- Variable toll rates depending on the time of day and whether trips are taken on a weekday or a weekend
- A peak toll rate of $3.81 (year 2007 dollars) for all vehicle types for the bridge crossing, with exemptions for transit and HOVs with three or more riders

These assumptions are used as a basis for comparison among the design options. Actual toll rates and how the tolls would be applied will be determined by the legislature (based on recommendations from the Transportation Commission) after the final project financing plan is developed. Since the traffic modeling assumptions were applied consistently across the alternatives, they show the relative performance of each in comparison to No Build. See Chapter 1 for a discussion about what legislation has been passed to authorize tolling.

All vehicles with one or two occupants would be charged a toll to cross the Evergreen Point Bridge. Users who are required to pay the toll would have transponders, or "cards," that would be read by an electronic card reader. Transponders allow drivers to pay tolls without stopping at a toll booth. Two types of transponders could be used: transponders that would attach permanently to a vehicle's windshield and portable transponders that could be transferred among multiple vehicles. Drivers who do not purchase a transponder would have their license plates photographed as they crossed the tolling point, and bills would be sent by mail to the address at which the vehicle is registered.

2.6 How does the Preferred Alternative compare with SDEIS options A, K, and L?

The greatest physical differences between the Preferred Alternative and the SDEIS design options are in the location and lid configuration of the interchange in the Montlake area (see Exhibit 2-2) and in the profile of the west approach. The Preferred Alternative and the SDEIS options can be summarized as follows:

- The Preferred Alternative is similar to today's configuration in terms of its geometry, although wider. It maintains the existing location of the Montlake interchange but changes the westbound off-ramp so that it connects to 24th Avenue East first, followed by a connection to Montlake Boulevard. It adds a new bascule bridge over the Montlake Cut, parallel to the existing Montlake Bridge. It includes a 1,400-foot continuous lid over Montlake Boulevard with landscaping, ramps, transit facilities, and pathways, and provides near-term transit enhancements along with the ability to accommodate potential future light rail on SR 520.
- Option A was also similar to a widened version of today's configuration. It maintained the existing location of the Montlake

DEFINITION

Bascule Bridge

A bascule bridge is a drawbridge with a counterweight that balances the movable span throughout its upward swing. The bridge provides clearance for boat traffic. All existing bridges on the Lake Washington Ship Canal, except for the I-5 and Aurora bridges, are bascule bridges.

interchange and added a new bascule bridge over the Montlake Cut, parallel to the existing Montlake Bridge. It included a partial landscaped lid over Montlake Boulevard.

- Option K included a new single-point urban interchange about a half mile east of the existing Montlake interchange. The new interchange ramps would pass below the SR 520 roadway, with the northern leg of the interchange crossing beneath the Montlake Cut in a tunnel.
- Option L also included a SPUI with a similar alignment to that in Option K. However, instead of being beneath the SR 520 main line, the interchange ramps would rise above it. The northern leg of the interchange would cross the Montlake Cut on a new bascule bridge.

The Preferred Alternative, like the SDEIS options, places an emphasis on multimodal transportation by decreasing reliance on single-occupant vehicle travel, facilitating transit connections, and improving the overall flow of SR 520 traffic compared to No Build. Like the SDEIS options, the Preferred Alternative includes lids and landscaped features, stormwater treatment, and a regional bicycle/pedestrian path—although the specific details of those features differ. The key differences between the Preferred Alternative and the SDEIS options are in the larger size of the Montlake lid, the increased emphasis on transit access and reliability in the Montlake interchange vicinity, the proposed noise reduction measures, and the fact that access to and from Lake Washington Boulevard would be via 24th Avenue East instead of separate Lake Washington Boulevard ramps. Table 2-5 compares the Preferred Alternative to the SDEIS options by geographic area.

Table 2-5. Preferred Alternative Compared to SDEIS Options

Geographic Area	Preferred Alternative	Comparison to SDEIS Options A, K, and L
I-5/Roanoke Area	The SR 520 and I-5 interchange ramps would be reconstructed with generally the same ramp configuration as the ramps for the existing interchange. A new reversible transit/HOV ramp would connect with the I-5 express lanes.	Similar to all options presented in the SDEIS. Instead of a lid over I-5 at Roanoke Street, the Preferred Alternative would include an enhanced bicycle/pedestrian path adjacent to the existing Roanoke Street Bridge.
Portage Bay Area	The Portage Bay Bridge would be replaced with a wider and, in some locations, higher structure with six travel lanes and a 14-foot-wide westbound managed shoulder.	Similar in width to Options K and L, similar in operation to Option A. Shoulders are narrower than described in SDEIS (2-foot-wide inside shoulders, 8-foot-wide outside shoulder on eastbound lanes), posted speed would be reduced to 45 mph, and median plantings would be provided to create a boulevard-like design.
Montlake Area	The Montlake interchange would remain in a similar location as today. A new bascule bridge would be constructed over the Montlake Cut. A 1,400-foot-long lid would be constructed between Montlake Boulevard and the Lake Washington shoreline, and would include direct-access ramps to and from the Eastside. Access would be provided to Lake Washington Boulevard via a new intersection at 24th Avenue East.	Interchange location similar to Option A. Lid would be approximately 75 feet longer than previously described for Option A, and would be a complete lid over top of the SR 520 main line, which would require ventilation and other fire, life, and safety systems. Transit connections would be provided on the lid to facilitate access between neighborhoods and the Eastside. Montlake Boulevard would be restriped for two general-purpose lanes and one HOV lane in each direction between SR 520 and the Montlake Cut.

Table 2-5. Preferred Alternative Compared to SDEIS Options

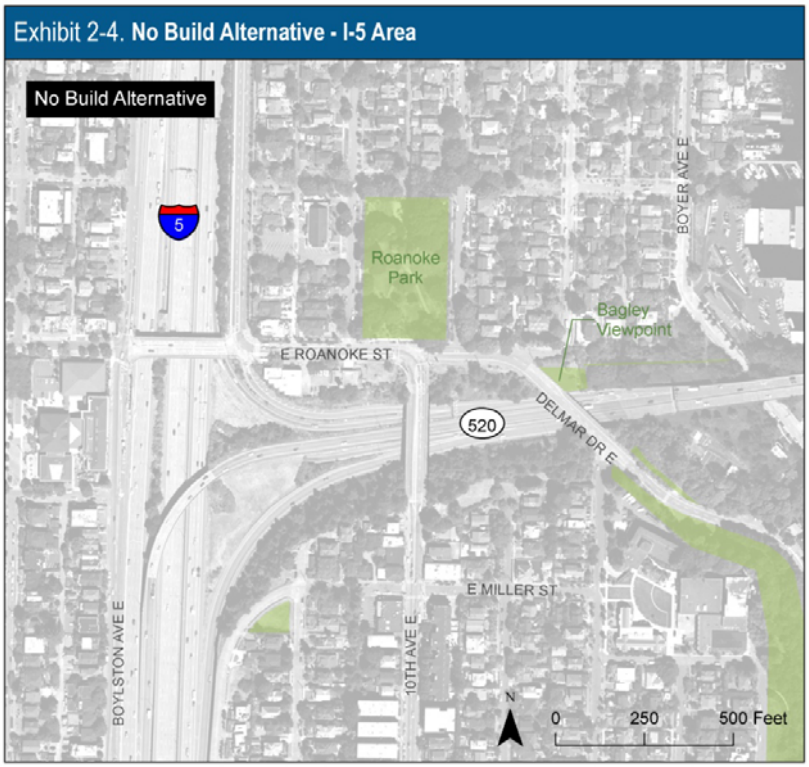
Geographic Area	Preferred Alternative	Comparison to SDEIS Options A, K, and L
West Approach Area	The west approach bridge would be replaced with wider and higher structures, maintaining a constant profile rising from the shoreline at Montlake out to the west transition span. Bridge structures would be compatible with potential future light rail through the corridor.	Bridge profile similar to and higher than Option L; structure types similar to Options A and L. The gap between the eastbound and westbound structures would be wider than previously described to accommodate light rail in the future.
Floating Bridge Area	A new floating span would be located approximately 190 feet north of the existing bridge at the west end and 160 feet north of the existing bridge at the east end. The floating bridge would be approximately 20 feet above the water surface (about 10 to 12 feet higher than the existing bridge deck).	Similar to design described in the SDEIS. The profile of the bridge would be approximately 10 feet lower than described in the SDEIS, and most of the roadway deck support would be constructed of steel trusses instead of concrete columns.
Eastside Transition Area	A new east approach to the floating bridge, and a new SR 520 roadway would be constructed between the floating bridge and Evergreen Point Road.	Same as described in the SDEIS.

The following sections describe the Preferred Alternative in comparison to the SDEIS design options. The discussion is organized by geographic area. Where there are substantial differences among the options, they are discussed under separate subheadings.

I-5 Area

The existing SR 520 and I-15 interchange configuration is shown in Exhibit 2-4. Under the Preferred Alternative and all SDEIS design options, the SR 520 and I-5 interchange ramps would be reconstructed in generally the same configuration.

Exhibit 2-4. **No Build Alternative - I-5 Area**



The only exception would be that a new reversible HOV ramp would connect to the existing I-5 reversible express lanes south of SR 520 (Exhibit 2-5).

The northbound I-5 to eastbound SR 520 ramp would be two lanes that merge to one lane prior to connecting to eastbound SR 520 (same as today).

The new reversible HOV ramp would connect the SR 520 center HOV lanes with the I-5 reversible express lanes south of SR 520. During the a.m. hours, the ramp would be used by westbound SR 520 traffic to southbound I-5; during the p.m. hours the ramp would be used by northbound I-5 traffic to eastbound SR 520 (Exhibit 2-6).

The new reversible HOV ramp would act as an add lane to southbound I-5 during the a.m. hours, expanding the express lanes from three to four lanes in this location; during the p.m. hours, the ramp would act as a drop lane from the I-5 express lanes reducing the express lanes from four to three through lanes in the immediate vicinity of the I-5/SR 520 interchange. This configuration would maintain sufficient throughput across the Ship Canal Bridge to serve the expected traffic volumes.

Local Roadway Overcrossings

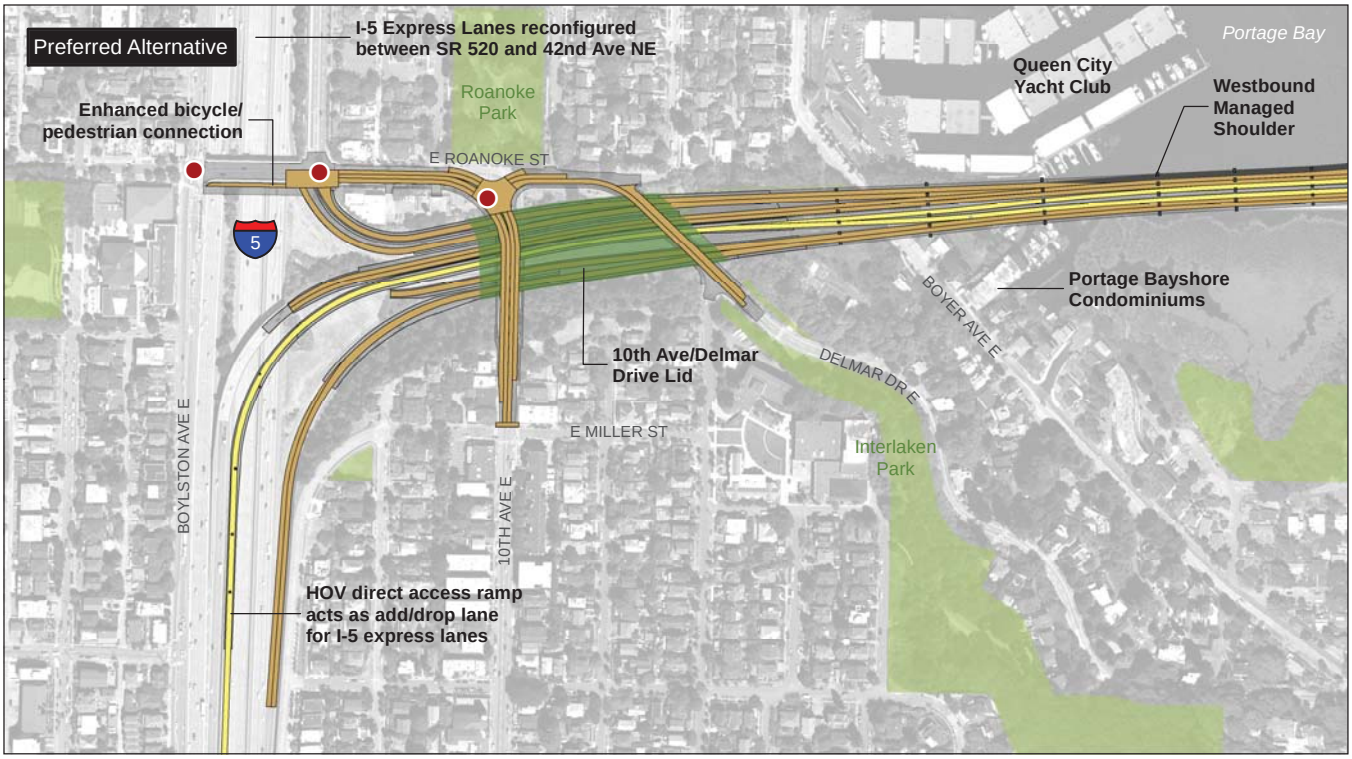
Under the Preferred Alternative, two local roadway undercrossings (10th Avenue East and Delmar Drive East) would be rebuilt as part of the lid structure. Under Options A, K, and L, the East Roanoke Street crossing of I-5 would also have been rebuilt as part of a lid structure. As described below and shown on Exhibit 2-5, the lane configuration would change slightly from the existing layout (see Exhibit 2-4).

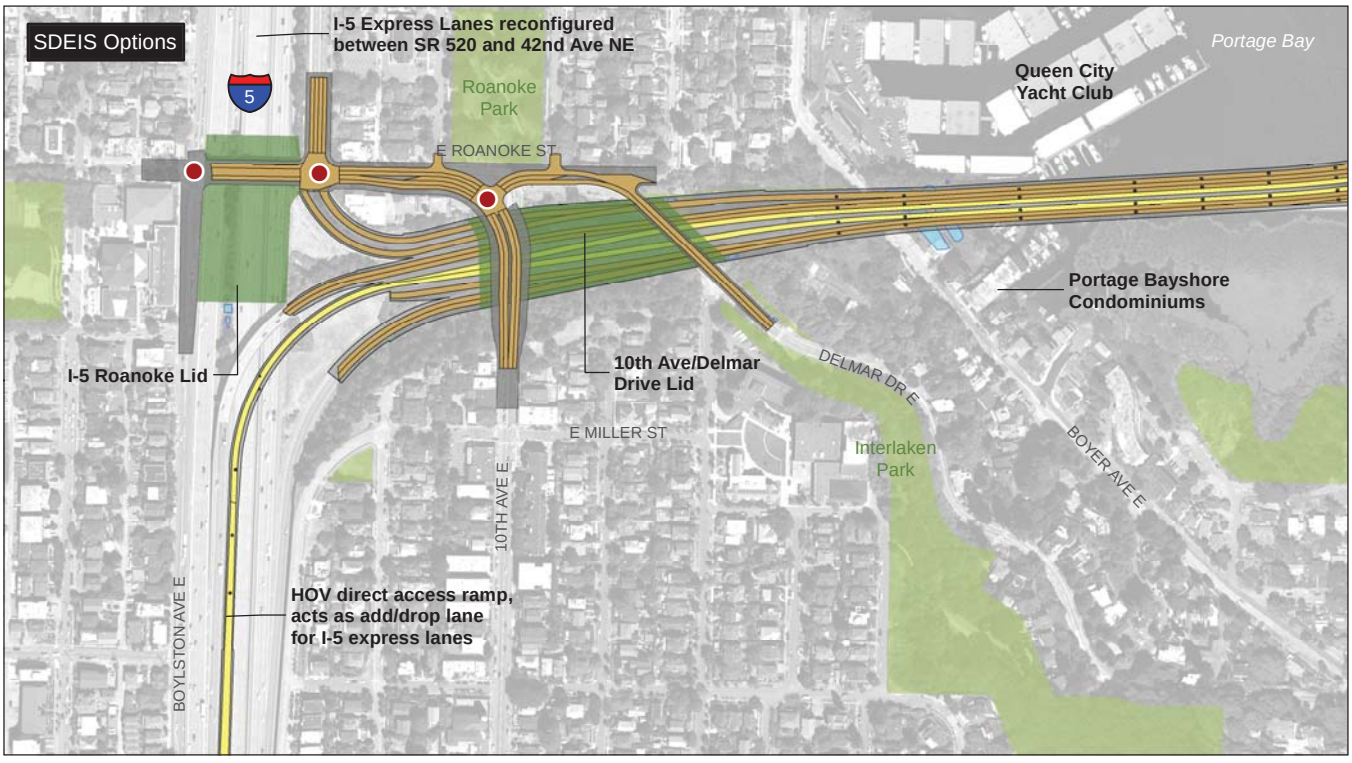
10th Avenue East/Delmar Drive East Lid

The 10th Avenue East and Delmar Drive East lid would span SR 520 between these two streets, each of which currently crosses on its own overpass. The lid would function as a vehicle and pedestrian crossing, a landscaped area, and open space. A curvilinear walkway across the lid would connect the two streets. The lid would be 500 to 600 feet long (because of the angled lid edge) and would reconnect neighborhoods on both sides of the SR 520 corridor by providing walkways and open spaces above the SR 520 roadway. The top of the lid would meet 10th Avenue East and Delmar Drive East at the level of the roadway. The surface of the lid would slope from the high point in the southwest corner at 10th Avenue East to the northeast corner at Bagley Viewpoint.

