

ESSB 6099 DRAFT Project Impact Plan

**Submitted to: Joint Transportation Committee
 Governor Chris Gregoire**

December 2008

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Executive Summary

ES 1.1 What was required by ESSB 6099?

The existing SR 520 bridges are vulnerable to earthquakes and windstorms and today carry approximately 155,000 to 160,000 people across Lake Washington each day. The Washington State Department of Transportation (WSDOT) is leading a project to replace these bridges to preserve public safety and add a high occupancy vehicle (HOV) lane to improve mobility. One key challenge for replacing the SR 520 bridges is identifying the interchange design, community enhancements, and mitigation for the west side of the corridor. Recognizing the difficulty and the urgency of choosing a west side interchange, the Washington State Legislature passed Engrossed Substitute Senate Bill 6099 during the 2007 legislative session. Governor Chris Gregoire signed the bill into law in May 2007.

ESSB 6099 directed the state Office of Financial Management to hire a mediator to facilitate an agreement on the interchange. Specifically, the bill directed the mediation group to develop a project impact plan to address the impacts of the SR 520 Bridge Replacement and HOV Program's design on Seattle city neighborhoods and parks. Additionally, the bill directed that the project impact plan provide a comprehensive approach to mitigating the impacts of the project, including incorporating construction mitigation plans.

The Office of Financial Management (OFM) hired the Keystone Center from Colorado to serve as mediators and Parametrix to support the mediation effort and the development of the project impact plan.

Keystone and the Mediation Group

The mediation began in September 2007. The mediators established the purpose of the group was to work together to:

- Create a common understanding of the transportation, environmental, neighborhood and economic issues associated with State Route (SR) 520 reconstruction.
- Articulate various solutions to these issues in Seattle and explore the advantages and disadvantages of each solution – using the legislatively prescribed 6-lane preferred alternative as the only basis for discussion.
- Ensure that these possibilities fit with the emerging solutions to the same set of issues on the east side of the lake.
- Arrive, if possible, at a consensus solution.
- Reach agreement on the components of a project impact plan for addressing impacts of SR 520 bridge replacement and HOV project design on Seattle city neighborhoods, parks and institutions and ensure that these are integrated into the high capacity transit plan and the Supplemental EIS.

The stakeholders were defined through interviews with a broad range of stakeholders including those identified in the legislation and others who had been actively involved with the SR 520 project team. Each interviewee was asked the following questions:

- Are all interests represented by at least one agency or group?
- Does each organization/agency represent a well-defined constituency (as opposed to an individual such as a single property owner)?
- Are the government agencies with permitting authority included?
- Which areas or neighborhoods are directly impacted (the facilities would lie within the boundary; the residents would see or hear the facility); and which are affected at some greater distance (potential for changes in traffic patterns, etc.)?

Once constituencies were identified each was asked to nominate a person to represent their interests at the table.

The group consisted of the following individuals representing the following organizations:

- | | |
|----------------------|---|
| 1. David Dye | Washington Department of Transportation
(lead agency - EIS) |
| 2. Greg Walker | Sound Transit – (lead agency – EIS) |
| 3. Jennifer Ziegler | Office of the Governor |
| 4. Scott Woodward | University of Washington |
| 5. Kevin Desmond | King County Metro Transit |
| 6. Tim Ceis | Seattle Mayor’s Office |
| 7. Richard Conlin | Seattle City Council |
| 8. Tasha Atchison | City of Seattle Design Commission |
| 9. Paige Miller | The Arboretum Foundation and The Arboretum and
Botanical Garden Committee (ABGC) |
| 10. David Hiller | Cascade Bicycle Club |
| 11. Larry Sinnott | Friends of Seattle’s Olmsted Parks |
| 12. Rob Johnson | Transportation Choices Coalition |
| 13. Gary Stone | Boating Community |
| 14. Mark Weed | Seattle Chamber of Commerce |
| 15. Shannon Boldizar | Bellevue Chamber of Commerce |
| 16. John Odland | Freight Advisory Committee |
| 17. Jonathan Dubman | Montlake |
| 18. Maurice Cooper | Madison Park |
| 19. Ted Lane | Roanoke/Portage Bay |
| 20. Colleen McAleer | Laurelhurst |
| 21. Jordan Bader | University District |
| 22. Nancy Brainard | North Capitol Hill |
| 23. Carsten Stinn | Eastlake |
| 24. Virginia Gunby | Ravenna Bryant |
| 25. David Cooper | Yarrow Point |
| 26. Miles Adam | Medina |
| 27. George Martin | Clyde Hill |

- | | |
|---------------------|--|
| 28. Fred McConkey | Hunts Point |
| 29. Grant Degginger | Bellevue |
| 30. Dave Asher | Kirkland |
| 31. Steve Boch | Federal Highway Administration |
| 32. Mike Grady | NOAA Fisheries (National Marine Fisheries Service) &
U.S. Fish and Wildlife Service |
| 33. Austin Pratt | U.S. Coast Guard |
| 34. Legislature | (one seat available to any legislator who wishes to attend a
mediation session) |

The mediation group developed west side interchange options and identified their effects on neighborhoods, quality of life, traffic, and the environment. The legislation that established the mediation also required that they consider the effects on parks, the Washington Park Arboretum and the University of Washington.

The goal of mediation was to select west side interchange options for the six-lane configuration to analyze further in a supplemental Draft Environmental Impact Statement (DEIS) and to produce this project impact plan by December 2008.

This plan identifies the group's recommended west side interchange configurations. The plan also includes project effects and community mitigation recommendations. The plan incorporates the analysis from the Health Impact Assessment, prepared by Public Health - Seattle & King County and the Puget Sound Clean Air Agency.

ES 1.2 What were the primary drivers and trade-offs in developing Options A, K, and L?

The primary difference between the options is how to get to/from SR 520 north into the University District, and how traffic is handled through the Washington Park Arboretum. These two issues drive how the SR 520 roadway passes through the community, how access to the community is accommodated and ultimately how cars and transit circulate within in the area.

There are some minor variations between the Options to the west and east of the Montlake area. They include the type of aesthetic treatment to be used for the Portage Bay structure, and the ultimate profile to be used from Foster Island to the western floating bridge approach. However, decisions on these issues will need additional information on environmental impacts, constructibility and costs to help determine the final solution.

All options place an emphasis on multi-modal transportation by decreasing reliance on single occupant vehicle travel and favoring transit. All options improve the overall flow of the SR 520 roadway itself, given other highway system constraints. They all provide for enhanced bicycle and pedestrian facilities with some variation in terms of physical separation from traffic and routing. Every option promotes the use of Transportation Demand Management (TDM) techniques and Active Traffic Management (ATM) in order to encourage the use of alternative modes of travel to the automobile and improve transportation system efficiencies.

However, there are distinct differences in the amount of automobile accommodation and people throughput that can pass through the corridor during peak commute times between Option A and the other options. In addition, each option highlights different choices in community priorities to be addressed. All of community interests are important, but in the time available it was not possible to find the “one” option that met all interests to everyone’s complete satisfaction. However, the options are informative as the primary interests that people hold in high regard and the enhancements and trade-offs they were willing to make.

Option A prioritizes preservation of the Washington Park Arboretum by removing all access to Lake Washington Boulevard to/from and SR 520. It focuses on the use of existing transportation corridors to minimize further disruption of the area. It concentrates on minimizing the size of the SR 520 roadway, thus trading off direct transit access to eastbound SR 520. Option A recommends an aggressive TDM strategy to reduce traffic through the Montlake area. It also recommends the establishment of a multimodal Corridor Management Agreement that includes land-use and development actions that encourage transit (and non-automobile) supportive decisions by local jurisdictions in the corridor. It is the also the lowest cost option to construct.

Option K prioritizes moving people as quickly as possible to the University District area while keeping the SR 520 corridor and connections to the community “out of sight”. Based on the initial transportation analysis, it does the best job at moving people and vehicles and builds new capacity to address growth in the University area. It provides lids and other structures for separated pedestrian and bicycle paths and facilities and enhances surface connections over the freeway and vehicle access points. It does maintain access via Lake Washington Boulevard to the south increasing traffic through that area. It is the most costly of all Options to construct.

Option L was developed to balance the transportation benefits found in Option K with a less costly Option to construct. It maintains a connection to Lake Washington Boulevard and points south, however constrains access to reduce the amount of traffic using this route. While it does address growth in the University area, it impacts the University of Washington’s ability to develop south of Husky Stadium due to construction on University property. It does not meet any community objective for visual obtrusiveness.

Elements in common and mitigation recommendations

While there are still three options on the table, the participants have worked hard to come to agreement in many areas such as:

- They have narrowed the footprint in the most critical areas by removing the Montlake Transit Flyer Stop and removing some ramps.
- They have lowered the overall profile from what was described in the Draft EIS.
- There is agreement on the Portage Bay segment, with some slight variation on how the design is decided.

- There is agreement on the alignment from Foster Island to the floating bridge. While there are some elevation differences there is generally more support for the lower profiles in Options A and K.
- They believe that stressing TDM, including transit improvements, is essential. A sample of potential elements to be used in contained in Appendix 10.3. The selection of a combination of strategies should be discussed with community stakeholders once a preferred Option is selected. TDM measures should be implemented before, during and after construction.
- All options recognize the importance of overall transit connectivity and access to the Montlake Multimodal Hub station. They recommend that transit service north and south along Montlake Boulevard also be improved to enhance access to surrounding communities and services and maintain service levels similar to the Montlake Transit Flyer Stop.
- Noise reduction is a top priority during as well as after construction. They recommend the use of quieter pavement and many of the Acoustics Expert Review Panel recommendations. It is recommended that once a preferred Option is selected a community review of the Acoustics report by segment be conducted to determine the preferred combination of improvements.
- They all build green space along the corridor to enhance pedestrian and bicycle flow and reconnect communities.

There is a lot more that has been conveyed by the participants. They have worked very hard over the last several months to record their thoughts for you on the choices to be made. This document contains statements in Section 9 regarding individual community positions regarding the Option they prefer and their thoughts on the other Options. While we were not able to get to a single solution for a westside design option, they have clarified their interests and have made extraordinary advances in helping define solutions for an SR 520 corridor and surrounding area design that they believe meet their needs.

ES 1.3 How are Options A, K and L in common and how do they vary?

What are the Common Design Elements for Options A, K, and L

The graphic below shows the sections of the West Side SR 520 corridor that are common; where mediation participants have agreed upon common design elements and successful accommodation of community interests.



Options A, K, and L

- Design Elements:**
- From Interstate-5 to Mid Portage Bay, facility will include lids and a viaduct alignment that are common for each option, including reversible direct access to and from the Interstate-5 express lanes.
 - West of Foster Island all options realign the roadway to straighten curves and move the alignment 100 feet north.
 - All options have a low roadway profile compared to the prior Draft Environmental Impact Statement (DEIS) designs. The profile is the same for Options A, K, and L, except from Foster Island to the western high-rise of the SR 520 Floating Bridge.
 - The footprint has been reduced by the elimination of the Montlake Transit Flyer Stop and some ramps.
 - There is no widening of Montlake Boulevard north of the Mountlake Multimodal Station.
 - There are no additional lanes on Pacific Street (some additional width may be required in Option K).
 - Constructs additional bicycle and pedestrian facilities along the corridor, improving connections and access to surrounding parks and neighborhoods including pedestrian connections at Foster Island.
 - Future rail is accommodated in the corridor through the Foster Island berm to Interstate-405.
 - Need to acquire and relocate the Museum of History and Industry.
- Community Interests:**
- Noise reduction is a top priority. Noise mitigation including quiet pavement, sound walls and other measures along the majority of the corridor are recommended. Review and consider the Acoustics ERP recommendations.
 - Increased transit service between SR 520 and Montlake Multimodal Hub to address the removal of the Montlake Transit Flyer Stop.
 - Improve transit service north and south to better service local neighborhoods.
 - Recommend implementation of transportation demand and active traffic management to manage traffic flow and reduce single-occupancy vehicle trips.
 - A desire for the Portage Bay Bridge to be a visually appealing/historic structure with a consistent/compatible theme through the neighborhood. Option K specifies an arch type design.
 - Utilize good urban design by enhancing green space in the corridor lid applications as appropriate for each Option.
 - Aesthetic treatments, landscaping, and design guidelines to promote visual continuity and consistency along the corridor, including continuing the "Olmsteadian" feel and an integrated design.

- Early Action Enhancements Agreed to by Mediation Participants**
- Include traffic delineation for better segregation of SR 520 and local traffic is needed on Montlake Boulevard from south of SR 520 to Pacific Place (signing, striping, getting people lined up into the correct lanes, to reduce conflicts).
 - Optimize traffic signal timing on Montlake Boulevard to favor progression and the efficient movement of the greatest number of people and goods.
- Longer Term Enhancements Agreed to by Mediation Participants**
- Explore opportunities to develop a SR 520 Corridor Management Agreement with local jurisdictions along the corridor to encourage transit friendly land use and other development decisions.
 - Reflect consistent, best management practices, for storm water and other areas of construction and design in order to target such things as better than minimum requirements.
 - Recommends limited use of temporary bridges in order to reduce impacts.

Montlake Area

The graphics below show the varying design elements and community interests that influenced design decisions for the Montlake Area for Options A, K, and L.



How do the Design Elements vary in the Montlake Area?

Option A	Option K	Option L
<p>Design Elements:</p> <ul style="list-style-type: none"> Proposes less costly solution by replacing Montlake Interchange with a similar facility in the same location. Places an emphasis on transit priority where possible, without adding widening footprint or adding large costs, includes a westbound transit-only off-ramp to Montlake Boulevard. Does not include Lake Washington Boulevard ramps. Two-lane on-ramp westbound with auxiliary lane from Montlake Interchange to Interstate-5. Proposes a McCurdy Park Lid. 	<p>Design Elements:</p> <ul style="list-style-type: none"> Includes a single-point urban interchange under the mainline SR 520. Provides a direct connection between SR 520 and the University of Washington, the Montlake Multi-modal Hub and removes draw-bridge vehicle delay during off-peak hours. Includes southern access to and from SR 520 to Lake Washington Boulevard through the Washington Park Arboretum. Returns Montlake Blvd to a local street from Pacific Street south. 	<p>Design Elements:</p> <ul style="list-style-type: none"> Includes a single-point urban interchange over the mainline SR 520. Includes Lake Washington Boulevard ramps but limits some access to reduce traffic. Includes a Montlake Lid. No minimum footprint held through Montlake. Footprint slightly larger than K Grades are maintained at a gradual level.
<p>Community Interests:</p> <ul style="list-style-type: none"> Priority to preserve the Lake Washington Park Arboretum and McCurdy Park for education and park use. Promotes increased transit access on Montlake Boulevard by retaining bus zones and calling for additional bus frequency. Preserves class 1 wetlands at McCurdy Park and through Foster Island. Preserves integrity of the Lake Washington Park Arboretum by eliminating Lake Washington Boulevard ramps. Reduced environmental impacts from smaller footprint. Recommends development of a Corridor Management Agreement and the use of variable tolling. 	<p>Community Interests:</p> <ul style="list-style-type: none"> In order to minimize impacts to arboretum, connectivity and traffic flow still being evaluated for south ramp connection. Reduces impacts to the university and ship canal communities. Currently Preserves the NOAA Science Building. Provides a linear park like environment from Foster Island through the Montlake area. Provides safer bicycle/pedestrian access through the corridor. 	<p>Community Interests:</p> <ul style="list-style-type: none"> Interest in expanding the restrictions on bridge openings. Recommend extended closure periods (AM / PM). Returns Montlake Blvd to a local street from Pacific Street south. Moves freeway bound traffic to the new connection. Currently preserves the NOAA Science Building.

Pacific Street / Montlake Boulevard Area

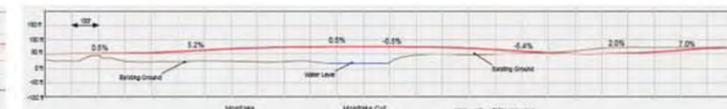
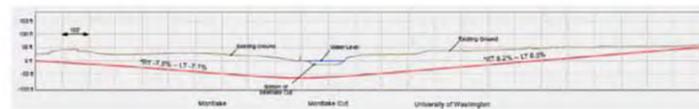
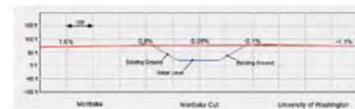
The graphics below show the varying design elements and community interests that influenced design decisions for the Pacific Street / Montlake Boulevard Area for Option A, K, and L.



How do the Design Elements vary in the Pacific Street / Montlake Boulevard Area?

Option A	Option K	Option L
<p>Design Elements:</p> <ul style="list-style-type: none"> • Adds a second Montlake Cut bascule bridge parallel to the existing Montlake bridge, adding additional capacity to Montlake Boulevard. Complimentary visual theme for second bridge. • Recommends providing additional signage and lane channelization, including bus yield signs on Montlake Boulevard to improve auto and bus operations. • Minimize impact to Montlake Blvd and Pacific St intersection <p>Community Interests:</p> <ul style="list-style-type: none"> • Protects Rainier Vista views corridor by not constructing within or adjacent the view shed. • Does not affect U.W. Husky Stadium Property, preserving it for future development. 	<p>Design Elements:</p> <ul style="list-style-type: none"> • Includes a tunnel under the Montlake Cut and eliminates any additional boating barriers over the Montlake Cut. • Separates freeway and local traffic, allowing Montlake Boulevard to be a local traffic access roadway. • Depressed intersection at Pacific Street and Montlake Boulevard provides for better bicycle/pedestrian connectivity. • Constructs a grade separated bicycle/pedestrian crossing at Montlake Boulevard and Pacific Street. <p>Community Interests:</p> <ul style="list-style-type: none"> • Protects the Rainier Vista corridor and eliminates view of roadway for surrounding communities. • Preserves use of University of Washington Husky Stadium Property for future development. • Allows for restoration of surface areas for wetlands and open green space for the community. 	<p>Design Elements:</p> <ul style="list-style-type: none"> • Includes a second draw bridge over the Montlake Cut. • Separates freeway and local traffic, allowing Montlake Boulevard to be a local traffic access roadway. • Constructs a grade separated pedestrian cross at Montlake Boulevard and Pacific Street. <p>Community Interests:</p> <ul style="list-style-type: none"> • Provide direct bicycle access from the SR 520 corridor to the U.W. University of Washington and Hospital areas.

The following three graphics show the varying roadway profiles for each Option from the Montlake Interchange at SR 520 to the University of Washington.



Foster Island Area

The graphics below show the varying design elements and community interests that influenced design decisions for the Foster Island Area for Option A, K, and L.



How do the Design Elements vary in the Foster Island Area?

Option A

- Design Elements:**
- Promotes a low profile over Foster Island.
 - Provides pedestrian and bicycle access to Foster Island and surrounding areas.
 - Maintains existing water flow in and around Foster Island.

- Community Interests:**
- Protect health of Union Bay and fish passage.
 - Minimizes impacts to wetlands and recreational activities.

Option K

- Design Elements:**
- Includes a berm over the roadway on Foster Island. Berm is approximately 600 feet long, 25 feet tall, 150 feet wide.
 - Provides visual and bicycle/pedestrian connectivity through Foster Island.

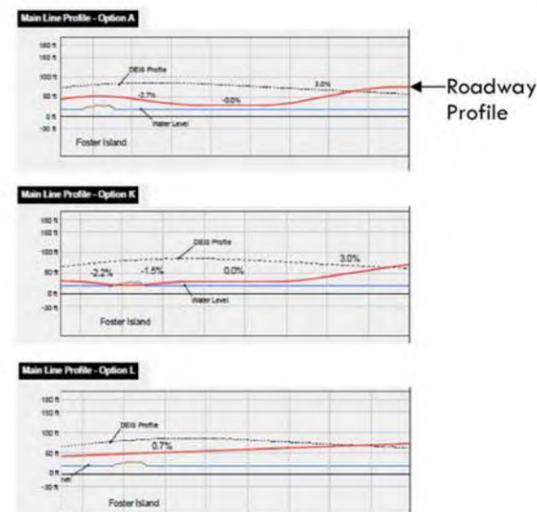
- Community Interests:**
- Protects community views.
 - Adds additional green space through the corridor.
 - Recommends added interest on the lid such as a fountain or amenity.

Option L

- Design:**
- Includes a gradual profile grade to the western approach to improve storm water management.
 - Provides bicycle and pedestrian access to Foster Island.
 - Maintains existing water flow in and around Foster Island.

- Community Interests:**
- Limits impacts to wetlands and natural surroundings.

The following three graphics show the varying roadway profiles for each Option of the SR 520 corridor through the Foster Island Area.



ES 1.4 How do Options A, K and L meet the Project Purpose and Need?

	Common	Option A	Option K	Option L
<i>Improving mobility for people and goods.</i>	<ul style="list-style-type: none"> • Four general-purpose lanes and two HOV lanes, which moves more people than existing four lane option. • Improves regional mobility with bicycle and pedestrian trails. • Improved transit service provides alternatives to single occupant vehicle travel. 	<ul style="list-style-type: none"> • Provides improvement from SR 520 to points north of the corridor. • Includes features designed to support transit. • Expanded capacity over the Montlake Cut via parallel bascule bridge. • Closure of Lake Washington Boulevard ramps increases congestion in Montlake area. 	<ul style="list-style-type: none"> • Provides a direct connection from SR 520 to the University of Washington campus area and points north of SR 520. 	<ul style="list-style-type: none"> • Provides a direct connection from SR 520 to the University of Washington campus area and points north of SR 520.
<i>Safety, reliability, and cost-effectiveness.</i>	<ul style="list-style-type: none"> • Improves travel times and reliability, with wider travel lanes and shoulders, and HOV lanes on SR 520. • HOV lanes provide travel time savings to transit riders. • Improved transit service increases the carrying capacity of the corridor. 	<ul style="list-style-type: none"> • Westbound transit bypass to Montlake improves transit/HOV reliability. • Lower profile over Foster Island increases stormwater costs. 	<ul style="list-style-type: none"> • Tunnel retains future developable area for University of Washington and reduces the visual impacts to the area. • Lower profile over Foster Island increases stormwater costs. • Direct transit connection to Montlake Multimodal Hub. 	<ul style="list-style-type: none"> • Elevated structure less costly than tunnel, but impacts University of Washington development and increases visual impacts. • More gradual profile across Foster Island reduces stormwater

ES 1.4 How do Options A, K and L meet the Project Purpose and Need?

	Common	Option A	Option K	Option L
				<p>costs.</p> <ul style="list-style-type: none"> • Direct transit connection to Montlake Multimodal Hub.
<p><i>Avoiding, minimizing, and/or mitigating effects on neighborhoods and the environment.</i></p>	<ul style="list-style-type: none"> • Minimizes the total footprint and width of the bridge. • Incorporates green lids and visual connection across the highway at key locations. • Incorporates mitigation strategies to reduce noise intrusion in the corridor. 	<ul style="list-style-type: none"> • Closing Lake Washington Boulevard reduces traffic, noise, and air quality impacts to the Washington Park Arboretum and southern neighborhoods. • Enhances the quality of the Washington Park Arboretum environment. • Avoids impacts to Marsh Island, McCurdy Park and University of Washington’s Husky Stadium. 	<ul style="list-style-type: none"> • Reconnects Foster Island improves surrounding views. • Tunnel reduces visual/noise impacts. Allows for restoration of the areas above ground. • Restores Montlake Boulevard to a local street south of Pacific Street. 	<ul style="list-style-type: none"> • Avoids land bridge impacts to Foster Island.

ES 1.5 How do Options A, K and L meet Legislative Goals?

	Common	Option A	Option K	Option L
<i>Minimize footprint and width of bridge</i>	<ul style="list-style-type: none"> • The roadway has reduced shoulders and lane widths. • Removed Montlake Transit Flyer Stop at Montlake Boulevard. • Removed westbound and eastbound auxiliary lanes between I-5 and Montlake Boulevard. 	<ul style="list-style-type: none"> • Removes the Lake Washington Boulevard ramps. • Keeps the interchange in today's location to reduce the width in the Washington Park Arboretum. 	<ul style="list-style-type: none"> • Moves the interchange east of today's interchange to reduce width through Montlake Interchange. • Proposes a tunnel under the Montlake Cut to avoid footprint impacts to the navigation channel, fish migration path and University of Washington property. • 	<ul style="list-style-type: none"> • Moves today's interchange to the east to reduce width through Montlake Interchange. •
<i>Incorporates enhancements for surrounding neighborhoods</i>	<ul style="list-style-type: none"> • Provides lids and pedestrian connectivity at I-5, 10th Avenue East and Delmar Drive, Montlake vicinity • Implements increased bus rapid transit service to address removal of Montlake Transit Flyer Stop. 	<ul style="list-style-type: none"> • Removes Lake Washington Boulevard ramps and reduces trips through the Washington Park Arboretum adjacent southern neighborhoods. • Adds a separate westbound HOV bypass ramp to Montlake Boulevard improving transit access. • Supports an aesthetically pleasing structure over Portage 	<ul style="list-style-type: none"> • Retains connections to Lake Washington Boulevard for the Washington Park Arboretum and communities to the south. • Provides an underground direct connection between SR 520 and University of Washington preserving surface areas for future development and neighborhood and 	<ul style="list-style-type: none"> • Retains connections to Lake Washington Boulevard for the Washington Park Arboretum and communities to the South • Provides an elevated direct connection between SR 520 and the University of Washington with added pedestrian and bicycle access. • Returns Montlake

ES 1.5 How do Options A, K and L meet Legislative Goals?

	Common	Option A	Option K	Option L
		<p>Bay through a design competition.</p> <ul style="list-style-type: none"> • Preserves existing wetlands at Marsh Island and McCurdy Park. • Adds a berm on Foster Island to improve visual connectivity and reduce noise. 	<p>environmental enhancement.</p> <ul style="list-style-type: none"> • Returns Montlake Boulevard to a local street. • Provides a signature bridge structure for Portage Bay Bridge that signifies the entrance to Seattle. • Adds a berm on Foster Island to improve visual connectivity and reduce noise. 	<p>Boulevard to a local street</p> <ul style="list-style-type: none"> • Provides a signature bridge structure for Portage Bay Bridge that signifies the entrance to Seattle.
<i>Incorporates recommendations from health impact assessment</i>	<ul style="list-style-type: none"> • Incorporates noise mitigation strategies throughout the corridor as recommended by the Acoustics Expert Review Panel. • Provides lids at I-5, 10th Avenue East and Delmar Drive, and Montlake vicinity. • Improves pedestrian and bicycle access throughout the corridor and to surrounding areas. 	<ul style="list-style-type: none"> • Removes the Lake Washington Boulevard ramps improving the integrity and ability to appreciate the Washington Park Arboretum. • Provides a berm on Foster Island improving the connectivity through the area and reducing noise. • 	<ul style="list-style-type: none"> • Provides tunnel access between SR 520 and the University of Washington reducing noise and visual impacts leaving surface area for other uses. • Provides a berm on Foster Island improving the connectivity through the area and reducing noise. • Recommends quieter pavement through out 	

ES 1.5 How do Options A, K and L meet Legislative Goals?

