purpose and need; it is therefore not a feasible and prudent alternative under Section 4(f)). As noted in the Final Section 4(f) Evaluation (Chapter 9 of the Final EIS), the following 10 park and recreation resources are Section 4(f) properties within the study area and are analyzed for potential Section 4(f) use:

- Bagley Viewpoint
- Interlaken Park
- Montlake Playfield
- East Montlake Park
- McCurdy Park
- Ship Canal Waterside Trail
- University of Washington Open Space
- East Campus Bicycle Route
- Washington Park Arboretum
- Arboretum Waterfront Trail

The Final Section 4(f) Evaluation includes an analysis of the Section 4(f) uses of these properties required for construction and operation of the Preferred Alternative, and provides updated information about the Section 4(f) status of some properties. The Final Section 4(f) Evaluation also includes measures to avoid and minimization effects, unavoidable adverse effects and mitigation measures for construction and operational effects. Mitigation measures include efforts proposed to offset the impacts and include replacing 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) resource land.

The SR 520 Parks Technical Working Group, which includes Seattle Parks and Recreation, the University of Washington, the Washington State Recreation and Conservation Office, and the National Park Service, has evaluated the functions and values of project area parks and recreational areas and coordinated with WSDOT in developing appropriate mitigation for unavoidable impacts. Please see the Final Section 4(f) Evaluation and the Section 6(f) Evaluation in Chapters 9 and 10, respectively, of the Final EIS. As the agencies with jurisdiction over park resources, the Parks TWG has concurred with WSDOT's proposed measures to minimize harm.

The Seattle Yacht Club, Montlake Community Council, and other neighborhood and community groups have been involved in the planning stages of the project through the Section 106 consultation process. These groups will continue to be involved through the next stages of design and

ultimately construction. Please see the Section 106 Programmatic Agreement (Attachment 9 of the Final EIS) for more information about this process and commitments made.

22.0 Section 6(f)

22.1 Section 6(f) (Parks)

Comments and questions regarding the Land and Water Conservation Fund Section 6(f) analysis and conclusions included:

- A correction to the Section 6(f) analysis that the Section 6(f) boundary listed in Exhibit 5 of Appendix P is incorrect and that WSDOT should coordinate with the Washington State Interagency Committee for Outdoor Recreation (now the Recreation and Conservation Office) to determine the correct Section 6(f) boundary.
- A clarification that any land that has previously been dedicated or managed for recreational purposes while in public ownership or land that was acquired with federal assistance are ineligible as replacement for Section 6(f) conversions.

Response:

The National Park Service administers Section 6(f) of the LWCF Act, which restricts the conversion of parks and recreation facilities acquired and/or developed using LWCF funds unless:

- Approval is received from National Park Service and Washington Recreation and Conservation Office.
- The conversion is mitigated through replacement with property of at least equal fair market value and reasonably equivalent usefulness and location.

Section 6(f) lands used longer than 180 days (for example, during construction) are considered a conversion.

In order to construct and operate the SR 520, I-5 to Medina project, WSDOT would partially convert a Section 6(f) property along the project corridor. The Section 6(f) property is a recreational trail complex that includes two named trails, as well as the two parks along the Montlake Cut and Union Bay where the trails are located. These are the Ship Canal Waterside Trail and the Arboretum Waterfront Trail, located in East Montlake Park and Washington Park Arboretum, respectively.

Through the project's Section 6(f) process, WSDOT has coordinated with the Section 6(f) stakeholders, including the University of Washington, City of Seattle, Recreation and Conservation Office and the National Parks Service, in an effort to refine conversion numbers and reduce potential impacts. The SDEIS Draft Section 4(f)/6(f) Evaluation includes a corrected boundary based on coordination with the Recreation and Conservation

Office. Proposed conversion of Section 6(f) resources has been reduced since publication of the Draft EIS and SDEIS and development of the Preferred Alternative.

Chapter 10 of the Final EIS includes the final Section 6(f) evaluation, which documents all Section 6(f) uses and effects, and identifies the Bryant Building site as the replacement site that best fulfills the Section 6(f) criteria.