The East Roanoke/10th Avenue East/Delmar Drive East intersection would be realigned. The turning radius would be increased so that the East Roanoke Street/10th Avenue East traffic movement would become the through movement, rather than East Roanoke Street/Delmar Drive, as it is today.

Exhibit 2-5. I-5 Area (Preferred Alternative and Options A, K, and L)





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

N

0 125 250 500 Feet

Exhibit 2-6. **Preferred Alternative I-5 Area**

I-5/Roanoke Street Lid

Under Options A, K, and L, the I-5/Roanoke Street lid would span I-5 between Boylston Street and Harvard Avenue East. This lid was eliminated from the Preferred Alternative due to the constraints it would place on potential future expansion of I-5. Cost savings from eliminating the lid in this location would be applied toward the larger Montlake lid, described later in this section.

Portage Bay Area

The existing bridge layout is shown on Exhibit 2-7. As shown, the bridge currently has two general-purpose lanes in each direction.

Under the Preferred Alternative and all SDEIS options, the Portage Bay Bridge would be replaced with a wider and, at the easternmost half of the bridge, taller structure. It would begin just east of Delmar Drive, cross over Portage Bay, and end west of Montlake Boulevard. At its west end (Exhibits 2-8 and 2-9), the bridge would be wider symmetrically between the Queen City Yacht Club on the north and the Portage Bay Condominiums on the south. At its east end, the bridge would make landfall further to the south than the existing bridge and the SDEIS options, and the additional width would be located to the north.

The adjacent interchange ramps to I-5 and Montlake Boulevard add width near the west and east ends of the bridge as they taper on and off of the highway.

The new Portage Bay Bridge design under the Preferred Alternative would have two general-purpose lanes and an HOV lane in each direction, plus a managed westbound shoulder (see Exhibits 2-8 and 2-9). In response to community interest and public comment on the SDEIS, the width of the

new Portage Bay Bridge at the midpoint has been reduced from 110 feet to 105 feet, and a planted median would separate the eastbound and westbound travel lanes to provide a boulevard feel to this section of the highway. In addition, the speed limit on the Portage Bay Bridge would be lowered to 45 mph.

Exhibit 2-7. **No Build Alternative - Portage Bay**

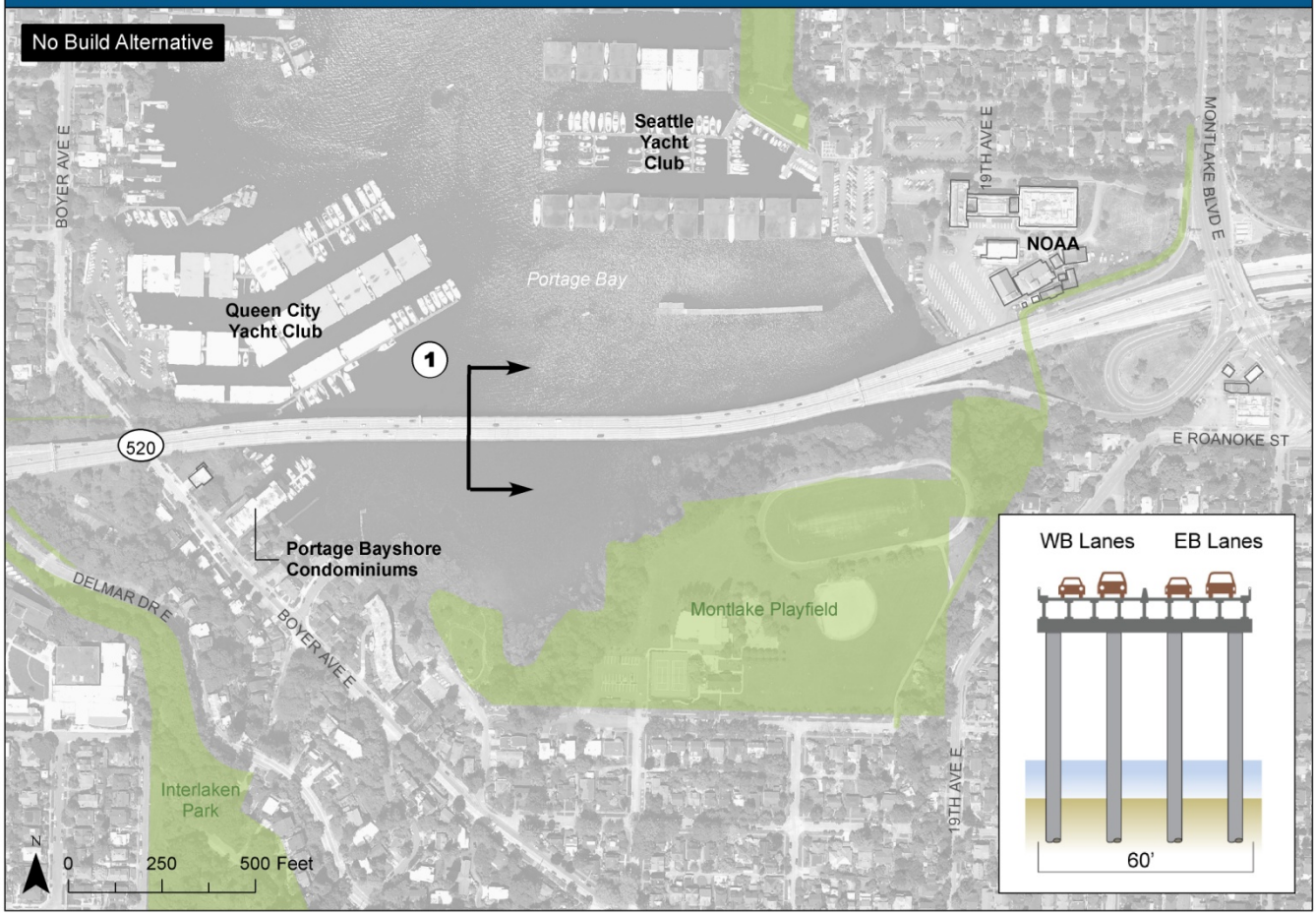


Exhibit 2-8. **Portage Bay Bridge Width Comparison, SDEIS Option A and Preferred Alternative Bridge Designs**

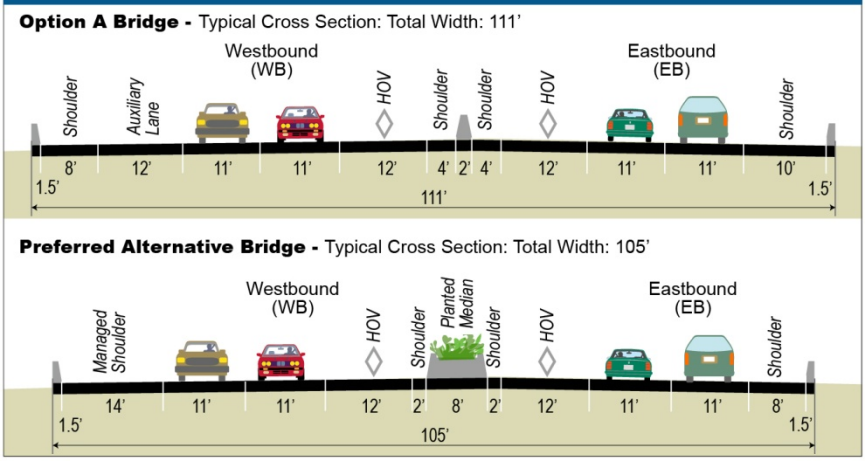
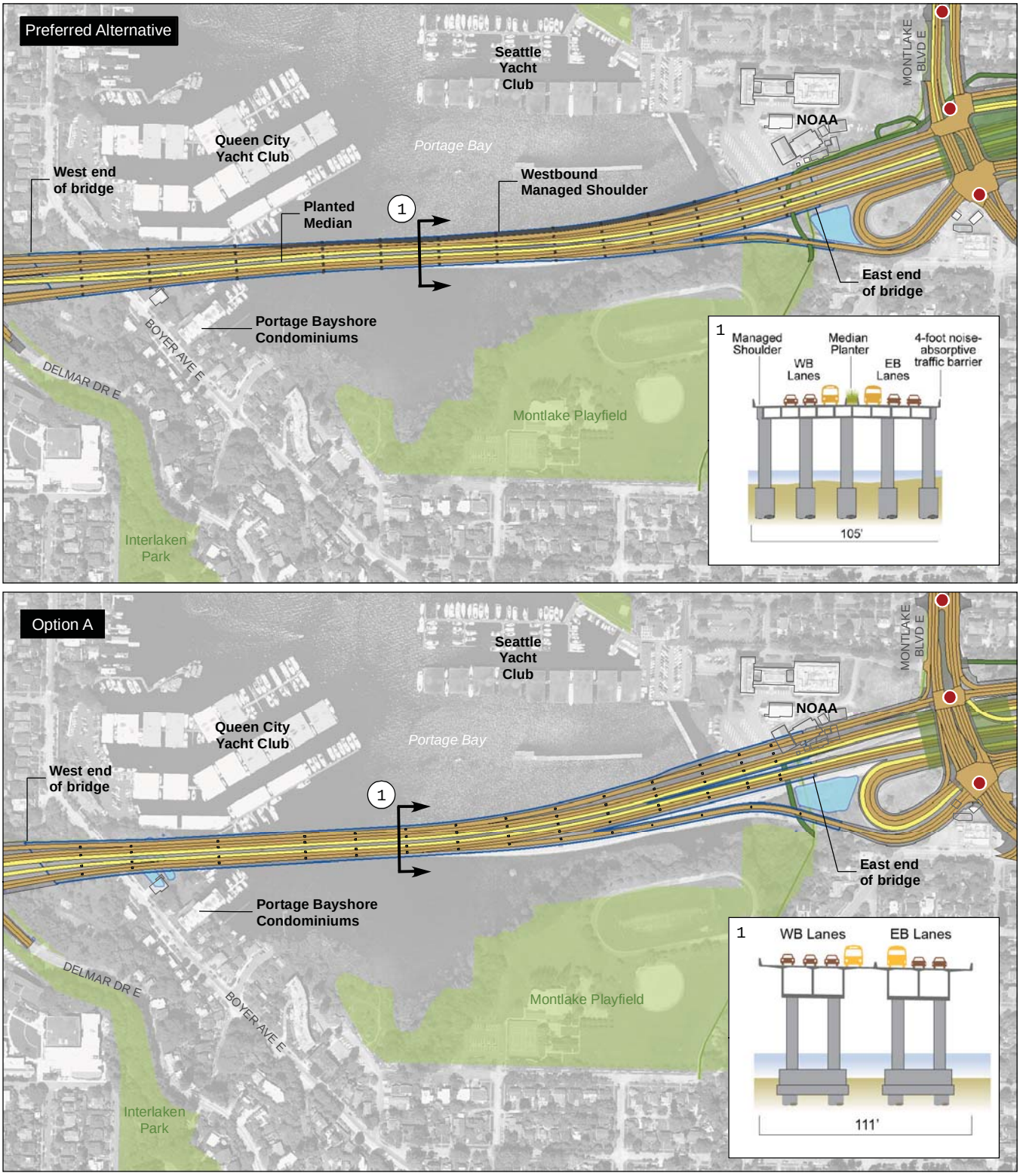
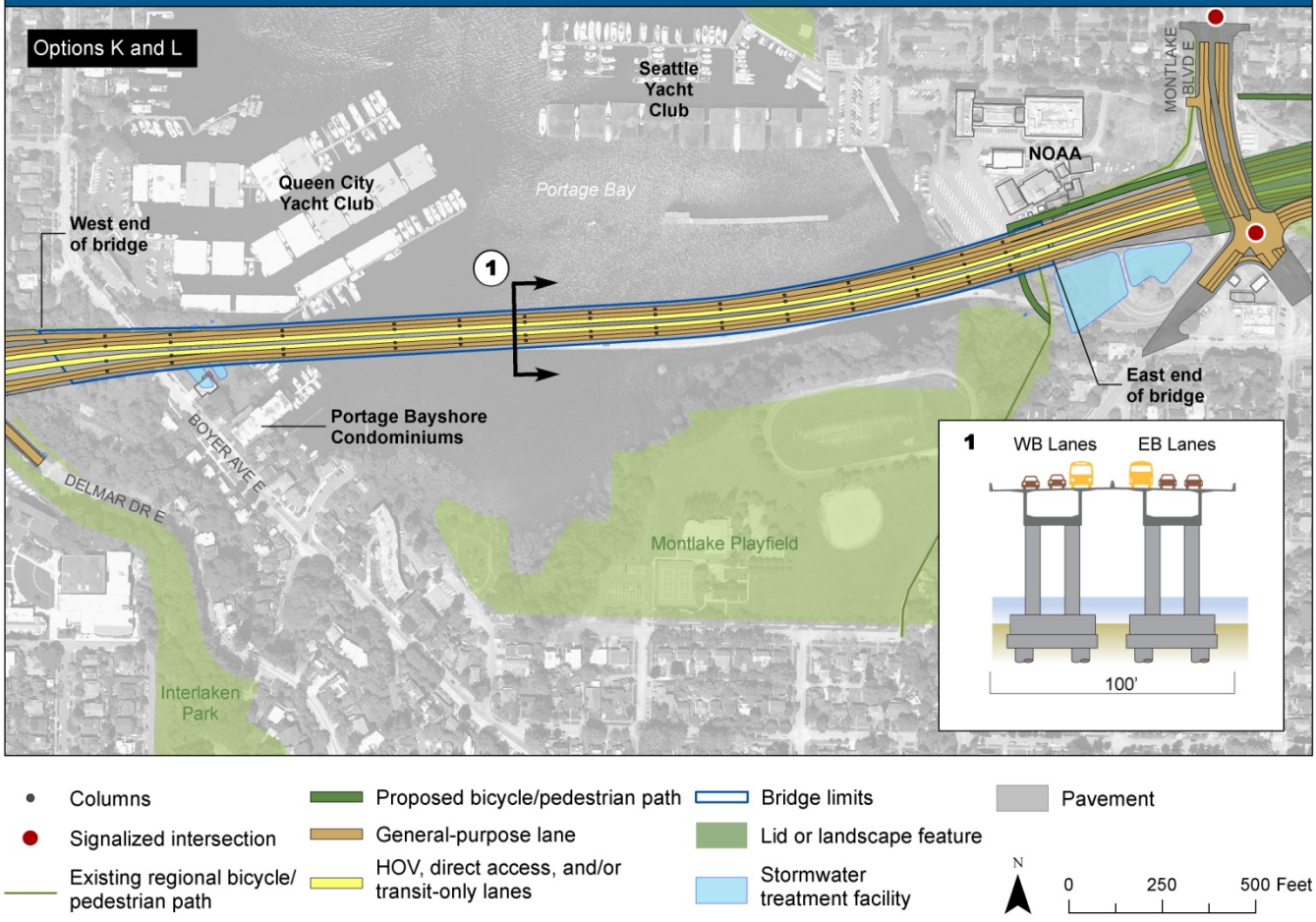


Exhibit 2-9. Portage Bay Area (Preferred Alternative and Option A)



As shown in Exhibit 2-8, the Portage Bay Bridge under Option A included two general-purpose lanes and an HOV lane in each direction, plus a westbound auxiliary lane, making it about 10 feet wider than Options K and L at the midpoint (which did not have the auxiliary lane; Exhibit 2-10). Because there were no on- and off-ramps to Montlake Boulevard with Options K and L, the Portage Bay Bridge was narrower at its eastern end than under the Preferred Alternative or Option A. The design for the Preferred Alternative further reduces the width of the bridge by providing 2-foot-wide inside shoulders and an 8-foot-wide outside shoulder for the eastbound lanes. Table 2-6 compares the existing bridge characteristics with the new bridge proposed under the Preferred Alternative and the SDEIS design options.