	Common	Option A	Option K	Option L
			the corridor reducing noise to surrounding communities and parks.	
<i>Maintains travel speed and reliability for HOV</i>	<ul style="list-style-type: none"> • Provides continuous inside HOV lane across the corridor including a reversible HOV and transit ramp lane to I-5 into and out of Seattle. 	<ul style="list-style-type: none"> • Provides a westbound transit/HOV bypass ramp at Montlake Boulevard. 	<ul style="list-style-type: none"> • Provides direct roadway access to the University of Washington light rail station and multi-modal center. 	<ul style="list-style-type: none"> • Provides direct roadway access to the University of Washington light rail station and multi-modal center.
<i>Articulate the alignment of the option, footprint, and affected areas in environmental documents</i>	<ul style="list-style-type: none"> • The options are being fully evaluated in the supplemental draft EIS. • Sections 3 and 6 describe the option and community issues. 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> •

ES 1.6 What are the Costs of Options A, K and L?

The graphic below provides a cost comparison summary for Options A, K, and L for various segments of the corridor.

Washington State Department of Transportation		SR 520 Corridor Program			Updated: November 2008	
2006 AND 2008 COST COMPARISON SUMMARY		I-5 to Floating Bridge	Pontoon Site and Floating Bridge	Evergreen Point Road to I-405		
2006 Montlake Interchange Option	Total Cost \$1.892B	Total Cost \$1.488B	Total Cost \$680M		2006 Total Cost \$4.060B	
2006 Pacific Interchange Option	Total Cost \$2.202B	Total Cost \$1.488B	Total Cost \$680M		2006 Total Cost \$4.370B	
2008 Corridor Concept	Varies Between Options			<p>Note: Map includes major construction limits. Corridor work continues to SR 202.</p>		
	Option A*	Pontoon Site	Floating Bridge			
2008	Total Cost \$2.022B to \$2.298B	Total Cost \$358M	Total Cost \$1.370B	Total Cost \$776M		2008 Most Likely Cost \$4.526B to \$4.802B
2008	Total Cost \$4.070B to \$4.168B	Total Cost \$358M	Total Cost \$1.370B	Total Cost \$776M		2008 Most Likely Cost \$6.574B to \$6.672B
2008	Total Cost \$2.562B to \$2.642B	Total Cost \$358M	Total Cost \$1.370B	Total Cost \$776M		2008 Most Likely Cost \$5.066B to \$5.146B

*Range includes optional features.

All costs in year of expenditure.

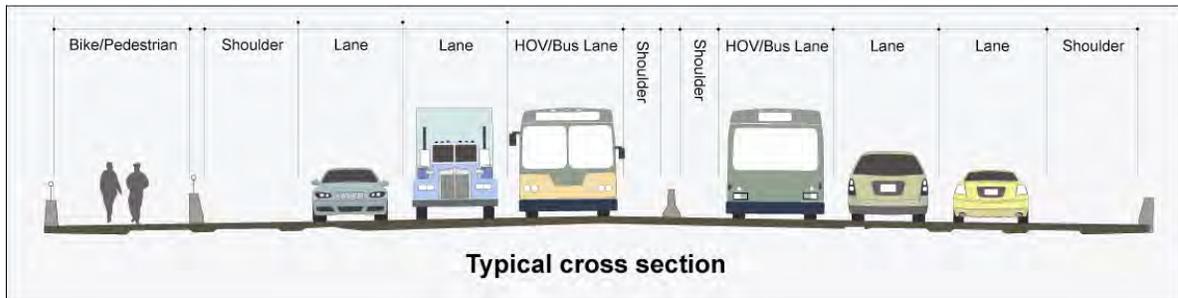
Section 1 – Introduction to the SR 520 Project Impact Plan

1.1 Why is SR 520 being replaced?

SR 520 is one of two east-west crossings across Lake Washington. The existing SR 520 bridges are considered vulnerable to earthquakes and windstorms. The SR 520 Corridor Program will result in a new bridge and a six-lane SR 520 corridor replacement from I-5 in Seattle to SR 202 in Redmond. The new SR 520 will improve safety and mobility, providing greater reliability for drivers and transit. The SR 520 Corridor Program is made up of four projects:

1. Bridge Replacement and HOV Project.
2. Eastside Transit and HOV Project.
3. Pontoon Construction Project.
4. Lake Washington Urban Partnership.

The east-west corridor will have four general-purpose lanes and two high-occupancy vehicle (HOV) lanes. This is known as the “4+2” lane configuration. The project will replace all existing bridges, including the Portage Bay Bridge and Evergreen Point floating bridge, with new, safer bridges that are designed to withstand earthquakes and windstorms. Commuters will benefit from better transit reliability and improved travel times between Seattle and the Eastside.



The new bridge will also have a bicycle and pedestrian lane that connects to regional and local trails on both sides of the lake. Five lids are being planned on both sides of the lake that will reconnect neighborhoods and jurisdictions as well as serve as transit stations and open space. Environmental improvements will also be made, including the treatment of stormwater from the roadway.

1.2 What is the 6-Lane Alternative?

In August of 2006, WSDOT published the SR 520 Draft EIS (draft EIS). The draft EIS discussed and evaluated a four-lane and a six-lane SR 520 corridor from I-5 in Seattle to I-405 in Bellevue. In December 2006, the Governor announced the direction to move forward with a proposed six-lane SR 520 corridor as the foundation to any proposed

interchange design options. The six-lane corridor consists of a 4+2 configuration, with two general-purpose lanes and one HOV and transit lane in each direction and a bicycle/pedestrian path along the north side of the corridor.

1.3 What environmental regulations apply to the project?

All major projects that the WSDOT undertakes, including the SR 520 Corridor Program, must comply with the requirements of the National and State Environmental Policy Acts (NEPA and SEPA). These regulations are designed to ensure that environmental impacts are considered at an early stage of the project decision-making process. In compliance with NEPA and SEPA, WSDOT published a draft EIS on the SR 520 project in August 2006. That document evaluated a 4-Lane Alternative, a 6-Lane Alternative, and several design options of the 6-Lane Alternative, but it did not evaluate any alternatives or options involving tunnels under the Montlake Cut. A supplemental draft EIS is planned for publication in late 2009. That document will consider alternatives and design options identified through the SR 520 mediation process. WSDOT will solicit public comment on the supplemental draft EIS, and plans to publish a final EIS (which will include responses to comments on both the draft EIS and supplemental draft EIS) in late 2010.

1.4 How does the analysis in this plan relate to the supplemental draft EIS?

Three west side interchange options, known as Options A, K, and L, were selected by the mediation participants in April 2008. This allowed WSDOT to finalize the footprint and alignment of the three options and begin the analysis necessary to document environmental impacts in the EIS. That analysis is under way and the supplemental draft EIS will be published in 2009.

The analysis contained in this plan, including Section 5, is a preliminary and qualitative assessment of the potential impacts of the three options. It is based on previous analysis and preliminary quantitative analysis, including traffic modeling, identification of resources in the corridor, and assessment of potential mitigation strategies.

Analysis in the supplemental draft EIS may result in the identification of different impacts, which may lead to changes to mitigation and community enhancements. Those changes will be clearly identified in the supplemental draft EIS and mediation participants and the public will be asked for comment.

This project impact plan is not intended to take the place of the environmental permitting, regulatory process, or government-to-government tribal consultation that may require additional mitigation and changes to the project design. These processes will begin after a preferred option is identified by the Governor and Legislature.

1.5 Has there been additional oversight on the mediation process?

An oversight committee met three times from November 2007 through April 2008. Committee members included:

1. Governor – Christine Gregoire
2. Joint Transportation Committee – House Chair – Judy Clibborn
3. Joint Transportation Committee – Senate Chair – Mary Margaret Haugen
4. Joint Transportation Committee – House Ranking Minority Member – Fred Jarrett
5. Joint Transportation Committee – Senate Ranking Minority Member – Dan Swecker
6. Mayor of Seattle – Greg Nickels
7. Executive, King County – Ron Sims
8. Senator, 48th District – Rodney Tom
9. Representative, 48th District – Ross Hunter
10. Representative, 48th District – Deborah Eddy
11. Senator, 43rd District – Ed Murray
12. Representative, 43rd District – Jamie Pedersen
13. Representative, 43rd District – Frank Chopp
14. President, University of Washington – Mark Emmert
15. CEO, Sound Transit – Joni Earl
16. Secretary of Transportation – Paula Hammond

The committee defined the following as necessary elements that should be in the option selected by the mediation group:

- The option is fiscally constrained.
- On schedule for 2012 construction.
- Include transit on the day a new facility opens, linked to the University of Washington light-rail station.
- Use existing financial and other data whenever possible.
- Include mitigation responses to impacts.
- Include travel demand management strategies.

Section 2 Other Work Completed in the review of the Corridor

2.1 What did the independent engineering firm and the tunnel expert review panel recommend about tubes and tunnels?

An independent engineering firm, COWI, evaluated tunnel options proposed by the mediation team. In limited time to identify tunneling approaches, COWI evaluated only cut-and-cover and immersed-tube tunneling methods for the mediation options. COWI did acknowledge other tunneling methods that have different trade-offs to the methods they evaluated.

Using immersed-tube tunneling for the tunnel under the Montlake Cut would require construction of tunnel elements in a large casting basin at the shoreline of Union Bay. The tunnel elements would be constructed within the casting basin. Once complete, a gate would be opened to flood the basin, allowing the tunnel elements to be floated and sunk into place. There is a high likelihood that the Montlake Cut would be closed for periods of time for dredging and placing the elements. There would also be significant potential environmental impacts associated with this construction method.

As a result of the environmental impacts identified, the mediation team and WSDOT agreed to evaluate other tunneling methods to better understand the various techniques and provide a tunneling method recommendation that best met a number of interests that included environmental impact, navigation, design, constructibility and cost.

A tunnel expert review panel convened to discuss and evaluate the feasibility of a tunnel under the Montlake Cut. The panel looked at a range of tunneling techniques and tunnel alignments with the goal of comparing various considerations. These considerations were environmental, tunneling methods, geotechnical, alignments and community. The tunneling methods evaluated were (1) immersed tube tunneling, (2) tunnel boring machine and (3) sequential excavation method with ground stabilization.

The panel recommended the following:

- Sequential excavation method tunneling with ground freezing best achieves the objectives of the panel.
- Investigate the geotechnical conditions of the project area to confirm that the sequential excavation method and ground freezing are achievable and to adjust roadway geometrics to optimize the design.
- Optimize the roadway grades and alignment within the constraints of the Sound Transit U-Link Station, the geology of the project area and the surrounding environment (wetlands, vessel navigation, fish migration, and usual and accustom fishing rights).

2.2 What did the expert review panel recommend about acoustics?

In July 2008, the SR 520 team issued invitations for the convening of an Expert Review Panel (ERP) with the specific task of identifying Noise Reduction Strategies for the

corridor. The panel's goals were to identify all potential noise reduction strategies and design options and to consider input from mediation participants about issues and ideas for noise reduction strategies. The ERP developed a menu of noise attenuation strategies that could be applied along the corridor. These strategies include:

- **Quieter pavements** – with alternatives that accommodate periodic renewal of the pavement surface for maintaining quieter pavement over time.
- **Roadway design** – with alternatives that seek to shield sensitive receptors from and/or reduce noise.
- **Noise barriers** – with alternatives that balance the need for noise abatement with potentially competing demands for aesthetics. Some alternatives departed from the more conventional use of noise barriers, and included sound absorption applied to other design features.
- **Modeling** – recognizing the complexity of this issue, and thus the need for a more sophisticated assessment in order to quantify the costs and benefits of the various strategies.
- **Perception** – looking at how the public will perceive the noise generated along the project corridor, and what means can be taken to improve this perception.
- **Operation and finance** – using economic incentives and disincentives as a means to improve noise via traffic management.
- **Studded tires affecting acoustical (and other measures of) durability of pavements** – specific issues related to a paramount factor in the overall noise issue: the use of studded tires. Limiting or eliminating the use of studded tires is a recommendation of the ERP.
- **Vehicle sources** – identifying means to reduce vehicle noise beyond tire pavement noise sources.
- **Structures** – issues specific to the structures along the project, like those related to expansion joints.
- **Arterials** – issues specific to the arterial streets that are part or immediately adjacent to this project. For example, heavy trucks on arterials drowning out potential noise improvements on SR 520.
- **Lids and tunnels** – issues specific to the proposed lids and tunnels found in various Options for this project. For example, muting the noise that is directed out of the lids on either end.

The final report divides the corridor up into segments. Each option was evaluated by segment and recommendations were made on the most effective combination of noise abatement strategies for that area.

The panel recommended the following next steps:

- Determine capital and recurring costs.
- Analyze the life cycle and benefit-cost analysis.

The mediation group did not have a chance to review the specific recommendations for each segment. The selection of final noise attenuation elements on a preferred Option should include a community review in addition to the additional steps recommended by the panel.

2.3 What were the key findings of the Health Impact Assessment?

In 2007, Governor Gregoire signed Senate Bill 6099, a legislative directive to develop a SR 520 interchange design and plan for the West side of Lake Washington through mediation for a more reliable replacement of the existing SR 520 Bridge. The directive also asked Public Health – Seattle & King County and the Puget Sound Clean Air Agency to conduct a health impact assessment (HIA) of the SR 520 Bridge Replacement and HOV Project, focusing on air quality, greenhouse gas (GHG) emissions, and other public health issues, with final recommendations to be incorporated into the Mediation Group's Project Impact Plan. The HIA research and the report indicate that choosing the right set of features for the SR 520 Project – regardless of which of the three options under consideration is adopted – can contribute significantly to improving the health of people in communities adjacent to the corridor and the livability of their neighborhoods.

The SR 520 Bridge Replacement and HOV Project Draft EIS published in August 2006 proposed many elements that would contribute to a healthy community. These elements included pedestrian and bicycling amenities, transit improvements, design improvements, landscaped lids and green spaces, and noise reduction strategies.

No single action will solve society's chronic disease challenges. Multiple actions are needed to create healthy communities. For this reason, it is critical that these elements are integral to the project and that they are supported, despite challenging budget times, for optimal health benefits. The following are the key assessment recommendations:

Construction Period

- Reduce construction-related pollution by implementing the following actions:
 - Use new or retrofit diesel-powered construction vehicles and equipment.
 - Implement an idling reduction program for construction vehicles and equipment.
 - Designate a HOV lane on the bridge to maintain or increase transit ridership. Increase transit service to attract new riders and reduce congestion.
 - Increase transit opportunities and incentives (such as free or subsidized transit passes) and trip reduction programs (such as carpooling and shuttle services) for construction workers, University of Washington students and staff, and adjacent neighborhood residents.
 - Provide financial incentives for the contractor to accelerate construction.
 - Schedule construction activities that can delay traffic during the lowest traffic periods to minimize congestion.
- Increase traffic management by implementing the following actions:
 - Develop safe and clearly marked alternative routes for pedestrians and bicyclists during the construction period.

- Conduct a public education program to reduce traffic on the facility, and increase distribution of the information before beginning construction activities that are likely to increase congestion.
- Provide clearly identified temporary lane configurations to maintain traffic flow in the corridor.
- Install traffic calming devices, such as traffic circles, curb bulbs, and speed humps, and limit construction traffic routes in the affected neighborhoods.
- Provide access to construction schedules so Emergency Medical Services can provide uninterrupted service in the corridor, especially where access is limited.
- Provide real time traffic and road construction information in an easily accessible way so area residents, transit, freight, Emergency Medical Services, and other users can change routes and travel times as needed. Some possible strategies include increasing the number of traffic cameras and providing reader boards in the corridor.
- Ensure Emergency Medical Services can quickly reach all construction areas (including water access).
- Provide for construction noise control, by implementing the following actions:
 - Use OSHA approved broadband back-up warning devices on all construction vehicles and equipment.
 - Use approved noise control devices for generators, compressors, and similar equipment.
 - Limit the operating periods for equipment that produces loud noise, such as pile drivers and concrete cutters, particularly during nighttime periods.
 - Maintain construction equipment in good working condition so that it does not create additional noise.
 - Notify residents of potentially affected areas prior to construction activities and provide a complaint hotline and web site.
 - Coordinate with agencies responsible for controlling noise during planning and construction and when responding to complaints.

Transit, Bicycling and Walking

- Increase and improve transit service to meet increased demand, attract more riders, and reduce air pollution, by implementing the following actions:
 - Provide a significant increase in the number of buses operating in the peak periods over the projected service described in the SR 520 Bridge Replacement and HOV Project Draft Environmental Impact Statement.
 - Enhance transit and park and ride facilities serving the corridor with better weather protection, drop-off areas, and more bicycle and pedestrian facilities.
 - Ensure that transit transfer points and light rail facilities are located as near each other as feasible, and connected by pedestrian and bicycle paths.
 - Promote the corridor as an area for implementing pilot programs, such as bus rapid transit, that have the potential to reduce single occupant vehicle travel.
 - Provide facilities and designs that make it easy for users to change modes without delaying their trips in the corridor.
- Install connected walking and bicycling facilities throughout the corridor, including:

- To, from and across the corridor to adjacent neighborhoods.
- To and through parks, green spaces, regional trails, and the Washington Park Arboretum.
- To bus stops, bus transfer points, and the light rail station.
- Create a common way finding system in the corridor that includes these features:
 - Information on destinations and all mode choices that provides pedestrians and bicyclists a quick understanding in selecting non-motorized or multi-mode transportation routes.
 - Coordination of the design with municipalities, the University of Washington, transit agencies, and others within the corridor.
- Provide safe mobility on pedestrian and bicycling paths, and at transit stops and transfer points, by implementing the following actions:
 - Create lighted paths that are safe and perceived to be safe with high visibility.
 - Provide appropriate barriers and traffic calming features between shared paths and roadways where pedestrian, bicyclist and traffic activity will be high.
 - Mark shared paths for bicyclists and pedestrians to minimize possible conflict.
 - Program the traffic monitoring cameras on the bridge to also monitor pathway use.

Landscaped Lids and Green Spaces

- Include six landscaped freeway lids that connect SR 520 communities (i.e. on the west side at I-5, 10th Avenue and Delmar Drive East, and at Montlake Boulevard; and, on the Eastside at Evergreen Point Way, 84th Avenue NE, and 92nd Avenue NE).
 - Design lids with landscaping, green spaces, and amenities, such as benches, bike racks, public restrooms, and shaded areas, to attract more public use.
 - Design lids with good visibility and sightlines and that avoid isolated areas.
 - Install emergency call boxes on the lids to provide for personal security.
 - Use landscaping materials throughout the SR 520 corridor, along adjacent trails and roadways, and at transit stops to soften the concrete footprint.
 - Improve and preserve the integrity of the Washington Park Arboretum, and the ability of visitors to enjoy it and other green spaces and natural areas.
 - Preserve access to the waterfront for water-related activities, such as current available at the University of Washington's Waterfront Activity Center.

Design Features

- Reduce noise throughout the corridor by implementing the following actions:
 - Incorporate multiple solutions (e.g. freeway lids, noise walls, quieter pavement, landscaping) to reduce noise in the corridor for the lifespan of the project.
 - Design sound walls that decrease noise but do not result in additional problems (e.g. isolated areas, unsightly concrete structures, interference of natural views).
- Add to the adjacent communities' visual character with art and design by implementing the following actions:

- Incorporate architectural, art, and design solutions into all elements of the project (i.e. landscaped lids, trails, noise walls, transit infrastructure, bicycle storage areas, signage, and structural components of the bridge) that harmonize with adjacent neighborhoods and natural surroundings and conceal the roadway footprint.
- Design landscaped lids, walking and bicycling paths, transit infrastructure, and other elements within a human scale to make the user feel more comfortable and not overwhelmed by the adjacent large concrete structures.
- Identify areas and opportunities for art early in the WSDOT design process that reflect and build upon strategies in the SR 520 Corridor Aesthetics Handbook – Ideas for Urban Corridor Design and partner with local jurisdictions, neighborhood organizations or others to collaborate on these projects.
- Utilize innovative storm water management practices along the SR 520 corridor to substantially reduce vehicular pollution from entering Lake Washington.

2.4 How does the High Capacity Transit Plan integrate with the overall program?

Each of the options currently being evaluated in this Project Impact Plan is also being considered in the SR 520 Corridor High Capacity Transit plan as required by ESSB 6099. This plan is identifying how bus rapid transit will work in the SR 520 corridor, improving transit service between major eastside origins to the University District and downtown Seattle. The plan will also ensure the Montlake Multimodal Hub, further defined in the HCT Plan submitted to the Legislature in December 2008, facilitates effective and efficient transfers between bus and rail service at that location. The final plan will be included in the traffic operations analysis of the SR 520 Bridge Replacement and HOV Program supplemental draft EIS. It is important to note that increased transit service is required in order to address the removal of the Montlake Transit Flyer Stop. This effort will help to identify any design modifications needed to support the increased levels of transit service on the SR 520 corridor and into the University District to mitigate the loss of the flyer stop.

Specialized services, including bus rapid transit, will be considered in all options. Two conclusions of the lead agencies (WSDOT, Sound Transit, and King County) are that transit service levels will be similar between all options and that the Montlake Multimodal Hub will operate efficiently in replacing the functions of the current Montlake Transit Flyer Stop on SR 520.

Section 3 – West Side Interchange Options

The following section describes the essential elements of each Option. Each option describes the reasoning behind the option and briefly describes the trade-off's made during refinement.

3.1 What is Option A?

Option A focuses on transit and Active Traffic Management (ATM) in a design focused on the existing Montlake interchange. The basic element of this design assumes a second bascule bridge, parallel to the existing one, across the Montlake Cut.

Consideration in development of design

- Smaller footprint does not allow for bus rapid transit direct access to Eastbound 520 from Montlake Boulevard.
- Elimination of Washington Park Arboretum ramps to preserve park area increases traffic primarily along Montlake Boulevard.
- Required the “taking” of NOAA Science Building to the northwest of Montlake interchange to expand transportation access to westbound SR 520.
- Implements new access through the Shelby neighborhood for local traffic to address traffic circulation.

Description

Option A has a Montlake Boulevard interchange similar to today's configuration. The goal of this option is to prioritize transit connections and be a low-cost option. As described by option proponents, this option consists of the following features:

- An interchange at Montlake Boulevard, similar to the configuration of the existing interchange.
- A second Montlake Cut bridge parallel to the existing Montlake Bridge.
- Traffic delineation on Montlake Boulevard to better separate traffic as it approaches the SR 520 interchange.
- A westbound transit-only off-ramp to Montlake Boulevard.
- A McCurdy Park lid that is east of Montlake Boulevard., in the vicinity of 24th Avenue.
- A two-lane westbound on-ramp at Montlake Boulevard interchange and auxiliary lane to Interstate-5.

This option includes removal of the following:

- Lake Washington Boulevard ramps.

There are several modifications that will receive additional analysis. The modifications below could be added to Option A if the analysis shows a benefit for transit and/or a need to address traffic volumes. These are not a part of the baseline A option as they increase the overall footprint and would add traffic impacts to the Washington Park Arboretum.

Potential modifications to Option A include:

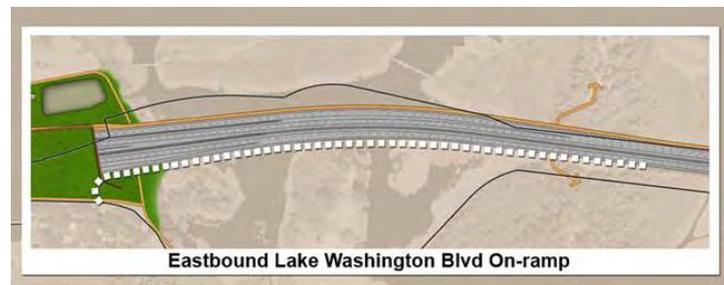
- An eastbound direct access on-ramp for transit and HOV from Montlake Boulevard.



- A westbound off-ramp to Lake Washington Boulevard designed to split northbound traffic and southbound traffic east of the Montlake lid.



- An eastbound on-ramp from Lake Washington Boulevard.



3.1.1. Alignment and footprint

The general height and alignment of SR 520 between I-5 and Montlake Boulevard is similar among all options. This section specifically addresses the alignment unique to Option A. The height of the SR 520 between the Montlake shoreline and the Floating Bridge is low compared to the DEIS profile. The height of the SR 520 at the Western High Rise, which serves as the west navigation passage under SR 520, is similar in height to and is northwest of today's west high rise. The second Montlake Cut Bridge is similar in height to the existing bridge in order to maintain similar navigation passage clearances.

The footprint unique to Option A consists of the Montlake Boulevard interchange and the second Montlake Cut bridge. The Montlake Boulevard interchange ramps extend onto the Portage Bay Bridge structure and partially extend into the Washington Park Arboretum on the west approach bridge structure. Stormwater facilities are also sited near the interchange in the vicinity of the existing Museum of History and Industry location.

The second Montlake Cut Bridge is similar in width to the existing bridge crossing of approximately 60 feet. The proposed crossing will be adjacent to and east of the existing bridge. The approach for the proposed second Montlake Cut Bridge requires additional width on Montlake Boulevard north and south of the Montlake Cut. Two residences are required to be taken for ROW needs for the new bridge.

Should any of the modifications be constructed as part of Option A, additional footprint is required to provide ramp lanes. The addition of the Lake Washington Boulevard ramp connections adds width to the facility through the Washington Park Arboretum. The addition of the westbound auxiliary ramp lane adds ten feet in width across the western half of the proposed Portage Bay Bridge structure.

3.1.2 Option A Corridor improvement graphic and cost estimate

The graphics on the following two pages show the general improvements contained in Option A and the costs across the corridor.

Option A



COST ESTIMATE FOR SR 520 CORRIDOR WITH OPTION A

Updated: November 2008

	I-5 to Floating Bridge*	Floating Bridge		Evergreen Point Road to I-405		
2008 Six Lane Alternative With Option A					Note: Map includes major construction limits. Corridor work continues to SR 202.	
	Option A	Pontoon Site	Floating Bridge			
2008	<ul style="list-style-type: none"> • 4+2 configuration • Six lane Portage Bay bridge • Narrow inside shoulder and lane width • Westbound transit-only ramp to Monlake Boulevard • Second bascule crossing • Lids at I-5, 10th/Delmar and McCurdy Park • Quieter pavement** • Portage Bay Bridge Aesthetic Treatment • Option for Foster Island Land Bridge • Option for Lake Washington Boulevard ramps • Option for Eastbound Direct Access Ramp Flyover 	<ul style="list-style-type: none"> • 8 basin, 2 gate site • Shallow foundation design concept 	<ul style="list-style-type: none"> • 4+2 configuration • Narrow inside shoulder and lane width • Single row of pontoons with added floatation 	<ul style="list-style-type: none"> • 4+2 configuration • Move HOV lanes to inside between SR 202 • Lids at Evergreen Point Road, 84th Avenue E and 92nd Avenue E • 108th direct access • Transit stops at Evergreen Point Road and 92nd Avenue E. 		
2008 Most Likely Cost	Total Cost Range \$2.022B to \$2.298B		Total Cost \$358M	Total Cost \$1.370B	Total Cost \$776M	2008 Total Cost Range \$4.526B to \$4.802B

*Requires additional transit service, etc.