Commitments related to Sections 4(f) and 6(f) have been formalized through the Final Section 4(f) Evaluation (Chapter 9 of the Final EIS), the Environmental Evaluation of Section 6(f) Replacement Sites (Attachment 15 of the Final EIS), the Section 106 Programmatic Agreement (Attachment 9 of the Final EIS), and a Memorandum of Understanding between WSDOT, the UW, and the City of Seattle regarding Section 6(f) replacement property.

23.0 Overall Format and Content

23.1 Format and Content (Draft EIS)

Comments and questions about the document format included the following:

- Concerns related to the analysis provided; statements that the Draft EIS does not provide the information needed for an informed decision about the proposed alternatives, important analyses were not performed or were performed inadequately, the document is based on biased analysis and alternatives are not equally evaluated.
- Varying comments regarding the level of detail provided in the Draft EIS, some noting that the document was too large and had too much detail and others stating that the Draft EIS was too general and should have included more detailed information from the appendices.
- General statements about the Draft EIS document, such as the tone of the Draft EIS is not appropriate (too neutral in some cases, too misleading in others), the chapter tabs were not effective, the document represents a significant amount of work and is very thorough, updates described in the appendices were not integrated into the Draft EIS, an executive summary would be useful, the description of options is confusing throughout the document, effects associated with each design option are not clear and cannot be easily compared, reference documents should have been provided, and the Draft EIS needs to be revised.
- Statements about the accessibility of the Draft EIS, including that the document is readable and understandable by the general public, the online version of the document was difficult to navigate and readers should be able to download a PDF rather than read the document online.

- Suggestions for improving the exhibits and graphics within the Draft EIS, including clarifying the images of options to show the full interchanges and clarifying the legends in some specific exhibits.
- Suggestions for improving the discussion of project effects, including organizing project effects by elements of the environment rather than geography, providing more specific information on project effects in the Draft EIS so that the reader does not need to rely on appendices, comparing project effects on both sides of the lake, clearly distinguishing direct, indirect, and cumulative impacts, developing a summary table to compare construction and operational effects across all alternatives and options, and describing which environmental effects are unavoidable and cannot be mitigated.
- Requests for more information on specific topics, such as construction effects on nearby neighborhoods, parks, adjacent streets and highways, updated costs and a cost-benefit analysis, possible light rail on SR 520, why the 6-lane Alternative is the only alternative that can accommodate mass transit, connections to other planned improvements, and bridge height comparisons of the alternatives and options.
- Requests for more information on proposed mitigation measures for permanent and temporary effects, best management practices and monitoring plans, how mitigation ties to specific effects, the benefits of proposed mitigation measures, and how mitigation measures would be implemented.
- Corrections related to street names, word choices and terminology, and inconsistencies between the appendices and Draft EIS documents.
- Request that the EIS consider reasonably anticipated future changes to the project, such as future conversion to light rail and future in-water work.

Response:

Following publication of the Draft EIS, WSDOT worked with community members, consulting agencies, and the Legislative Workgroup to substantially revise the 6-lane Alternative, thus requiring publication of an SDEIS (see SDEIS pages 1-2 and 1-9 through 1-29). The information contained in the SDEIS regarding the 6-lane Alternative and No Build Alternative replaced the Draft EIS information on those alternatives. Additionally, the Pacific Street Interchange Option for the 6-lane Alternative, evaluated in the Draft EIS, was eliminated from further consideration and replaced with the SDEIS 6-lane Alternative options and suboptions.

The SDEIS provided a thoroughly revised description of alternatives and options, project effects, and mitigation measures. It also provided considerably more information from the discipline reports, including more technical information and more information on construction effects. The

SDEIS included summary tables comparing the effects of the alternatives for construction and operation, including qualitative and quantitative effects. A summary table of mitigation measures for each option, for both construction and operation, was also provided. SDEIS Chapters 5 and 6 provide considerably more information on mitigation measures, and explain which mitigation measures would require coordination with another agency.

See also Chapter 1 of the SDEIS, which describes the purpose and history of the SR 520, I-5 to Medina: Bridge Replacement and HOV Project, including the progress made since the Draft EIS was published in 2006. Chapter 1 also summarizes the input of the public and many stakeholders over the last three years and the path forward to identifying a final configuration for the SR 520, I-5 to Medina project.

The Final EIS updates the SDEIS and provides analysis of the Preferred Alternative. The format, organization, and presentation of information in the Final EIS are similar to that of the SDEIS.