Exhibit 2-10. Portage Bay Area (Options K and L)



The height of the western half of the new bridge would match the existing bridge, but the eastern half would be higher. As shown in Exhibit 2-11, the new bridge would be about 15 feet higher than the existing bridge's lowest point near the middle of Portage Bay. The new bridge would be supported by larger but fewer concrete columns than today's bridge (Table 2-6).

Exhibit 2-11. **Portage Bay Profile**

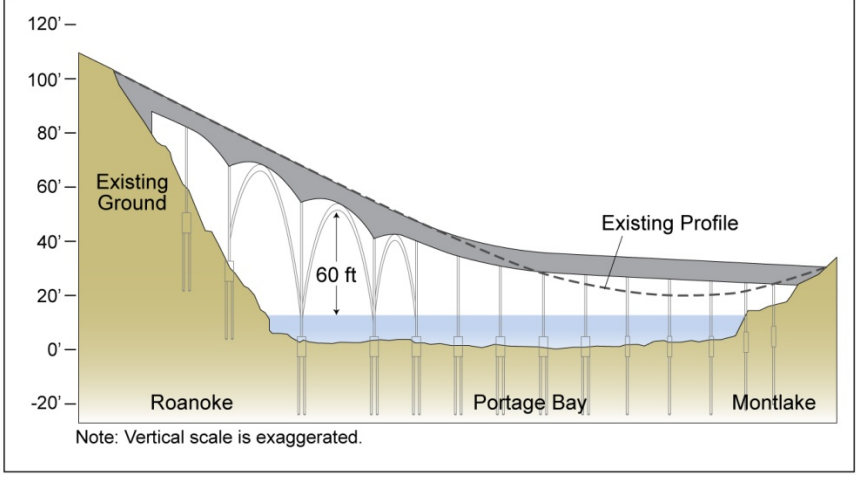


Table 2-6. Comparison of Portage Bay Bridge - Preferred Alternative and Options A, K, and L

	Existing Structure	Preferred Alternative	Option A	Option K	Option L
Width (feet)	63 to 102	105 to 158	111 to 165	100 to 144	100 to 146
Span length (feet)	100	116 to 300	100 to 300	100 to 300	100 to 300
Total number of columns	131	71	72	62	62
Column size (diameter in feet)	4.5	7 to 10	5 to 9	5 to 9	5 to 9
Number of columns in water	89	53	50	40	40

Note: Totals include the additional columns and width from the Montlake eastbound off ramp. Width is shown as a range because ramp and/or shoulder widths on the bridge vary from west to east. Span lengths for the new bridge would also vary, with the shorter spans generally on the east side.

For purposes of the environmental analysis, the Preferred Alternative bridge design is assumed to be constructed as a cast-in-place box girder type with faux arches (i.e., concrete elements made to look like arches, although the bridge would be supported by the girders rather than by the arches). The aesthetic treatment of the bridge under Options A, K, and L was identified as part of the mediation process. For Option A, the mediation group recommended that the bridge type and aesthetic treatment be determined through a design competition. Under Option K, the bridge would have faux arches like those proposed for the Preferred Alternative. For Option L, the bridge type and treatment would be determined later; however, in the SDEIS it was analyzed with faux arches. Final bridge design is yet to be determined and will be selected in cooperation with the Seattle Design Commission and public input.

Montlake Area

As discussed previously, many of the key differences between the Preferred Alternative and the SDEIS design options occur within the Montlake area. This section describes the design of the Preferred Alternative and each of the SDEIS design options in this area. The existing interchange layout is shown on Exhibit 2-12.

Exhibit 2-12. **No Build Alternative - Montlake Area**

Preferred Alternative

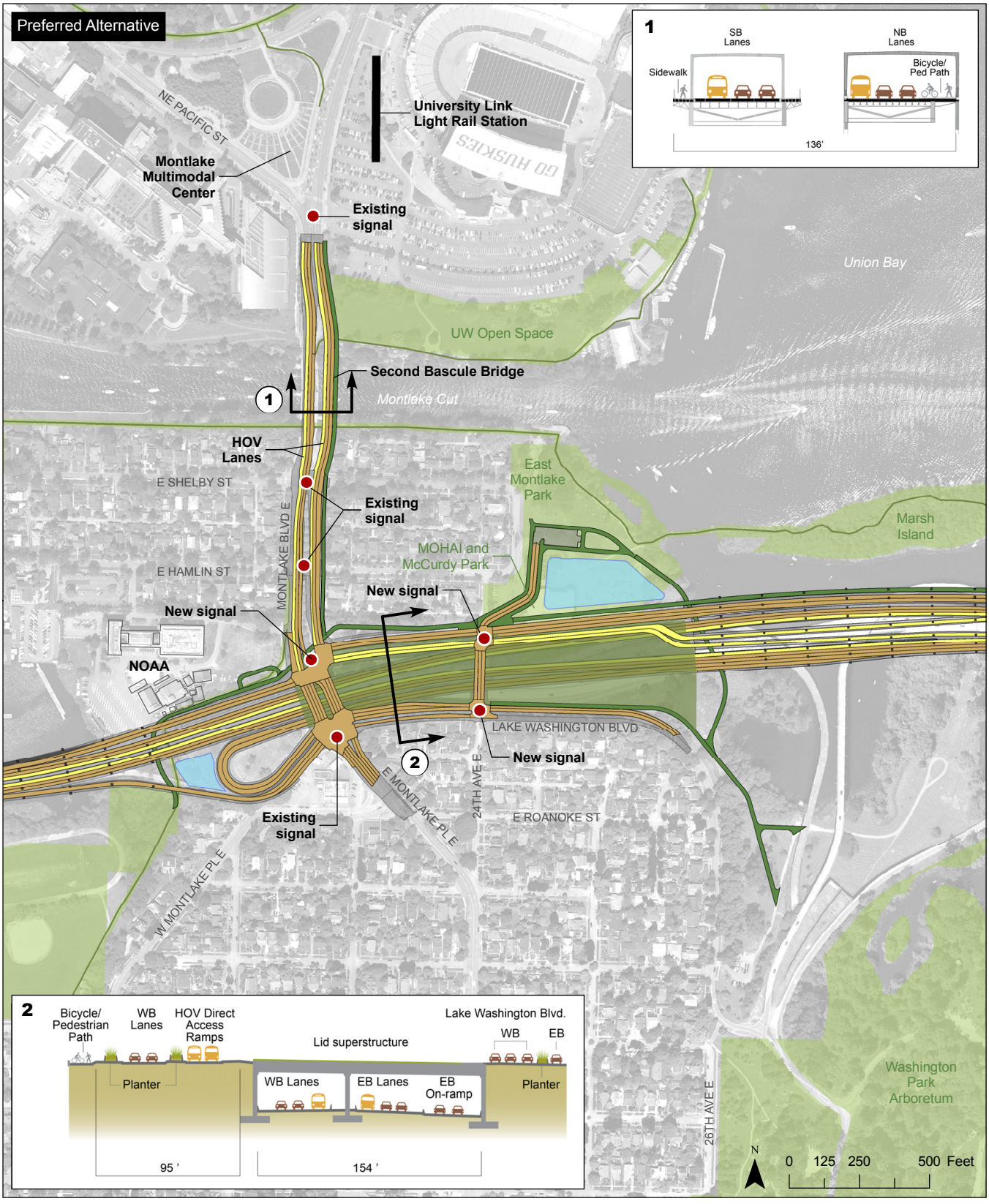
Under the Preferred Alternative, the SR 520 interchange with Montlake Boulevard would be similar to today's interchange, connecting to the University District via Montlake Boulevard and the Montlake bascule bridge (Exhibit 2-13).

The interchange design would include adding new signals at Montlake Boulevard and 24th Avenue East on the westbound ramps, and adding general purpose lanes to the on- and off-ramps. The Montlake Freeway Transit Station on SR 520 would be removed; most transfers that currently take place at the freeway station would occur at the new multimodal transit station at Montlake Boulevard and NE Pacific Street (Exhibit 2-13).

Montlake Freeway Transit Station

Under the Preferred Alternative and all options the Montlake Freeway Transit Station would be removed. Without the Montlake Freeway Transit Station, bus transfers and access in the area would occur at other locations. The effects from these changes are described in Chapter 5, Section 5.1, Transportation.

Exhibit 2-13. **Montlake Area (Preferred Alternative)**



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

New HOV/transit direct access ramps would be provided between SR 520 and Montlake Boulevard, with a signalized intersection at 24th Avenue East. The new lid would be landscaped in a manner consistent with the surrounding historic district and configured for transit and bicycle/pedestrian connectivity.

Montlake Interchange Configuration

Westbound SR 520 traffic exiting to Montlake Boulevard would travel across the northern edge of the large new lid. Access to Lake Washington Boulevard would be provided via a new intersection located on the lid at 24th Avenue East. A transit/HOV direct-access ramp would be provided across the lid from Montlake Boulevard to eastbound SR 520. The proposed lane configuration (shown on Exhibit 2-14) would be as follows:

- The eastbound on-ramp would be a loop ramp with two general-purpose lanes (one more general-purpose lane than today).
- The new eastbound transit/HOV direct-access on-ramp would be one lane from Montlake Boulevard to SR 520, with a signalized crossing at 24th Avenue East.
- The eastbound off-ramp would be one lane that would widen from the mainline to become three lanes at Montlake Boulevard (one more lane than today).
- The westbound off-ramp would be a single lane taper at the mainline, widening to three lanes at 24th Avenue East. At this intersection, one lane would provide left-turn-only access to Lake Washington Boulevard, and the other two lanes would continue on to Montlake Boulevard for right-turn-only movement onto the boulevard.
- The westbound on-ramp would be two lanes (one more lane than today), with one lane merging to the managed shoulder when operating. The on-ramp lanes would merge into one general-purpose lane when the managed shoulder is closed. This ramp would be signalized.
- A new westbound transit/HOV direct-access off-ramp would connect to 24th Avenue East, providing access to Lake Washington Boulevard and to northbound Montlake Boulevard at the SR 520 westbound off-ramp terminus.

Interchange Design

The intersections and ramps in the SR 520/Montlake Boulevard interchange area would be configured to accommodate the expected traffic volumes and to provide acceptable levels of mobility. Transportation modeling and analysis were used to determine the number and type of on- and off-ramps that would be needed and to evaluate how each of the interchange configurations would operate.

The number of lanes at the on- and off-ramps is based on the need to minimize traffic delay and congestion at the signals. On-ramps will be controlled by ramp meters, and thus additional storage would be needed on the ramps to allow for improved traffic flow and reduce the likelihood of local arterial congestion related to ramp meter backups. Off-ramps widen out to include additional lanes at the signal-controlled termini to expedite the flow of traffic onto the arterial system. This is necessary to prevent off-ramp congestion from adversely affecting freeway traffic flow.

Montlake Boulevard and Lid

The alignment of Montlake Boulevard over SR 520 would be similar to today's alignment; however, the bridge over SR 520 would be longer and wider than the existing bridge. A longer and wider bridge would be required to accommodate the additional lanes on SR 520 below Montlake Boulevard and to provide wider through lanes, shoulders, a center median, and additional turning lanes on Montlake Boulevard over SR 520. This bridge would be integrated into the new Montlake lid over SR 520. The 1,400-foot-long lid would extend from west of Montlake Boulevard to east

Exhibit 2-14. **Montlake Interchange (Preferred Alternative)**

of 24th Avenue NE and terminate near the Union Bay shoreline. The length of this structure would require the use of ventilation fans and specialized fire and safety equipment under the lid. The lid would function as a vehicle and pedestrian crossing, a landscaped area, and open space. Conceptual design and treatment for the lid were developed through the Engrossed Substitute Senate Bill 6392 workgroup process and through coordination with the City of Seattle and surrounding neighborhoods.

North of SR 520, Montlake Boulevard would provide three 12-foot-wide through lanes in the northbound direction (two general-purpose lanes and one HOV lane) between the rebuilt interchange and NE Pacific Street. In the southbound direction on Montlake Boulevard, there would be two 11-foot-wide general-purpose lanes, and a 12-foot-wide HOV lane. The southbound lane configuration across SR 520 would include two southbound general-purpose through lanes, a 12-foot-wide right-turn-only lane to eastbound SR 520, and an 11-foot-wide left-turn lane to Lake Washington Boulevard. The northbound lane configuration across SR 520 would include two 11-foot-wide left-turn lanes to westbound SR 520 and two 12-foot-wide general-purpose lanes.

Bascule Bridge

The Preferred Alternative would construct a new bascule bridge parallel to and just east of the existing Montlake Bridge. The two bridges would each operate with three lanes in each direction; the existing bridge would serve southbound traffic, and the new bridge would serve northbound traffic. In

addition to the three travel lanes (two general-purpose and one HOV lane in each direction), each bridge would have a bicycle lane and sidewalks. Traffic signals and additional turn lanes would be provided at the cross-street intersections along Montlake Boulevard. The Montlake Boulevard/NE Pacific Street intersection would operate as it does today. No improvements are planned for the Montlake Boulevard/NE Pacific Street intersection by the SR 520 project, although Sound Transit and the University of Washington are developing transit and pedestrian improvements in this area. Final bridge design is yet to be determined and will be selected in cooperation with DAHP, the Seattle Design Commission and Seattle Landmarks Commission, and with public input.

Option A

Under Option A, the SR 520 interchange with Montlake Boulevard was similar to today's interchange, connecting to the University District via Montlake Boulevard and the Montlake bascule bridge. The new interchange design included adding a new signal at the westbound ramps and adding lanes to the on- and off-ramps. The Montlake Freeway Transit Station on SR 520 would be removed, and a westbound SR 520 bus-only off-ramp would be provided to Montlake Boulevard as a fifth leg to the westbound ramp terminus.