**Does not include life cycle renewal costs for quieter pavement; initial installation only.

All costs at year of expenditure.

3.2 What is Option K?

Option K focuses on a lowered new single point urban interchange just east of the existing Montlake interchange. Improvements across the ship canal are via an underground tunnel which emerges just before the Montlake Boulevard and Pacific Street intersection. The focus of this Option was to reduce the visual intrusiveness of the roadway. It also focuses on separating freeway traffic from local traffic.

Consideration in development of design

- Depressed roadway and tunnel is more expensive, however provides a superior transportation link north of the Montlake Cut while promoting visual connectivity between neighborhoods.
- Currently the tunnel requires an eight percent grade to meet Montlake Boulevard and Pacific Street intersection to meet intersection linkages.
- Alternative flammable access will need to be accommodated.
- Lake Washington ramps and Washington Park Arboretum access needs to be maintained.
- Lower profile will require additional stormwater treatment (pump stations and vaults)

Description

Option K has a new interchange located east of Montlake Boulevard that combines the functions of the existing Montlake Boulevard interchange and Lake Washington Boulevard interchange. The goal of this option is to minimize noise and visual impacts. This option consists of the following features:

- A single-point urban interchange under the mainline (the full 4+2 corridor configuration) SR 520 located in the east Montlake area near the existing location of the Museum of History and Industry. Through movements from north to south are precluded at the interchange.
- HOV and transit access ramp to the single point urban interchange to and from the east.
- Current design includes a tunnel under the Montlake Cut at an 8-percent grade. Further geotech evaluation needed to determine in shallower grade is possible.
- Access to and from SR 520 and the Washington Park Arboretum with a modified roundabout at the south terminus of a new roadway parallel to the existing Lake Washington Boulevard.
- A land bridge over the roadway at Foster Island.
- A concrete arch bridge type for the proposed Portage Bay Bridge.
- Quieter pavement.
- The Montlake Lid is at Montlake Boulevard.

- Separates freeway and local traffic across the Montlake Cut, allowing Montlake Boulevard to be a local traffic roadway.
- A revised intersection at Montlake Boulevard and Pacific Street to include a new approach to and from the east and grade-separated pedestrian crossings.
- A grade-separated pedestrian crossing over the Montlake Boulevard and Pacific Street intersection that allows pedestrians to have free movements without traffic conflicts.
- A lowered intersection of the Montlake Boulevard and Pacific Street interchange requiring grade changes of the three existing legs of the intersection.

A modification to Option K is an eastbound off-ramp to and a westbound on-ramp from Montlake Boulevard. This will likely be added to Option K if future analysis shows an operational benefit. A second potential option is modification to the ramp connection to Lake Washington Boulevard.

3.2.1 Alignment and footprint

The general height and alignment of SR 520 between I-5 and Montlake Boulevard is similar among all options. This section specifically addresses the alignment unique to Option K. The height of the SR 520 roadway between the Montlake shoreline and the Floating Bridge is similar to the low bridge height that exists today. The height of the SR 520 at the Western High Rise, which serves as the west navigation passage under SR 520, is similar in height to and is northwest of today's west high rise.

The footprint unique to Option K is the following:

- A lowered interchange below the SR 520 mainline traffic lanes in the vicinity of the Museum of History and Industry site requiring the interchange to be 40 to 60 feet below the existing SR 520.
- A roundabout connection between SR 520 and Lake Washington Boulevard that includes stacked roadway and paths to provide a lowered roadway directly south of SR 520.
- An sequential excavation methodology tunnel under the Montlake Cut requiring two tunnel sections, each approximately 50 feet wide with a 50 foot wide pillar between them.
- A lowered intersection at Montlake Boulevard and Pacific Street requiring grade changes of the three existing legs of the intersection.
- Impacts on University of Washington parking lot south of Husky Stadium and potential development in this area.

Stormwater facilities are also sited near the interchange in the vicinity north of the existing Museum of History and Industry site.

If the eastbound off ramp to and the westbound on-ramp from Montlake modification is constructed as part of Option K, additional footprint will be required to provide ramp lanes extending from the Portage Bay Bridge in the eastbound and westbound direction to

the location of the existing eastbound ramp terminus at Montlake Boulevard and potential impacts to the NOAA science centers. If the Lake Washington Boulevard roundabout access option is constructed, impacts will change from what is described in this document.

3.2.2 Option K corridor improvement graphic and cost estimate

The graphics on the following two pages show the general improvements contained in Option K and the costs across the corridor.

Option K



	I-5 to Floating Bridge*	Floating Bridge		Evergreen Point Road to I-405	
2008 Six Lane Alternative With Option K					Note: Map includes major construction limits. Corridor work continues to SR 202.
	Option K	Pontoon Site	Floating Bridge		
2008	<ul style="list-style-type: none"> • 4+2 Configuration • Six lane Portage Bay bridge • Narrow inside shoulder and lane width • Lids at I-5, 10th/Delmar, Montlake and Foster Island • Single point urban interchange under SR 520 at the Montlake shoreline • Tunnel under the Montlake Cut • False arch type Portage Bay bridge • Quieter pavement** • Option for eastbound off-ramp and westbound on-ramp at Montlake Boulevard 	<ul style="list-style-type: none"> • 8 basin, 2 gate site • Shallow foundation design concept 	<ul style="list-style-type: none"> • 4+2 configuration • Narrow inside shoulder and lane width • Single row of pontoons with added floatation 	<ul style="list-style-type: none"> • 4+2 configuration • Move HOV lanes to inside to SR 202 • Lids at Evergreen Point Road, 84th Avenue E. and 92nd Avenue E. • 108th direct access • Transit stops at Evergreen Point Road and 92nd Avenue E. 	
2008 Most Likely Cost	Total Cost Range \$4.070B to \$4.168B	Total Cost \$358M	Total Cost \$1.370B	Total Cost \$776M	2008 Total Cost Range \$6.574B to \$6.672B

*Requires additional transit service, etc.
**Does not include life cycle renewal costs for quieter pavement; initial installation only.

All costs at year of expenditure.

3.3 What is Option L?

Option L replaces the tunnel in K with an elevated crossing of the cut. In addition, a gradual grade is proposed from Montlake Boulevard to the Western approach to address stormwater drainage.

Consideration in development of design

- Elevated structure provides a lower cost alternative, however does not address the visual intrusiveness of the corridor to surrounding communities.
- There are greater impacts to University of Washington property, the waterfront and historic boathouse.

Description

Option L was developed in response to regulatory agencies requesting an alternative to a tunnel crossing of the Montlake Cut and to develop a lower cost option to be evaluated in the supplemental draft EIS. Option L is similar to Option K in transportation functions, but includes a second drawbridge across the Montlake Cut from the east Montlake area to Pacific Street. This option consists of the following features:

- A single-point urban interchange over the SR 520 mainline east of the Montlake area near the existing MOHAI site.
- HOV and transit direct access ramps to the single point urban interchange to and from the east.
- A movable bridge over the Montlake Cut at East Montlake Park.
- A ramp connection to Lake Washington Boulevard.
- A revised intersection at Montlake Boulevard and Pacific Street to include a new approach to and from the east and grade-separated pedestrian crossing.
- Impacts on University of Washington parking lot south of Husky Stadium and potential development in this area.
- A lowered intersection of the Montlake Boulevard and Pacific Street interchange requiring grade changes of the three existing legs of the intersection.

3.3.1 Alignment and footprint

The general height and alignment of SR 520 between I-5 and Montlake Boulevard is similar among all options. This section specifically addresses the alignment unique to Option L. The height of SR 520 between Montlake Boulevard and the floating bridge varies and has a constant slope of approximately 1.3 percent to the Western High Rise. The height of the SR 520 at the Western High Rise, which serves as the west navigation passage under SR 520, is similar in height to and is northwest of today's west high rise. The proposed movable bridge across the Montlake Cut is similar in height to the existing Montlake Bridge to maintain similar navigation passage clearances.

The following footprint is unique to Option L:

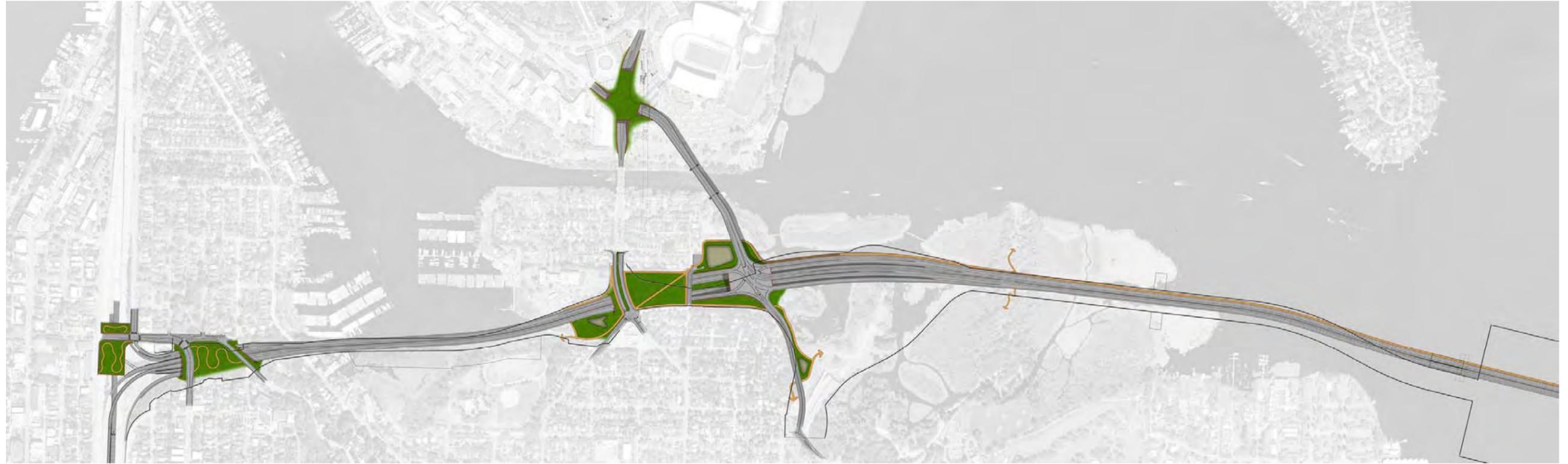
- A raised interchange above the SR 520 mainline traffic lanes in the vicinity of the Museum of History and Industry site requiring the interchange to be 20 to 30 feet above the existing SR 520.
- A ramp connection between SR 520 and the existing Lake Washington Boulevard ramp terminus.
- A movable bridge crossing over the Montlake Cut that is similar in height to the existing Montlake Bridge

Stormwater facilities are also sited near the interchange in the vicinity north of the existing Museum of History and Industry site.

3.3.2 Option L corridor improvement graphic and cost estimate

The graphics on the following two pages show the general improvements contained in Option L and the costs across the corridor.

Option L



COST ESTIMATE FOR SR 520 CORRIDOR WITH OPTION L

Updated: November 2008

	I-5 to Floating Bridge*	Floating Bridge		Evergreen Point Road to I-405	
2008 Six Lane Alternative With Option L					Note: Map includes major construction limits. Corridor work continues to SR 202.
	Option L	Pontoon Site	Floating Bridge		
2008	<ul style="list-style-type: none"> • 4+2 Configuration • Six lane Portage Bay bridge • Single point urban interchange over SR 520 at the Montlake shoreline • Narrow inside shoulder and lane width • Lids at I-5, 10th/Delmar and Montlake • Bascule crossing over the Montlake Cut • Portage Bay Bridge Aesthetic Treatment • Allowance for quieter pavement** • Option for Foster Island Land Bridge 	<ul style="list-style-type: none"> • 8 basin, 2 gate site • Shallow foundation design concept 	<ul style="list-style-type: none"> • 4+2 configuration • Narrow inside shoulder and lane width • Single row of pontoons with added floatation 	<ul style="list-style-type: none"> • 4+2 configuration • Move HOV lanes to inside between SR 202 • Lids at Evergreen Point Road, 84th Avenue E. and 92nd Avenue E. • 108th direct access • Transit stops at Evergreen Point Road and 92nd Avenue E. 	
2008 Most Likely Cost	Total Cost Range \$2.562B to \$2.642B	Total Cost \$358M	Total Cost \$1.370B	Total Cost \$776M	2008 Total Cost Range \$5.066B to \$5.146B

*Requires additional transit service, etc.
**Does not include life cycle renewal costs for quieter pavement; initial installation only.

All costs at year of expenditure.

3.4 Are there common features among the west side Options?

There are many features in common between the three West side options. The common elements related to areas of agreement on design, how community interests are addressed and mitigation that should be included with all options are listed below.

Design

- From Interstate-5 to Mid Portage Bay, facility will include lids and a viaduct alignment that are common for each Option, including reversible direct access to and from the Interstate-5 express lanes.
- All options have a low roadway profile compared to the prior DEIS designs.
- The footprint has been reduced by the elimination of the Montlake Transit Flyer Stop, some ramps and narrowing of lanes and shoulders.
- High capacity transit is accommodated in the corridor from Foster Island to I-405.
- There is no widening of Montlake Boulevard north of the Montlake Multimodal Hub.
- There are no additional lanes on Pacific St – some additional footprint may be required for Option K
- From Foster Island to the east, the roadway has been realigned to straighten curves and the roadway alignment has been moved 100 feet north in all options
- Lids at I-5, 10th Avenue East and Delmar Drive.
- Bicycle and pedestrian connectivity.
- Constructs additional bicycle and pedestrian facilities along the corridor, improving connections and access to surrounding parks and neighborhoods including pedestrian connections at Foster Island
- Acquire and relocate the Museum of History and Industry

3.4.1 Commonality of alignment and footprint along the entire corridor

The alignment of the proposed SR 520 corridor is similar to today. In most areas, where SR 520 is on bridge structure, the proposed alignment is shifted north of the existing roadway to provide for minimal traffic disruption during construction. SR 520 on the western half of the Portage Bay Bridge is proposed to follow the existing roadway centerline while the eastern half of the bridge is aligned further north to provide safe sight lines and better constructibility. Under Montlake Boulevard and 24th Avenue NE, SR 520 is proposed to be in a similar location to today. The alignment through the Washington Park Arboretum and the west approach to the proposed floating bridge is north of the existing SR 520 Bridge to allow WSDOT to construct four lanes of bridge structure while maintaining traffic on the current structure.

The footprint of the proposed SR 520 corridor is wider than today and varies among the west side Options A, K and L. The existing SR 520 consists of four general-purpose lanes from I-5 to the shoreline in Bellevue just west of Evergreen Point Road. Today, the

typical four-lane width – including lanes, shoulders and barriers – is approximately 60 feet wide. The proposed typical six-lane width, including lanes, shoulders and barriers, is approximately 100 feet wide. The proposed lane and shoulder widths have been reduced since publishing the draft EIS to satisfy legislative goals and meet community interests. Without sacrificing safety and traffic operations, the general-purpose and shoulder lanes have been reduced to narrower widths. The project proposes an additional 14 feet, across the floating bridge for a regional bicycle and pedestrian path. This additional width extends across the west approach bridge and through the Washington Park Arboretum to the Montlake vicinity.

The following sections describe the specific alignments and footprints that are unique to the west side Options A, K and L.

3.5 How did the group reach agreement on the West side options?

Governor Gregoire, in response to the requirements of Senate Bill 6099 from the 2007 legislative session, convened the mediation in September 2007 to explore ways to complete the SR 520 project, with particular attention to the design of the project in Seattle. Over the course of seven months, the mediation participants developed and reviewed more than a dozen design options and sub-design options for the West side design of SR 520. By March 2008, the group had narrowed the list to three main design options that would be carried forward for further analysis WSDOT's supplemental draft EIS. The following pages describe the mediation process and the evolution of the three design options.

3.5.1 How were the options developed?

The mediation participants brainstormed design options that were aimed at meeting all their community interests identified in Section 6. Design options were identified beginning in November through March. Briefly, the design options included these essential elements:

- A. Redesign of the Montlake Interchange options evaluated in the DEIS to address Seattle City Council resolution elements and DEIS comments
- B. Redesign the Pacific Street design option evaluated in the DEIS to address Seattle City Council resolution elements and DEIS comments
- C. Full Tunnel Options
 - a. Tunnel from the floating bridge to I-5 with no access points in Seattle; separate two-lane bus tunnel from the floating bridge to the light rail station; remains 50 feet below grade; reconfigure I-5 to remove the weave – all entrances/exit on the right side; use reclaimed viaduct land for a trail and park
 - b. Tunnel from the floating bridge to I-5 with distributed access points
- D. Retrofit the current four-lane bridge with a separate two-lane tunnel for transit to the light rail station (separate structure across the lake and then a tunnel from the floating bridge)

- E. A submerged exit/entrance just west of the floating bridge under Union Bay that surfaces at Pacific Street
- F. Second Montlake Cut bridge – design should emulate and reflect, but not copy historic bridge
- G. Tunnel and Viaduct – tunnel from the floating bridge under the Washington Park Arboretum with a viaduct through Portage Bay
- H. Similar to DEIS Pacific Interchange design option with a refined single-point interchange northeast of Washington Park Arboretum (interchange with two levels – through traffic below, access traffic above with one signal without Northbound – Southbound through movements) with a bridge to Pacific street and Lake Washington Boulevard
- I. Retrofit with revised alignment and tunnel to the north of the Washington Park Arboretum with a people mover below ground from flyer stop to University of Washington and a second Montlake Cut bridge
- J. Interchange between DEIS options A and B, with a short tunnel, spur to Lake Washington Boulevard with an intersection under the mainline, with no Washington Park Arboretum ramps
- K. Tunnel in Washington Park Arboretum and East Montlake Interchange with Tunnel under the Montlake Cut to the Pacific Street and Montlake Boulevard intersection.
- L. Interchange east of Montlake Boulevard (similar location to K) with a bridge across the east end of the Montlake Cut instead of a tunnel

3.5.2 How were the options evaluated?

Participants evaluated and refined design options from November through February. The meetings included presentations from WSDOT, from independent experts and from the mediation participants; discussion of the pros and cons of each design option; attempts to make the design options more responsive to the criteria; and the elimination of those design options that were least likely to gain support in the mediation.

With respect to independent expert review, the mediation group, as required by ESSB 6099, selected a consultant to advise them about tube and tunnel options. The group selected COWI, a Danish tunnel engineering consultancy and part of OCC, Ocean and Coastal Consultants. COWI offered an independent evaluation of the feasibility of tube and or tunnel options across Lake Washington, including the connection through Seattle to I-5. With COWI's help, the participants agreed to eliminate tunnels across the lake and at I-5, focusing instead on tunnel and covered tube options in the Washington Park Arboretum, adjacent to the Montlake neighborhood and the University of Washington.

The group also commissioned COWI to review the option to retrofit the current floating bridge and add two lanes. COWI's review of the retrofit options showed that "a new bridge is less costly than strengthening the bridge; we do not see the advantage of choosing the strengthen [option]; adding the risk considerations further reinforces the conclusion" (final meeting summary, January 15, 2008, p.5). This conclusion echoed WSDOT's analysis of the retrofit option.

The mediation participants also eliminated other options through their work in late 2007 and early 2008. Specifically, the group eliminated these:

- Option C/Full tunnel options were removed because they were “too challenging to build, expensive and too much impact to the environment and neighborhoods” (Mediation Final Meeting Summary, December 18, 2007, pg 4).
- Option E/Full tunnel with car/bus tunnel to University of Washington was removed given concerns about cost, environmental and neighborhood impacts (Mediation Final Meeting Summary, December 18, 2007).
- Option D/Retrofit was set aside at the January meeting. Option D was given additional evaluation from two different consultants (WSDOT consultant and COWI). The result was that the bridge could be retrofitted with additional lanes, but that the cost would be close to the cost of a new bridge and the life span would not significantly less than a new bridge. The mediation group agreed in January to “set aside the retro fit option and reconsider it if the agreed upon design costs are too much” (Mediation Final Meeting Summary, January 15, 2008, p5).

3.5.3 What options were selected for further refinement and study?

In each meeting, the group focused time on those design options they felt held the most promise. At the meeting on February 19, 2008, mediation members agreed to focus on options A, K with various sub-options to each. As a result, the group participated in a two-day workshop to provide more detailed designs for each of these. Design option L, a sub-option to K at the March 20 workshop, was identified as an option that should not be defined as a sub-option to option K. At the end of the workshop, the participants affirmed their earlier decision and on March 20, 2008 agreed to take A, K and L forward into the SDEIS analysis.

After the mediation session on March 20, 2008, the participants continued to work in small groups to refine the three options, explore the impacts of each and assist WSDOT to develop the mitigation associated with each.

3.5.4 How have the options been refined since April 2008?

Beginning in April, proponents for Option A and Option K met on a regular basis. The goal of the regular meetings was to better understanding traffic operations, design constraints, cost drivers and community interests as they related to the options. Between April and June, the proponents proposed changes to the options to “make them the best they can be.”

Option A was refined between April and June by:

- Removing the SR 520 median transit stop as a sub-option as a result of the additional width in the Montlake vicinity and acknowledgement of the multimodal station area in the vicinity of the University of Washington Triangle.
- Removing the full transit ‘T’ connection as a sub-option as a result of additional width in Portage Bay and the Washington Park Arboretum and the unsafe weave condition for transit that would occur between I-5 and the transit ‘T’ ramps.

- Removing the transit mezzanine as a sub-option as a result of additional width in Portage Bay and the Washington Park Arboretum, the unsafe weave condition for transit that would occur between I-5 and the transit ‘T’ ramps and the impact to the Portage Bay and Washington Park Arboretum shorelines.
- Added and prioritized sub-options to the base Option A to provide transit benefit. The priorities are proposed in the following order; (1) re-aligned westbound off ramp to Lake Washington Boulevard, (2) re-aligned eastbound on ramp from Lake Washington Boulevard, (3) eastbound transit direct access ramp, (4) Foster Island land bridge.
- Added an auxiliary lane westbound from Montlake Boulevard on ramp to northbound I-5 exit lane.

Option K was refined between April and June by:

- Removing the long tunnel on SR 520 through the Washington Park Arboretum and replacing it with a slightly lowered land bridge on Foster Island to reduce cost.
- Considering a false arch bridge type across Portage Bay to reduce cost but maintain the desired aesthetic look of the arch.
- Including a dual left turn movement for the southbound Montlake Boulevard to the tunnel (SR 520) movement to help separate local traffic from freeway bound traffic.
- Allowing traffic movements from south of the Montlake Cut to access SR 520 using a new Lake Washington Boulevard alignment that is braided with local traffic using stacked roadways and a traffic turn-around to allow residences living south of the Montlake Cut to access the freeway from the south and to discourage trips through the Washington Park Arboretum.
- Converting a portion of the existing Lake Washington Boulevard to a one-way southbound lane that has a new local connection south of the existing Lake Washington Boulevard ramp terminus to reduce the impact on existing homes directly adjacent to the project.
- Refining the tunnel alignment and construction method as recommended by the WSDOT Tunnel expert review panel.
- An eastbound off-ramp to Montlake Boulevard added as an option.

Option L was not refined between April and June.

Section 4 – Relationship of West Side Options to Purpose and Need Statement

4.1 What is the project's purpose and need statement?

The purpose and need statement is an important component of environmental documents prepared under NEPA regulations. It identifies the reasons why the project is necessary, and it also provides a framework for identifying the range of potential options to meet the identified need. The legal guidance on purpose and need statements comes from the NEPA regulations, which state that the Purpose and Need Statement “shall briefly specify the underlying purpose and need to which the agency is responding in proposing the options including the proposed action.” In addition, each federal agency has its own guidance on NEPA documents. The Federal Highway Administration (FHWA) guidance directs state departments of transportation to “identify and describe the proposed action and the transportation problem(s) or other needs which it is intended to address.”

The purpose and need statement for the SR 520 Bridge Replacement and HOV Project was developed in 1998 by the Trans-Lake Washington Study Committee, and adopted in 2000 by the Trans-Lake Washington Project Executive Committee. The need for the project is defined by four problem statements:

- Land uses and transportation systems are not integrated in their planning and implementation.
- The transportation system suffers from extensive congestion.
- Reliability and safety of the system are impaired.
- Neighborhoods, business centers, and the environment are impacted.

Based on these identified needs, the project's purpose is “to improve mobility for people and goods across Lake Washington within the SR 520 corridor in a manner that is safe, reliable, and cost-effective, while avoiding, minimizing, and/or mitigating impacts on affected neighborhoods and the environment.”

4.2 How do the options meet the project's purpose and need?

This section briefly describes Options A, K, and L in terms of how they meet the project's purpose and need. More detailed information on their traffic operations and environmental effects can be found in Section 5.

In conjunction with the purpose and need statement, the project's Technical and Executive Committees developed evaluation criteria that were used to screen the original alternatives for the draft EIS. These criteria allowed a comparative assessment of mobility, reliability, safety, environmental impacts, and cost for each Option, and provided a basis for alternatives that performed poorly to be dropped from further consideration.

Under NEPA, the Options developed during mediation must be evaluated under the same criteria as the previous alternatives. This has not yet been done because there is not

sufficient data on each option to perform the evaluation. WSDOT will apply the evaluation criteria after sufficient results are available from the supplemental draft EIS analysis currently under way.

4.2.1 Improving mobility for people and goods

As described in Section 2, each of the options developed during the mediation process includes four general-purpose lanes and two HOV lanes. Compared to the four general-purpose lanes that exist today, this “4+2” lane configuration improves mobility throughout the SR 520 corridor. Detailed traffic modeling has not been completed for Options A, K, and L; however, for comparison, the 6-Lane Alternative evaluated in the 2006 draft EIS carried 25 percent more people than the existing four lanes in only three percent more vehicles. All options also include a regional bicycle and pedestrian path, which will improve mobility for these travel modes.

Although all of the options would improve mobility on SR 520 itself, their different interchange configurations mean that they would have differing effects on local traffic. Options K and L would improve the flow of traffic between SR 520 and points to the north, which currently must pass through the congested Montlake interchange area. Option A would also provide some improvement by creating a parallel Montlake Cut bridge to provide added capacity through this area. However, Option A closes the Lake Washington Boulevard ramps, which substantially increases traffic congestion on Montlake Boulevard.

