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**SR 520 Bridge Replacement
and HOV Project Draft EIS
6-Lane Alternative Options**

**Addendum to
Public Services and Utilities
Discipline Report**



SR 520 Bridge Replacement
and HOV Project EIS
6-Lane Alternative Options

**Addendum to Public Services
and Utilities Discipline Report**



Prepared for
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Sound Transit

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Acronyms and Abbreviations

EIS	Environmental Impact Statement
SPU	Seattle Public Utilities
WSDOT	Washington State Department of Transportation



Introduction

This addendum to the *Public Services and Utilities Discipline Report* (CH2M HILL 2005; Appendix N to the Draft Environmental Impact Statement [EIS]) describes the affected environment and environmental consequences of three options to the original 6-Lane Alternative. Two of these options are in Seattle and one is on the Eastside.

What are the key points of this report?

All three options would have the same or similar effects on public services and utilities as the original 6-Lane Alternative. Most effects would be temporary, resulting from construction. After completion of the proposed project, many of the project's effects would be positive and would create the potential to improve the response times of fire, emergency medical, and police vehicles throughout the project area.

Utilities may also be affected temporarily during construction, due to relocation and construction activities.

What options are being considered in this addendum?

6 Lanes with Pacific Street Interchange Option

This option would remove the Montlake interchange along SR 520 and would construct a new interchange at Pacific Street, just east of the Montlake interchange. Exhibit 1 shows the proposed lane configuration for this option.

The new interchange would be primarily located over the WSDOT-owned peninsula near the Washington Park Arboretum. A new on- and off-ramp to and from the north would extend to Pacific Street at the University of Washington. A column-supported ramp of four general-purpose lanes (two lanes in each direction) extending over Union Bay (referred to as the Union Bay Bridge in this addendum) from the new interchange would touch down at the University of Washington Husky Stadium parking lot before joining the intersection of Pacific Street and Montlake Boulevard. At that intersection, the roadway would be lowered 8 to 10 feet from the existing elevation to provide vehicle-only



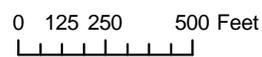
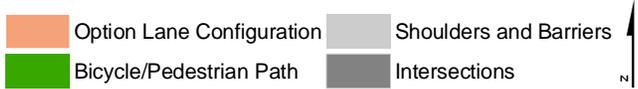


Exhibit 1. Lane Configuration of the 6 Lanes with Pacific Street Interchange Option
 SR 520 Bridge Replacement and HOV Project

access. The intersection would be covered to allow pedestrian access above and away from vehicular traffic.

The roadway on Montlake Boulevard north of Pacific Street would be widened to the east until just south of Northeast 45th Street. The navigational channel crossed by the new Union Bay Bridge would be the same width as the existing Union Bay reach (175 feet), with a vertical clearance of either 70 or 110 feet.¹ Columns would be placed just outside the width of the ship canal to not block boat traffic.

Ramps to and from Lake Washington Boulevard would still be included in this option; however, their footprint would be slightly different from the original 6-Lane Alternative. The ramp connections to and from Lake Washington Boulevard and to and from the Union Bay Bridge would construct a full diamond interchange, as opposed to a partial diamond interchange under the original 6-Lane Alternative. This full diamond interchange would provide more access to and from Lake Washington Boulevard. No access to or from SR 520 would be provided at Montlake Boulevard.

From Montlake Boulevard to I-5, SR 520 would be six lanes wide (three in either direction). The profile of the Portage Bay Bridge would not differ under this option from the original 6-Lane Alternative. Buses would access SR 520 via the Union Bay Bridge through the University area, providing for a more direct connection between buses and the proposed Sound Transit North Link Station at Husky Stadium. Instead of connecting to the Montlake interchange as in the original 6-Lane Alternative, the bicycle/pedestrian path would follow the Union Bay Bridge from SR 520 and would end at the Pacific Street interchange, close to the Burke-Gilman Trail.

Second Montlake Bridge Option

The intent of the Second Montlake Bridge option is to narrow the SR 520 footprint through the Montlake neighborhood, while providing for transit (bus) access from SR 520 to the University of Washington. Exhibit 2 shows the propose lane configuration for this option, which

¹ The establishment of a new governing clearance would prevent any vessel with a higher clearance requirement from traveling east from the Montlake Cut to Lake Washington north of the Evergreen Point Bridge. Before establishing a new governing clearance, the Coast Guard will consider whether vessels requiring a higher clearance have an essential use in north Lake Washington. Two vessels with a vertical clearance higher than 70 feet are known to travel this part of the lake. No vessels with a vertical clearance higher than 110 feet travel this part of the lake.





- Option Lane Configuration
- Bicycle/Pedestrian Path
- Shoulders and Barriers
- Intersections

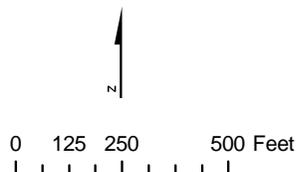


Exhibit 2. Lane Configuration of the Second Montlake Bridge Option

SR 520 Bridge Replacement and HOV Project

would be the same as the No Montlake Freeway Transit Stop option, except that it would also include a second Montlake bridge across the Montlake Cut. This bridge would be a parallel bascule (draw) bridge located just east of the existing Montlake Bridge. One bridge would carry northbound traffic, and one would carry southbound traffic.

South Kirkland Park-and-Ride Transit Access – 108th Avenue Northeast Option

The intent of the South Kirkland Park-and-Ride Transit Access – 108th Avenue Northeast option is to improve access for buses to the South Kirkland Park-and-Ride from eastbound SR 520 and from the South Kirkland Park-and-Ride to westbound SR 520. This option, which is shown in Exhibit 3, would add a new transit/HOV-only westbound on-ramp from 108th Avenue Northeast and a new transit/HOV-only eastbound off-ramp to 108th Avenue Northeast.