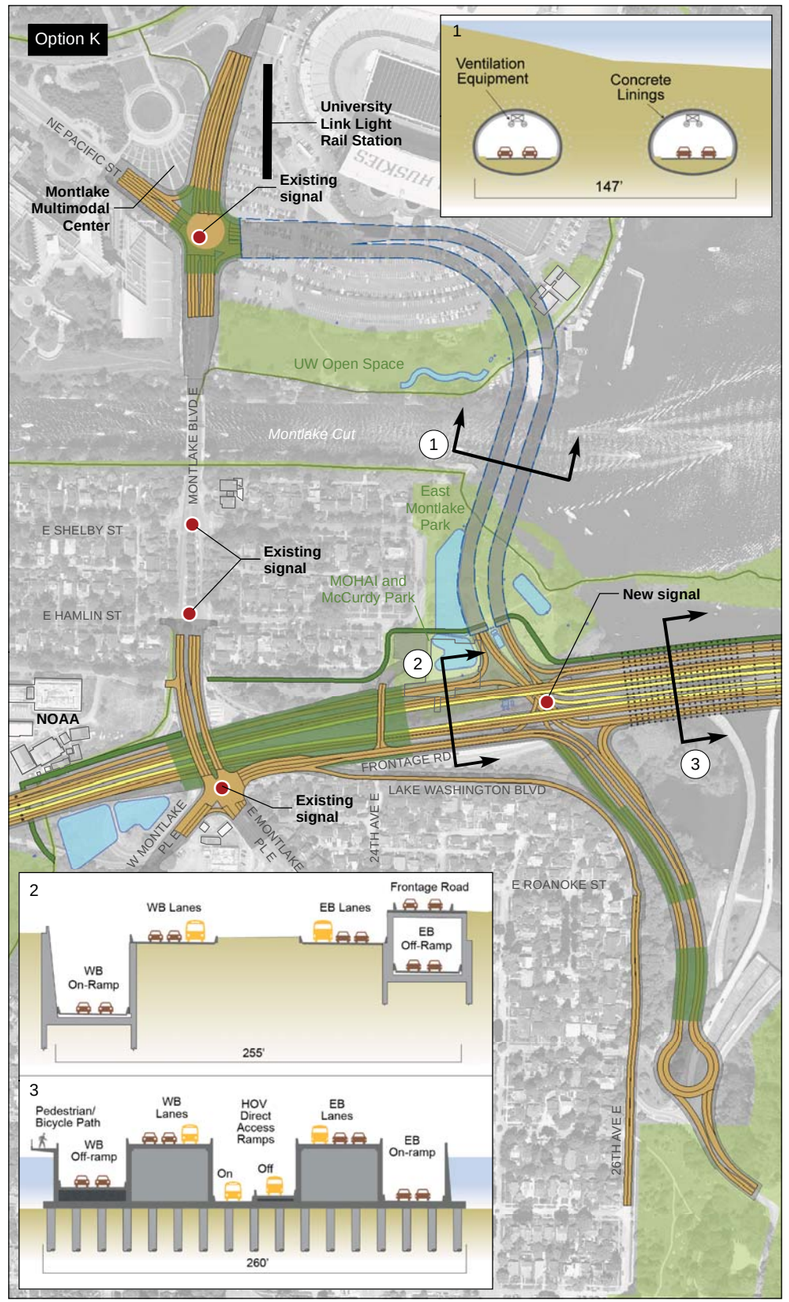
Montlake Interchange Configuration

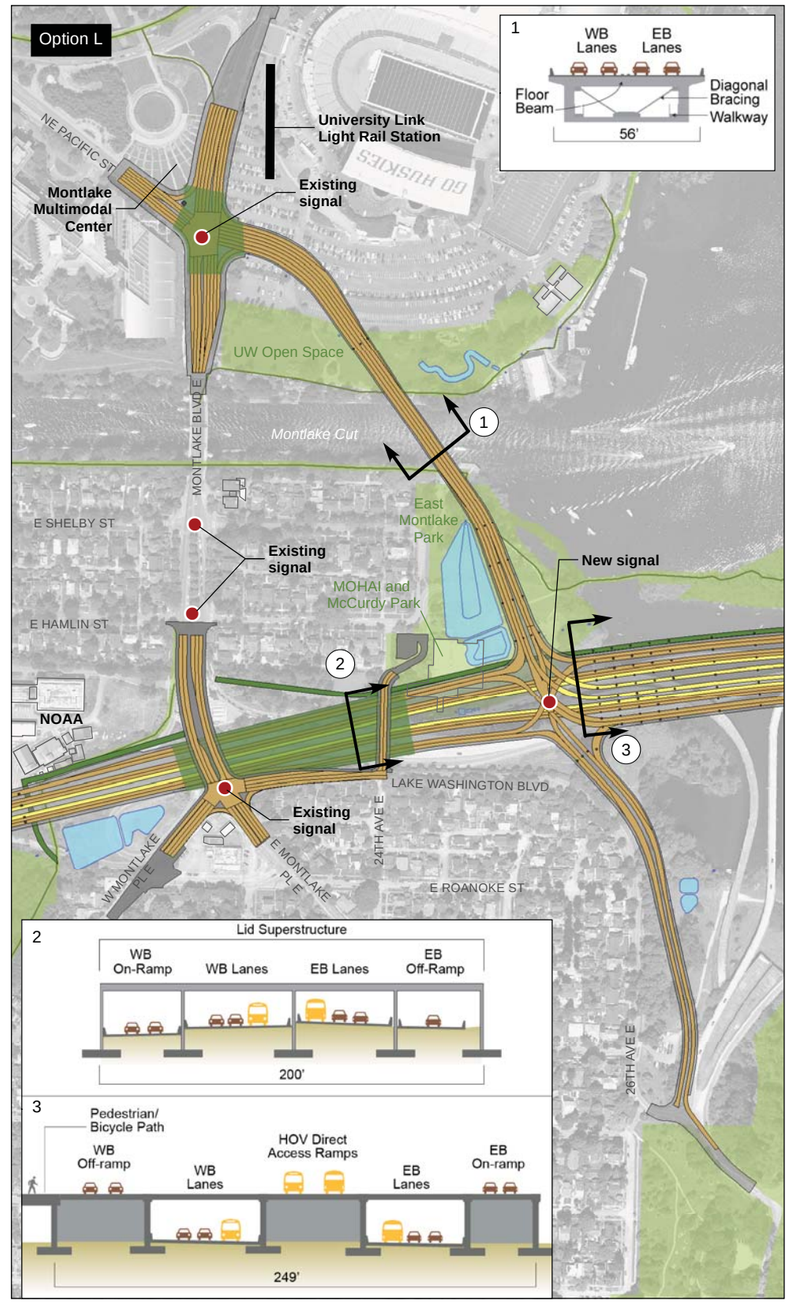
The proposed lane configuration for Option A was similar to today's. It is shown on Exhibits 2-15 and 2-16 and summarized below:

- The eastbound on-ramp would be a loop ramp with two general-purpose lanes and one HOV bypass lane (one more lane than today).
- The eastbound off-ramp would be one lane that would widen from the main line to becomes three lanes at Montlake Boulevard (one more lane than today).
- The westbound off-ramp would be two lanes, widening to three lanes at Montlake Boulevard (two more lanes than today).
- The westbound on-ramp would be two lanes, merging into one lane west of Montlake Boulevard. This ramp would become the auxiliary lane on the Portage Bay Bridge.
- A new westbound bus-only direct access off-ramp would connect to northbound Montlake Boulevard at the SR 520 westbound off-ramp terminus.

East Montlake Place would have three southbound lanes between Lake Washington Boulevard and East Louisa Street (one more lane than today). This lane would taper off south of East Louisa Street.

Exhibit 2-15. Montlake Area (Options A, K, and L)

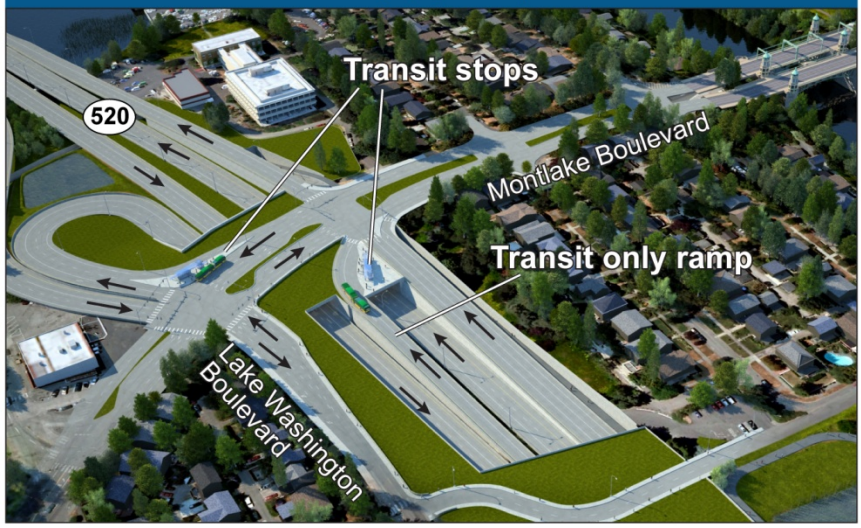




- Columns
- Signalized intersection
- Existing regional bicycle/pedestrian path
- Proposed bicycle/pedestrian path
- General-purpose lane
- HOV, direct access and/or transit-only lane
- Tunnel
- Lid or landscape feature
- Stormwater treatment facilities
- Pavement

N 0 125 250 500 Feet

Exhibit 2-16. **Montlake Interchange (Option A)**



Montlake Boulevard and Lid

The alignment of Montlake Boulevard over SR 520 would be similar to today's alignment; however, the bridge over SR 520 would be longer and wider than the existing bridge, as described for the Preferred Alternative.

East Montlake Place East and Montlake Boulevard would provide two 12-foot-wide through lanes in each direction over SR 520. North of SR 520, Montlake Boulevard would provide three 12-foot-wide through lanes in each direction between the rebuilt interchange and Pacific Street. Option A would construct a new bascule bridge (drawbridge) parallel to and just east of the existing Montlake Bridge. Exhibit 2-15 shows the lane configuration. The two bridges would each operate with three lanes in each direction; the existing bridge would serve southbound traffic, and the new bridge would serve northbound traffic. In addition to the three travel lanes, each bridge would have a bike lane and sidewalks. Traffic signals and additional turn lanes would be provided at the cross street intersections. The Montlake Boulevard/NE Pacific Street intersection would remain as it is today.

A partial lid would extend from west of Montlake Boulevard to east of 24th Avenue NE (Exhibit 2-16). The lid would function as a vehicle and pedestrian crossing, a landscaped area, and open space. Final design and treatment for the lid would be determined through future design collaboration with the surrounding communities.

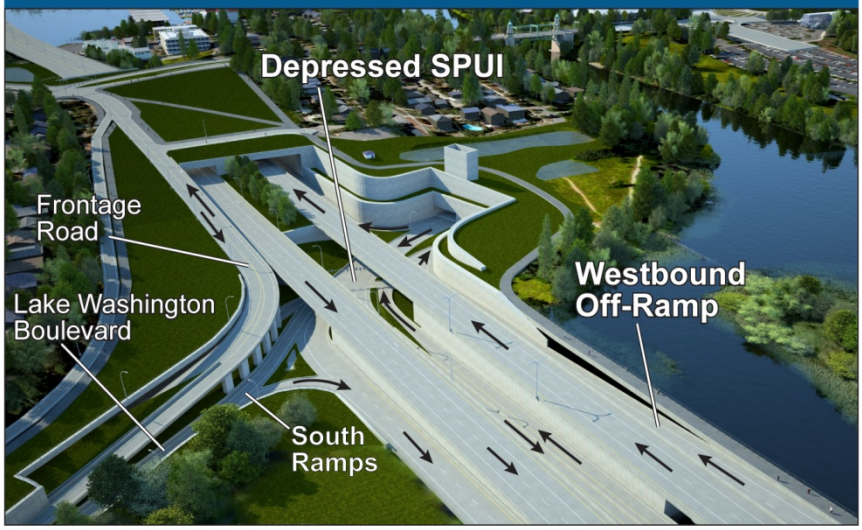
Option K

Under Option K, the existing SR 520 interchange with Montlake Boulevard and the existing Lake Washington Boulevard ramps would be removed and replaced with a SPUI near the current location of MOHAI (Exhibit 2-17).

Option K - South Ramp and Turnaround

This simulation illustrates what the south ramp and turnaround near Lake Washington Boulevard could look like under Option K.

Exhibit 2-17. **Montlake Interchange (Option K)**



SPUI Configuration

The SPUI would be constructed 30 to 50 feet below the existing SR 520 main line. Because the SPUI would be below grade, large retaining walls would be constructed around its perimeter, with heights ranging from 20 feet high south of SR 520 to more than 60 feet high north of SR 520.

The interchange design included ramps to the north and south, improvements to the Montlake Boulevard/NE Pacific Street intersection, and improvements to Lake Washington Boulevard. The SPUI interchange configuration was as follows:

- The westbound off-ramp would be a two-lane ramp. At the SPUI, the right lane would be a free right turn to the north, entering a tunnel that would cross beneath the Montlake Cut and surface near the intersection of Montlake Boulevard and Pacific Street. The left lane would be stop-controlled and then proceed south toward a new turnaround on Lake Washington Boulevard.
- The eastbound off-ramp would be a single-lane ramp that would split into two lanes at the SPUI. The right lane would be a free right turn to the south toward the turnaround on Lake Washington Boulevard, and the left lane would be controlled by the traffic signal and then proceed northbound into the tunnel under the Montlake Cut.
- The westbound on-ramp would be a two-lane ramp, with one lane of traffic coming from the north and the other from the south.
- The eastbound on-ramp would be a two-lane ramp, with one lane of traffic coming from the north and the other from the south.
- Two HOV direct-access ramps would be provided in the median of SR 520 to the SPUI. One ramp would provide HOV direct access from westbound SR 520 to travel north beneath the Montlake Cut through

the tunnel. The other ramp would provide HOV direct access from the tunnel to eastbound SR 520.

- North-south local through movements at the SPUI would be prohibited. Re-access to the freeway after exiting would also be prohibited.

Ramps north of the SPUI would tunnel under the Montlake Cut. The tunnels would surface north of the cut where the University of Washington Husky Stadium parking lot is today, and would connect to a reconstructed Pacific Street/Montlake Boulevard intersection. The west tunnel would carry two southbound lanes and the east tunnel would carry two northbound lanes. Each tunnel would have two 12-foot-wide lanes, an 8-foot shoulder, and a 4-foot shoulder. The tunnels would be approximately 2,000 feet long. To accommodate the new tunnel approach, the three existing legs at the Montlake Boulevard/NE Pacific Street intersection would need to be lowered and reconfigured. A full or partial lid would be constructed at the Pacific Street/Montlake Boulevard intersection to maintain pedestrian and bicyclist connectivity. As shown in Exhibit 2-15, the new intersection design would include adding a new seven-lane approach.

Because the SPUI would be below the lake water level, a pump station located in the median near the tunnel entrance would be required to actively pump stormwater out of the depressed SPUI interchange.

Stormwater media filter vaults and a pump station would be constructed on Foster Island at the eastern and western ends of the proposed Foster Island land bridge. These facilities would treat stormwater from the new west approach bridges to the west entrance of the land bridge. Due to design challenges in this vicinity, the proposed facility would comply with basic water quality requirements only.

On the south side of SR 520, the new four-lane southern ramp would connect SR 520 to the Arboretum area. Parts of the ramp would be constructed below ground and would be covered by a partial lid (Exhibit 2-15). The ramp would merge with a new north-south frontage road at a turnaround near the existing Lake Washington Boulevard ramp termini. The new frontage road is intended to connect Montlake Boulevard with the Arboretum area and would be constructed just north of the existing Lake Washington Boulevard on the new lid over SR 520. From the intersection with Montlake Boulevard eastward, the new road would parallel SR 520, and then fly over the southern ramps before returning to grade and merging with the ramps into a divided four-lane street. South of the merge, the frontage road and ramps would form the turnaround that would manage the in-flow of traffic from the southern ramp, the frontage road, and the Arboretum area.

With the new frontage road in place, Lake Washington Boulevard would become a one-lane eastbound roadway between Montlake Boulevard and Roanoke Street (Exhibit 2-15). It would travel across a landscape feature that would cover part of the SPUI's southern ramp. At East Roanoke, it would become a two-lane roadway that would tie into 26th Avenue NE and serve both eastbound and westbound traffic. It would provide access to local streets only, would have no connection to the interchange, and would not provide local access to Lake Washington Boulevard east of the turnaround or the Arboretum.

Montlake Boulevard and Lid

The existing Montlake interchange on- and off-ramps would be removed and would not be replaced. Montlake Boulevard would continue to serve local traffic needs between Montlake and the University District, and the new SPUI would provide freeway-only access from the north and south—there would be no local traffic movements through the new interchange. As shown in the cross-section on Exhibit 2-15, the SPUI on- and off-ramps would be constructed below grade so that the SR 520 main line traffic could flow uninterrupted over the interchange.

A lid would be provided over SR 520 in the Montlake area and would extend from west of Montlake Boulevard to east of 24th Avenue East. The lid structure would meet Lake Washington Boulevard East to provide pedestrian connections between the communities north and south of SR 520. The final length and shape of the lid and treatment of the underside and top surfaces would be determined through future design collaboration with these communities.

Option L

Under Option L, the existing SR 520 interchange with Montlake Boulevard and the existing Lake Washington Boulevard ramps though the Arboretum would be removed and replaced with a SPUI near the existing location of MOHAI.

SPUI Configuration

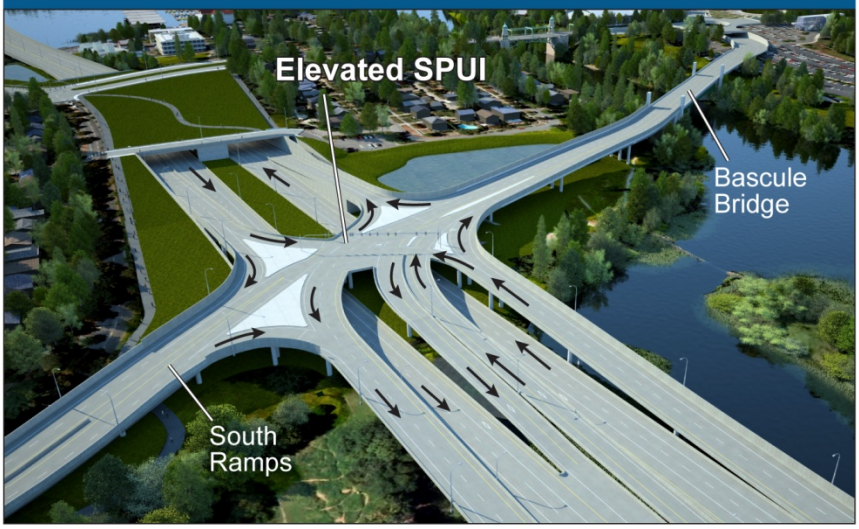
The SPUI interchange configuration (Exhibit 2-18) would operate similarly to the Option K interchange. Unlike Option K, however, Option L would locate the SPUI on structures 20 to 25 feet above the SR 520 main line; the new interchange would carry traffic on the structures, while the mainline lanes would pass below.

Ramps located north of the SPUI would pass over the Montlake Cut on a new diagonal bascule bridge and connect to a reconstructed Pacific/Montlake intersection near the University of Washington.

Option L - South Ramp

This simulation illustrates what the south ramp and ramp terminus near Lake Washington Boulevard could look like under Option L.