4.2.2 Safety, reliability, and cost-effectiveness

Options A, K, and L would all include design features that would improve safety in the corridor over existing conditions:

- SR 520’s travel lanes would be somewhat wider than they are today, and there would be shoulders on both sides. Travel would be more reliable because disabled vehicles could pull out of traffic onto the shoulder rather than blocking a travel lane.
- New HOV lanes would provide much greater travel time reliability for transit vehicles and carpools. Rather than being delayed in general-purpose traffic, these vehicles would provide a travel time benefit that would encourage people to carpool or take the bus. This, in turn, would allow the highway to operate more efficiently.

Section 2 provides preliminary order-of-magnitude cost estimates for each of the three options. At this stage of project development, it is not possible to gauge cost-effectiveness because neither the costs nor the benefits of the options have been fully quantified.

4.2.3 Avoiding, minimizing, and/or mitigating effects on neighborhoods and the environment

All of the options were developed to meet the goals established by the Washington State Legislature. Many of these goals were established to reduce effects on neighborhoods and the environment. They include minimizing the total footprint and width of the bridge, minimizing impact on neighborhoods, including incorporation of green lids and connectors, minimizing traffic increases through the Washington Park Arboretum and

adjacent neighborhoods, and incorporating the recommendations of the project's health impact assessment. The features included in the project to meet these legislative goals are described in Section 4 of this document.

Each option also incorporates other measures to avoid, minimize, and/or mitigate effects on neighborhoods and the environment. These measures differ among options; some involve trade-offs among resources. For example:

- Maintaining a low profile for SR 520 between the Montlake shoreline and the Evergreen Point Bridge improves the visual environment for neighborhoods on either side, but makes water quality treatment difficult and may require new facilities in the sensitive ecosystem of Foster Island.
- Constructing a land bridge over the roadway at Foster Island would improve pedestrian connections through the Washington Park Arboretum, but might require additional filling of wetlands protected by the Clean Water Act. Such filling is difficult to permit if other options exist.
- Constructing a tunnel beneath the Montlake Cut would reduce visual impacts and noise, but could affect endangered salmon and tribal treaty fishing.
- Closing the Lake Washington Boulevard ramps would reduce traffic, noise, and air emissions through the Washington Park Arboretum, but increase these same impacts in the Montlake neighborhood.

Applying the option evaluation criteria through the supplemental draft EIS analysis, as described above, will help to further characterize the impacts of each potential choice and allow decision makers to identify a preferred option.

Section 5 – Legislative Goals for West side Options

This section focuses on how each option meets the legislative goals that were identified in ESSB 6099. These legislative goals are described below.

5.1 What are the legislative goals for the project design?

As described in Senate Bill ESSB 6099, the following are the legislative goals for the project design:

Minimize the total footprint and width of the bridge, and seek appropriate federal design variances to safety and mobility standards, while complying with other federal laws;

Minimize the project impact on surrounding neighborhoods, including incorporation of green lids and connectors, and minimize any increases in additional traffic volumes through the Washington park Arboretum and other adjacent neighborhoods;

Incorporate the recommendations of a health impact assessment to calculate the project's impact on air quality, carbon emissions, and other public health issues, conducted by the Puget Sound clean air agency and King county public health;

Ensure that the ultimate project configuration effectively prioritizes maintaining travel time, speed, and reliability on the two high-occupancy vehicle lanes; and

Clearly articulate in required environmental documents the alignment of the selected preferred alternative for the state route number 520 bridge replacement and HOV project and the footprint of the project and the affected areas

5.2 Minimize footprint and width of bridge

The following elements for each option address the legislative goal of minimizing the footprint and width of the bridge for the SR 520 corridor project.

Common to all Options

- The SR 520 roadway would include reduced shoulder and lane widths to minimize the overall footprint.
- Removes the median freeway transit station at Montlake Boulevard, reducing width across Portage Bay, at Montlake Boulevard and into the Washington Park Arboretum.

Option A

- Removes eastbound auxiliary lanes between I-5 and Montlake Boulevard to reduce roadway width through Portage Bay.

- Removes the Lake Washington Boulevard ramps.
- Keeps the Montlake interchange in its present location to reduce the width in the Washington Park Arboretum.

Option K

- Removes westbound and eastbound auxiliary lanes between I-5 and Montlake Boulevard to reduce roadway width through Montlake Interchange and across the Portage Bay Bridge.
- Includes tunneled ramps beneath the Montlake Cut to reduce project footprint on land.
- Moves the interchange east of today's interchange to reduce width across Portage Bay.
- Proposes a sequential excavation tunneling method under the Montlake Cut to avoid in water impacts to the navigation channel and fish migration path during construction.

Option L

- Removes westbound and eastbound auxiliary lanes between I-5 and Montlake Boulevard to reduce roadway width through Portage Bay.
- Moves the interchange east of today's interchange to reduce width through the Montlake Interchange and across Portage Bay Bridge.

5.3 Incorporates enhancements for surrounding neighborhoods

The following elements for each option address the legislative goal of incorporating enhancements for surrounding neighborhoods for the SR 520 corridor project.

Common to all Options

- Provides lids and pedestrian connectivity at I-5, 10th Avenue East and Delmar Drive and Montlake vicinity.
- Proposes increases in transit services.
- Adds HOV lanes to improve reliability of transit service.

Option A

- Reduces trips in the Washington Park Arboretum adjacent to the SR 520 corridor by removing Lake Washington Boulevard ramps.
- Recommends that a low cost signature Portage Bay structure be determined through a design competition and Seattle Design Commission review.

Option K

- Provides additional lids and pedestrian connectivity at Foster Island and the Montlake Boulevard and Pacific Street intersection.
- Provides modified connections to Lake Washington Boulevard by constructing a new Lake Washington Boulevard connection to the Washington Park Arboretum. The new connection between Montlake Boulevard and the Washington Park Arboretum provides full SR 520 access from the south side of SR 520.
- Recommends construction of a false arch Portage Bay signature bridge.
- Recommends a design competition and Seattle Design commission review for the aesthetic approach to the Portage Bay bridge focused on cost effective solutions.

Option L

- Recommends construction of a false arch Portage Bay signature bridge.
- Proposes plantings and other structure “softening” treatments to reduce visual impacts of a new structure across the Montlake Cut.

5.4 Incorporates recommendations from health impact assessment

The following elements for each option address the legislative goal of incorporating recommendations from the health impact assessment for the SR 520 corridor project.

Common to all Options

- Provides lids and pedestrian connectivity at I-5, 10th Avenue East and Delmar Drive and Montlake vicinity.
- Noise walls and/or quieter pavement reduce noise to surrounding communities and parks.

Option A

- Removing Lake Washington Boulevard ramps restores the integrity and ability of users to appreciate the Washington Park Arboretum.

Option K

- Provides additional lids and pedestrian connectivity at Foster Island and the Montlake Boulevard and Pacific Street intersection.
- Moving the Lake Washington Boulevard ramps to the west improves the integrity and users ability to appreciate the Washington Park Arboretum.

Option L

- Moving the Lake Washington Boulevard ramps to the west improves the integrity and users ability to appreciate the Washington Park Arboretum.

5.5 Maintains travel speed and reliability for HOV

The following elements for each option address the legislative goal of incorporating enhancements for maintaining travel speed and reliability for HOV in the SR 520 corridor project.

Common to all Options

- Provides HOV direct access at the interchanges.
- Provides continuous inside HOV lane across the corridor including a reversible HOV and transit ramp lane to I-5 into and out of Seattle.
- BRT service levels are similar between all options.

Option A

- Maintains transit connectivity along Montlake Boulevard from Montlake Interchange to Pacific Street.
- Provides transit-only direct access westbound off-ramp from SR 520 to Montlake Boulevard.
- Provides HOV mixed-use access eastbound from the Montlake Interchange to SR 520.

Option K

- Provides HOV direct access both eastbound and westbound from SR 520 to the Montlake SPUI.

Option L

- Provides HOV direct access both eastbound and westbound from SR 520 to the Montlake SPUI.

5.6 Articulate the alignment of the option, footprint, and affected areas in environmental documents

All three options, including proposed variations are currently under review and will be fully evaluated in the supplemental draft EIS. Section 7 provides a preliminary assessment of how each option impacts applicable environmental regulations.

Section 6 – Community Interests for West side Options

This section lists the community interests for the west side options as identified by mediation participants. It then summarizes how each option represents those interests, based on comments captured during mediation group meetings and through written comments by mediation participants from October through December 2008.

ESSB 6009 states from section 2, paragraph 3 of ESSB 6099 states:

In evaluating the project impacts, the mediator must consider the concerns of neighborhoods and institutions of higher education directly impacted by the proposed design, establish a process that incorporates interest-based negotiation, and work with the appropriate planning staff to develop mitigation recommendations related to the project design. The mediator shall work to ensure that the project impact plan provides a comprehensive approach to mitigating the impacts of the project, including incorporating construction mitigation plans.

6.1 What community interests were identified for the west side options?

At the beginning of the mediation process the participants developed a common list of interests that should be addressed by options for the west side interchange. These interests included items related to:

- Balancing and integrating across multiple issues, including community, regulatory, and other projects.
- Improving transit access in the SR 520 corridor.
- Avoiding, minimizing, or mitigating environmental impacts including wetlands, salmon, noise, air quality, and carbon emissions.
- Protecting and improving the park system.
- Improving how people and goods move through the corridor.
- Designing a project that considers the surrounding community and future generations.
- Improving bicycle and pedestrian connectivity.
- Integrating with regional solutions.
- Minimizing and addressing construction impacts.

The group expanded upon these interests and organized based on the following themes:

- Balance and integration
- Transit
- Environment
- Parks

- Neighborhoods
- Transportation
- University of Washington Campus
- Boating Opportunities
- Schedule and Costs
- Design
- Bicycles and Pedestrians
- Regional and Statewide System
- Construction Effects

The following sections represent each general theme and include the detailed community interests followed by responses from participants articulating how each Option meets community interests.

6.2 What are the common interests and enhancements?

The SR 520 Bridge Replacement and HOV program has incorporated a number of features into the six-lane configuration that mitigate for adverse effects to the environment and/or serve to enhance the surrounding communities. These features that met common community interests include the following:

- Landscaped lids at key locations along SR 520 to reconnect neighborhoods that were separated when the roadway was originally constructed in the 1960's.
- Noise mitigation including quiet pavement, sound walls and other measures along the majority of the corridor to reduce traffic noise on adjacent properties.
- Improved path connection and new facilities for bicyclists and pedestrians.
- Proposes that transit service increases frequency and additional local feeder routes from south of Montlake Interchange to Montlake Multimodal Hub.
- Bicycle and pedestrian access and connectivity is provided by improvements to the local and regional trail system along this corridor.
- Removal of the ramps for the never-completed R.H. Thomson Expressway.
- A comprehensive stormwater management plan and stormwater treatment to remove pollutants and improve water quality.
- Implementation of “active traffic management” to manage traffic flow through the corridor and reduce single-occupancy vehicle trips.
- Aesthetic treatments, landscaping, and design guidelines to promote visual continuity and consistency along the corridor, including continuing the “Olmsteadian” feel and an integrated design.

- Increased transit service between SR 520 and Montlake Multimodal Hub to provide for the removal of the Montlake Transit Flyer Stop on SR 520 today.
- Recommends that a plan for the preservation and protection of endangered species should be developed before construction starts. This plan should be developed in conjunction with federal regulatory agencies and Indian tribes.
- Encourages the project to participate in habitat enhancement and protection projects identified by local jurisdiction and watershed groups.

In regards to enhancements to the SR 520 corridor and surrounding area, participants came to agreement on a series of early and longer term elements that are enhancements to the SR 520 project as follows:

Early Action Enhancements Agreed to by Mediation Participants

- Include traffic delineation for better segregation of SR 520 and local traffic is needed on Montlake Boulevard from south of SR 520 to Pacific Place (signing, striping, getting people lined up into the correct lanes, to reduce conflicts).
- Optimize traffic signal timing on Montlake Boulevard to favor progression and the efficient movement of the greatest number of people and goods.

Longer Term Enhancements Agreed to by Mediation Participants

- Incorporate the recommendations of the Acoustics Expert Review Panel. This study examined pavement types, noise attenuation at hot spot areas, use of absorptive materials, and special treatment at lid portals.
- Use Active Traffic Management (ATM) concepts as a tool to achieve efficiencies, to be applied to the SR 520 and roadways approaching the corridor.
- Explore opportunities to develop a SR 520 Corridor Management Agreement. Suggested strategies and actions to consider include:
 - Develop/redevelop compact, well-designed pedestrian oriented centers.
 - Establish targets for mixed-use centers.
 - Increase land use density in urban centers and other areas served by transit to encourage increased ridership.
 - Concentrate on mixed use new walkable developments near transit centers.
 - Create an improved system of pedestrian/bikeway connections.
 - Encourage infill and redevelopment of under developed land.
 - Develop shared/centralized parking solutions.
 - Provide for affordable housing.
- Reflect consistent, best management practices, for stormwater and other areas of construction and design in order to target such things as better than minimum water quality requirements.
- Implement Transportation Demand Management (TDM) strategies and policies before, during and after construction. These could include such proven actions as

vanpools, van shares, tolling, parking pricing strategies, HOV and toll marketing, public information and working with local jurisdictions on land use actions.

- Develop a transit service plan that includes bus rapid transit service, which creates additional transit service that connects the Eastside with the University of Washington District and Downtown Seattle. This plan should increase cross-lake all-day, two-way service and should closely duplicate the frequency and span of service that would be accessible at the Montlake Transit Flyer Stop should it remain.
- Add additional transit service between the SR 520 corridor and the Montlake Multimodal Hub to replace the functionality of the Montlake Transit Flyer Stop and better connectivity to surrounding communities.

6.3 Balance and integration

Participants identified the following community interests as goals that any options should accomplish with respect to balance and integration of the SR 520 corridor project.

- Produce a solution that balances all needs of each interest group.
- Ensure consistency with guidance from the legislature.
- Develop a solution that meets all local, state and federal regulatory requirements.
- Blend community vitality with regional responsibility.
- Integrate with other existing projects and plans.
- Protect existing agreements and solutions (including the Eastside).

Below is a summary of mediation participants' statements about how each option met the community goals for balance and integration.

Option A

- Proposes less costly solutions to the Montlake interchange by replacing the existing interchange with a similar facility as well as other elements to reduce cost in keeping with the legislative direction.
- Focuses on improvements to sensitive areas such as the Washington Park Arboretum and surrounding corridor park areas, creating a less obtrusive corridor for adjacent neighborhoods.
- Proposes to achieve a visually pleasing Portage Bay Bridge structure with the goal of lowering costs. It is recommended that the design of bridges in the corridor for the west side involve the greater community through a design competition and oversight by the Seattle Design Commission.

Option K

- Proposes an option that reduces the foot print of the SR 520 mainline, reduces noise, and targets congestion relief in keeping with legislative intent.

- Commits that there is support from neighborhoods most closely adjacent to the corridor.
- Provides a direct connection between SR 520 and the University of Washington and removes draw-bridge delay during off-peak hours for transit to and from the University of Washington.

Option L

- Provides a direct connection between SR 520 and the University of Washington, however, transit would be subject to bridge operation over the new Montlake Cut bridge during off peak hours.
- Improves multimodal access via transit and improved pedestrian and bicycle access to University of Washington, proposed Montlake Multimodal Hub, and SR 520 corridor, including the Washington Park Arboretum.

6.4 Transit

Participants identified the following community interests as goals that the preferred Option should accomplish with respect to transit.

- Provide convenient access to transit and high occupancy vehicle options to reduce single occupancy trips.
- Optimize the multimodal transit system.
- Provide transit connectivity, access and ease of movement.
- Integrate local and regional transit service.
- Provide fast, reliable, predictable and well-integrated local and regional transit.
- Provide easy, convenient and accessible transfers – bus to bus, bus to rail.

Below is a summary of mediation participants’ statements about how each option met the community goals for transit.

Option A

- Convenient access for transit is provided by a westbound transit-only exit ramp to Montlake Boulevard. The plan is to restrict the existing and proposed Montlake Cut Bascule Bridge opening hours by expanding peak hour bridge closures to reduce interruptions to transit and traffic flows on Montlake Boulevard.
- Installs additional signage and roadway markings (channelization improvements) to direct drivers into the desired lane through the Montlake Interchange to reduce merging delay and conflicts.
- Includes signage to alert drivers to yield to buses merging in the southbound direction to access the eastbound on-ramps at SR 520 in order to reduce auto-bus conflicts and improve bus operations on Montlake Boulevard.

- Proposes transit enhancement infrastructure, such as transit signal priority, direct access ramp for eastbound SR 520 buses to Montlake Boulevard and retains in-lane bus zones on Montlake Boulevard, for transit speed, access, and reliability benefits. Also, signal timing improvements should favor the progression of transit through the corridor.
- Emphasizes strategies for mode shifts to transit and Transportation Demand Management (TDM) measures to manage traffic to reduce general purpose traffic and increase transit ridership.

Option K

- Convenient access for transit is provided by direct access ramps from SR 520 to the SPUI. Also proposes to improve transit service and facilities in the vicinity of the Montlake Transit Flyer Stop.
- Constructs a grade separated pedestrian crossing at Montlake Boulevard and Pacific Street that would provide a safer, faster crossing. This would also benefit local and regional transit connections between the future Montlake Multimodal Hub and the Sound Transit light rail station.
- Constructs a tunnel beneath Montlake Cut, providing transit with access from SR 520 to Montlake Multimodal Hub that would not be delayed due to Bascule Bridge operations that exist today. Local routes traveling on Montlake Boulevard would still be subject to delays from Montlake Cut Bridge operations.

Option L

- Convenient access for transit is provided by direct access ramps to/from the east at the new interchange location and proposing to improve transit service and facilities in the vicinity of the Montlake Transit Flyer Stop.
- Constructs a grade separated pedestrian crossing at Montlake Boulevard and Pacific Street that would provide a safer, faster crossing. This would also benefit local and regional transit connections between the future Montlake Multimodal Hub and the Sound Transit light rail station.
- Transit speed and reliability benefits from recommendation of transit signal priority (TSP) and signal timing improvements on Montlake Boulevard between SR 520 and Pacific Place.

6.5 Environment

Participants identified the following community interests as goals that the preferred Option should accomplish with respect to the environment.

- Avoid, minimize, or mitigate environmental impacts – air, water, land, and animal.
- Offset indirect and cumulative environmental impacts.
- Reduce pollution from idling vehicles.

- Enhance the environment – air, water, carbon (green house gas), and biodiversity – through baseline and outcome audits.
- Protect the wetlands from direct, indirect and cumulative impacts.
- Protect Endangered Species Act (ESA) species.
- Protect salmon in and out migration and spawning areas.
- Understand implications for ESA – avoid and minimize and mitigate.
- Protect wildlife.
- Protect the health of the Union Bay and Lake Washington.
- Reduce storm-water pollution from vehicles using the corridor.

Below is a summary of mediation participants’ statements about how each option met the community goals for the environment.

Option A

- Option proposes to maintain water flow in and around Foster Island and Washington Park Arboretum areas and preserve Lake Washington “Class 1” wetlands.
- Limits impact to fish species by focusing impacts into already disturbed areas.
- Proposes to implement Active Traffic Management (ATM) and Transportation Demand Management (TDM) strategies to reduce single occupant vehicle travel and associated green house gas impacts.

Option K

- By constructing below ground facilities, such as the Montlake Cut Tunnel and lowering the SR 520 mainline through Foster Island and installing lids, this allows for additional green space that can be used to preserve the environment and areas green space. These strategies permit some of the previously disturbed SR 520 corridor areas to be restored.
- Provides a new connection between SR 520 and the Montlake Boulevard and Pacific Street intersection allowing for increased capacity in the Montlake area. Construction of the tunnel requires about an 8-percent grade to drop below the Montlake Cut; however, transit agencies have indicated that this will not significantly degrade transit access.
- Innovative SPUI design attempts to provide additional capacity to relieve idling emission and improve air quality.
- Design provides a green belt through Foster Island for wildlife habitat and creates logical connections between green spaces for a better experience.
- Attempts to reduce congestion on local arterials by separating local versus highway traffic thereby reducing cut through traffic through area neighborhoods.

Option L

- Option proposes to maintain water flow in and around Foster Island and Washington Park Arboretum areas and preserve Lake Washington “Class 1” wetlands.
- Innovative SPUI design attempts to provide additional capacity to relieve idling emission and improve air quality.
- Attempts to reduce congestion on local arterials by separating local versus highway traffic thereby reducing cut through traffic through area neighborhoods.

6.6 Parks

Participants identified the following community interests as goals that the preferred Option should accomplish with respect to parks.

- Protect the park system, green belt and open spaces.
- Meet FHWA 4(f) requirements to avoid parks and open space, unless there is no other alternative.
- Promote trail connections to adjacent parks.
- Connect the parks to create a greenbelt.
- Protect the woody plant population impacted by air pollution.
- Preserve Marsh Island, Foster Island, Duck Bay.
- Preserve the Washington Park Arboretum’s:
 - Role as an urban oasis.
 - New gardens and entry.
 - Tranquility
- Minimize the amount of traffic passing through the Washington Park Arboretum.
- Create a northern gateway to the Washington Park Arboretum.

Below is a summary of mediation participants’ statements about how each option met the community goals for parks.

Option A

- Strongly recommends protecting the park system, green belt and open spaces by developing an approach that is environmentally sound and recognizes the impacts on the Lake Washington Park Arboretum, area waterways, fish and wildlife and global greenhouse gas issues.
- Minimizes the amount of traffic passing through the Washington Park Arboretum in order to preserve it as park property. Recommends that the roadway through the Washington Park Arboretum be regulated as a parks road and not as a city street.

- Provides protection for rare plant species in the Washington Park Arboretum by attempting to reduce vehicle impacts through the area.
- Seeks to remove the Lake Washington Boulevard ramps to increase the green space and natural habitat provided in the corridor.
- Trail connections are promoted with good path connections along the SR 520 corridor. Trail connection improvements are included to the University of Washington, McCurdy Park, and Roanoke Park.

Option K

- Developed with the intent of taking no parkland, wildlife refuge space or its land in order to protect the park system, green belt, and open spaces when feasible alternatives are available. These park spaces are further protected, expanded, and enhanced with lids, reconnecting Foster Island and creation of a northern Washington Park Arboretum entrance.
- Trail connections are promoted with good path connections along the SR 520 corridor and provision of a continuous greenbelt from the Washington Park Arboretum to Portage Bay. Trail connection improvements are included to the University of Washington, McCurdy Park, and Roanoke Park.
- The Washington Park Arboretum should be preserved as an educational facility and minimize traffic increases, preferably, the volume of motor vehicle traffic through the Washington Park Arboretum. In order to minimize the amount of traffic passing through the Washington Park Arboretum, an option to restrict turning movements at Boyer and Interlaken into the northern half of the Washington Park Arboretum is proposed.
- Regarding creating a northern gateway to the Washington Park Arboretum, participants identified that gateway elements exist today.

Option L

- Trail connections are promoted with good path connections along the SR 520 corridor. Trail connection improvements are included to the University of Washington, McCurdy Park, and Roanoke Park.
- Protects the park system by providing improved pathways for safe walking and cycling connections and for park areas in the corridor.
- Recommended that continued preservation of the Washington Park Arboretum as an education facility is a priority.

6.7 Neighborhoods

Participants identified the following community interests as goals that the preferred Option should accomplish for neighborhoods adjacent the SR 520 corridor.

- Narrow the footprint as much as possible.

- Minimize noise from the corridor.
- Minimize negative visual impacts to the surrounding scenic and recreational areas and neighborhoods.
- Protect the scenic views from the corridor.
- Protect or enhance parking opportunities.
- Be consistent with the State Growth Management Act, adjacent cities' relevant adopted plans and policies and the PSRC 2020 vision.
- Serve neighborhoods effectively – transportation, design and impact mitigation.
- Reduce local street congestion related to the bridge.
- Maintain and enhance local environment and communities.
- Maintain current access points for neighborhoods.
- Decrease use of local roads as on-ramps.
- Decrease potential for additional traffic on local arterials as an alternative to the bridge.
- Reconnect neighborhoods separated by SR 520.
- Minimize lighting impacts.

Below is a summary of mediation participants' statements about how each option met the community goals for neighborhoods.

Option A

- Design minimizes impacts to MOHAI and Marsh Island areas by locating infrastructure rebuilding mostly within existing footprint.
- Recommends measures that reduce road noise in the corridor, such as quieter pavement designs, and other noise reduction measures and strategies recommended in the Acoustics Expert Review Panel report.
- Provides for a low mainline roadway profile that preserves view corridors and includes Olmsteadian design elements to preserve the existing architectural style of the area.

Option K

- Keeps roadway facilities low to preserve view corridors for surrounding residents and includes Olmsteadian design elements to preserve the existing architectural style of the area.
- Recommends that the construction of temporary bridges be avoided to the greatest extent possible to reduce impacts.

- Recommends measures that reduce road noise in the corridor, such as quieter pavement designs, and other noise reduction measures and strategies recommended in the Acoustics Expert Review Panel report.
- Provides new pedestrian linkages between the Washington Park Arboretum and surrounding parks and lid locations.
- Proposes to retain parking lot at MOHAI for use during construction as staging area.

Option L

- Recommends measures that reduce road noise in the corridor, such as quieter pavement designs, and other noise reduction measures and strategies recommended in the Acoustics Expert Review Panel report.
- Provides a low profile mainline west of Foster Island that preserves view corridors and includes Olmsteadian design elements to preserve the existing architectural style of the area.

6.8 Transportation

Participants identified the following community interests as goals that the preferred Option should accomplish with respect to transportation.

- Improve accessibility for people and goods – locally and regionally.
- Provide integrated multimodal connections – locally and regionally.
- Ensure a safe infrastructure that works.
- Reduce traffic congestion.
- Minimize long term unavoidable effects.
- Reduce vehicle miles traveled.

Below is a summary of mediation participants’ statements about how each option met the community goals for transportation.

Option A

- Provides an eastbound two-lane on-ramp plus auxiliary lane on SR 520 from Montlake Interchange to Interstate-5 to relieve traffic queuing on Montlake Boulevard and expand capacity.
- Recommends Transportation Demand Management (TDM) strategies such as variable tolling to reduce vehicle miles traveled (VMT).
- Development of a Corridor Management Agreement (CMA) or Multimodal CMA will utilize travel demand efficiency tools and include methods such as signal timing and Active Traffic Management (ATM).
- Retains stops on Montlake Boulevard between SR 520 and Pacific Street.