The Draft EIS, SDEIS, and Final EIS are all part of the SEPA and NEPA documentation of the project

24.0 Other

24.1 Madison Park Nonmotorized Routes

Several comments were received regarding a proposed nonmotorized route from the SR 520 bridge to the Madison Park neighborhood. Most comments were in opposition to the proposal. The range of comments included:

- Statements supporting or opposing bicyclist and pedestrian connections at 37th Avenue E or 43rd Avenue E.
- Concern over adding traffic and parking volumes to already over-full Madison Park roads, narrow streets, bicycle and pedestrian safety, and access at 37th Avenue E because of wetland effects.
- Support for a Madison Park connection because this would benefit communities north and south of SR 520; support for the use of McGilvra Street because of its ample capacity for increased bicycle and pedestrian traffic.
- Suggestions for alternate routes along Lake Washington Boulevard or the Arboretum.
- Concern for lack of communication with the Madison Park Community, and that there is no bicycle or pedestrian demand from Madison Park to the Eastside communities.

Response:

The bicycle/pedestrian path options studied in Appendix W, Madison Park Bicycle/Pedestrian Path Options Technical Memorandum, of the Draft EIS were reviewed and dropped from further consideration in response to

public comments (including access at 37th Avenue E and 43rd Avenue E, and capacity along McGilvra Street).

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

Comments related to the SR 520, Medina to SR 202: Eastside Transit and HOV Project included the following:

- Statements regarding transit routes and facilities serving the Eastside, including that improving regional transit is important as Eastside business and communities grow, and that proposed changes to the South Kirkland Park-and-Ride would improve reliability and transit times.
- Opposition to the removal of the Evergreen Point transit stop.
- Suggestions for improving the project design on the Eastside, including improving bicycle and pedestrian connections, providing methods to limit traffic from cutting through residential neighborhoods, incorporating lids at Eastside intersections and one suggestion for a continuous lid from Evergreen Point Road to 84th Avenue NE, complying with ADA standards for paths on proposed lids, connecting the bicycle/pedestrian path to Eastside employment centers, constructing user facilities on the bicycle/pedestrian path, and extending the bicycle/pedestrian path.
- Concerns related to effects on the Eastside, such as potential wetland effects from the 108th Avenue design option, existing and future traffic noise levels, increased flow in Fairweather Creek, wildlife effects in Wetherill Nature Preserve, haul routes and other construction effects, and increased congestions at SR 520 interchanges on the Eastside.
- Support for the proposed bicycle and pedestrian path to the north of SR 520 on the Eastside, because this would have the least effect and would minimize crossovers for users.
- Clarifications to descriptions of existing conditions and resources on the Eastside, such as the ownership and name of Wetherill Nature Preserve, the residential character of Yarrow Point, and effects of the existing SR 520 roadway on communities and aquatic habitat and the stream and wetland systems in Yarrow Bay and Cozy Cove basins.
- Inquiries related to proposed noise wall heights and locations, noise levels, and bicycle/pedestrian path options, potential effects to riders from change to transit service and facilities, lid designs and maintenance, trail alignments, mitigation, fish passage culvert designs, wetland and aquatic resources effects, and construction effects.
- Requests for coordination with Eastside jurisdictions regarding lid design, specific construction elements, permitting, mitigation plans,

and ensuring project commitments.

Response:

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

The SR 520, Medina to SR 202: Eastside Transit and HOV Project was developed in 2008 to improve transit travel time and reliability in response to strong growth in jobs, housing, and transit demand east of Lake Washington; this project is currently under construction. It will complete the SR 520 HOV system from Evergreen Point Road in Medina to SR 202 in Redmond; build direct transit access from the South Kirkland Park-and-Ride; and provide community and environmental benefits, including lids, noise walls, a bicycle/pedestrian path, and stream and habitat enhancements. These improvements will support existing demand and planned improvements in transit use, and will enhance safety by improving HOV lane operations. WSDOT and FHWA have prepared an EA to evaluate the effects of the SR 520, Medina to SR 202 project. The Draft EA was issued in December 2009. WSDOT completed the environmental process and permitting in spring 2010, and construction began later in 2010. The termini of the SR 520, Medina to SR 202 project are Evergreen Point Road on the west and SR 202 on the east.

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