Exhibit 2-18. **Montlake Interchange (Option L)**



As shown on Exhibit 2-15, the new four-lane bascule bridge to the north would connect the SPUI with the Montlake Boulevard/Northeast Pacific Street intersection. The bridge would be similar in height to the existing Montlake drawbridge to maintain clearance for boat passage. It would have two lanes in each direction (four total), a center median, and outside shoulders. The north and south approaches to the bridge would be elevated and would be supported by columns in East Montlake Park and in the UW Open Space area. There would be no columns in the water.

To accommodate pedestrian movements and provide adequate sight lines, the three existing legs of the Montlake Boulevard/Northeast Pacific Street intersection would be lowered and reconfigured in the same manner and with the same lid improvements as described for Option K (see description above).

Ramps located south of the SPUI would travel through the Arboretum and connect to Lake Washington Boulevard near the existing ramps. Lake Washington Boulevard traffic traveling southeast would be restricted from accessing the southern ramp. This traffic would need to travel north on Montlake Boulevard to the Pacific Street intersection to access the freeway (Exhibit 2-15). The ramps would consist of a northbound lane and a southbound lane. Only northbound traffic on Lake Washington Boulevard would be able to access the on-ramp.

Montlake Boulevard and Lid

The existing Montlake interchange on- and off-ramps would be removed and would not be replaced. Montlake Boulevard would continue to serve local traffic needs between Montlake and the University District, and the new SPUI would provide freeway-only access from the north and south—there would be no local traffic movements through the new interchange. As shown in the cross-section on Exhibit 2-15, the SPUI on- and off-ramps

would be constructed above grade so that the SR 520 main line traffic could flow uninterrupted over the interchange.

A lid in the Montlake vicinity, similar to that described for Option K, would extend from west of Montlake Boulevard to east of 24th Avenue NE. The lid would meet Lake Washington Boulevard East to provide pedestrian connections between the communities north and south of SR 520. The final length and shape of the lid and treatment of the underside and top surfaces would be determined through future design collaboration with these communities.

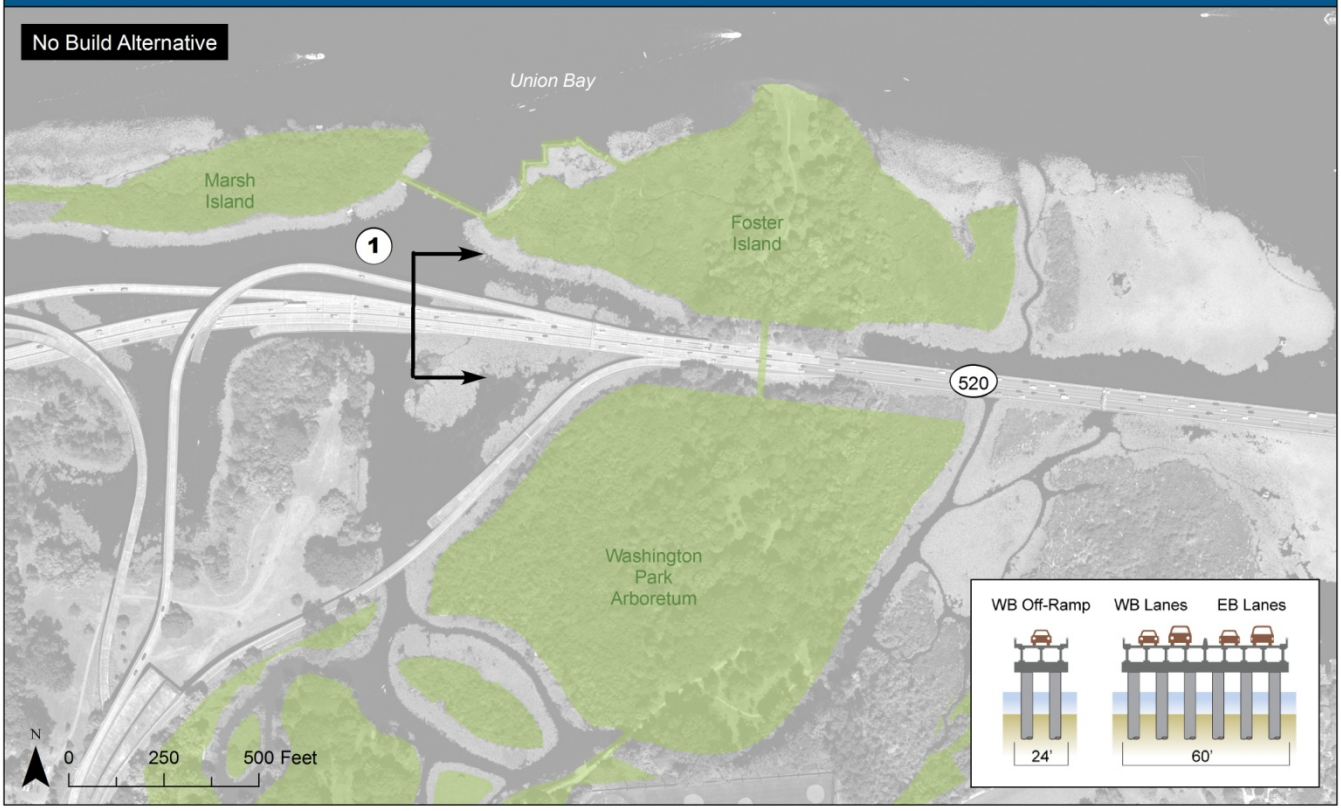
West Approach Area

Under the Preferred Alternative and all design options, the SR 520 west approach structures would be replaced with wider structures. The existing layout of the west approach is shown on Exhibit 2-19. The Preferred Alternative would have narrower structures than SDEIS Options K and L due to the location of the SPUI on- and off-ramps in this area. The Preferred Alternative also differs in profile from the SDEIS options, with a constant eastward slope similar to, but slightly greater than, the slope proposed for SDEIS Option L. Option K would have the lowest profile of the SDEIS options, with a lower profile than the existing highway at Foster Island, where the freeway would pass under a land bridge.

Design Refinements in the West Approach Structure

WSDOT continues to advance and refine the design of the SR 520, I-5 to Medina project with the goal of minimizing impacts. Since the analysis for the EIS was completed, the westbound SR 520 off-ramp to Montlake Boulevard has been reduced from two lanes to one lane, further narrowing the new bridge across Foster Island. This refinement will reduce the bridge width by an additional 10 to 14 feet, although that reduction is not reflected in the impact calculations for this EIS.

Exhibit 2-19. **No Build Alternative - West Approach Area**



The new west approach structures would be supported by concrete columns that would vary in size and number. Table 2-7 provides comparisons between the existing structure characteristics, the Preferred Alternative, and the SDEIS design options.

Under the Preferred Alternative and all the SDEIS options, the existing Lake Washington Boulevard eastbound on-ramp and westbound off-ramp and the unused R.H. Thomson Expressway ramps would be removed.

Table 2-7. West Approach Structures

	Existing Structure	Preferred Alternative	Option A	Option K	Option L
Bridge structure between Montlake and across Foster Island					
Width (feet)	60 to 150	160 to 262	147 to 205	192 to 250	199 to 270
Typical span length (feet)	100	130 to 150	112 to 140	20 to 65	63 to 140
Estimated total number of columns	237	125	98	782	155
Typical column size (diameter in feet)	4.5	6	6	2.5	6
Estimated number of columns in water	176	103	71	733[a]	117
Bridge structure from east shore of Foster Island out to floating bridge					
Width (feet)	60	126 to 162	115	115 to 162	115 to 167
Typical span length (feet)	100	150	140	30 to140	140 to 350
Estimated total number of columns	228	129	110	211	72
Typical column size (diameter in feet)	4.5 to 9	7.5	6	2 to 7	7 to 9
Estimated number of columns in water	228	129	110	211	72

[a] Total number of columns does not include fill for the portion of the interchange east of Montlake area. Width includes mainline, ramps, and areas between structures.

Preferred Alternative

Under the Preferred Alternative, the SR 520 west approach structures would be replaced with higher and wider structures than today's (see Exhibits 2-20 and 2-21). The westbound structure would include the 14-foot-wide bicycle/pedestrian path, a two-lane off-ramp, a direct-access HOV/transit off-ramp, and three mainline lanes; the eastbound structure would include two eastbound on-ramps and three mainline lanes. The new structures would touch down at the shoreline near McCurdy Park. As noted above, the new bridge's profile would have a constant slope from east to west, which would allow gravity drainage of stormwater runoff and avoid the need for treatment or pumping facilities on Foster Island (Exhibit 2-20).

Preferred Alternative – Arboretum Area

The new structures would be supported by concrete columns that would vary in size. Table 2-7 provides a comparison between the existing structure characteristics and those of the Preferred Alternative and the SDEIS

options. The bridge structure in Union Bay and across Foster Island would be supported by 6-foot by 6-foot square columns. The piers would be spaced approximately 130 to 150 feet apart. The bridge structures east of Foster Island would be supported by 6-foot by 6-foot square and 7.5-foot by 7.5-foot square columns and would have 150-foot span lengths.

The westbound and eastbound bridges would have a gap between the structures to be compatible with potential future light rail infrastructure, should Sound Transit determine that a light rail crossing of SR 520 is desirable at some point in the future. (No light rail crossing is currently planned or proposed as part of the SR 520, I-5 to Medina project.) The gap would narrow across Foster Island to reduce impacts on the Arboretum and the Foster Island traditional cultural property, but the design would allow a potential future rail line to rise over SR 520 to connect with the University Link station at Husky Stadium.

The profile of the west approach would be raised from its existing height and would provide a constant grade, increasing from 12 feet above the water surface at the Montlake shoreline up to 48 feet at the west transition span of the floating bridge (Exhibit 2-21). The bottom of the bridge would be about 12 to 24 feet above the water through the Arboretum. The bridge would remain elevated over Foster Island rather than touching land as the SR 520 roadway does today. Clearance under the west approach would be approximately 17 feet at the point where it crosses the Arboretum Waterfront Trail.

Traditional Cultural Property

A traditional cultural property is a site "that is eligible for inclusion in the National Register [of Historic Places] because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community." These properties could include, but are not limited to, ceremonial sites, traditional homes of a particular cultural group, or locations of historic economic, artistic, or other cultural practices. Source: Parker and King (1998).

Option A

Under Option A, the bridge structure through Union Bay would also be wider than today's (Table 2-7 and Exhibit 2-20). The westbound structure would include the 14-foot-wide bicycle/pedestrian path, a two-lane off-ramp, and three mainline lanes; the eastbound structure would include three mainline lanes. The new structures would touch down at the shoreline near McCurdy Park. The new bridge would have a somewhat higher profile than today's structures through the Arboretum (Exhibit 2-21).

Option A – Arboretum Area

The bridge structure would be supported by 6-foot-diameter columns. The piers would be spaced approximately 112 to 140 feet apart. The bottom of the bridge would be about 25 feet above the water through the Arboretum. The bridge would remain elevated over Foster Island rather than touching land as the SR 520 roadway does today. It would be approximately 15 to 18 feet higher than the existing roadway at the point where it crosses the Arboretum Waterfront Trail. To the east, the bridge would be closer to the water and then rise again to meet the elevation of the new west transition span (the connection between the fixed and floating bridges) (Exhibit 2-21).

Exhibit 2-20. West Approach Area (Preferred Alternative and Option A)

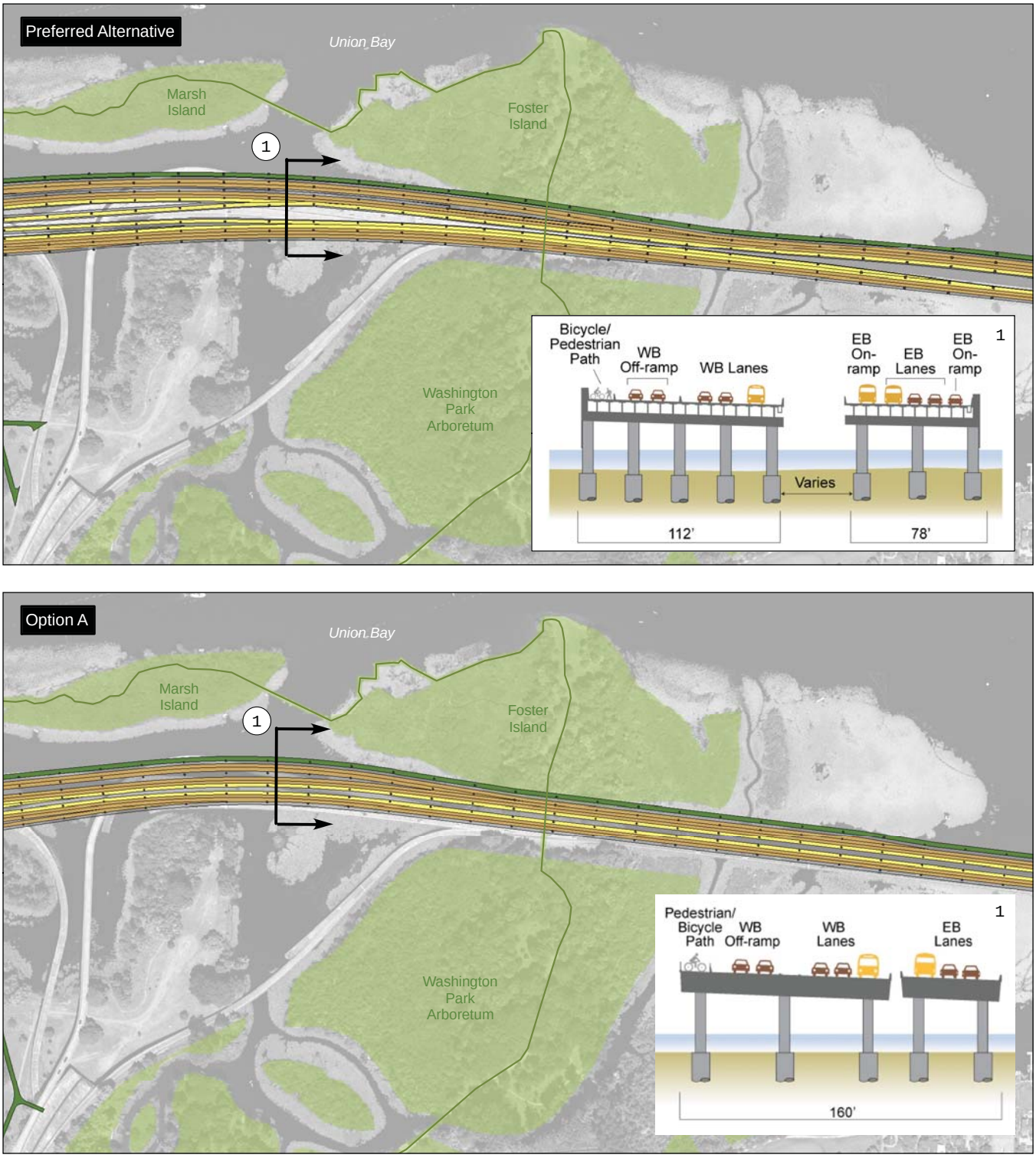
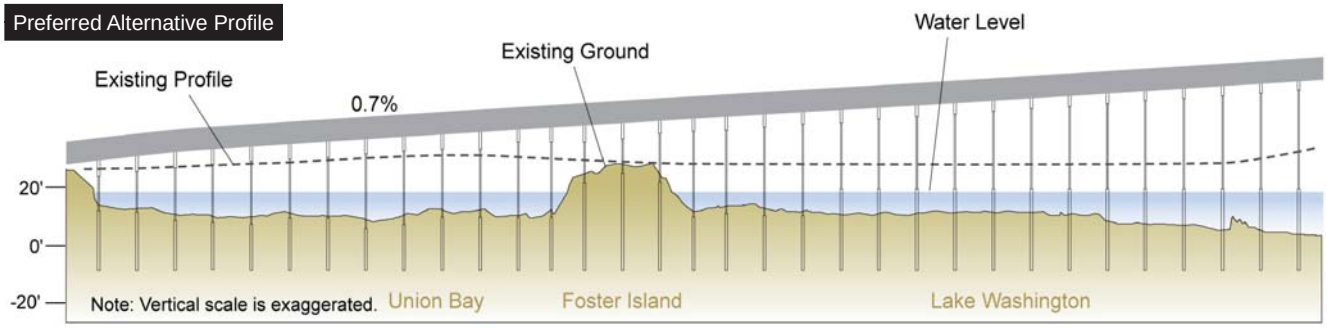
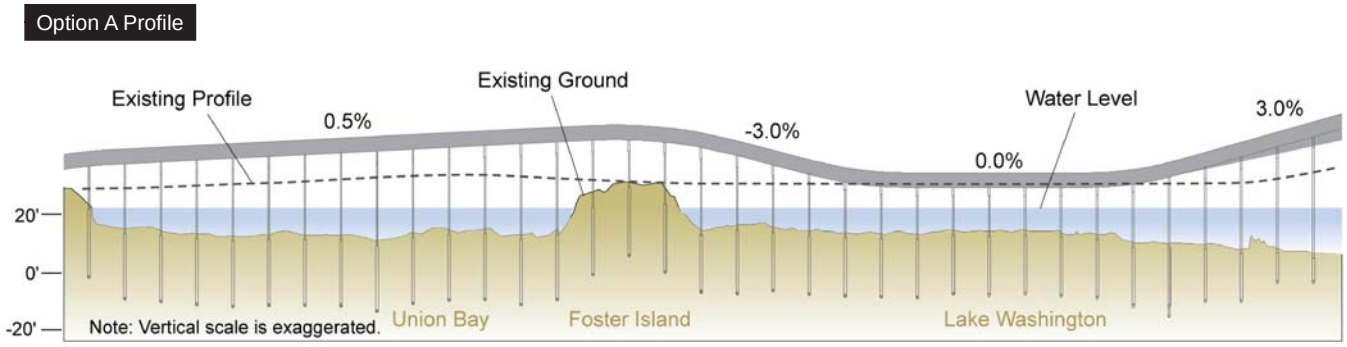
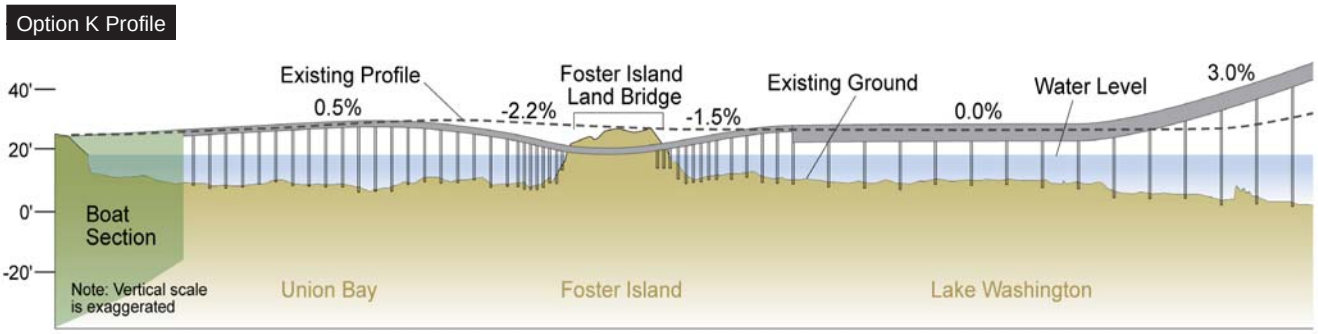
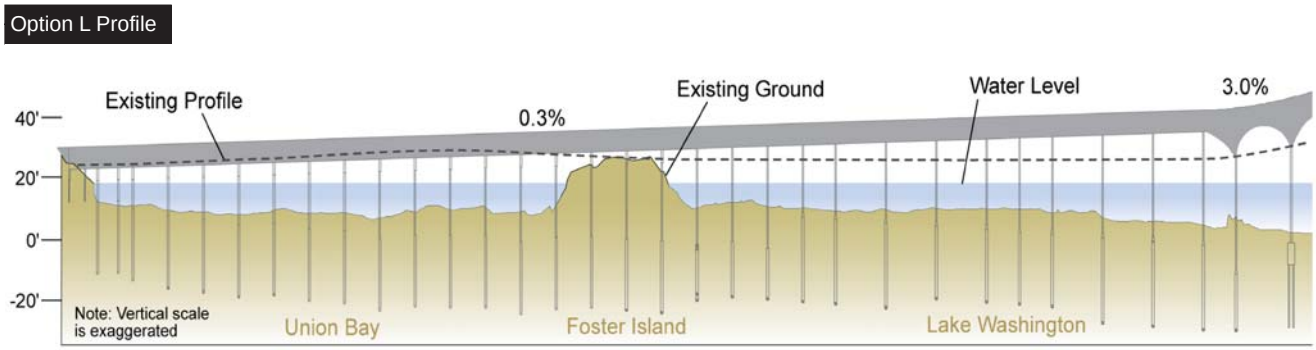