- Proposes replacing existing bike storage lockers near the Montlake Transit Flyer Stop be relocated to the ST light rail station.
- To ensure a safe infrastructure, operations on Montlake Boulevard between Pacific Street and Wahkiakum Lane should not be degraded or have the access to the University of Washington Medical Center blocked.
- Reduces traffic congestion on Montlake Boulevard by constructing additional capacity between Montlake Interchange and Pacific Street with another new 3-lane roadway.
- Construction of the westbound direct access bus-only off ramp would provide priority to transit. By having direct access ramps, westbound buses would be able to stay in the HOV lane on SR 520 and directly access Montlake Boulevard heading northbound.
- Provides spaced for buses to bypass queues at ramps.
- Reduces traffic through the Arboretum.
- Installs a two-lane eastbound on-ramp and off-ramp at the Montlake Boulevard interchange to create additional storage and capacity to reduce the potential of traffic queuing onto local streets and congestion spilling back across Portage Bay Bridge.
- Replaces the U-turn movement that vehicles traveling north on Montlake Boulevard south of SR 520 must make in order to travel westbound with a signalized left-turn at the on-ramp.

Option K

- The new interchange east of the existing Montlake Interchange would provide transit and HOV traffic with direct access ramps. This would eliminate the delay associated with traffic merging between on- or off-ramp and the HOV lane.
- Queue by-pass lanes are also provided to reduce metering delay to reduce delay and favor these modes of travel.
- Moving freeway trips to/from SR 520 north of the Montlake Cut results in a decrease in the number of cars crossing the Montlake Cut Bascule Bridge south of the Montlake Boulevard and Pacific Street intersection.
- Additional capacity provided at the interchange off-ramps would reduce backups onto the freeway mainline.

Option L

- The new interchange east of the existing Montlake Interchange would provide transit and HOV traffic with direct access ramps. This would eliminate the delay associated with traffic merging between on- or off-ramp and the HOV lane.
- Queue by-pass lanes are also provided to reduce metering delay to reduce delay and favor these HOV and transit modes of travel.

- Separation of local trips and freeway trips results in a decrease in the number of cars crossing the Montlake Cut Bascule Bridge south of the Montlake Boulevard and Pacific Street intersection.
- Additional capacity provided at the interchange off-ramps would reduce backups onto the freeway mainline.

6.9 University of Washington Campus

Participants identified the following community interests as goals that the preferred Option should accomplish for the University of Washington Campus, including the Medical Center.

- Improve the campus.
- Accommodate future growth.
- Improve mobility for people and goods.
- Protect all view sheds, particularly the Rainier Vista view.
- Preserve the campus' role in the neighborhood for open space, park space and access to waterfront activities.
- Protect the short-term and future mission and the interests of the University, its students and its employees.

Below is a summary of mediation participants' statements about how each option met the community goals for the University of Washington campus.

Option A

- Preserves views along the Rainier Vista Corridor.
- Preserves historic/waterfront area.
- Recommends increased north to south transit service along Montlake Boulevard to improve accessibility for surrounding neighborhoods, the University of Washington and the Montlake Multimodal Hub, including Montlake Multimodal Hub.

Option K

- Compliments Rainier Vista improvements proposed by University of Washington, which includes no additional elevated crossing of the Montlake Cut, a lower roadway profile and improved pedestrian connections to the Montlake Multimodal Hub.
- Retains future building opportunities at E-11/E-12 parking areas.
- Maintains the connectivity of University of Washington Upper Campus with the Medical school complex.
- Depresses and lids the Montlake Boulevard and Pacific Street intersection area, providing a grade separated pedestrian crossing environment.

- Preserves waterfront accessibility.

Option L

- Provides enhanced Transportation connections via a new bridge crossing of the Montlake Cut.

6.10 Boating opportunities

Participants identified the following community interests as goals that the preferred Option should accomplish with respect to boating opportunities in Portage Bay, through the Montlake Cut and on Lake Washington in the vicinity of the SR 520 corridor.

- Preserve existing vessel and floating home moorages.
- Protect regional boating recreational activities.
- Protect access to the waterfront and adequate depth and height for boat passage.
- Protect the navigable waterways.
- Improve vehicle, bicycle, and pedestrian access to boating facilities and activities.

Below is a summary of mediation participants' statements about how each option met the community goals for boating opportunities

Option A

- No comments received.

Option K

- Does not introduce any additional boating barriers through the Montlake Cut.
- Provides greater access to the Shelby Hamlin Area.

Option L

- No comments received.

6.11 Schedule and costs

Participants identified the following community interests as goals that the preferred Option should accomplish with respect to schedule and cost.

- Complete the project in a timely schedule.
- Considering timing to avoid or minimize environmental impacts – example, salmon in/out migration and spawning patterns.
- Develop a cost-effective solution that truly solves the problems.
- Maximize the use of the mitigation budget by early acquisition of mitigation sites.

- Control expenses.
- Develop a solution the state can fund.
- Develop a project financial plan based on realistic estimates of implementing tolls before, during and after construction.

Below is a summary of mediation participants' statements about how each option met the community goals regarding project schedule and costs.

Option A

- By reducing the amount of new structure and roadway to be constructed, the time to construct the project is significantly reduced.
- Reduces environmental impact by maintaining small footprints of disruption through sensitive areas.
- Seeks to control expenses by building above ground to reduce risk of building below ground, also reducing the amount of cut and fill required to be handled during the duration of the project.
- Reduces amount of unknown construction impacts by building within the existing footprint and construction similar facilities as today.

Option K

- No comments received.

Option L

- Reduces costs associated with stormwater runoff and treatment through a gradual gradient from the Western high-rise and across Foster Island; this also avoids the potential need to construct stormwater management facilities on Foster Island.

6.12 Design

Participants identified the following community interests as goals that the preferred Option should accomplish with respect to design.

- Create an aesthetically pleasing people-oriented design and respectful of its context – historic urban fabric in an iconic natural landscape.
- Minimize the scale and project footprint.
- Create something to be proud of.
- Utilize good urban design.
- Consider future generations.
- Create a sustainable solution.
- Utilize corridor travel demand efficiency tools, including tolling.

- Look beyond the pavement and the corridor.
- Include the needs of the region in 50-100 years.
- Protect communities, the Washington Park Arboretum and the University of Washington campus with context sensitive corridor designs.

Below is a summary of mediation participants' statements about how each option met the community goals for boating opportunities.

Option A

- Aesthetically pleasing people-orientated design is achieved by focusing on preserving the integrity of the Washington Park Arboretum and Lake Washington Boulevard as park drives, by proffering solutions to reduce traffic through the Washington Park Arboretum.
- A lower profile on SR 520 mainline east of Montlake Boulevard reduces the visual intrusiveness of the roadway.
- Future generations are considered with an emphasis on improving transit ridership and reducing single occupancy trips with the objective of reducing trips through the Washington Park Arboretum.
- The Westside design should be implemented in consultation with a citizen's advisory committee, which will include the Design Advisory Group and representative from the community.
- Communities are protected with emphasis on the University of Washington Campus and Medical Center by making the area people and transit friendly.
- The scale of the project footprint is reduced with the elimination of the ramps to the Washington Park Arboretum.
- Looking beyond the pavement requires no expansion or widening of Montlake Boulevard or Pacific Street and treatments for low volume roadways through the Washington Park Arboretum.

Option K

- An aesthetically pleasing arch design is created by maintaining a low profile on the Portage Bay Bridge, which also improves views along the corridor.
- Creates a linear park preserving the Olmsted experience, repairing previous SR 520 damage and impacts, and the enhancement and preservation of urban green space will create a corridor that people can be proud of and utilizes good urban design.
- Impact to regional traffic is addressed by proposing enhanced travel demand options. Ramp metering should not impair access to the University of Washington Medical Center. Also, queue spill back detection that would adjust signal timing to flush traffic off the Montlake Boulevard corridor and onto the freeway is recommended.

- Good urban design involves a solution that integrates with existing landscape and would include drainage ponds in McCurdy Park, which should be designed for visual and education use, in harmony with the surrounding environment. Where the opportunity arises, the design should consider and allow for use by migratory birds.
- Tolling will not be fragmented or have segmented tolling such as no additional toll for going southbound through the Washington Park Arboretum.
- A lower profile on SR 520 mainline east of Montlake Boulevard reduces the visual intrusiveness of the roadway.
- Additional visual interests adjacent the corridor is recommended such as water features on top of Foster Island berm.

Option L

- Aesthetically, the new bridge over the Montlake Cut would be constructed in keeping with the Olmsted-type look and feel. Also, solutions to soften structures, such as adding planting boxes are to be explored.
- Improvements to the walking and bicycling environment create an enhanced people-orientated design with good east-west and north-south connectivity options between Washington Park Arboretum and the University of Washington under the new single point urban interchange (SPUI).
- A SPUI is proposed to replace the existing Montlake interchange configuration. SPUI's are excellent examples of good urban design practices by creating an innovative and efficient, minimal footprint interchange solution.
- Includes travel demand efficiency concepts, such as continuing ramp metering efforts and incorporating tolling.
- Context sensitive design includes placing emphasis on University of Washington Campus and Medical Center, making the area people and transit (bus and light rail) friendly. This is achieved by providing green space over the Montlake Boulevard and Pacific Street intersection.

6.13 Bicycle and pedestrian facilities

Participants identified the following community interests as goals that the preferred Option should accomplish with respect to bicycles and pedestrians.

- Provide bicycle and pedestrian access and connectivity with the least environmentally damaging increase in wetland fill.
- Consider the bicycle and pedestrian system locally and regionally.
- Create a safe and more inviting environment for pedestrians and bicyclists on 520 and surrounding areas and connections with the trail system.

Below is a summary of mediation participants' statements about how each option met the community goals regarding bicycles and pedestrians.

Option A

- Recommends bicycle parking at the Montlake Multimodal Hub to mitigate the displaced bicycle parking currently at the Montlake Transit Flyer Stop.

Option K

- Construction of lids and additional trail connections creates a safer and more visually pleasing bicycle and pedestrian environment than present in the corridor today.
- Bicycle and pedestrian access and connectivity is provided by improvements to the local and regional trail system along this corridor, which leads to safer nonmotorized access to the Washington Park Arboretum. This may transfer trips from vehicles to bicycles, thereby reducing congestion.
- Improved safety, convenience, and connectivity along SR 520 with access to Foster Island, Washington Park Arboretum, through the Montlake neighborhood, to the Burke-Gilman Trail, to University of Washington and the Montlake Multimodal Hub, across the corridor from north to south, to North Capitol Hill, Roanoke Park, and to Eastlake over I-5.
- Construction of a lid over the Montlake Boulevard and Pacific Street intersection will provide an un-encumbered grade separated pedestrian and bicycle crossing. This provides a safe and convenient access route between local and regional bus facilities to the planned Montlake Multimodal Hub. This requires depressing Montlake Boulevard and Pacific Street.
- Provides bicycle parking at the Montlake Multimodal Hub to mitigate the displaced bicycle parking currently at the Montlake Transit Flyer Stop.

Option L

- Provides walking and cycling trail connections that reduce impact on wetland and urges examining alternative trail construction methods such as porous surface treatments.
- Improved safety, convenience, and connectivity along SR 520 with access to Foster Island, Washington Park Arboretum, through the Montlake neighborhood, to the Burke-Gilman Trail, to University of Washington and the Montlake Multimodal Hub, across the corridor from north to south, to North Capitol Hill, Roanoke Park, and to Eastlake over I-5.
- A safe and more inviting environment for walking and cycling traffic is created by providing off-street connection in the corridor and to other regional and local trails.

6.14 Regional and statewide system

Participants identified the following community interests as goals that the preferred Option should accomplish with respect to the regional and statewide system.

- Consider the regional system as a whole for connectivity (transit, bicycles, pedestrians, etc.) and the implications one solution has on other parts of the system (ex. I-90 and SR 520).
- Integrate with the regional freight system.
- Promote regional vitality and competitiveness.
- Enhance the connection between employment centers, areas of vitality and homes.

Below is a summary of mediation participants' statements about how each option met the community goals for the regional and statewide system.

Option A, K and L

- No comments were received from community participants regarding schedule and cost at this time.

6.15 Construction effects

Participants identified the following community interests as goals that the preferred Option should accomplish for construction effects.

- Minimize construction impacts temporary roads, construction staging sites, piers/pilings, docks, barges, etc.
- Maintain access from/to neighborhoods.

Below is a summary of mediation participants' statements about how each option met the community goals related to Construction.

Option A

- Reduced impacts in the Pacific Street and Montlake Boulevard intersection area.

Option K

- In order to minimize construction impacts and traffic, it is recommended that conveyor and barging materials be considered
- Direct ramps from SR 520 to staging areas and the work site and other construction traffic reducing solutions should be explored in order to reduce construction traffic impacts.

Option L

- No comments received.

Section 7 – Potential Regulatory Issues of West Side Interchange Options

7.1. What is the regulatory approach to mitigating the impacts of the project?

WSDOT recognizes and values the natural and built environment and incorporates protection of all environmental resources into the decisions that guide project implementation. The SR 520 Bridge Replacement and HOV Project is being designed to avoid or minimize negative effects and to mitigate any unavoidable effects. WSDOT's goal is to improve the environment in the neighborhoods and natural areas surrounding the bridge corridor.

It is important to note that many of the mitigation requirements with which WSDOT must comply are mandated by regulatory agencies. These federal, state, and local agencies administer many laws designed to protect the natural and built environments. Under these laws, WSDOT is held to very specific requirements for mitigation, including, for example, the ratio of replacement wetlands to project-affected wetlands and the pollutant levels in stormwater discharge. Mitigation planning with resource agencies and affected jurisdictions will be ongoing throughout development of the supplemental draft EIS and Final EIS.

Federal regulation states that “the NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment” [40 CFR 1500.1(b)]. Mitigation measures are identified in an EIS for the range of effects, or impacts, associated with the proposed action. Council of Environmental Quality (CEQ) and FHWA regulations define mitigation under NEPA to include, in general: “avoiding, minimizing, rectifying, reducing over time, and compensating” for adverse impacts (40 CFR 1508.20).

FHWA and WSDOT support a comprehensive approach to mitigation that includes exploring innovative solutions and enhancement measures, in addition to more “traditional” mitigation, to help projects fit harmoniously within communities and natural environs (FHWA Environmental Policy Statement, 1990 & 1994). Mitigation planning for SR 520 includes identifying opportunities to integrate built and natural environment mitigation elements and evaluating those opportunities for their ability to more effectively meet project objectives, while enhancing the environment.

Mitigation identified in the draft EIS is consistent with regulatory requirements and agreements between WSDOT and regulatory agencies outlined in WSDOT's Environmental Procedures Manual. For the most part, mitigation is discussed qualitatively. More specific mitigation and/or enhancements will be determined following additional design and subsequent negotiation and discussion with agencies with jurisdiction (for example, for impacts to park lands, wetlands, and related to ESA compliance).

7.2 What environmental regulations apply to the project?

After the EIS process is complete, WSDOT must obtain a number of permits to build the project. These permits are issued by federal, state, and local agencies with legal responsibilities for stewardship of various environmental resources. WSDOT also must work with Native American tribes to ensure that cultural resources and treaty fishing rights are protected. Some of the key permits and approvals that WSDOT will need to obtain for SR 520, and the agencies that administer them, are:

- U.S. Army Corps of Engineers Section 404 permit under the Clean Water Act (regulates dredging and filling in water bodies and wetlands, and requires that the “least environmentally damaging practicable alternative” be selected).
- Washington State Department of Ecology Section 401 Water Quality Certification (required to protect water quality for most projects that need a Section 404 permit).
- Coast Guard Section 9 permit under the Rivers and Harbors Act (regulates impacts to navigation).
- Corps of Engineers Section 10 permit (regulates obstructions or alterations in navigable waters, including work in, over, or under the water)
- Consultation with U.S. Fish and Wildlife Service and National Marine Fisheries Service in compliance with Section 7 of the Endangered Species Act (requires issuance of an “incidental take” permit for activities that may adversely affect listed species under ESA).
- Government-to-government consultation with the Muckleshoot Indian Tribe to address potential effects on tribal treaty fishing rights in Lake Washington and its tributaries.
- Compliance with Department of Ecology regulations and WSDOT standards for collecting and treating stormwater runoff from the roadway.
- Consultation with the Washington Department of Archaeology and Historic Preservation in compliance with Section 106 of the National Historic Preservation Act (requires protection of historic and cultural resources). Also includes government-to-government consultation with the Muckleshoot, Snoqualmie, Tulalip, Suquamish, and Duwamish Tribes on cultural resource effects of the project.
- Compliance with Section 4(f) of the Department of Transportation Act (Federal Highway Administration), which forbids the use of park land and certain historic properties for transportation facilities unless no “feasible and prudent” alternative exists.
- Compliance with Section 6(f) of the Land and Water Conservation Act (National Park Service and RCO), which requires that recreational lands purchased with certain federal funding be replaced in kind.
- Washington Department of Fish and Wildlife Hydraulic Project Approval under the Washington Hydraulic Code (regulates all work within water bodies).

- Local shoreline permits under the Shoreline Management Act (regulate work within 200 feet of the ordinary high water mark).
- Local critical areas permits (regulate work in designated critical areas, including wetlands, streams, steep slopes and wildlife habitat).

Additional analysis on methods to minimize or mitigate impacts is being conducted through the separate and parallel Regulatory Agency Coordination process.

7.3 How does each design option comply with these regulatory requirements?

At this point in project development, it is not possible to determine with certainty the full extent to which any of the design options complies with all applicable regulations. The design is still at a very conceptual level, and WSDOT has not had an opportunity for extensive work with regulatory agencies on opportunities to avoid, minimize, or mitigate impacts. However, the options do differ with respect to some of the regulations that WSDOT must follow. The discussion below identifies how each set of regulatory requirements applies to the project as a whole, then describes differences among the options based on their current configuration and level of design.

Clean Water Act Section 404 and Section 401

Wetland areas are found along the shoreline of Union Bay, including much of Marsh and Foster Islands. Many of the wetlands on the fringes of Union Bay have substantial vegetation at the water's edge.

All of the design options would involve impacts to wetlands. These effects would occur primarily in the Washington Park Arboretum/Foster Island area and on the fringes of Portage Bay. Installation of bridge columns and earthwork in wetland areas and open water would be considered fill under the Section 404 regulations. In addition, sections of elevated roadway would produce shade that would eliminate or impair wetland plant communities underneath the roadway. Lower structure heights (especially below about 20 feet) would increase the depth of the shade and the degree of impairment to the wetlands. Work bridges and other construction activities would also involve filling and shading of wetlands for periods of up to several years.

Based on preliminary estimates for the current designs, Option K would involve the largest amount of fill in wetlands and open water, followed by Option L and Option A. WSDOT will conduct detailed studies as part of the supplemental draft EIS to determine specific impacts and mitigation measures that would be required. As part of its analysis, WSDOT will work with the Corps of Engineers to identify the least environmentally damaging practicable alternative for the project.

Coast Guard Section 9 and Corps of Engineers Section 10

Changes or modifications to an existing bridge that would affect the future navigational use of a waterway require issuance of a Section 9 permit by the Coast Guard. In addition, any work that could obstruct or alter navigable waters requires a Section 10 permit from

the Corps of Engineers. All of the options that would be studied in the SDEIS include elimination of the Evergreen Point bridge draw span opening, which would shift vessels to the navigational channels at the east and west end of the floating bridge. Options A and L would each require a new bridge crossing of the Montlake Cut at approximately the same height as the existing Montlake Cut Bridge. Both would be bascule (draw) bridges and would be operated in coordination with the Montlake Cut Bridge. The WSDOT will work with the Coast Guard and the Corps to ensure that all Section 9 and 10 requirements are met. For Option K, WSDOT would need to coordinate with the Corps to ensure that work on the tunnel did not interfere with the navigation channel.

Endangered Species Act

Lake Washington supports a number of fish species that have recreational, commercial, and/or tribal importance. These include three species listed as threatened under the Endangered Species Act: Puget Sound Chinook salmon, steelhead salmon, and bull trout. Lake Washington and the Montlake Cut are part of a documented rearing and migration corridor for both adult and juvenile salmonids (trout and salmon species). As such, this area is designated as “critical habitat” for Chinook salmon and bull trout. (Steelhead were listed only recently under ESA, so critical habitat for them has not yet been designated.)

All of the options under study include the Evergreen Point floating bridge, fixed structures across the water from Montlake to the west floating bridge transition span, and a crossing of the Montlake Cut. WSDOT is evaluating many issues related to fisheries and aquatic habitat as part of the supplemental draft EIS and ESA compliance process. These issues include underwater noise and turbidity (i.e., stirring up of sediment) from construction, water quality, effects on fish rearing and migration, and effects to fish habitat, including those of shading from overwater structures.

All three options would have similar alignments through the Foster Island area and would avoid in-water construction in the Montlake Cut through either bridging or tunneling. In this respect, their ESA effects are likely to be similar. However, stormwater quality and treatment issues differ among the design options based on the different slopes and profiles. The low slope of Option K, and the “camel-back” profile of Option A as it crosses Foster Island and then rises to the high-rise, will complicate stormwater collection and treatment. Water quality—in particular, the concentration of metals in roadway runoff—is an area of strong concern for ESA listed salmonids.

Tribal Treaty Fishing Rights

Tribal fishing is an important use of Lake Washington, and tribal fisheries managers work with state and federal agencies to manage fisheries resources. The Lake Washington system, including the Montlake Cut, is a “usual and accustomed” fishing area for the Muckleshoot Indian Tribe. In addition to Chinook and steelhead salmon, many other species are considered valuable, including but not limited to chum salmon, sockeye salmon, rainbow trout, and coastal cutthroat trout.

Any work that occurs within the water has the potential to affect tribal fishing, either by changing access to fishing areas or by affecting habitat. In addition, new or changed in-water structures can affect habitat conditions and fishing access. WSDOT is working

with the Muckleshoot Tribe to identify areas of concern and potential mitigation measures for any identified impacts. At the current stage of design, it is not possible to determine how the options might differ with respect to tribal fishing.

Stormwater Collection and Treatment

Untreated roadway runoff flushes contaminants, including petroleum products and metals, into project area lakes and streams. Currently, the runoff from SR 520 is not treated. As part of the project, WSDOT will build facilities to collect and treat stormwater in accordance with regulatory requirements.

The efficiency and effectiveness of stormwater treatment are related to the roadway design. Especially important is the roadway profile, or vertical slope. Highways are typically designed with a profile that allows stormwater to drain by gravity to a central collection point where it can be treated. However, two of the SR 520 design options (A and K) have profiles that do not allow gravity drainage and require stormwater to be pumped to the treatment location. Pumping requires electrical power, which involves a risk of spillage of untreated stormwater in the event of a power failure. In addition, pump stations and/or treatment vaults may need to be located on Foster Island, which conflicts with Section 4(f) regulations (see below), or below the bridge and partially in water, which could impede fish passage.

Stormwater is also a key issue in ESA compliance. Removal of metals, especially copper, from runoff is a concern for regulatory agencies and requires enhanced levels of treatment. Designing and siting enhanced treatment facilities is challenging in the limited space available in the project area. WSDOT is working with the Department of Ecology, the National Marine Fisheries Service, and the U.S. Fish and Wildlife Service to identify the most appropriate treatment methods for each SR 520 design option.

Section 106 of the National Historic Preservation Act

The SR 520 project area—in particular Foster Island—was a crossroads for tribal activity in the years before and after European settlement of Seattle. Foster Island was used as a resting place for the dead, who were placed in canoes that were hoisted into the island's trees. Although the remains are reported to have been removed when the Washington Park Arboretum was developed, the island remains a place of great cultural importance to descendants of the Lakes Duwamish. It is likely that Foster Island will be designated as a Traditional Cultural Property under Section 106 of the National Historic Preservation Act. Also in the project area are two NRHP-eligible historic districts—Montlake and Roanoke Park—along with several NRHP-listed resources, including the Montlake Bridge and Cut and the University of Washington Canoe House.

Under Section 106, adverse effects to NRHP-eligible historic and cultural resources must be evaluated, and WSDOT must enter into a Memorandum of Agreement (MOA) with the Department of Archaeology and Historic Preservation and the affected tribal governments on appropriate mitigation measures. WSDOT is currently consulting with DAHP and five tribal nations (Muckleshoot, Snoqualmie, Tulalip, Suquamish, and Duwamish) on the project. Tribal and agency officials will be asked to review the design of each option and identify any potential issues of concern. Although no specific option-

by-option feedback has been received to date, previous communications with the tribes have indicated strong concerns about any substantial excavation taking place on Foster Island.

Section 4(f) of the Department of Transportation Act and Section 6(f) of the Land and Water Conservation Act

Section 4(f) prohibits transportation facilities from using land from a park, recreation facility, wildlife refuge, or property eligible for the National Register of Historic Places Parks unless there is no feasible and prudent alternative to doing so. Section 6(f) of the Land and Water Conservation Act protects parks and recreational facilities acquired or developed using funds from the Land and Water Conservation Fund from conversion to uses other than public outdoor recreation without replacement with property of fair market value and reasonable equivalent use and location. In the project area, this means that acquisition or conversion of any land on Foster Island and/or any portion of the Washington Park Arboretum Waterfront Trail must be replaced by an equivalent amount of new park land that provides the same functions and values.

Parks, recreation facilities, and historic and cultural resources are abundant along the SR 520 alignment, and all of the design options would affect these resources to some degree. All options would require replacement of Bagley Viewpoint, and would result in acquisition of portions of McCurdy Park, East Montlake Park, and the Washington Park Arboretum. On the positive side, lids proposed as part of project design would help to reconnect neighborhoods on either side of the highway and would promote pedestrian and bicycle linkages and create “green space” over the highway.

The options would differ in their effects on park lands. Under the current design, Option L would result in the highest amount of permanent park acquisition, followed by Option K and Option A. However, Options A and K would have greater effects on the Montlake Historic District than Option L, and Option K would have more excavation in potential cultural resource areas on Foster Island. Option K would also involve more conversion of Section 6(f) properties from their intended use, and hence would require more mitigation than the other design options. As part of the SDEIS, WSDOT will conduct a detailed evaluation of potential effects for areas protected by Section 4(f), and will identify measures to minimize harm to these resources. Depending on the mitigation measures agreed upon, it is possible that an option with a larger “footprint” in Section 4(f) properties could still become part of the preferred Option.

Hydraulic Project Approval under the Washington Hydraulic Code

The Hydraulic Project Approval (HPA) applies to all in-water work on SR 520, and is designed to protect aquatic habitat and fish. The design and construction considerations described for ESA are also relevant to the HPA, which is administered by the Washington Department of Fish and Wildlife.

Local Shoreline and Critical Areas Permits

The Washington State Shoreline Management Act requires local agencies to regulate activities within 200 feet of the ordinary high water mark of water bodies within their jurisdiction. The Washington State Growth Management Act allows agencies to regulate designated “critical areas,” such as wetlands, streams, and steep slopes. Options A, K, and L will all pass through regulated shorelines and critical areas. In general, roads and highways are permitted uses in these areas, although the Seattle shoreline and critical areas codes require that conditions be included in City-issued permits to protect these areas during project construction and operation.