Exhibit 2-21. West Approach Profiles (Preferred Alternative and Options A, K, and L)









Option K

Under Option K, the new bridge structure across Union Bay would begin approximately 900 feet east of the SPUI, maintaining a low profile and dipping slightly below ground across Foster Island (Exhibit 2-21 and Table 2-7). The structure width would range from 192 to 250 feet. There would be six westbound lanes (two off-ramp lanes, two general-purpose lanes, an HOV lane, and an HOV/transit direct-access ramp) and five eastbound lanes (two on-ramp lanes, two general-purpose lanes, and an HOV lane) (Exhibit 2-22).

Option K Arboretum Area

The bridge west of Foster Island would be supported by 2.5- to 5.5-foot-diameter columns. The piers would be spaced approximately 20 to 65 feet apart. The bottom of the bridge would be 5 feet above the water through the Arboretum.

The bridge east of Foster Island would be supported by 2- to 7-foot-diameter columns. The piers would be spaced approximately 30 to 40 feet apart.

Option K would include a 600-foot-long, 180-foot-wide "land bridge" on Foster Island, connecting the areas north and south of SR 520 for pedestrians and bicyclists. The profile of the SR 520 main line would be lowered by 3 to 4 feet, and the land bridge would span the travel lanes, supported by continuous concrete walls and spread footings. The structure would be partially covered with soil and vegetation, but portions of it would remain visible (see illustration at right). Access from the south side of Foster Island would be along a path on the surface of a new earthen mound that would extend the existing landform to the top of the land bridge. Fill would be placed in the north part of Foster Island to provide a gradual slope from the top of the land bridge to the existing landform.

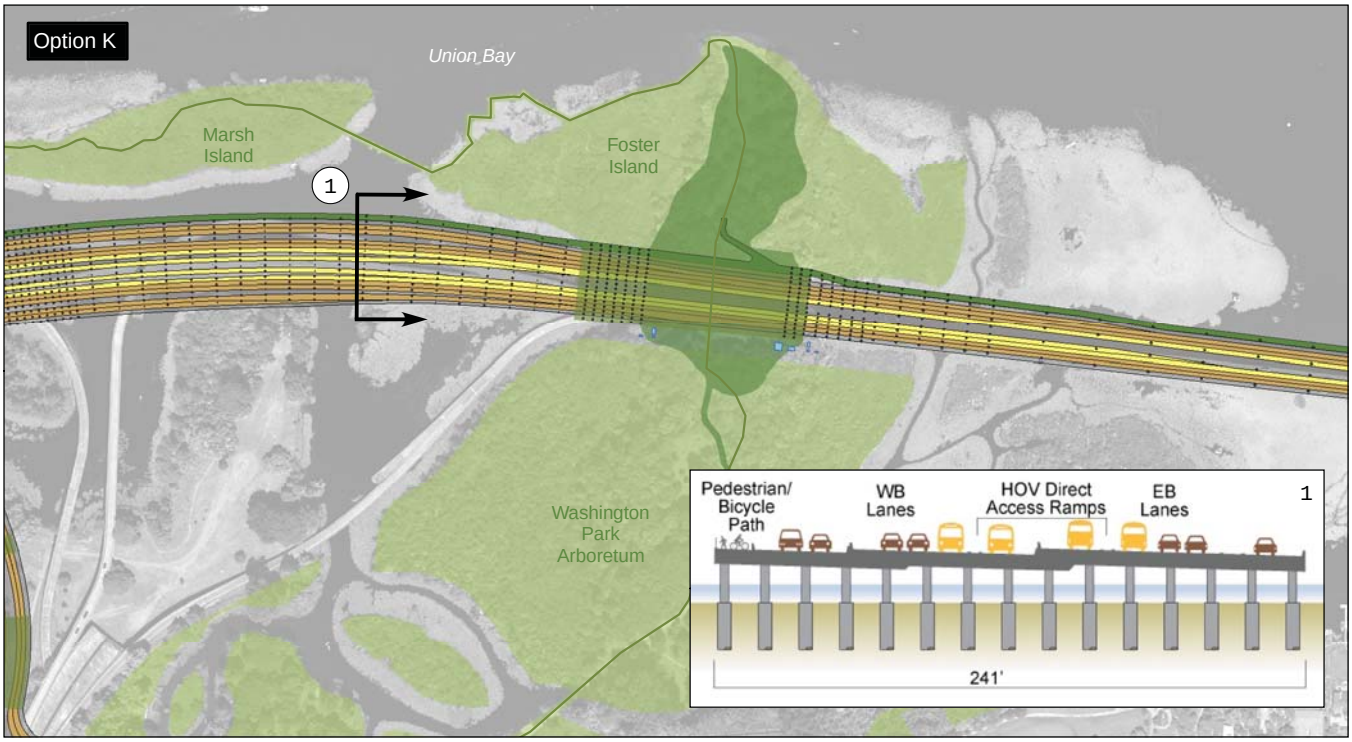
East of Foster Island, the west approach structure would maintain a low profile past Madison Park, and then rise to meet the elevation of the new transition span to the floating bridge.

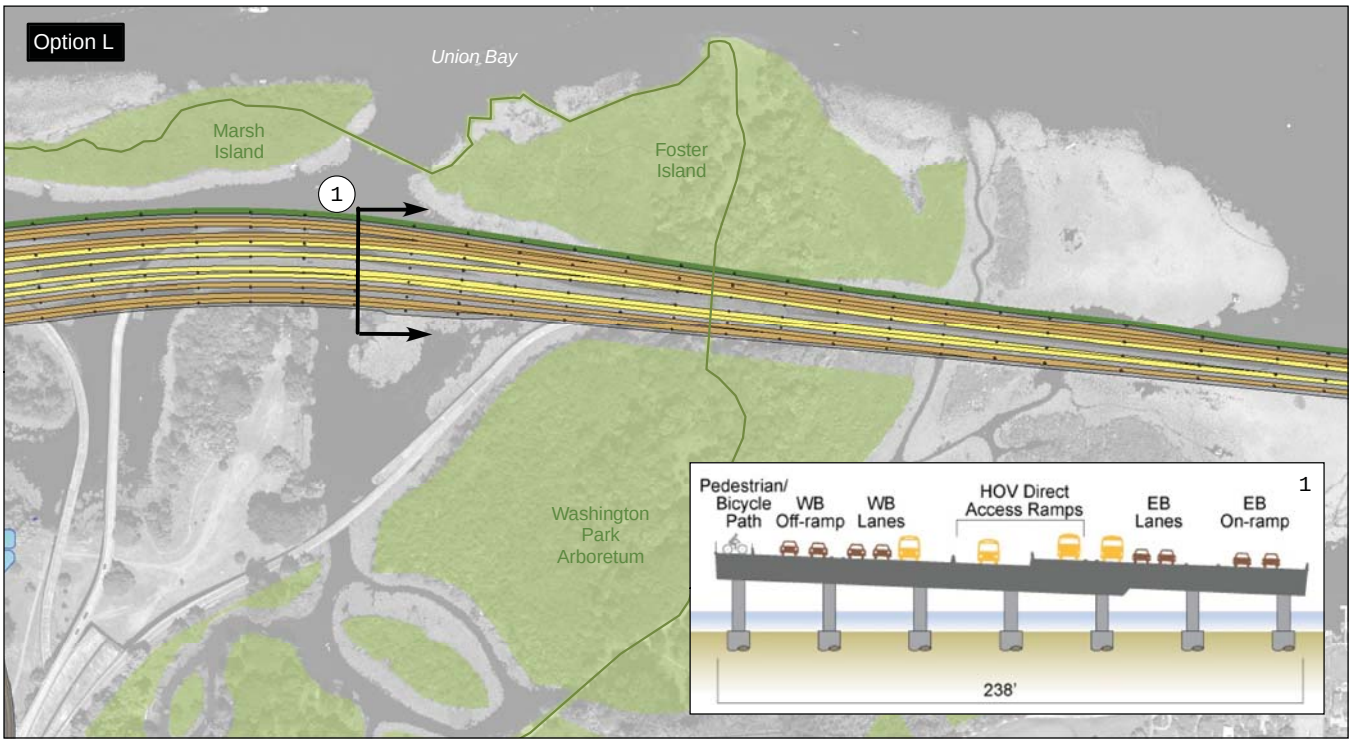
Option L

Under Option L, elevated ramps and roadways would connect the SPUI to the west approach structures. The structure width would be approximately 199 to 270 feet. The bridge profile would be higher than Option K, including at the crossing of Foster Island where the bridge would be 5 to 10 feet higher than the existing bridge through the Arboretum. There would be six westbound lanes (a two-lane off-ramp, three mainline lanes, and an HOV/transit direct-access ramp) and five eastbound lanes (a two-lane on-ramp and three mainline lanes).

Option L Arboretum Area

Exhibit 2-22. West Approach Area (Options K and L)





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

N

0 125 250 500 Feet

The bridge west of Foster Island would be supported by 6-foot-diameter columns. The columns would be spaced 63 to 140 feet apart. The bridge east of Foster Island would be supported by 7- to 9-foot-diameter columns, spaced 140 to 350 feet apart.

The SR 520 roadway would remain elevated across Foster Island, rather than touching land as it does today. The west approach structures would maintain a constant slope from the shoreline at Montlake and steadily rise as they continued east until the bridge elevation met the required elevation at the new transition span.

Suboptions to SDEIS Options A, K, and L

Options A, K, and L in the SDEIS each included potential "suboptions." These were specific design details that would have minor effects on the project footprint (Exhibit 2-23) and could be added to the design options singly or in combination. While they generally differed only minimally from the basic design options, they were analyzed in the SDEIS to determine their transportation benefits and environmental effects.

Option A with Lake Washington Boulevard ramp suboption

The suboptions for Option A (all included in Option A+) were:

- Add an eastbound HOV direct-access on-ramp from Montlake Boulevard.
- Add a Lake Washington Boulevard eastbound on-ramp and westbound off-ramp.
- Use the Option L roadway profile for improved stormwater management.

Option K had one suboption:

- Add an eastbound SR 520 off-ramp to Montlake Boulevard that would be a right-turn-only heading southbound.

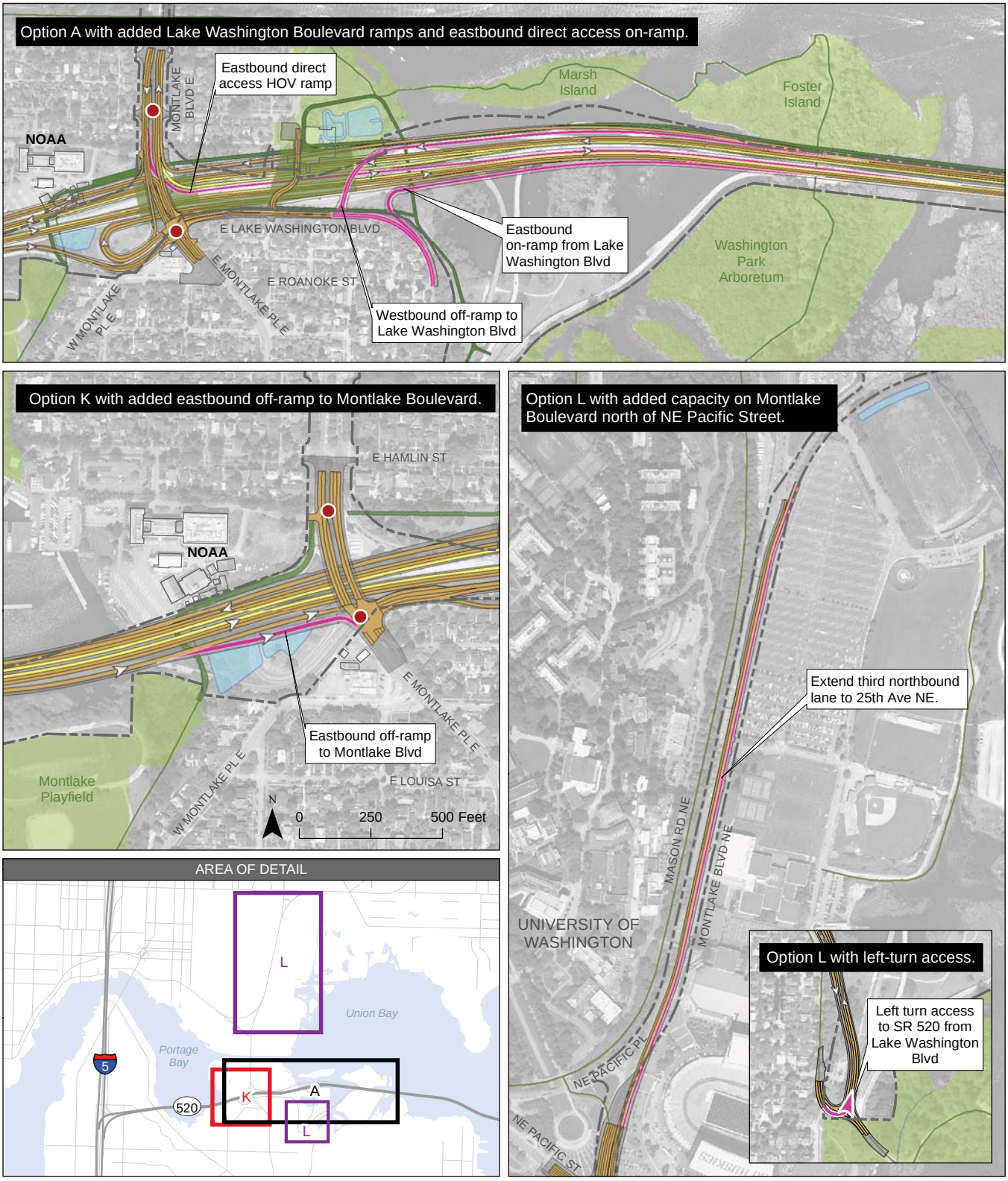
The suboptions for Option L were:

- Add left-turn access from Lake Washington Boulevard onto the SPUI south ramp (this would result in no changes to the project footprint).
- Add northbound capacity on Montlake Boulevard to 27th Avenue NE.

The Preferred Alternative incorporates all three Option A suboptions, with some modifications as follows:

- Access to Lake Washington Boulevard would be consolidated with the Montlake ramps and would occur from 24th Avenue East on the Montlake lid, rather than through construction of separate on-ramps. This change reduces right-of-way acquisition needs and wetland effects.
- The proposed profile for the Preferred Alternative is slightly higher than the Option L profile (a constant slope of 0.7 percent rather than 0.3 percent), which further facilitates stormwater management, improves clearance above Foster Island, and reduces noise in the Arboretum.

Exhibit 2-23. Montlake Area - Options A, K, and L with the Suboptions



Floating Bridge Area

Exhibit 2-24 shows the alignment of the floating bridge and its connections to the west and east approaches. The alignment of the floating bridge is the same as that evaluated in the Draft EIS and the SDEIS. The floating span would be located north of the existing bridge, approximately 190 feet north at the west end and 160 feet north at the east end. The new bridge would have two 11-foot-wide general-purpose lanes in each direction, one 12-foot-wide HOV lane in each direction, 4-foot-wide inside shoulders, and 10-foot-wide outside shoulders.

As a result of comments received on the SDEIS, the height of the bridge deck above the water has been lowered for the Preferred Alternative to reduce visual effects. At midspan, the floating bridge would rise approximately 20 feet above the water, compared to approximately 30 feet for SDEIS Options A, K, and L. The Preferred Alternative roadway would be about 10 to 12 feet higher than the existing bridge deck.

Under Options A, K, and L, the roadway would be about 22 feet higher than the existing bridge deck. The Preferred Alternative, like all the SDEIS options, would include a 14-foot-wide bicycle and pedestrian path with five scenic vantage points and pullouts located on the north side of the bridge.

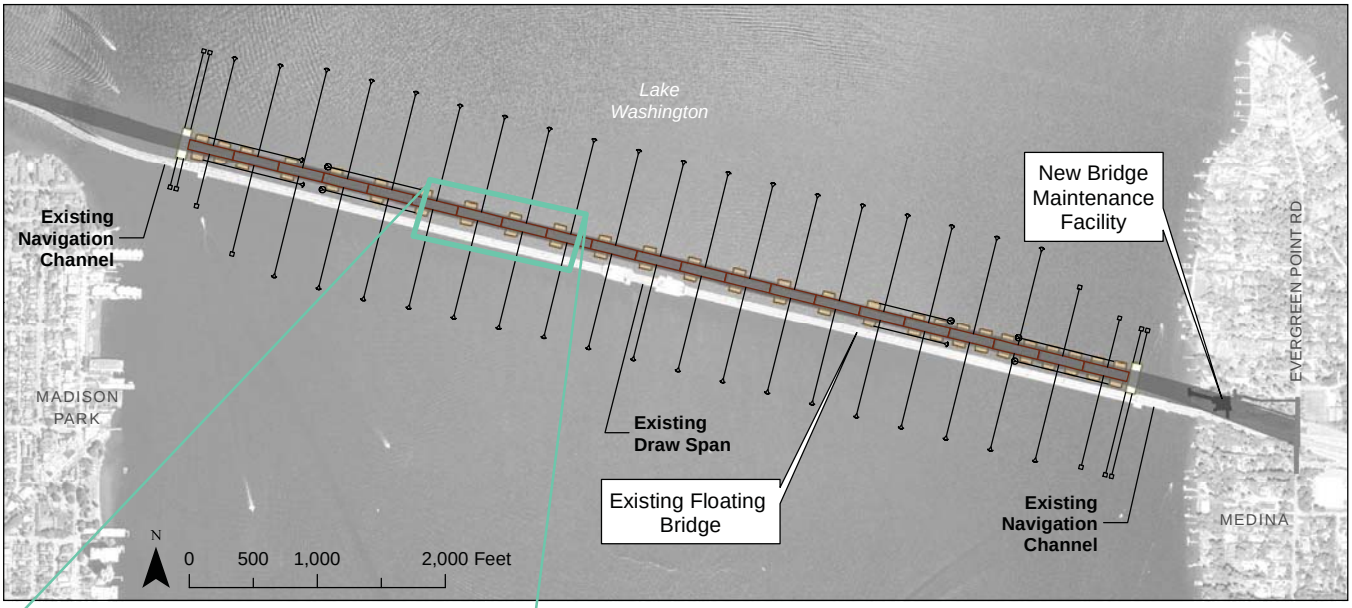
Pontoons

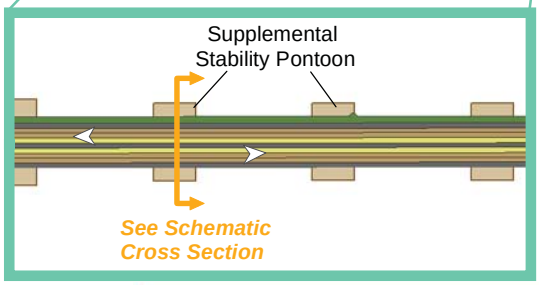
The new floating bridge would consist of a single row of 21 longitudinal pontoons, 2 cross pontoons (located at each end of the floating bridge), and 54 supplemental stability pontoons. Exhibit 2-24 shows the pontoons' locations and dimensions. Table 2-8 compares the dimensions of the existing pontoons and bridge with those of the proposed bridge. The new longitudinal pontoons would be larger than the existing ones to provide the flotation needed for wider lanes and shoulders to meet current design standards; the supplemental stability pontoons would provide additional buoyancy for the 6-lane configuration.

Table 2-8. Area and Dimensions for the Floating Portion of the Evergreen Point Bridge

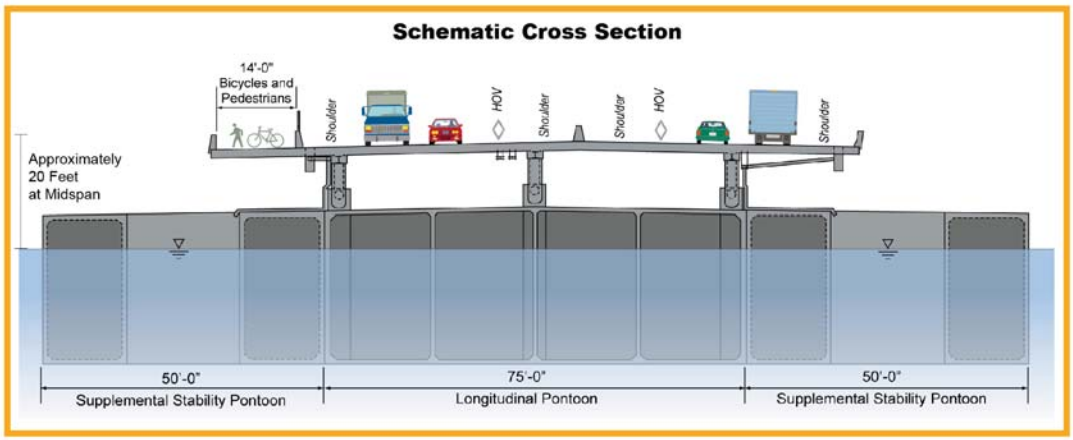
Location	Existing (No Build Alternative)	Proposed Project
Floating bridge length	7,578 feet	7,710 feet
Pontoon area, total	10.8 acres	20 acres
Pontoon depth	14-22 feet	28-35 feet
Pontoon width	60 feet	50-75 feet

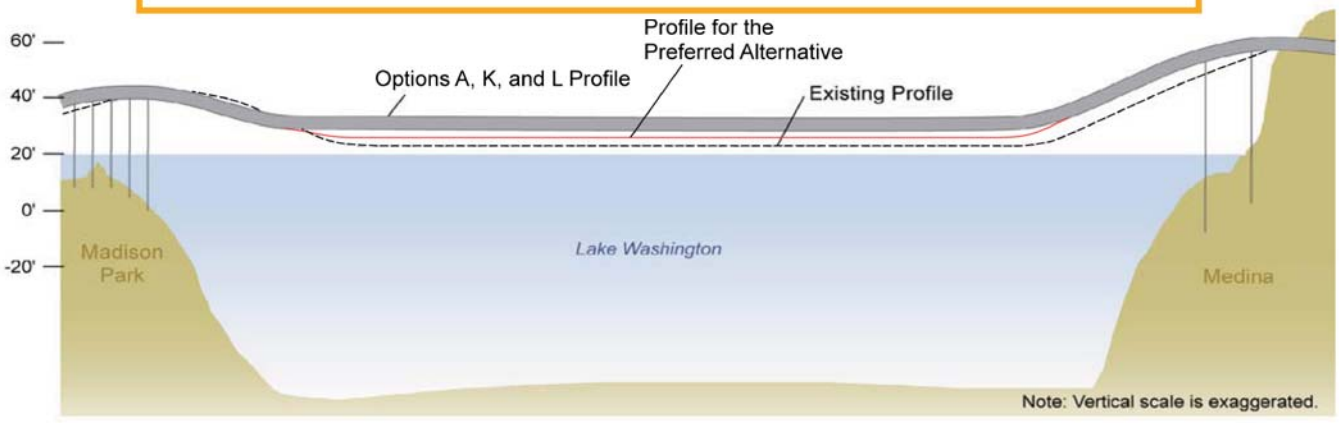
Exhibit 2-24. 6-Lane Alternative at Evergreen Point Bridge (Preferred Alternative and Options A, K, and L)





Anchor and cable
Proposed bicycle/ pedestrian path
General purpose lanes
HOV, direct access, and/or transit-only lanes
Cross pontoon
Longitudinal pontoon
Supplemental stability pontoon
Pavement





The new pontoons for the floating bridge would be designed and configured to provide future expansion capability for high-capacity transit. If the SR 520 corridor were identified in the future to carry dedicated HCT, additional supplemental stability pontoons could be added to the new floating bridge to accommodate it. Any such future expansion would need to be evaluated in a separate environmental document. As with the existing floating bridge, the floating pontoons for the new bridge would be anchored to the lake bottom to hold the bridge in place (see Chapter 3 for a detailed description).

The roadway would be supported above the pontoons by rows of three 10-foot-tall concrete columns spaced 30 to 35 feet apart. These rows of columns would be longitudinally spaced about 90 feet apart across the floating bridge. The pontoons would have a deeper draft than the existing pontoons. New pontoons would be 22 to 28 feet below the surface of the water as compared to existing pontoons at 8 feet below the water.

Navigational Channels

The project would eliminate the drawspan opening on the Evergreen Point Bridge. The new west and east navigation channels would remain in approximately the same locations as the current channels. The new west navigation channel would have two openings—one opening under the transition span and another opening one span west of the transition span.

Under the Preferred Alternative, the west channel openings would be approximately 140 feet parallel to the piers. It would have a minimum overhead clearance of 44 feet above normal high water, the same as it is today. Options A, K, and L would have a minimum overhead clearance of 41 feet, approximately 3 feet lower than today.

The west navigation channel would have a depth of approximately 26 feet at the center of the channel and a minimum water depth at the west edge of the channel of approximately 23 feet (when the water is at low lake elevation).

Under the Preferred Alternative and the SDEIS Options, the new east navigation channel would be located under the east transition span and would have a clear opening of approximately 190 feet parallel to the piers. This is a design refinement since publication of the SDEIS, which disclosed a clear opening of approximately 210 feet parallel to the piers. The span above the channel would be higher than today, with 70 feet (minimum) of vertical clearance above high water and a minimum water depth of 21 feet. The height in this location was designed to match the vertical clearance of the existing I-90 East Channel Bridge, and therefore would not impose new limitations on boating in Lake Washington. (See Section 5.14, Navigation, for additional information.)

What are the advantages of an elevated floating bridge deck on the Evergreen Point Bridge?

The new floating bridge would have an elevated bridge deck, providing several advantages over the existing bridge where vehicles travel at or near the water level. These improvements include:

Improved safety. Traffic would be separated from crashing waves, allowing vehicles to safely cross the lake during winds of up to 70 mph. Also, maintenance workers would be able to access the pontoons without being immediately adjacent to traffic.

Improved reliability. The floating bridge would be less likely to be closed due to storms and/or crashing waves. Some maintenance activities that currently require bridge closures could be completed while keeping the facility open to traffic.

Future capacity for light rail. If SR 520 is identified to carry light rail, it would be easier to modify an elevated bridge structure to include light rail than to modify the bridge deck immediately on top of pontoons. In addition, stray electrical currents from the LRT vehicle power system that could cause corrosion in the pontoon reinforcing steel are more easily contained when the rail line is separate (elevated) from the pontoons. Currently, this is a significant issue in placing light rail on the I-90 floating bridge deck, so as not to affect the reinforcing steel and shorten the life of the structure.

Construction efficiency. There are efficiencies in pontoon construction with an elevated roadway, which would make the pontoons easier and quicker to construct and could lead to cost savings.

The west end of the east transition span would be supported by the last row of columns on the floating pontoons. In this location, five columns would support the roadway. The east end of the east approach, as it approaches the shore of Lake Washington, would also be supported by 5 columns. (For the SDEIS, Options A, K, and L assumed four columns at this location.) The structure would meet the existing highway at grade as it approaches Evergreen Point Road, east of the Lake Washington shoreline. Table 2-9 shows the characteristics of the east approach structure.

Table 2-9. East Approach Structure Elements- Preferred Alternative and Options A, K, and L

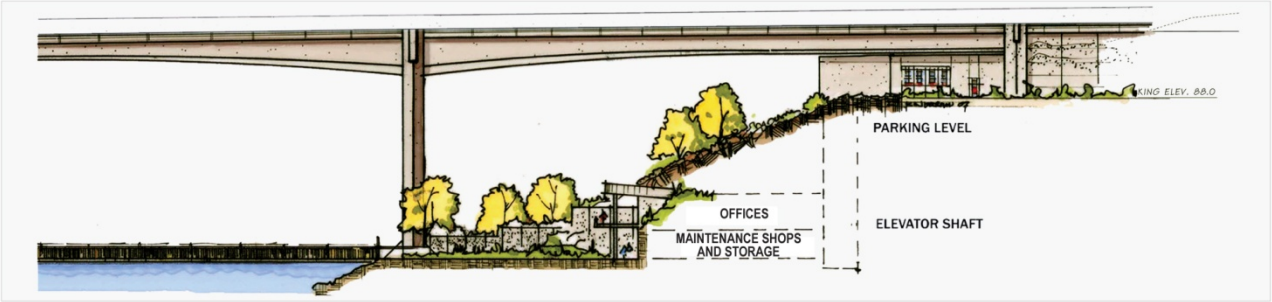
	Existing Structure	Preferred Alternative and Options A, K, and L
Bridge width (feet)	60	83 to 91 (westbound)
		51 to 61 (eastbound)
Estimated height above water (feet to bottom of structure)	57-60	66 – 78
Span length (feet)	100	250 to 350
Total number of columns	26	10
Number of columns in water	14	5

Bridge Maintenance Facility

A bridge maintenance facility would be constructed to provide work space, storage for equipment and materials, and workboat moorage that would facilitate efficient operation, maintenance, and emergency response to the floating bridge. Because the existing bridge maintenance facility is integrated into the floating bridge, it would be decommissioned along with the current bridge, requiring that sites for a new facility be evaluated. WSDOT, in cooperation with regulatory agencies, local jurisdictions, and the Muckleshoot Indian Tribe Fisheries Division worked through a process to identify the most suitable location for the facility. The group defined the project area, identified seven potential locations for the facility, and screened those locations using site feasibility and environmental criteria. Initial screening criteria included elements such as estimated response time to the bridge and accessibility. Three sites were determined to be viable locations, and were further evaluated to determine the environmental effects of developing a bridge maintenance facility in each location. Of the three locations evaluated, WSDOT determined that a bridge maintenance facility constructed underneath SR 520 between the east shore of Lake Washington and Evergreen Point Road in Medina (Exhibit 2-25) has the best overall ranking. This location was determined to have the most optimal

maintenance requirements, best bridge response time, and best access, as well as the least environmental effect.