The following table summarizes the key regulatory considerations for each option:

Comparison of Regulatory Considerations for SR 520 West side Design Options

Regulation	Option A	Option K	Option L
<i>CWA Sections 401 and 404</i>	Least wetland and in-water fill; low profile would impair wetlands by shading vegetation	Largest amount of wetland and in-water fill; low profile would impair wetlands by shading vegetation	More wetland and in-water fill than A, but less than K; low profile would impair wetlands by shading vegetation
<i>Coast Guard Section 9 and Corps of Engineers Section 10</i>	New Montlake Cut bridge would require coordination with Corps and Coast Guard	Coordinate with Corps to ensure no effects on navigation channel	New Montlake Cut bridge would require coordination with Corps and Coast Guard
<i>Endangered Species Act</i>	Potential to affect listed species; WSDOT consulting with NMFS and USFWS	Potential to affect listed species; WSDOT consulting with NMFS and USFWS	Potential to affect listed species; WSDOT consulting with NMFS and USFWS
<i>Treaty Fishing Rights</i>	Construction and operation would affect habitat and fishing access; WSDOT consulting with Muckleshoot Tribe to determine effects and mitigation	Construction and operation would affect habitat and fishing access, with greater effects than A and L because of in-water filling; WSDOT consulting with Muckleshoot Tribe to determine effects and mitigation	Construction and operation would affect habitat and fishing access; WSDOT consulting with Muckleshoot Tribe to determine effects and mitigation

Comparison of Regulatory Considerations for SR 520 West side Design Options

Regulation	Option A	Option K	Option L
<i>Stormwater Compliance</i>	Profile across Foster Island requires pumping	Profile of West Approach requires pumping	Allows gravity flow to treatment location
<i>Section 106</i>	Construction of parallel Montlake Cut Bridge would affect setting of Montlake historic district and remove two houses in the district	Excavation on Foster Island for land bridge increases impact on traditional cultural property and potential for encountering cultural resources; interchange design affects setting of Montlake historic district	New bridge across Montlake Cut would affect setting of historic district
<i>Section 4(f) and 6(f)</i>	Least acquisition of 4(f) and 6(f) resources	Less 4(f) acquisition than Option L, but largest conversion of Section 6(f) land with resulting higher mitigation requirements	More 4(f) acquisition than Options A and K, but has less effect on 6(f) resources than Option K
<i>Hydraulic Project Approval</i>	Construction and operation would affect fish habitat and passage; WSDOT working with WDFW to avoid, minimize, and mitigate impacts	Construction and operation would affect fish habitat and passage, with greater effects in water column than A and L because of in-water filling and permanent cofferdams; WSDOT working with WDFW to avoid, minimize, and mitigate impacts	Construction and operation would affect fish habitat and passage; WSDOT working with WDFW to avoid, minimize, and mitigate impacts
<i>Local Permits</i>	Project crosses shorelines and critical areas; WSDOT will work with City to ensure compliance and appropriate mitigation	Project crosses shorelines and critical areas; WSDOT will work with City to ensure compliance and appropriate mitigation	Project crosses shorelines and critical areas; WSDOT will work with City to ensure compliance and appropriate mitigation

Section 8 – Next Steps

8.1 What is the environmental review process?

WSDOT published the SR 520 Bridge Replacement and HOV Project Draft EIS in August 2006. That document evaluated a 4-Lane Alternative, a 6-Lane Alternative, and several options for the 6-Lane Alternative, including the Pacific Interchange and a second Montlake Cut Bridge. Because the mediation Options are in several aspects substantially different than those studied in the draft EIS, WSDOT is preparing a supplemental draft EIS on the new Options. The supplemental draft EIS is planned for publication in late 2009, followed by a final EIS in late 2010.

After the final EIS is complete, FHWA will issue a Record of Decision for the project. The Record of Decision, expected in early 2011, will include documentation of how the preferred Option was chosen, along with a list of mitigation measures committed to by WSDOT. WSDOT will then be able to acquire right of way for SR 520 and obtain permits issued by the federal, state, and local resource agencies. These permits will include additional conditions on project development that will mitigate for the project's effects.

8.2. Public involvement plans

At open houses held in June 2008, members of the public had a chance to review and comment on the Options developed by the mediation team for evaluation in the supplemental draft EIS. Members of affected neighborhoods have also had ongoing opportunities to comment through their representatives to the mediation process. The next formal opportunity for comment will be after publication of the supplemental draft EIS. At that time, WSDOT will solicit formal written comments and hold public hearings. All of these comments – along with the comments submitted on the August 2006 draft EIS – will be responded to in the final EIS.

In addition, WSDOT will prepare other opportunities for public involvement upon publication of the supplemental draft EIS. These opportunities include:

- Community design forums.
- Open houses.
- Continued outreach at fairs and festivals.
- Community group briefings

Section 9 – Mediation Participants Comments

- 9.1 Which west side interchange Option do you prefer and why?**
- 9.2 Are there changes that could be made to the other Options that would make them more acceptable?**

Section 10 – Appendices

10.1 Community Interest Tables A, K & L

10.2 Mediation Chronology

10.3 Potential TDM Measures

10.4 Annotated Bibliography of Reports and Expert Studies consulted during Mediation Process

Appendix 10.1 Community Interest Tables A, K & L

Appendix 10.1: Option A, K, and L Community Interest Tables

The following tables summarize responses collected by mediation participants relating to how a specific option meets community Interests as well as applicable comments from participants to the identified community interests.

Option A: Design		
Identified Community Interests*	How Option A Meets Community Interests	Comments
Minimize the scale and project footprint	<ul style="list-style-type: none"> • Reduced footprint by elimination of SR 520 flyer-stop. • Adds westbound left hand direct Transit ramp. Right hand eastbound ramp with transit bypass merges with mixed traffic. 	<ul style="list-style-type: none"> • Only addresses westbound direction for transit - eastbound in mixed traffic.
Create an aesthetically pleasing people-oriented design and respectful of its context – historic urban fabric in an iconic natural landscape.	<ul style="list-style-type: none"> • Preserve the integrity of the Washington Park Arboretum & Lake Washington Boulevard as a park drive. • Focus more on improving transit ridership and reduction of single occupancy trips. 	<ul style="list-style-type: none"> • Treatments for low volume roadways • No ramps to Washington Park Arboretum (Lake Washington Blvd).
Create something to be proud of.		
Utilize good urban design.	<ul style="list-style-type: none"> • Proposes a design competition for Portage Bay and Montlake Cut bridges. • Westside design shall be developed with a citizen’s design advisory committee 	<ul style="list-style-type: none"> • Stormwater treatment facilities designed to code, operated with best management practices. • Develop a plan and assess site conditions for appropriate hazardous materials storage, use BMP.

Option A: Design		
Identified Community Interests*	How Option A Meets Community Interests	Comments
Consider future generations.	<ul style="list-style-type: none"> • Reduce traffic through the Washington Park Arboretum by eliminating the existing Lake Washington Boulevard ramps. 	<ul style="list-style-type: none"> • Have endangered species plan for protection and preservation in place prior to construction.
Create a sustainable solution.	<ul style="list-style-type: none"> • Protects “class 1” wetlands. • Preserves stream and natural ground water flow. 	<ul style="list-style-type: none"> • Stormwater treated using BMPs. • Remove invasive species brought in from construction. • No indirect effects shall be allowed to impact endangered fish species. • 3 to 5 years post project, survey habitat to determine impact, remedy if adverse. • I-405 precedent, SR 520 will participate in habitat enhancement / protection projects.
Utilize corridor travel demand efficiency tools, including tolling.	<ul style="list-style-type: none"> • Recommends development of a Corridor Management Agreement. 	<ul style="list-style-type: none"> • CMA is also a mitigation action • Include methods such as signal timing, active traffic management.
Look beyond the pavement and the corridor.	<ul style="list-style-type: none"> • No expansion or widening of Montlake Boulevard NE or Pacific Street. 	
Include the needs of the region in 50-100		

Option A: Design		
Identified Community Interests*	How Option A Meets Community Interests	Comments
years.		
Protect communities, the Washington Park Arboretum and the University of Washington campus with context sensitive corridor designs.	<ul style="list-style-type: none"> Places emphasis on University of Washington Campus and Hospital, making the area people and transit (LRT) friendly. 	<ul style="list-style-type: none"> If recommended by review panel, quiet pavement shall be used on SR 520 mainline and ramps.

Option A: Neighborhood and Environmental Interests

Identified Community Interests*	How Option A Meets Community Interests	Comments
Avoid, minimize, or mitigate environmental impacts – air, water, land, and animal	<ul style="list-style-type: none"> • Minimizes environmental impacts by maintaining existing corridor footprint. • For the Washington Park Arboretum, keep the stream and ground water flow intact. 	<ul style="list-style-type: none"> • Enhancement or mitigative action to restore or enhance environment surrounding construction areas.
Offset indirect and cumulative environmental impacts.		
Reduce pollution from idling vehicles.		
Enhance the environment – air, water, carbon (green house gas), and biodiversity – through baseline and outcome audits.		
Protect the wetlands from direct, indirect and cumulative impacts.	<ul style="list-style-type: none"> • Preserves existing wetland areas around Foster Island, Marsh Island, McCurdy Park, and Washington Park Arboretum. 	
Protect Endangered Species Act (ESA) species.		
Protect salmon in and out migration and spawning areas.		

Option A: Neighborhood and Environmental Interests

Identified Community Interests*	How Option A Meets Community Interests	Comments
Understand implications for ESA - avoid and minimize and mitigate.		
Protect wildlife.		
Protect the health of the Union Bay and Lake Washington.	<ul style="list-style-type: none"> For Lake Washington, preserves existing wetland areas around Foster Island, Marsh Island, McCurdy Park, and Washington Park Arboretum. 	
Reduce stormwater pollution from vehicles using the corridor.		
Narrow the footprint as much as possible.	<ul style="list-style-type: none"> Minimize impact to Marsh Island 	
Minimize noise from the corridor.	<ul style="list-style-type: none"> Recommends measures that reduce road noise in the corridor - follow Acoustics ERP recommendations 	
Minimize negative visual impacts to the surrounding scenic and recreational areas and neighborhoods.	<ul style="list-style-type: none"> Provide low profile mainline roadway and construct using Olmsteadian feel. 	<ul style="list-style-type: none"> No advertising signs except for TDM and transit. Remove temporary bridges before the replacement bridge opens for traffic. Remove graffiti promptly.
Protect the scenic views from the		<ul style="list-style-type: none"> Do not destroy historic Lake

Option A: Neighborhood and Environmental Interests

Identified Community Interests*	How Option A Meets Community Interests	Comments
corridor.		Washington Boulevard near MOHAI.
Protect or enhance parking opportunities.		
Be consistent with the State Growth Management Act, adjacent cities' relevant adopted plans and policies and the PSRC 2020 vision.		
Serve neighborhoods effectively – transportation, design and impact mitigation.		
Reduce local street congestion related to the bridge.		
Maintain current access points for neighborhoods.		
Maintain and enhance local environment and communities.		
Decrease use of local roads as on-ramps.		
Decrease potential for additional traffic on local arterials as an alternative to the bridge.		

Option A: Neighborhood and Environmental Interests

Identified Community Interests*	How Option A Meets Community Interests	Comments
Reconnect neighborhoods separated by SR 520.		
Minimize lighting impacts.		
Produce a solution that balances all needs of each interest group.	<ul style="list-style-type: none"> • Aesthetics on Portage Bay Bridge, take to Design Review by Seattle Design Comm. 	
Ensure consistency with guidance from the legislature.		
Develop a solution that meets all local, state and federal regulatory requirements.		
Blend community vitality with regional responsibility.		
Integrate with other existing projects and plans.		
Protect existing agreements/solutions (ex. Eastside).		

Option A: Transit and Transportation

Identified Community Interests*	How Option A Meets Community Interests	Comments
Provide convenient access to transit and high occupancy vehicle options to reduce single occupancy trips.	<ul style="list-style-type: none"> • Improves transit service and facilities in the vicinity of the Montlake Multimodal Hub. • Constructs 2nd parallel Montlake Cut Bridge a westbound off-ramp with transit priority/carpool lanes and accords transit transit/carpool priority on eastbound ramps. 	<ul style="list-style-type: none"> • Implement toll strategies to encourage transit and HOV 3+.
Optimize the multi-modal transit system.	<ul style="list-style-type: none"> • Improves transit service and facilities in the vicinity of the Montlake Multimodal Hub. • Retains local bus stops on Montlake Boulevard between SR 520 and Pacific Street. • Dedicated off-ramp for transit from westbound SR 520 to northbound Montlake Boulevard. • Promotes aggressive TDM strategies encouraging transit and non-automobile travel. 	<ul style="list-style-type: none"> • Recommends transit priority improvements and signal priority activation where possible. • Support alternate mode strategies such as game-day / event shuttle services and rideshare programs. • Supports enhanced facilities for bicycles, such as wayfinding and bike racks/storage facilities within 2 miles of the corridor.
Provide transit connectivity, access and ease of movement.	<ul style="list-style-type: none"> • Bus preference lanes on Montlake Boulevard to speed transit. • Bus stops convenient to intermodal connections, 	<ul style="list-style-type: none"> • Post current toll rates on-line and at highway access points.

Option A: Transit and Transportation

Identified Community Interests*	How Option A Meets Community Interests	Comments
	<p>including Husky Stadium Station.</p> <ul style="list-style-type: none"> • Improves speed and reliability for transit by adding transit priority and installing a dedicated westbound transit off-ramp at Montlake Interchange. • Preserve local bus stops south of Montlake cut. 	
Integrate local and regional transit service.	<ul style="list-style-type: none"> • Improve transit service and facilities in the vicinity of the Montlake Multimodal Hub. 	<ul style="list-style-type: none"> •
Accommodate fast, reliable, predictable and well integrated local and regional transit.	<ul style="list-style-type: none"> • Recommends development of a Corridor Management Agreement (CMA) • Segregate/ Align Montlake Boulevard traffic between Pacific Street and Montlake Interchange. • Provides additional transfer location between Montlake Interchange and Pacific Street. 	<ul style="list-style-type: none"> • Construct 2nd Montlake Cut Bridge with install transit priority. • Install Transit Signal Priority (TSP) at intersections to favor transit movements. • Implement ITS improvements in the corridor (VMS - real time traffic updates, CCTV, etc).
Provide easy, convenient and accessible transfers - bus to bus, bus to rail.		
Improve accessibility for people and goods - locally and regionally.	<ul style="list-style-type: none"> • Recommends aggressive TDM actions including ridesharing, 	<ul style="list-style-type: none"> • Consider signal changes at Montlake Boulevard /

Option A: Transit and Transportation		
Identified Community Interests*	How Option A Meets Community Interests	Comments
	<p>public education programs, parking cash outs, etc to encourage transit and non-automobile travel.</p> <ul style="list-style-type: none"> • Recommends a Corridor Management agreement focusing on land use actions and activities promoting transit friendly development. 	<p>Wahkiakum Lane to favor Montlake Boulevard flow.</p> <ul style="list-style-type: none"> • By promoting transit, helps to reduce SOV trips. • Recommends developing a plan for bicycle parking displaced by removal flyer stop. •
<p>Provide integrated multimodal connections – locally and regionally.</p>	<ul style="list-style-type: none"> • Improve transit service and facilities in the vicinity of the Montlake Multimodal Hub. • Dedicated bus ramp from SR 520 to Montlake Boulevard-northbound improves transit connections. 	<ul style="list-style-type: none"> • Provide bicycle parking displaced by removal of the Montlake Transit Flyer Stop
<p>Ensure a safe sustainable infrastructure that works.</p>	<ul style="list-style-type: none"> • Second Montlake Cut Bridge provides additional space for bicycle and pedestrian movements. • Retain emergency access to the UWMC from Pacific Street 	<ul style="list-style-type: none"> • Wider sidewalk provided with 2nd Montlake Cut bridge. • Recommend constructing additional grade separated crossing for pedestrians over Pacific St to UW Hospital. • Recommends traffic calming measures where appropriate on residential streets, including maintaining parking.

Option A: Transit and Transportation

Identified Community Interests*	How Option A Meets Community Interests	Comments
Reduce traffic congestion.	<ul style="list-style-type: none"> • Constructs 2nd Montlake Cut Bridge to provide additional capacity between UW and SR 520. • Reduces traffic through the Washington Park Arboretum. • Increased signage to differentiate traffic in lanes (early action) on Montlake Boulevard north of SR 520. • Provide two-lane on-ramp with westbound auxiliary lane from Montlake Boulevard to I-5. 	<ul style="list-style-type: none"> • Recommend installing video surveillance to monitor system incidents and capture violators. • Recommends expanded restrictions on bridge openings during peak periods and during major events.
Minimize long-term unavoidable effects.	<ul style="list-style-type: none"> • Provide transit priority to favor transit and reduce SOV use. 	<ul style="list-style-type: none"> • Retain on-street parking to the greatest extent possible. • North Seattle traffic volumes. • Reduce Arboretum impacts.
Reduce vehicle miles traveled.	<ul style="list-style-type: none"> • Recommends TDM strategies, such as variable pricing, to reduce VMT. 	<ul style="list-style-type: none"> • Recommends, no tolling of transit, school or private buses. • Tolling should encourage high vehicle usage 3+ minimum. • Toll collection shall not delay traffic flow.

Option A: Parks		
Identified Community Interests*	How Option A Meets Community Interests	Comments
Protect the park system, green belt and open spaces.		<ul style="list-style-type: none"> • Retain Lake Washington Arboretum waterfront trail. • Drainage ponds in McCurdy Park shall be designed for visual and educational use.
Meet FHWA 4f requirements to avoid parks and open space, unless there is no other alternative.	<ul style="list-style-type: none"> • An approach that is environmentally sound and recognizes the impacts on the Washington Park Arboretum, our waterways fish and wildlife and global greenhouse gas issues. 	<ul style="list-style-type: none"> • Lake Washington Boulevard is park property, not a city street. • Design may take no park land, wildlife refuge, or NOAA Science Center if there is a feasible alternative. • No net loss of publicly held lands, replace within vicinity of the project.
Promote trail connections to adjacent parks.		
Connect the parks to create a greenbelt.		
Protect the woody plant population impacted by air population.		<ul style="list-style-type: none"> • Relocate rare species if possible in the way of construction. • No net tree loss.
Preserve Marsh Island, Foster Island and Duck Bay.		

Option A: Parks		
Identified Community Interests*	How Option A Meets Community Interests	Comments
Preserve the Washington Park Arboretum's role as an urban oasis, new gardens and entry, and tranquility.		
Minimize the amount of traffic passing through the Washington Park Arboretum.		<ul style="list-style-type: none"> Minimize any increase in additional traffic through the Washington Park Arboretum and adjacent neighborhoods.
Create a northern gateway to the Washington Park Arboretum.		

Option A: University of Washington Campus		
Identified Community Interests*	How Option A Meets Community Interests	Comments
Improve the campus.	<ul style="list-style-type: none"> • 	
Accommodate future growth.	<ul style="list-style-type: none"> • Improve transit service and facilities in the vicinity of the Montlake Multimodal Hub. 	
Improve mobility for people and goods.		<ul style="list-style-type: none"> • Lower Pacific Place at Rainier Vista to improve pedestrian movements and accommodate transit layover
Protect all view sheds, particularly the Rainer Vista view.		<ul style="list-style-type: none"> • Lower Pacific Place at Rainier Vista to improve pedestrian movements and accommodate transit layover
Preserve the campus' role in the neighborhood for open space, park space and access to waterfront activities.		<ul style="list-style-type: none"> • Depress and lid the Montlake Boulevard / Pacific Street intersection to accommodate unencumbered, at-grade pedestrian crossings
Protect the short-term and future mission and the interests of the University, its students and its employees.		<ul style="list-style-type: none"> • Maintain emergency access to UW Hospital at all times. • Valet parking for disabled residents if parking is disrupted by construction. • Implement dust control practices.

Option A: University of Washington Campus

Identified Community Interests*	How Option A Meets Community Interests	Comments
		<ul style="list-style-type: none"> • Minimize noise and vibrations. • Do not widen Montlake Boulevard NE north of Montlake Multimodal Hub or Pacific Street west of its intersection with Montlake Boulevard NE.

Option A: Boating Opportunities		
Identified Community Interests*	How Option A Meets Community Interests	Comments
Preserve existing vessel and floating home moorages.	<ul style="list-style-type: none"> • Maintain canoe and kayak access to Arboretum from University of Washington. 	
Protect regional boating recreational activities.		
Protect access to the waterfront and adequate depth and height for boat passage.		
Protect the navigable waterways.		
Improve vehicle, bicycle and pedestrian access to bating facilities and activities.		

Option A: Schedule and Costs		
Identified Community Interests*	How Option A Meets Community Interests	Comments
Complete the project in a timely schedule.	<ul style="list-style-type: none"> • Shorter structure significantly reduces time to construct. • Montlake area construction less than other Options. • Above ground and at grade construction less risky. 	
Consider timing to avoid or minimize environmental impacts – ex. Sample in/out migration and spawning patterns.	<ul style="list-style-type: none"> • Reduces traffic in Arboretum. • Reduces environmental impact by minimizing construction in wetlands and smaller footprint. • Minimize cut and fill and subsequent impacts 	<ul style="list-style-type: none"> • Recommends mitigation for the use, transfer and storage of hazardous materials in sensitive areas. • Supports BMP for control and reduction of construction related sediment and water contamination.
Develop a cost-effective solution that truly solves the problems.	<ul style="list-style-type: none"> • See notes on existing footprint (as above). • Meets “least-cost” state statute. 	
Maximize the use of the mitigation budge by early acquisition of mitigation sites.		
Control expenses.	<ul style="list-style-type: none"> • Does not include the Foster Island berm, ramps to Lake Washington Boulevard, eastbound HOV Direct access, or 	

Option A: Schedule and Costs		
Identified Community Interests*	How Option A Meets Community Interests	Comments
	lid at Montlake Boulevard and Pacific Street. <ul style="list-style-type: none"> • Reduced construction risks and less overall construction. 	
Develop a solution the state can fund.		<ul style="list-style-type: none"> • Meets least cost statute.
Develop a project financial plan based on realistic estimates of implementing tolls before, during and after construction.		

Option A: Bicycle and Pedestrian		
Identified Community Interests*	How Option A Meets Community Interests	Comments
Provide bicycle and pedestrian access and connectivity with the least environmentally damaging increase in wetland fill.		
Consider the bicycle and pedestrian system locally and regionally.	<ul style="list-style-type: none"> • Provide bicycle parking displaced by removal of the Montlake Transit Flyer Stop. 	
Create a safe and more inviting environmental for pedestrians and bicycles on 520 and surrounding areas and connections with the trail system.		

Option A: Regional and Statewide System		
Identified Community Interests*	How Option A Meets Community Interests	Comments
Consider the regional system as a whole for connectivity (transit bicycles, pedestrians, etc.) and the implications one solution has on other parts of the system (ex. I-90 and SR 520).	<ul style="list-style-type: none"> • Implement Corridor Management Agreement (CMA) and Multimodal CMA (MCMA) 	
Integrate with the regional freight system.		
Promote regional vitality and competitiveness.		
Enhance the connection between employment centers, areas of vitality and homes.	<ul style="list-style-type: none"> • Corridor Management Agreement focuses on land use actions to promote transit friendly and non-automobile development. 	

Option A: Construction Effects		
Identified Community Interests*	How Option A Meets Community Interests	Comments
Minimize construction impacts, temporary roads, construction staging sites, piers/pilings, docks, barges, etc.	<ul style="list-style-type: none"> • Noise length of project lower profile of bridge, temp bridge. • No impacts to north of canal communities and/or widening local arterials. • Use construction related erosion control BMPs. • Provide for additional event management staff during construction. 	<ul style="list-style-type: none"> • Minimize dust and noise impacts on the University of Washington Medical Center during construction • No construction on Husky football game days. • Do not use Montlake playfield for construction staging. • Noise mitigation measures such as enclosures or walls surrounding noisy equipment, mufflers on engines, and other methods should be used.
Maintain access to and from neighborhoods.	<ul style="list-style-type: none"> • Keep the Hop-In Grocery open during construction. • Less construction activities in area surrounding corridor, provides increased / available staging opportunities. 	<ul style="list-style-type: none"> • No contractor / employee parking shall be allowed on neighborhood streets during construction. • Consult affected neighborhoods in developing a construction mobilization plan.

Appendix 10.1: Option A, K, and L Community Interest Tables

Option K: Design		
Identified Community Interests*	How Option K Meets Community Interests	Comments
Minimize the scale and project footprint	<ul style="list-style-type: none"> • Reduces the footprint of the Portage Bay Viaduct. • Creates a pleasing Portage Bay Bridge and improves views. • Preserves the Olmstead experience. • Enhances travel demand options. • There will be no widening of Montlake Boulevard NE north of the Husky Stadium Sound Transit Station nor of NE Pacific Street west of its intersection with Montlake Boulevard NE. 	<ul style="list-style-type: none"> • On-ramp impact would require queue spill back meter and then adjust to flush traffic (WSDOT not likely to allow this) • If the on-ramp metering is adopted, the metering may not impair access to the UW Medical Center.
Create an aesthetically pleasing people-oriented design and respectful of its context – historic urban fabric in an iconic natural landscape.	<ul style="list-style-type: none"> • The Westside design should be implemented in consultation with a citizen’s advisory committee, which will include the Design Advisory Group and representatives from the community. 	<ul style="list-style-type: none"> • Portage Bay Slides
Create something to be proud of.	<ul style="list-style-type: none"> • Roanoke Bridge should be arched. • Will repair previous SR 520 damage and impacts. 	<ul style="list-style-type: none"> • Roanoke slide

Option K: Design		
Identified Community Interests*	How Option K Meets Community Interests	Comments
Utilize good urban design.	<ul style="list-style-type: none"> • Enhance and preserve urban green space. • Drainage ponds in McCurdy Park should be designed for visual and educational use, in harmony with the surrounding environment. Where the opportunity arises, the design should consider and allow for use by migratory birds. • Maintain the connectivity of Upper Campus with the medical school complex. 	
Consider future generations.	<ul style="list-style-type: none"> • Retain future building opportunities for University of Washington on E-11/E-12 lots 	
Create a sustainable solution.	<ul style="list-style-type: none"> • Allow for passive enjoyment of the Arboretum. 	
Utilize corridor travel demand efficiency tools, including tolling.		<ul style="list-style-type: none"> • No fragmented, segmented tolling, e.g. no additional toll for going southbound through the Arboretum.
Look beyond the pavement and the corridor.	<ul style="list-style-type: none"> • Tread lightly on Foster Island and other Indian archeological sites. An archeological study of all affected areas should be 	

Option K: Design		
Identified Community Interests*	How Option K Meets Community Interests	Comments
	conducted before any construction begins.	
Include the needs of the region in 50-100 years.	<ul style="list-style-type: none"> • Provide for increased mobility to and through the area, especially for transit. 	
Protect communities, the Arboretum and the University of Washington campus with context sensitive corridor designs.	<ul style="list-style-type: none"> • Reduce impact of traffic through the Arboretum. • Protect rare species • The interchange south of the ship canal does less harm to the University of Washington and communities north of the ship canal. 	<ul style="list-style-type: none"> • Rare species in the Washington Park Arboretum in the way of construction should be relocated if possible.

Option K: Neighborhood and Environmental Interests

Identified Community Interests*	How Option K Meets Community Interests	Comments
Avoid, minimize, or mitigate environmental impacts – air, water, land, and animal	<ul style="list-style-type: none"> • The tunnel under the cut preserves the environment by reducing the impact on wetlands. • Neutral affect on salmon migration and wildlife. • Stormwater containment improves water quality. • Avoid harm, or, if unavoidable, limit its extent; first-class wetlands should be protected with a “do no harm” policy. 	
Offset indirect and cumulative environmental impacts.	<ul style="list-style-type: none"> • Provide efficient design for all forms of people movement. • Examine potential for cut-through traffic resulting from I-5 congestion at 80th, 75th, and 50th exists using 25th to cross SR 520. 	
Reduce pollution from idling vehicles.	<ul style="list-style-type: none"> • Provides faster transit connection from the Eastside with I-5/SR 520 HOV connection. • Allows for more efficient metering by increasing the number of locations to meter. 	<ul style="list-style-type: none"> • Keep speeds up, especially in the tunnel. • Need to pay close attention to tunnel depth to limit grades as much as possible. • List additional meter locations
Enhance the environment – air, water, carbon (green house gas), and		

Option K: Neighborhood and Environmental Interests

Identified Community Interests*	How Option K Meets Community Interests	Comments
biodiversity – through baseline and outcome audits.		
Protect the wetlands from direct, indirect and cumulative impacts.	<ul style="list-style-type: none"> • Neither shading nor artificial light should foster invasive species into the wetlands or park lands • Remove invasive species • No indirect effects should be allowed to impact endangered fish species. 	<ul style="list-style-type: none"> • Provides an opportunity to plant wetlands on top of SR 520 underpasses. • Encourages quick building methods to allow for maximum salmon passages.
Protect Endangered Species Act (ESA) species.	<ul style="list-style-type: none"> • A plan for preservation and protection of endangered species should be in place before construction starts, and should be developed in conjunction with the federal regulatory agencies and all of the Indian tribes. 	
Protect salmon in and out migration and spawning areas.		<ul style="list-style-type: none"> • Underpasses are shallow and salmon pass close to the surface.
Understand implications for ESA – avoid and minimize and mitigate.		
Protect wildlife.	<ul style="list-style-type: none"> • The project will participate in habitat enhancement and protection projects identified by 	<ul style="list-style-type: none"> • At an interval after construction, such as 3 to 5 years, a survey and evaluation of the impact of

Option K: Neighborhood and Environmental Interests

Identified Community Interests*	How Option K Meets Community Interests	Comments
	<p>local jurisdictions and watershed groups.</p> <ul style="list-style-type: none"> • Fish and wildlife habitat and migratory patterns should be protected using the best available practices, and damage to species and habitat should be avoided, minimized, mitigated or repaired. • If barging is perused, examine impacts to migrating young salmon. • Provides a green berm through Foster Island for wildlife habitat. 	<p>the project on avian and fish life, and if significant adverse affects are found, remedies should be implemented.</p>
<p>Protect the health of the Union Bay and Lake Washington.</p>	<ul style="list-style-type: none"> • Tunnel will allow wetlands to be rebuilt. • Streams, natural groundwater and rainwater flowing through the Arboretum and McCurdy Park should continue to flow freely. • Water quality from the shorelands to Lake Washington should be improved, with contaminants decreased. 	

Option K: Neighborhood and Environmental Interests

Identified Community Interests*	How Option K Meets Community Interests	Comments
Reduce stormwater pollution from vehicles using the corridor.	<ul style="list-style-type: none"> Stormwater should be treated by the best management practices. Sediment should be prevented from entering water. 	
Narrow the footprint as much as possible.	<ul style="list-style-type: none"> Avoid the use of Temporary bridges as much as possible. 	<ul style="list-style-type: none"> Short ramp to SR 520 from Montlake Boulevard will impact the NOAA Science Building.
Minimize noise from the corridor.	<ul style="list-style-type: none"> If recommended by the expert review panel, quiet pavement should be laid on SR 520 and its on-and off ramps. 	<ul style="list-style-type: none"> Need to use other Noise mitigating techniques suggested by Acoustic's ERP at the entrance and exits of lids, the noise at the underside of viaducts/over water structures, absorptive materials on the inside of barriers.
Minimize negative visual impacts to the surrounding scenic and recreational areas and neighborhoods.	<ul style="list-style-type: none"> Roanoke Lid designed to decrease impact on the community. Connects the Arboretum to Montlake Park. 	<ul style="list-style-type: none"> Most efficient option for effective transportation design Has the least impact on local congestion.
Protect the scenic views from the corridor.	<ul style="list-style-type: none"> Keeps roadway facilities low to preserve view corridors. There should not be commercial advertising, unless such notices implement a traffic demand management agreement or 	

Option K: Neighborhood and Environmental Interests

Identified Community Interests*	How Option K Meets Community Interests	Comments
	<p>encourage the use of transit.</p> <ul style="list-style-type: none"> • Graffiti needs to be removed promptly per the Seattle City Council resolution on SR 520. 	
Protect or enhance parking opportunities.	<ul style="list-style-type: none"> • Retains Montlake parking lot for usage 	
Be consistent with the State Growth Management Act, adjacent cities' relevant adopted plans and policies and the PSRC 2020 vision.		<ul style="list-style-type: none"> • Increases people's mobility to and from SR 520 from Westside neighborhoods but improving capacity in the Montlake Area.
Serve neighborhoods effectively – transportation, design and impact mitigation.	<ul style="list-style-type: none"> • Examine methods for reducing construction traffic. 	<ul style="list-style-type: none"> • Minimize construction-vehicle traffic •
Reduce local street congestion related to the bridge.		<ul style="list-style-type: none"> • Relieves local traffic congestion on City streets and arterials, reduces cut-through traffic by offering more predictable travel times.
Maintain current access points for neighborhoods.		
Maintain and enhance local environment and communities.	<ul style="list-style-type: none"> • Constructs Foster Island berm to connect to Lake Washington Arboretum for a better experience – logical connections 	

Option K: Neighborhood and Environmental Interests

Identified Community Interests*	How Option K Meets Community Interests	Comments
	of the green lids will create more green space.	
Decrease use of local roads as on-ramps.	<ul style="list-style-type: none"> • Lake Washington Boulevard turned into a quiet, safe neighborhood street and bicycle route in Montlake. 	<ul style="list-style-type: none"> • Any increase in traffic should be minimized. • Preferably, the volume of motor vehicle traffic through the Arboretum should be reduced, including non-arterials such as Boyer Ave East. • Also decrease use of local roads as off-ramps.
Decrease potential for additional traffic on local arterials as an alternative to the bridge.	<ul style="list-style-type: none"> • Reduces congestion on local arterials by separating local versus highway traffic thereby reducing cut through traffic. 	
Reconnect neighborhoods separated by SR 520.	<ul style="list-style-type: none"> • 	
Minimize lighting impacts.	<ul style="list-style-type: none"> • Install same Olmstead-type lighting on Montlake, Roanoke and I-5 lids. 	
Produce a solution that balances all needs of each interest group.	<ul style="list-style-type: none"> • Neighborhoods most closely adjacent concur with the plan - it reduces footprint, noise, bulk and congestion. • More expensive, but provides the 	

Option K: Neighborhood and Environmental Interests

Identified Community Interests*	How Option K Meets Community Interests	Comments
	best solution for the area.	
Ensure consistency with guidance from the legislature.	<ul style="list-style-type: none"> Consistent with ESSB 6099 and legislative intent to establish high-capacity transit connections. 	<ul style="list-style-type: none"> Provides the most direct connection to the Montlake Multimodal Hub.
Develop a solution that meets all local, state and federal regulatory requirements.		
Blend community vitality with regional responsibility.		
Integrate with other existing projects and plans.	<ul style="list-style-type: none"> Improves local and regional bus access to University of Washington and the light-rail station there. Removes drawbridge from BRT lines. 	
Protect existing agreements/solutions (ex. Eastside).		

Option K: Transit and Transportation

Identified Community Interests*	How Option K Meets Community Interests	Comments
Provide convenient access to transit and high occupancy vehicle options to reduce single occupancy trips.	<ul style="list-style-type: none"> • Improve transit service and facilities in the vicinity of the Montlake Multimodal Hub. 	<ul style="list-style-type: none"> • Provides flexible and physically direct access for transit in the Montlake Multimodal Hub area with the depression of Pacific St/Montlake Boulevard and lid, providing grade separated pedestrian movements.
Optimize the multi-modal transit system.	<ul style="list-style-type: none"> • Improve transit service and facilities in the vicinity of the Montlake Multimodal Hub. • Addition of tunnel under Montlake Cut eliminates delay to transit from existing bascule bridge operations. 	
Provide transit connectivity, access and ease of movement.	<ul style="list-style-type: none"> • Constructs direct access ramps from SR 520 to new Montlake Cut tunnel. 	<ul style="list-style-type: none"> • Lower Pacific Place at Rainier Vista to improve pedestrian movements and accommodate transit layover • Depress and lid the Montlake Boulevard and Pacific Street intersection to accommodate unencumbered, at-grade pedestrian crossings
Integrate local and regional transit service.	<ul style="list-style-type: none"> • Improve transit service and facilities in the vicinity of the 	

Option K: Transit and Transportation

Identified Community Interests*	How Option K Meets Community Interests	Comments
	Montlake Multimodal Hub.	
Provide fast, reliable, predictable and well integrated local and regional transit.		<ul style="list-style-type: none"> Constructs a tunnel under the Montlake Cut, eliminating delay from drawbridge for some movements between SR 520 and Pacific Street.
Provide easy, convenient and accessible transfers – bus to bus, bus to rail.	<ul style="list-style-type: none"> Improve transit service and facilities in the vicinity of the Montlake Multimodal Hub. 	
Improve accessibility for people and goods – locally and regionally.		<ul style="list-style-type: none"> Signalize driveway at Montlake Boulevard/Wahkiakum Lane (access to Montlake Parking lot)
Provide integrated multimodal connections – locally and regionally.	<ul style="list-style-type: none"> Improve transit service and facilities in the vicinity of the Montlake Multimodal Hub. 	<ul style="list-style-type: none"> Lower Pacific Place at Rainier Vista to improve pedestrian movements and accommodate transit layover Provide bicycle parking displaced by removal of the Montlake Transit Flyer Stop
Ensure a safe infrastructure that works.	<ul style="list-style-type: none"> Retain emergency access to the UWMC from Pacific Street 	
Reduce traffic congestion.	<ul style="list-style-type: none"> Do not degrade operations on Montlake Boulevard between Pacific Street and Wahkiakum Lane 	<ul style="list-style-type: none"> Provide two-lane on-ramp with auxiliary lane to westbound SR 520

Option K: Transit and Transportation

Identified Community Interests*	How Option K Meets Community Interests	Comments
Minimize long-term unavoidable effects.		
Reduce vehicle miles traveled.		

Option K: Parks		
Identified Community Interests*	How Option K Meets Community Interests	Comments
Protect the park system, green belt and open spaces.	<ul style="list-style-type: none"> • The design should take no park land or wildlife refuge or the NOAA Science Center or its land when there is a feasible alternative. • Protects and enhances - lids, Arboretum, etc. • Reconnects Foster Island. • Presents/creates a northern Arboretum entrance. • Best option for giving parks back to the public. 	<ul style="list-style-type: none"> • Meets the legislative goal by meeting all federal, state and local requirements. • Lake Washington Blvd is a park property, not a city arterial. • Resolves Arboretum traffic.
Meet FHWA 4f requirements to avoid parks and open space, unless there is no other alternative.		
Promote trail connections to adjacent parks.	<ul style="list-style-type: none"> • Continuous greenbelt from Arboretum to Portage Bay with improved trail connections to University of Washington, McCurdy Park and Roanoke Park. • Good path connections. 	
Connect the parks to create a greenbelt.		

Option K: Parks		
Identified Community Interests*	How Option K Meets Community Interests	Comments
Protect the woody plant population impacted by air pollution.		
Preserve Marsh Island, Foster Island and Duck Bay.	<ul style="list-style-type: none"> Creates additional green area with Foster Island Berm. 	<ul style="list-style-type: none"> Additional green space enhances adjoining islands as a nature preserve.
Preserve the Arboretum's role as an urban oasis, new gardens and entry, and tranquility.	<ul style="list-style-type: none"> Preserve the Arboretum as an educational facility. 	
Minimize the amount of traffic passing through the Arboretum.	<ul style="list-style-type: none"> Option to restrict turning movements at Boyer and Interlocken into northern half of Arboretum. Look again at ramps to and from 24th to the south, and maybe include them as a definite feature of Option K. Minimize traffic increases. Preferably, the volume of motor vehicle traffic through the Arboretum should be reduced. 	<ul style="list-style-type: none"> FHWA - HF impacts in McCurdy Park and Arboretum.
Create a northern gateway to the Arboretum.	<ul style="list-style-type: none"> Gateway elements exist today. 	

Option K: University of Washington Campus		
Identified Community Interests*	How Option K Meets Community Interests	Comments
Improve the campus.	<ul style="list-style-type: none"> Enhances pedestrian and cyclist access. Compliments Rainier Vista concepts of University of Washington 	<ul style="list-style-type: none"> Reduces Pacific Street and Montlake Boulevard congestion. Works best with Rainier Vista concepts of University of Washington.
Accommodate future growth.	<ul style="list-style-type: none"> Improve transit service and facilities in the vicinity of the Montlake Multimodal Hub. 	<ul style="list-style-type: none"> Retain future building opportunities on E-11/E-12 lots Replace parking from E-11/E-12 displaced by construction
Improve mobility for people and goods.	<ul style="list-style-type: none"> Retain pedestrian access to Husky Stadium from new replacement parking facilities in E-11/E-12 Provides safe above ground walkways over Montlake Boulevard and easy walking to waterfront activities without crossing at stoplights. 	<ul style="list-style-type: none"> Lower Pacific Place at Rainier Vista to improve pedestrian movements and accommodate transit layover Provide direct access from Pacific Street Extension to parking replaced in E-11/E-12 lots
Protect all view sheds, particularly the Rainer Vista view.	<ul style="list-style-type: none"> Sunken roadways of Option K works to do this. 	<ul style="list-style-type: none"> Depress and lid the Montlake Boulevard and Pacific Street intersection to accommodate unencumbered, at-grade pedestrian crossings Lower Pacific Place at Rainier Vista to improve pedestrian

Option K: University of Washington Campus		
Identified Community Interests*	How Option K Meets Community Interests	Comments
		movements and accommodate transit layover
Preserve the campus' role in the neighborhood for open space, park space and access to waterfront activities.		<ul style="list-style-type: none"> • Waterfront activities and historic buildings impacted. • Relocate the Waterfront Activities Center, moorage docks and Climbing Rock • Depress and lid the Montlake Boulevard and Pacific Street intersection to accommodate at-grade pedestrian crossings
Protect the short-term and future mission and the interests of the University, its students and its employees.	<ul style="list-style-type: none"> • Examine strategies for working with University of Washington to increase parking for SOV trips made by staff and faculty. • The replacement property should be identified and acquisition should be underway before construction commences. 	<ul style="list-style-type: none"> • Encourage the University to charge more for parking for staff and faculty. • Property taken from the University of Washington shall be replaced in kind, and to the extent practicable, in the same vicinity and of equal usefulness for educational purpose. • Implement an effective program of dust control and airborne particles around the University Hospital. • Noise and vibrations should be controlled so that equipment, vehicles and construction

Option K: University of Washington Campus

Identified Community Interests*	How Option K Meets Community Interests	Comments
		activities do not affect delicate surgeries, diagnostic equipment or other hospital operations.

Option K: Boating Opportunities		
Identified Community Interests*	How Option K Meets Community Interests	Comments
Preserve existing vessel and floating home moorages.	<ul style="list-style-type: none"> • The Portage Bay Viaduct remains within the state right of way. This preserves irreplaceable moorage. • This alignment provides space for opening day. • Stormwater containment preserves water quality. • A tunnel under the cut allows for no change in boat traffic. • Montlake congestion is reduced, allowing better access to the neighborhood's residences and businesses. 	
Protect regional boating recreational activities.	<ul style="list-style-type: none"> • Heights give good access with Option K. 	
Protect access to the waterfront and adequate depth and height for boat passage.	<ul style="list-style-type: none"> • Support columns should be located to accommodate recreational navigation. Canoe and kayak access to the Arboretum from the University of Washington Waterfront Activities Center should be maintained. 	

Option K: Boating Opportunities		
Identified Community Interests*	How Option K Meets Community Interests	Comments
Protect the navigable waterways.		
Improve vehicle, bicycle and pedestrian access to boating facilities and activities.	<ul style="list-style-type: none"> • There is an alternate route to the tunnel that allows for the routing of freight two ways. • Provides two ways to get to the Shelby Hamlin area. 	

Option K: Schedule and Costs		
Identified Community Interests*	How Option K Meets Community Interests	Comments
Complete the project in a timely schedule.		
Consider timing to avoid or minimize environmental impacts - ex. Sample in/out migration and spawning patterns.		
Develop a cost-effective solution that truly solves the problems.		
Maximize the use of the mitigation budget by early acquisition of mitigation sites.		
Control expenses.		
Develop a solution the state can fund.		
Develop a project financial plan based on realistic estimates of implementing tolls before, during and after construction.		

Option K: Bicycle and Pedestrian		
Identified Community Interests*	How Option K Meets Community Interests	Comments
Provide bicycle and pedestrian access and connectivity with the least environmentally damaging increase in wetland fill.	<ul style="list-style-type: none"> • Works to provide bicycle traffic solution. Less congestion. Better access to Arboretum. Much safer solution. • Provides grade separated crossing at Montlake Boulevard for pedestrians and cyclists. 	<ul style="list-style-type: none"> • Depress and lid the Montlake Boulevard and Pacific Street intersection to accommodate unencumbered, at-grade pedestrian crossings • Agree it finally adds bike and pedestrian paths promised since 1978!
Consider the bicycle and pedestrian system locally and regionally.	<ul style="list-style-type: none"> • Improved bicycle/pedestrian safety, convenience and connectivity along SR 520, and access to Foster Island, to the Arboretum, through the Montlake neighborhood, to the Burke-Gilman trail, to University of Washington and the light-rail station, across the corridor from North to south, through Montlake, North Capitol Hill, Roanoke Park, and to Eastlake over I-5. 	<ul style="list-style-type: none"> • Provide bicycle parking displaced by removal of the Montlake Transit Flyer Stop
Create a safe and more inviting environmental for pedestrians and bicycles on 520 and surrounding areas and connections with the trail system.	<ul style="list-style-type: none"> • Better than it is today. Safer and more visually pleasing. • Grade separated crossing of Pacific Street and Montlake Boulevard intersection, 	<ul style="list-style-type: none"> • The Arboretum waterfront trail should be retained; and, if affected, those parts affected should be replaced. • Lower Pacific Place at Rainier

Option K: Bicycle and Pedestrian		
Identified Community Interests*	How Option K Meets Community Interests	Comments
	connecting Montlake Multimodal Hub, UW Light Rail Station, and University of Washington Campus.	Vista to improve pedestrian movements and accommodate transit layover

Option K: Regional and Statewide System

Identified Community Interests*	How Option K Meets Community Interests	Comments
Consider the regional system as a whole for connectivity (transit bicycles, pedestrians, etc.) and the implications one solution has on other parts of the system (ex. I-90 and SR 520).		
Integrate with the regional freight system.		<ul style="list-style-type: none"> • Provides two ways for trucks to access SR 520.
Promote regional vitality and competitiveness.		<ul style="list-style-type: none"> • Creates better mobility, which will allow for regional growth. Key employment centers can grow – has more predictable travel time for employees travelling along this corridor.
Enhance the connection between employment centers, areas of vitality and homes.		

Option K: Construction Effects		
Identified Community Interests*	How Option K Meets Community Interests	Comments
Minimize construction impacts, temporary roads, construction staging sites, piers/pilings, docks, barges, etc.	<ul style="list-style-type: none"> • We need more information on construction impacts. • This is a problem in all options except retrofit. • On Lake Washington Boulevard and on the Arboretum. 	<ul style="list-style-type: none"> • Explore barging versus trucking for soil removed because of neighborhood noise and congestion impacts - not purely costs. • Minimize dust and noise impacts on the UW Medical Center during construction • Indemnify University of Washington for potential structural damage to Husky Stadium due to tunneling and/or trenching • Indemnify University of Washington for potential structural damage to historic Canoe House
Maintain access to and from neighborhoods.		<ul style="list-style-type: none"> • Provide for additional event management staff during construction

Appendix 10.1: Option A, K, and L Community Interest Tables

Option L: Design		
Identified Community Interests*	How Option L Meets Community Interests	Comments
Minimize the scale and project footprint	<ul style="list-style-type: none"> • Reduces the footprint of the Portage Bay Viaduct. • Creates a pleasing Portage Bay Bridge and improves views. 	
Create an aesthetically pleasing people-oriented design and respectful of its context – historic urban fabric in an iconic natural landscape.	<ul style="list-style-type: none"> • Provides walking and cycling connectivity east-west along SR 520 corridor and from Washington Park Arboretum to University of Washington. 	
Create something to be proud of.	<ul style="list-style-type: none"> • 	
Utilize good urban design.	<ul style="list-style-type: none"> • Single point urban interchange (SPUI): full-access interchange. 	
Consider future generations.	<ul style="list-style-type: none"> • Consider adding HOV bypass lanes to bridge to ensure transit travel speed and reliability in the future. 	
Create a sustainable solution.		
Utilize corridor travel demand efficiency tools, including tolling	<ul style="list-style-type: none"> • Ramp metering provided along SR 520 corridor. Tolling provided per State decision. • Efficient single point urban interchange (SPUI) provided for traffic existing SR 520 north to University of Washington and 	

Option L: Design		
Identified Community Interests*	How Option L Meets Community Interests	Comments
	south to access Lake Washington Boulevard.	
Look beyond the pavement and the corridor.		
Include the needs of the region in 50-100 years.	<ul style="list-style-type: none"> • Provide for increased mobility to and through the area. 	
Protect communities, the Washington Park Arboretum and the University of Washington campus with context sensitive corridor designs.	<ul style="list-style-type: none"> • Protect rare species. • Places emphasis on University of Washington Campus and Hospital, making the area people and transit (LRT) friendly by providing green space over the Montlake Boulevard and Pacific St intersection. 	

Option L: Neighborhood and Environmental Interests

Identified Community Interests*	How Option L Meets Community Interests	Comments
Avoid, minimize, or mitigate environmental impacts – air, water, land, and animal	<ul style="list-style-type: none"> • For the Washington Park Arboretum, keep the stream and ground water flow intact. • Avoid harm, or, if unavoidable, limit its extent; first-class wetlands should be protected. • Design options such as SPUI and additional capacity north-south on the Montlake Cut bridge may relieve congestion and reduce greenhouse gases. 	
Offset indirect and cumulative environmental impacts.		
Reduce pollution from idling vehicles.	<ul style="list-style-type: none"> • Provides faster transit connection from the Eastside with I-5/SR 520 HOV connection. 	
Enhance the environment – air, water, carbon (green house gas), and biodiversity – through baseline and outcome audits.	<ul style="list-style-type: none"> • Move traffic efficiently with good signal timing and efficient highway design. 	
Protect the wetlands from direct, indirect		

Option L: Neighborhood and Environmental Interests

Identified Community Interests*	How Option L Meets Community Interests	Comments
and cumulative impacts.		
Protect Endangered Species Act (ESA) species.		
Protect salmon in and out migration and spawning areas.		
Understand implications for ESA - avoid and minimize and mitigate.		
Protect wildlife.		
Protect the health of the Union Bay and Lake Washington.		
Reduce stormwater pollution from vehicles using the corridor.		
Narrow the footprint as much as possible.		
Minimize noise from the corridor.	<ul style="list-style-type: none"> • Provide measures that reduce road noise in the corridor. 	<ul style="list-style-type: none"> • Follow Acoustics ERP recommendations.
Minimize negative visual impacts to the surrounding scenic and recreational areas and neighborhoods.	<ul style="list-style-type: none"> • Provide low profile mainline roadway. • Use of Olmsteadian design to draw design features together to 	<ul style="list-style-type: none"> • Add planting boxes to outer elevated roadway to soften the structural impacts of the bridge.

Option L: Neighborhood and Environmental Interests

Identified Community Interests*	How Option L Meets Community Interests	Comments
	reduce contrast of new construction.	
Protect the scenic views from the corridor.		
Protect or enhance parking opportunities.		
Be consistent with the State Growth Management Act, adjacent cities' relevant adopted plans and policies and the PSRC 2020 vision.	<ul style="list-style-type: none"> • Improves traffic flow through the area. 	
Serve neighborhoods effectively – transportation, design and impact mitigation.		
Reduce local street congestion related to the bridge.		
Maintain current access points for neighborhoods.		
Maintain and enhance local environment and communities.	<ul style="list-style-type: none"> • Stormwater containment preserves water quality. • 	

Option L: Neighborhood and Environmental Interests

Identified Community Interests*	How Option L Meets Community Interests	Comments
Decrease use of local roads as on-ramps.		
Decrease potential for additional traffic on local arterials as an alternative to the bridge.		
Reconnect neighborhoods separated by SR 520.		
Minimize lighting impacts.	<ul style="list-style-type: none"> • Install same Olmstead-type lighting on Montlake, Roanoke and I-5 lids. 	
Produce a solution that balances all needs of each interest group.	<ul style="list-style-type: none"> • Incorporates comments from local interest groups. 	
Ensure consistency with guidance from the legislature.		
Develop a solution that meets all local, state and federal regulatory requirements.		
Blend community vitality with regional responsibility.		
Integrate with other existing projects and plans.	<ul style="list-style-type: none"> • Improves local and regional bus access to University of Washington and the light-rail 	

Option L: Neighborhood and Environmental Interests

Identified Community Interests*	How Option L Meets Community Interests	Comments
	station there.	
Protect existing agreements/solutions (ex. Eastside).		