Exhibit 2-25. **Bridge Maintenance Facility**



The new bridge maintenance facility would include a working dock, an approximately 12,000-square-foot maintenance building, and parking. The facility would serve as the maintenance crew duty station and provide shop space for small repair work, staging for maintenance materials, and moorage for two work boats used for bridge maintenance activities. The conceptual design for the maintenance building is the same as the design evaluated in the SDEIS. It incorporates a two-story structure built into the end abutment slope under the new east approach bridge. Most of the facility would be buried in the bank slope. The maintenance crew would access the facility via a driveway from Evergreen Point Road, just north of the new SR 520 highway. The driveway would parallel SR 520 before turning south to enter the facility. Elevators inside the building would transport crews and materials to the lake and boat dock.

The new maintenance dock was also described in the SDEIS, but the dock design has changed since SDEIS publication. The current dock design concept would provide moorage for two workboats with a T-shaped dock. One workboat, 40 feet to 50 feet in length, would be used in fair weather for equipment and material transport and to provide a work platform. This boat would also provide some transport of personnel. However, a smaller, more efficient, 20-foot- to 30-foot-long workboat would be used predominantly for the transport of personnel. The dock itself would be designed to survive a 100-year storm, the same type of event used to design the new floating bridge. The dock design would also seek to minimize environmental effects such as shading and shoreline armoring. The dock would be located underneath the new east approach to the Evergreen Point Bridge. The dock would extend no more than 100 feet from the shoreline, with a stem width approximately 10 feet wide. Exhibit 2-26 is a conceptual view of the proposed dock layout.

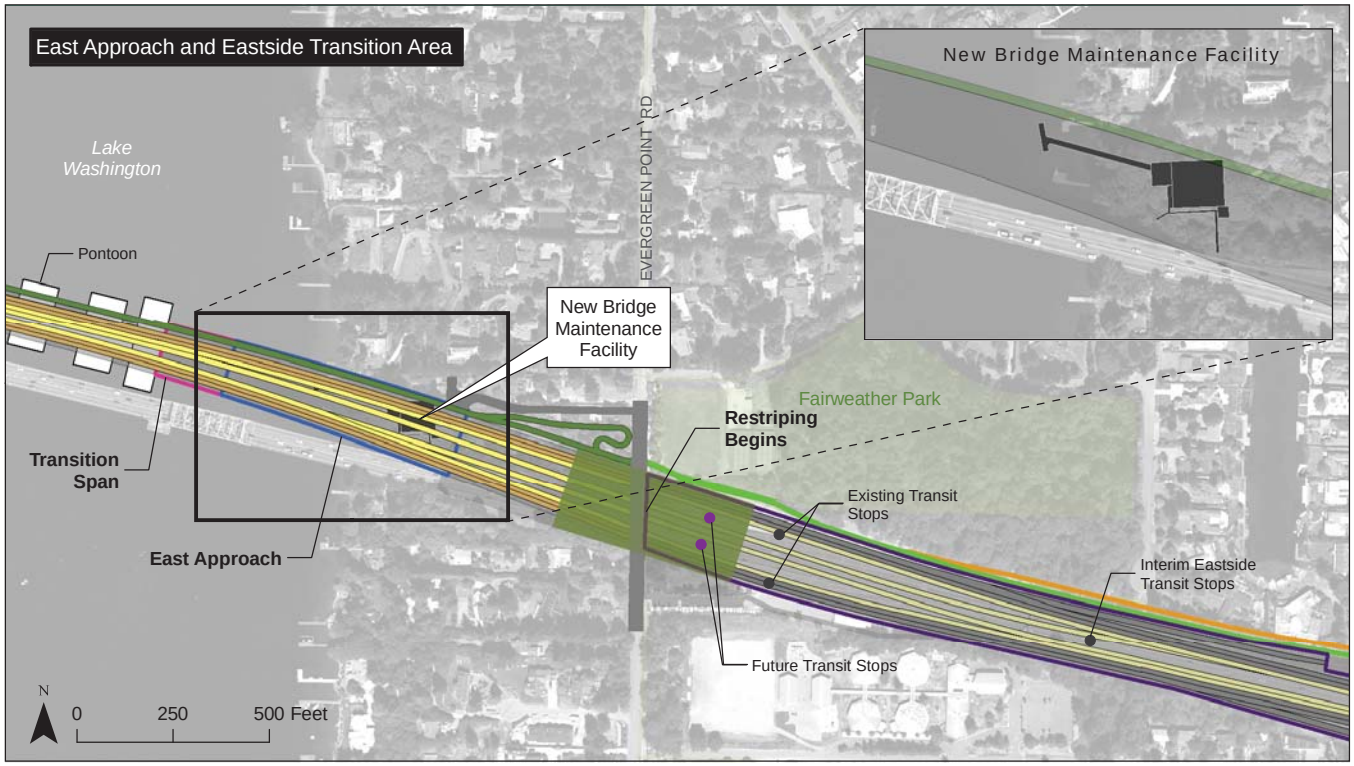
Exhibit 2-26. **Conceptual Plan View of Bridge Maintenance Facility Dock**

Eastside Transition Area

Once the east approach and floating portions of the Evergreen Point Bridge have been replaced, basic grading and paving operations would occur east to Evergreen Point Road, and the Evergreen Point Road transit stop would be relocated to the lid (constructed as part of the SR 520, Medina to SR 202: Eastside Transit and HOV Project) at Evergreen Point Road (Exhibit 2-27).

In order to make ramps and lanes connect for proper traffic operations, the SR 520 main line would be restriped, beginning at the east end of the physical improvements near Evergreen Point Road and extending east to 92nd Avenue NE. Lane channelization in this area would need to be adjusted to tie into improvements made under the SR 520, Medina to SR 202 project.

Exhibit 2-27. East Approach and Eastside Transition Area (Preferred Alternative and Options A, K, and L)

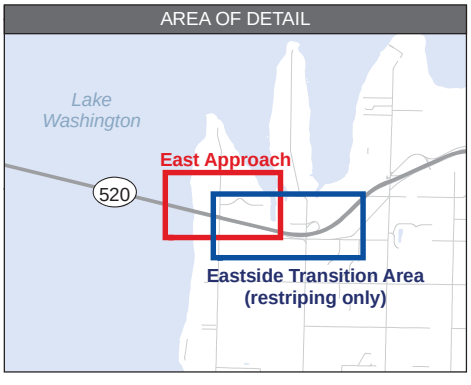


I-5 to Medina Project Elements

- General-purpose lane
- HOV, direct access, and/or transit-only lanes
- Proposed bicycle/pedestrian path
- Pavement
- East approach
- Transition span
- Restriping area

Medina to SR 202 Project Elements

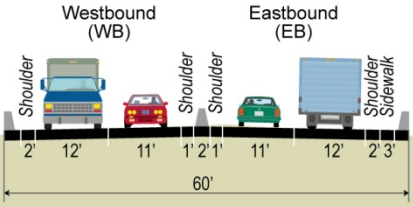
- General-purpose lane
- HOV lane
- Bike path
- Points Loop Trail
- Local road improvements
- Eastside project lid



2.7 What is the No Build Alternative?

The No Build Alternative assumes that, other than normal maintenance and repair activities, the SR 520 corridor between I-5 and Evergreen Point Road would remain exactly the same as it is today (Exhibit 2-28). Under the No Build Alternative, SR 520 would continue to operate as a 4-lane highway with nonstandard shoulders and without a bicycle/pedestrian path. No new facilities would be added and none would be removed, including the unused R.H. Thomson Expressway ramps near the Washington Park Arboretum. Stormwater runoff from the existing roadway surface would continue to discharge to surface waters without treatment. WSDOT would continue to manage traffic using its existing transportation demand management and intelligent transportation system strategies. For the transportation analysis included in this document, it was assumed that traffic in the 2030 No Build Alternative would not be tolled. (See Chapter 1 for a discussion of tolling assumptions used in the traffic model.)

Exhibit 2-28. **No Build Alternative Roadway Cross Section**



NOTE: Dimensions shown on the diagram are on the existing Evergreen Point Bridge.

As described in Chapter 1, the remaining design life of the Evergreen Point Bridge is currently estimated at just 10 to 15 years, and a severe storm could cause it to fail even sooner. The Portage Bay and west approach bridges are also vulnerable to collapse in a severe earthquake. For these reasons, the No Build Alternative is inconsistent with WSDOT's standards for safety and reliability. Given the vulnerabilities of the existing bridges, the No Build Alternative is not a likely scenario; however, it provides a set of baseline conditions to which the expected effects of the project can be compared.

2.8 Could the project be built in phases?

Along with the rest of the nation, Washington State and the Puget Sound region are facing serious revenue shortfalls. Revenue sources for the SR 520, I-5 to Medina Bridge Replacement and HOV Project include allocations from various state and federal sources and from future tolling, but there is still a gap between the estimated cost of the project and the revenue available to build it.

Because of the importance of this project to the region, WSDOT continues to pursue all available avenues of funding. If full project funding becomes available by mid-2012, the entire I-5 to Medina corridor will be completed by December 2018. This construction schedule is used as the baseline in this Final EIS (as it was in the SDEIS) for evaluating the effects of project construction. It represents the highest potential level of concurrent construction activities, and therefore is appropriate for use in gauging the maximum intensity of potential construction effects.

The SDEIS discussed the possibility of constructing the project in separate phases over time, with the vulnerable structures (the Evergreen Point floating bridge, west approach bridge, and Portage Bay bridge) built first. This "Phased Implementation scenario" was analyzed for each

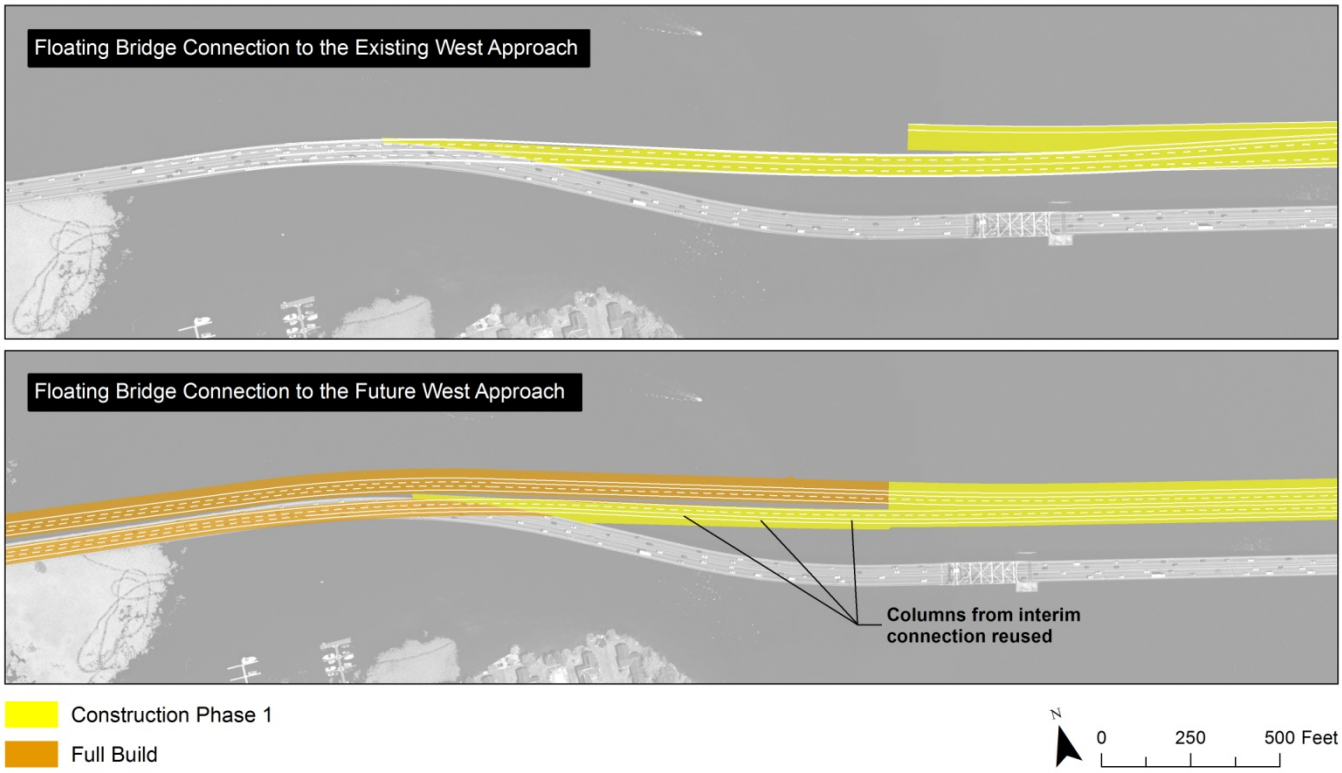
environmental resource. Due to the funding shortfall, FHWA and WSDOT still believe it is prudent to evaluate the possibility of phased construction of the corridor should full project funding not be available by 2012. Currently committed funding is sufficient to construct the Evergreen Point floating bridge and landings; a Request for Proposals has been issued for construction of this portion of the project, with proposals due in June 2011. Accordingly, this Final EIS discusses the potential for the floating bridge and landings to be built as the first phase of the SR 520, I-5 to Medina project. This differs from the SDEIS Phased Implementation scenario, which included the west approach and the Portage Bay bridge in the first construction phase.

The remainder of this section describes the limits of this first construction phase and how it will be evaluated in subsequent sections of the document. The evaluation focuses on how the effects of phased implementation would differ from those of "full build," and on how constructing the project in phases might have different effects than constructing it all at one time. Much of the analysis of the Phased Implementation scenario in Sections 5.15 and 6.17 in the SDEIS is still applicable, and has been included in the corresponding sections of this Final EIS.

It is important to note that while the new floating bridge might be the only portion of the project in place for a period of time, WSDOT's intent is to build the complete project described in this Final EIS. Mitigation measures would be undertaken concurrently with the portion of the project causing the impact. Enhancements (such as lids) would continue to be integral to the project, and would be built at the same time as the corresponding portion of the corridor. WSDOT anticipates that if the floating bridge is built as the first project phase, the remaining components of the project would be built in the same sequence as described in Chapter 1. Any changes in design or construction methods for subsequent project phases that could result in new or different environmental impacts would be subject to reevaluation and potentially additional analysis under NEPA and other applicable environmental regulations.

The floating span is the most vulnerable component of the SR 520 corridor, with a high probability of failure in the foreseeable future. Therefore, if funding is severely limited as discussed above, this easternmost portion of the corridor may be built before the rest of the project. A new six-lane floating bridge (two general-purpose lanes and one inside HOV lane in each direction) would be constructed between Evergreen Point Road in Medina and the existing west approach bridge in Seattle (Exhibit 2-29). The floating bridge and east approach (including the bridge maintenance facility) would be replaced with new structures and the roadway striped to its ultimate 6-lane width, tapering to 4 lanes at the west end of the floating bridge. The east approach would tie in to the 6-lane configuration of the SR 520,

Exhibit 2-29. **Construction Phase 1 Transition Area**



Medina to SR 202 project, which is assumed to have been completed by the time the floating bridge and east approach are constructed.

To connect the western end of the floating span to the existing west approach, WSDOT would construct a new interim connection, four lanes wide and approximately 1,500 feet long, between the new west transition span and the existing west approach bridge (see Exhibit 2-28). This interim connection was also described in Section 2.4 of the SDEIS. It would be supported on columns that would later be reused for the eastbound portion of the new west approach bridge. When the new west approach bridge is constructed, the interim bridge deck would be removed and the columns heightened to support the west approach bridge at its planned grade.

To address the potential for phased construction, the Final EIS evaluates construction of the floating bridge and landings separately as a subset of the "full build" analysis. This evaluation is qualitative in nature, and is included in Chapters 5 and 6. It assumes that the floating bridge and landings would be the first portion of the corridor to be constructed and would operate as the only constructed portion until funding is secured for the other project components. Since all improvements needed for the first phase are within the overall footprint of the facilities to be provided by full buildout, the discussion in Chapters 5 and 6 focuses on differences in effects resulting from the timing of construction, rather than the extent of impacts.

This portion of the SR 520, I-5 to Medina project has been defined as a design-build project, and proposals for its construction are being prepared by contractors for submittal in June 2012. Contract award is currently anticipated in fall 2012, with bridge opening as early as 2014. All applicable environmental commitments contained in the Record of Decision and in project permit conditions will be included as contract stipulations for the design-build project.