Option L: Transit and Transportation		
Identified Community Interests*	How Option L Meets Community Interests	Comments
Provide convenient access to transit and high occupancy vehicle options to reduce single occupancy trips.	<ul style="list-style-type: none"> • Improve transit service and facilities in the vicinity of the Montlake Multimodal Hub. 	
Optimize the multi-modal transit system.	<ul style="list-style-type: none"> • Improve transit service and facilities in the vicinity of the Montlake Multimodal Hub. 	
Provide transit connectivity, access and ease of movement.		<ul style="list-style-type: none"> • Lower Pacific Place at Rainier Vista to improve pedestrian movements and accommodate transit layover • Depress and lid the Montlake Boulevard and Pacific Street intersection to accommodate unencumbered, at-grade pedestrian crossings
Integrate local and regional transit service.	<ul style="list-style-type: none"> • Improve transit service and facilities in the vicinity of the Montlake Multimodal Hub. 	
Provide fast, reliable, predictable and well integrated local and regional transit.		
Provide easy, convenient and accessible transfers – bus to bus, bus to rail.	<ul style="list-style-type: none"> • Improve transit service and facilities in the vicinity of the Montlake Multimodal Hub. 	

Option L: Transit and Transportation

Identified Community Interests*	How Option L Meets Community Interests	Comments
Improve accessibility for people and goods – locally and regionally.		<ul style="list-style-type: none"> • Signalize driveway at Montlake Boulevard/Wahkiakum Lane (access to Montlake Parking lot)
Provide integrated multimodal connections – locally and regionally.	<ul style="list-style-type: none"> • Improve transit service and facilities in the vicinity of the Montlake Multimodal Hub. 	<ul style="list-style-type: none"> • Lower Pacific Place at Rainier Vista to improve pedestrian movements and accommodate transit layover • Provide bicycle parking displaced by removal of the Montlake Flyer Stop
Ensure a safe infrastructure that works.	<ul style="list-style-type: none"> • Retain emergency access to the University of Washington Medical Center from Pacific Street 	
Reduce traffic congestion.	<ul style="list-style-type: none"> • Do not degrade operations on Montlake Boulevard between Pacific Street and Wahkiakum Lane 	<ul style="list-style-type: none"> • Provide two-lane on-ramp with auxiliary lane to westbound SR 520
Minimize long-term unavoidable effects.		
Reduce vehicle miles traveled.		

Option L: Parks		
Identified Community Interests*	How Option L Meets Community Interests	Comments
Protect the park system, green belt and open spaces.	<ul style="list-style-type: none"> • Reconnects Foster Island. • Provides improved, safe walking and cycling connections and park areas in the corridor. 	
Meet FHWA 4f requirements to avoid parks and open space, unless there is no other alternative.		
Promote trail connections to adjacent parks.	<ul style="list-style-type: none"> • Trail connectivity north-south between University of Washington and Washington Park Arboretum areas as well as east-west along SR 520 corridor including across Lake Washington. 	
Connect the parks to create a greenbelt.	<ul style="list-style-type: none"> • Improves trail connectivity. • Continuous greenbelt from Washington Park Arboretum to Portage Bay with improved trail connections to University of Washington, McCurdy Park and Roanoke Park. 	
Protect the woody plant population impacted by air population.		
Preserve Marsh Island, Foster Island and		

Option L: Parks		
Identified Community Interests*	How Option L Meets Community Interests	Comments
Duck Bay.		
Preserve the Washington Park Arboretum's role as an urban oasis, new gardens and entry, and tranquility.	<ul style="list-style-type: none"> • Preserve the Washington Park Arboretum as an educational facility. 	
Minimize the amount of traffic passing through the Washington Park Arboretum.		
Create a northern gateway to the Washington Park Arboretum.		

Option L: University of Washington Campus		
Identified Community Interests*	How Option L Meets Community Interests	Comments
Improve the campus.	<ul style="list-style-type: none"> Enhances walking and cycling connections. 	
Accommodate future growth.	<ul style="list-style-type: none"> Improve transit service and facilities in the vicinity of the Montlake Multimodal Hub. 	
Improve mobility for people and goods.	<ul style="list-style-type: none"> Retain pedestrian access to Husky Stadium from new replacement parking facilities in E-11/E-12. 	
Protect all view sheds, particularly the Rainer Vista view.		
Preserve the campus' role in the neighborhood for open space, park space and access to waterfront activities.		
Protect the short-term and future mission and the interests of the University, its students and its employees.		<ul style="list-style-type: none"> Evaluate property impacts at Husky Stadium Parking area. Identify mitigation to address impacts.

Option L: Boating Opportunities		
Identified Community Interests*	How Option L Meets Community Interests	Comments
Preserve existing vessel and floating home moorages.	<ul style="list-style-type: none"> The Portage Bay Viaduct remains within the state right of way. This preserves irreplaceable moorage. 	
Protect regional boating recreational activities.	<ul style="list-style-type: none"> Roadway profile permits access to park by canoe/kayak. 	
Protect access to the waterfront and adequate depth and height for boat passage.	<ul style="list-style-type: none"> Support columns should be located to accommodate recreational navigation. Canoe and kayak access to the Washington Park Arboretum from the University of Washington Waterfront Activities Center should be maintained. 	
Protect the navigable waterways.		
Improve vehicle, bicycle and pedestrian access to bating facilities and activities.		

Option L: Schedule and Costs		
Identified Community Interests*	How Option L Meets Community Interests	Comments
Complete the project in a timely schedule.		
Consider timing to avoid or minimize environmental impacts - ex. Sample in/out migration and spawning patterns.		
Develop a cost-effective solution that truly solves the problems.		
Maximize the use of the mitigation budget by early acquisition of mitigation sites.		
Control expenses.		
Develop a solution the state can fund.		
Develop a project financial plan based on realistic estimates of implementing tolls before, during and after construction.		

Option L: Bicycle and Pedestrian		
Identified Community Interests*	How Option L Meets Community Interests	Comments
Provide bicycle and pedestrian access and connectivity with the least environmentally damaging increase in wetland fill.	<ul style="list-style-type: none"> Works to provide walking and bicycle trail connections that reduce impact on wetlands. Examine porous surface alternatives. 	
Consider the bicycle and pedestrian system locally and regionally.	<ul style="list-style-type: none"> Improved bicycle/pedestrian safety, convenience and connectivity along SR 520, and access to Foster Island, to the Washington Park Arboretum, through the Montlake neighborhood, to the Burke-Gilman trail, to the University of Washington and the light-rail station, across the corridor from North to south, through Montlake, North Capitol Hill, Roanoke Park, and to Eastlake over I-5. 	
Create a safe and more inviting environment for pedestrians and bicycles on 520 and surrounding areas and connections with the trail system.	<ul style="list-style-type: none"> Provides safe off-street connections in the corridor and beyond. 	

Option L: Regional and Statewide System

Identified Community Interests*	How Option L Meets Community Interests	Comments
Consider the regional system as a whole for connectivity (transit bicycles, pedestrians, etc.) and the implications one solution has on other parts of the system (ex. I-90 and SR 520).		
Integrate with the regional freight system.		
Promote regional vitality and competitiveness.		
Enhance the connection between employment centers, areas of vitality and homes.		

Option L: Construction Effects		
Identified Community Interests*	How Option L Meets Community Interests	Comments
Minimize construction impacts, temporary roads, construction staging sites, piers/pilings, docks, barges, etc.	<ul style="list-style-type: none"> We need more information on construction impacts. 	
Maintain access to and from neighborhoods.		

Appendix 10.2: Mediation Chronology

Appendix 10.2: Mediation Chronology

Date/Event	Highlight/Action
September 11, 2007	
Mediation Meeting - 1	<ul style="list-style-type: none"> ○ Identified interests ○ Produced Operating Protocols ○ Selected an independent reviewer for tubes and tunnels
October 16, 2007	
Mediation Meeting – 2	<ul style="list-style-type: none"> ○ Presented (DOT) key points of data developed through DEIS process up till the present ○ Presented (community members) other work done to date – <ul style="list-style-type: none"> • Communities Forming Agreements on 520 • City of Seattle, City Council Resolutions ○ Presented (Sound Transit, Metro, and DOT) an update on the High Capacity Transit Plan ○ Introduced the independent reviewer for tubes and tunnels: COWI, Casper Paludan-Müller & Poul Marnus Nielsen ○ Discussed the Health Impact Study process ○ Discussed participants’ data needs to develop and select an design option
November 9, 2007	
Oversight Committee Meetings - 1	<p>Key Messages: The mediation will design a six lane (4+2) facility. Design of six lanes means six; “accommodate” does not mean a design for additional structure beyond six lanes.</p> <p>The Oversight Committee needs to see these elements in any solution offered by the mediation group:</p> <ul style="list-style-type: none"> - Fiscally constrained; - On schedule for 2012 construction (in particular, tunnel feasibility analysis must not create a delay); - Include transit on the day a new facility opens, linked to the University of Washington light-rail station; - Use existing financial and other data whenever possible; - Mitigation responds to impacts (not a competition between jurisdictions); and - Include travel demand management strategies.

Date/Event	Highlight/Action
November 20, 2007	
Mediation Meeting - 3	<ul style="list-style-type: none"> ○ Presented key messages from the Oversight Committee meeting ○ Presented (COWI) the independent reviewer’s draft report: Tubes across the lake are feasible but not recommended; fatal flaws with tunnel I5/Roanoke section (grades are too steep and inability to make connections) ○ Developed a list of design options, including: <ul style="list-style-type: none"> A. Redesign the draft EIS Montlake design option to address Seattle City Council resolution elements and DEIS comments B. Redesign the draft EIS Pacific Street design option in the draft EIS to address Seattle City Council resolution elements and DEIS comments Ci. Tunnel from the floating bridge to I-5 with no access points in Seattle (see COWI presentation for example) <ul style="list-style-type: none"> a. Separate two-lane bus tunnel from the floating bridge to the light rail station; remains 50 feet below grade b. Reconfigure I-5 to remove the weave – all entrances/exit on the right side c. Use reclaimed viaduct land for a trail and park Cii. Tunnel from the floating bridge to I-5 with distributed access points D. Retrofit the current four-lane bridge with a separate two-lane tunnel for transit to the light rail station (separate structure across the lake and then a tunnel from the floating bridge, same as Ci) <ul style="list-style-type: none"> a. Extend the on ramp at Montlake, eastbound, to create a collector lane that merges traffic onto 520 after the Washington Park Arboretum; remove the eastern arboretum on ramp and create a new on ramp at the arboretum closest to the current off ramp that moves traffic into the collector lane b. Retrofit <ul style="list-style-type: none"> i. jacket columns and fill with cement ii. Secure the draw span (close) to remove the weak point iii. Remove jersey barriers and concrete sidewalks to lighten the bridge to create wider lanes and allow the floating bridge to ride higher in the water c. Cantilever a bicycle/pedestrian lane d. Add aluminum barriers

Date/Event	Highlight/Action
	<ul style="list-style-type: none"> e. Phased – phase I retrofit; phase II bus tunnel E. A submerged exit/entrance just west of the floating bridge under Union Bay that surfaces at Pacific Street F. Second Montlake Cut bridge – design should emulate and reflect, but not copy historic bridge <ul style="list-style-type: none"> a. T intersection for buses exiting 520 with a separate turn lane b. Signal timing prioritized for buses c. Extend the turn lanes for buses from Montlake onto Pacific d. Designate lanes for bus and through traffic e. Remove ramps in the Washington Park Arboretum f. Raise the roadway over Foster Island for access beneath g. Lid at Montlake, used partially to create turn pockets G. Tunnel and Viaduct – tunnel from the floating bridge under the Washington Park Arboretum with a viaduct through Portage Bay <ul style="list-style-type: none"> a. Interchange – TBD b. Viaduct – apply Seattle City Council resolution elements to design c. Access ramp from Madison Street H. Similar to DEIS design option with a refined single-point interchange northeast of Washington Park Arboretum (interchange with two levels – through traffic below, access traffic above with one signal) with a bridge to Pacific street and Lake Washington Boulevard
November 20 - December 18, 2007	
Between Meeting work	WSDOT engineers developed the concepts/options into drawings with similar level of detail
December 18, 2007	
Mediation Meeting – 4	<ul style="list-style-type: none"> o Presented (Transit Agencies) their vision and operational considerations o Discussed options A – G o Introduced/Discussed new options <ul style="list-style-type: none"> I. Retrofit with revised alignment and tunnel to the north of the Washington Park Arboretum with a people mover below ground from flyer stop to University of Washington and a second Montlake Bridge J. Interchange between DEIS options A and B, with a short tunnel, spur to Lake Washington Boulevard with an intersection

Date/Event	Highlight/Action
	<p style="text-align: center;">under the mainline, with no Washington Park Arboretum ramps</p> <p>Agreements:</p> <ul style="list-style-type: none"> • Remove C (full tunnel) options – too challenging to build (cost and impacts) • Remove E option (C with bus tunnel to University of Washington) - too challenging to build (cost and impacts)
January 15, 2008	
Mediation Meeting – 5	<ul style="list-style-type: none"> ○ Discussed/Evaluated/Refined Options G, D, J, A <p>Agreements:</p> <ul style="list-style-type: none"> • Set aside option D and reconsider if the agreed upon design costs are too much.
January 15 – February 18, 2008	
Between meeting work	<i>Members contacted constituency to get feed back on Options A – J (excluding C & D since they are off the table)</i>
February 18, 2008	
Oversight Committee Meeting – 2	<p>Key Messages:</p> <ul style="list-style-type: none"> - Thank you for your hard work to date and keep working - Move forward to design and build a six-lane facility on the west side - four general purpose lanes and two joint use HOV/bus transit lanes - Provide options to go forward in the EIS by April 1st - Provide efficient and effective bus linkages to University of Washington light rail station - No more than \$3.9 billion budget
February 19, 2008	
Mediation Meeting – 6	<ul style="list-style-type: none"> ○ Update on Oversight Committee meeting ○ Discussed/Evaluated/Refined Options G, J, K ○ Introduced new options • K. Tunnel in Washington Park Arboretum & East Montlake Interchange with Tunnel Pacific Street <ul style="list-style-type: none"> a. East Washington Park Arboretum - Floating bridge no higher than existing with quiet pavement b. Washington Park Arboretum - Tunnel through Washington Park Arboretum (a long tunnel or short berm) c. Montlake – move intersection east of Montlake, under the main line; tunnel (same as J1) under the Montlake Cut and comes up to an intersection at Pacific d. Portage Bay - a narrow, innovative design on the current alignment e. Roanoke – a lid adjacent to the Roanoke Park, one off ramp lane, remove free right turn on Harvard; fly over for direct access into express lanes; lid in front of Seward School

Date/Event	Highlight/Action
	<ul style="list-style-type: none"> • K w/ Bridge (sub-option w/ bridge, to be named L on March 20th). Option K with a bridge across the cut instead of a tunnel <p>Agreement:</p> <ul style="list-style-type: none"> • Options A, K and K w/ bridge move forward for further refinement at the March meeting
March 18 & 20, 2008	
<p>Mediation Meeting – 7</p>	<ul style="list-style-type: none"> ○ Refined options A, K and ‘newly named’ L by roadway sections (I5/Roanoke/Portage Bay, Montlake, and east of Montlake/Washington Park Arboretum) <p>Agreements:</p> <ul style="list-style-type: none"> • A, K, and L will move forward in DEIS • Work in smaller sub-groups to make final revisions to A, K and L
April 21, 2008	
<p>Oversight Committee Meeting – 3</p>	<p>Key Messages:</p> <ul style="list-style-type: none"> - The mediation will design a six lane (4+2) facility. Design of six lanes means six; “accommodate” does not mean a design for additional structure beyond six lanes. - The Oversight Committee needs to see these elements in any solution offered by the mediation group: <ul style="list-style-type: none"> ○ Fiscally constrained; ○ On schedule for 2012 construction (in particular, tunnel feasibility analysis must not create a delay); ○ Include transit on the day a new facility opens, linked to the Mountlake Multimodal Station; ○ Use existing financial and other data whenever possible; ○ Mitigation responds to impacts (not a competition between jurisdictions); and ○ Include travel demand management strategies.

Appendix 10.3 Potential TDM Measures

Regional: Preliminary Transportation Demand Management Strategies

For a TDM/TSM program to be effective in reducing the amount of single occupant vehicle trips on the SR 520 corridor, the following programs must be developed to equally affect the following areas, which represent the primary origin and destination locations for trips that use the SR 520 corridor:

- Downtown Seattle
- University District
- Kirkland/Totem Lake
- Downtown and Northwest Bellevue
- Northwest Seattle
- East Central Seattle
- Redmond/Overlake

Element	Existing Activities	Minor TDM	Moderate TDM	Maximum TDM
Level of Effectiveness		<ul style="list-style-type: none"> Minor investments to expand existing demand management efforts impacting the corridor 	<ul style="list-style-type: none"> Additional effort with moderate cost 	<ul style="list-style-type: none"> Comprehensive TDM program including strategies with high cost or significant policy changes
Tolling		<ul style="list-style-type: none"> Implement toll program on the SR 520 bridge to generate revenue for repayment of bonds for construction and ongoing O&M costs Allow HOV and transit to operate free of toll 	<ul style="list-style-type: none"> Implement toll program on the SR 520 bridge to manage traffic Variable toll responsive to system congestion Charge all vehicles; provide discounted tolls to transit and registered HOVs 	<ul style="list-style-type: none"> Toll all vehicles crossing SR 520 and I-90 to manage traffic Variable toll responsive to system congestion Include pricing of local streets into sensitive areas
Growth and Transportation Efficiency Center (GTEC): Serves as a base organizational structure and delivery mechanism for implementing some of the other Demand Management strategies by working with small employers, colleges/universities, and residents (in addition to major employers already in the CTR program)	Seattle, Bellevue, Redmond/Overlake GTEC programs funded through June 2009. Kirkland is voluntary (no state funds).	<ul style="list-style-type: none"> Continued funding for Seattle, Bellevue, and Redmond/Overlake. Provide state funding for Kirkland 	<ul style="list-style-type: none"> New GTECs established in University District, Capitol Hill, First Hill, South Lake Union, Downtown Redmond, Bothell/Canyon Park, Woodinville, Northgate 	<ul style="list-style-type: none"> Implement new GTECs in areas designated as activity centers by local jurisdictions (beyond designated Urban and Manufacturing centers) i.e. Crossroads, downtown Kirkland, University Village / Childrens Hospital
Parking Management	<p>Employer incentive programs to reduce parking and /or eliminate parking subsidies to employees</p> <p>City of Seattle's Center City Access Plan And Center City Parking Plan</p> <p>University of Washington Parking Program</p> <p>Major Institutional Building Ordinance</p>	<ul style="list-style-type: none"> Shared-use leased parking program focused on residential-based parking facilities (grocery stores, malls, churches, etc.), with the goal to provide more spaces for carpools and vanpools to form Guidance on land use changes focused on eliminating parking minimums and establishing parking maximums (CTED) Technical support to CTR employers in the corridor directed at reducing employer provided subsidies for parking 	<ul style="list-style-type: none"> State financial incentives for GTECs to tax commuter parking Provide information to commuters on parking availability (Parking ITS) Incentives and information to move vanpoolers out of transit (P&R) lots Flexible carpooling investment focused on two primary routes (formalized casual carpool lines to improve the efficiency of P&R lots as rideshare facilitators) 	<ul style="list-style-type: none"> Strong financial incentives for GTECs to change parking policies with a focus on expanding short term and eliminating long-term parking (similar to the parking plan developed for the Moving Forward mitigation of AWV.) State funding will only be made available for GTECs that have made changes to their parking policies designed to achieve the economic development and transportation goals <ul style="list-style-type: none"> ○ Mandates for cities with GTECs to make specific parking changes ○ Tax parking Equipping all P&Rs serving the corridor with Parking ITS Charge for SOV parking at P&R
Parking Supply	<p>P&R lots that are already funded for construction</p> <p>Identify co-location opportunities</p>	<ul style="list-style-type: none"> Expansion of the KC Metro leased P&R lot program Market underused P&R lots 	<ul style="list-style-type: none"> Expand existing lots where transit service available Procurement of land in advancement of P&R construction Incentives to jurisdictions and developers to limit parking supply at new developments 	<ul style="list-style-type: none"> Expand P&Rs where transit service is available Construction of new P&Rs with transit service Require reduction in parking ratios in new developments

Regional: Preliminary Transportation Demand Management Strategies

Element	Existing Activities	Minor TDM	Moderate TDM	Maximum TDM
Encourage Travel Alternatives	CTR/GTEC InMotion ORCA/Smart Card* RSO	<ul style="list-style-type: none"> Community-based marketing Improve trip planning and information availability for transit Ongoing incentives and marketing through RideshareOnline.com Broad promotion, project information with pushes to change mode Real-time ridematching services through RSO 	<ul style="list-style-type: none"> Increase incentives and marketing through RideshareOnline.com Targeted promotions delivered directly to home, employer networks, local partners. Coordinate Ridesharing incentives with tolling Provide resources so that each GTEC has a one-stop shopping commuter information "store" 	<ul style="list-style-type: none"> Covered bike parking, bike lockers, bike shops, other bike/ped amenities at all transit facilities Enhanced incentives and marketing through Rideshareonline Targeted marketing on everyone who uses 520 bridge four or more times per week Regional focus with target on project
Land Use	Growth Management Act	<ul style="list-style-type: none"> Establish GTEC funding criteria that creates incentives for HOV supportive land use decisions Guidance for local government and developers on land use issues including transit and pedestrian friendly design, height limits, density, mixed use etc. Provide bonuses for developments exceeding the standards 	<ul style="list-style-type: none"> Require bus passes for new development Incentives for transit and pedestrian friendly, height limits, density, mixed use etc. standards and provide bonuses for development 	<ul style="list-style-type: none"> Require bus passes for all employers (existing) development Regional/state regulation for transit and pedestrian friendly, height limits, density, mixed use etc. standards and provide bonuses for development Address parking minimums through code Place cap on parking maximums
Employer Based Strategies	CTR/GTEC RTRIP Transportation Management Plans University of Washington UPASS	<ul style="list-style-type: none"> Add resources to the very successful Redmond RTRIP program Launch an expansive telework & CWW education program focused on employers in the SR 520 travel shed. Implement telework findings from Kitsap telework demonstration project to support telework campaign 	<ul style="list-style-type: none"> Provide additional resources for jurisdictions to implement strategies identified in their 2007 CTR plans Expand the focus of the Redmond GTEC so that all employers located within the GTEC boundaries participate in the program Expand the RTRIP program model o all GTECs in the corridor Establish telework centers in the corridor's travel shed based on CTR/GTEC data identifying teleworkers and home zip code 	<ul style="list-style-type: none"> Expand support for CTR services by establishing building-based CTR programs where the total employment at the building exceeds 100 employees Provide financial incentives for employees who use alternative mode
Market for VMT reduction	Mileage based auto insurance TRPP	<ul style="list-style-type: none"> Additional incentives for individuals to participate in mileage-based insurance 	<ul style="list-style-type: none"> Develop a program to pay entrepreneurs for reductions in vehicle trips in the corridor. The program design would be based on WSDOT's TRPP program. 	<ul style="list-style-type: none"> Policy changes to tax VMT
Educational Awareness and Policy Support	Carsharing (Zipcar)	<ul style="list-style-type: none"> Put Zipcars in all PSRC centers and transit centers. Subsidize the use to meet minimal fare recovery rates 	<ul style="list-style-type: none"> Same as minimum but outside the centers in second priority locations Require parking garages to provide Carshare spaces in GTECs 	<ul style="list-style-type: none"> Convene leadership forums in each GTEC, with government, transit and business partners to set goal, discuss policy changes, and provide support Place all-electric fleet of Zipcars in all neighborhoods and activity centers (est 1000-2000 vehicles).
Data Collection and Performance Measurement	Surveys of commuters to CTR sites and within GTECs every two years captures origin/destination, mode split, distance to work, and other data	<ul style="list-style-type: none"> Increase survey frequency and add additional questions to capture additional data Implement additional data collection methods to capture effectiveness of other 520 TDM strategies 	<ul style="list-style-type: none"> Provide staff/organizational support for detailed analysis of data and coordination of service and policy improvements to meet commuters needs 	<ul style="list-style-type: none"> Invest in real-time data collection and telematics for transit, vanpools

Appendix 10.4: Annotated Bibliography

Appendix 10.4: Annotated Bibliography

SR 520 Corridor Program Legislative Reports

Tunnels at East Montlake and the Arboretum, Conceptual Design and Cost Estimate, Part 1

Keystone Center - March 2008

This report describes the investigation carried out for the tunnel components of "Proposal K". The proposal assumes an interchange connection from SR 520, just east of Montlake, to the University of Washington area routed in tunnel under the navigation channel east of Montlake Cut. It further includes a tunnel for SR 520 along the Washington Park Arboretum. The report analyzes various construction methods, cost estimates and impact mitigation methods associated with constructing a tunnel under the Montlake Cut.

Tunnels Expert Review Panel Report

WSDOT – July 2008

Upon completion of the *Tunnels at East Montlake and the Arboretum, Conceptual Design and Cost Estimate, Part 1*, the mediation panel requested for consideration other tunneling options that would reduce environmental effects and consider tribal fishing rights. This report responds to that request. The panel analyzed three methods for tunneling under the Montlake Cut: sequential excavation method (SEM), bored tunnel, and immersed tunnel. The panel found that the SEM and immersed tunnel methods are considered capable of being successfully constructed in this location, while the bored tunnel method is considered not feasible.

Noise Reduction Strategies – Expert Review Panel

WSDOT – December 2008

In September 2008, the WSDOT convened an expert review panel to determine the most viable solutions for reducing noise along the SR 520 corridor. The panel developed recommendations that focused on noise-reduction strategies that could be considered by the WSDOT for the SR 520 Corridor Program. Some key components of these strategies included: quieter pavements, roadway design, noise barriers, modeling, perception, operation and finance, and studded tires affecting acoustical (and other measures of) durability of pavements. The panel determined that no one noise-reducing component would work by itself and that the best solution will be a system of components that are designed to work together.

SR 520 Health Impact Assessment

Puget Sound Clean Air Agency and Public Health – Seattle & King County – September 2008

The SR 520 health impact assessment is a tool to help the mediation group and decision makers recognize the relationship between health and transportation systems. The SR 520 HIA report provides general information about the HIA tool, explains how the SR 520

project can affect health and what measures can be taken to help promote healthy communities. The report is organized into four main categories: design features; landscaped lids and green spaces; transit, bicycling and walking; and, the construction period.

SR 520 High Capacity Transit Plan

WSDOT, King County Metro, Sound Transit and the University of Washington –
Expected December 2008

The SR 520 Final High Capacity Transit (HCT) Plan outlines a strategy for bringing high capacity transit service to the SR 520 Corridor. The report defines a phased program for bus rapid transit that responds to projected increases in transit demand on the SR 520 corridor, expands existing demand for transit, builds on speed and reliability benefits from new HOV lanes on SR 520, and builds ridership needed for future HCT improvements in the corridor.