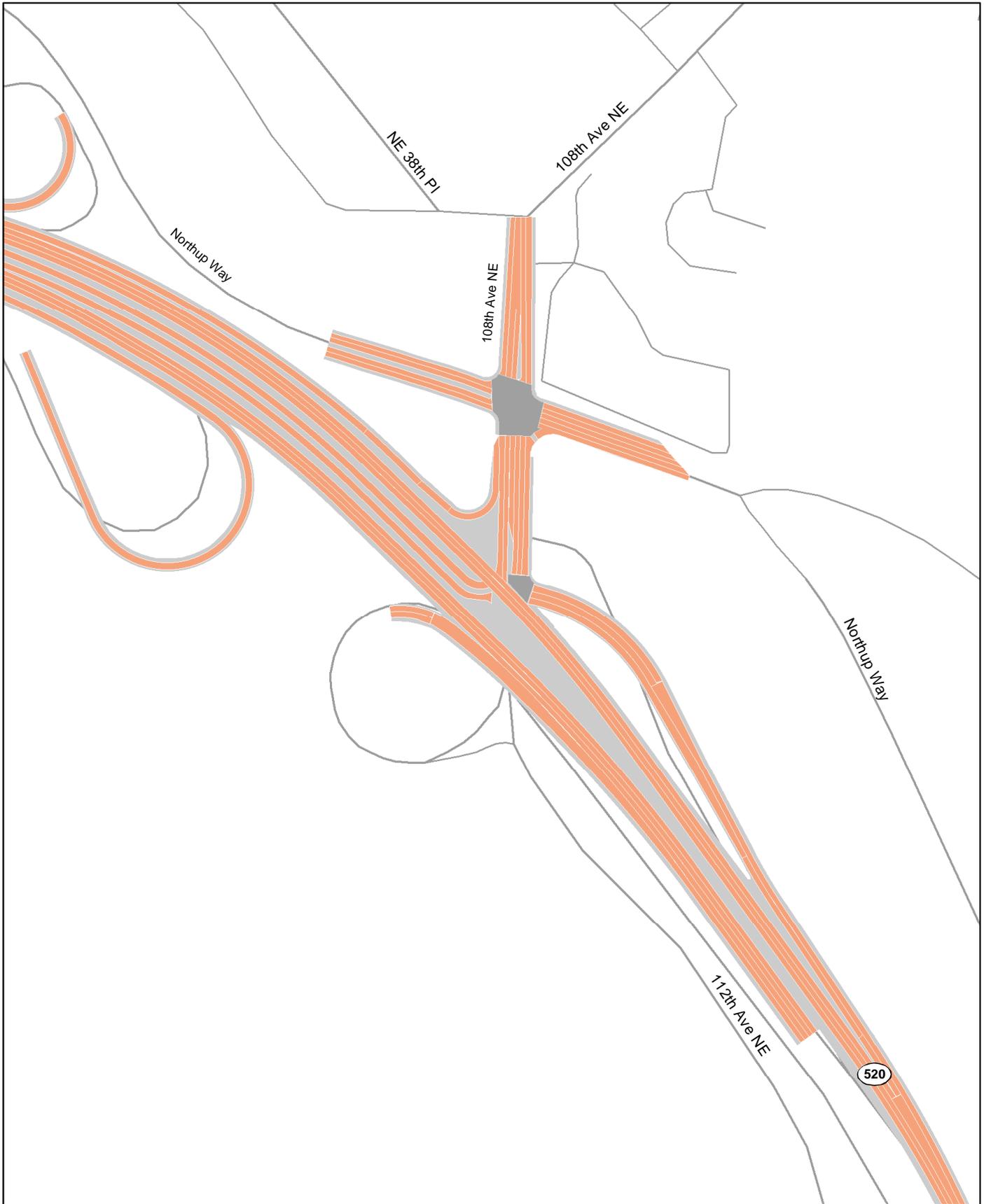
The footprint of SR 520 east of Bellevue Way would be widened slightly to accommodate the new ramps. Both 108th Avenue Northeast and Northup Way would be widened and improved under this option. One lane would be added to 108th Avenue Northeast between the eastbound on-ramp and 38th Place Northeast. Along with the additional through lane on 108th Avenue Northeast, the northbound leg of the 108th Avenue Northeast/Northup Way intersection would be channelized to include two exclusive left-turn lanes, a through lane, and a shared through/right-turn lane.

There is also a possibility for adding a westbound second left-turn lane at the 108th Avenue Northeast/Northup Way intersection to facilitate clearing the left-turn queue and serving a higher number of westbound left-turn and through trips.

What additional information was collected for this analysis?

Additional information collected for this analysis included the location of public service and utility facilities and service areas outside of the area analyzed for the original 6-Lane Alternative. These facilities and service areas are fire stations, police stations, schools, churches, community centers, and major utility lines. The additional areas analyzed included the University of Washington campus, the University District neighborhood, and the Laurelhurst neighborhood.





- Option Lane Configuration
- Shoulders and Barriers
- Intersections

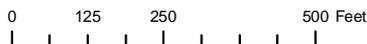


Exhibit 3. Lane Configuration for the South Kirkland Park-and-Ride Transit Access - 108th Avenue Northeast Option
 SR 520 Bridge Replacement and HOV Project

Affected Environment

How was the information collected?

Information about the public service and utility characteristics was collected using the same methods discussed in the *Public Services and Utilities Discipline Report*.

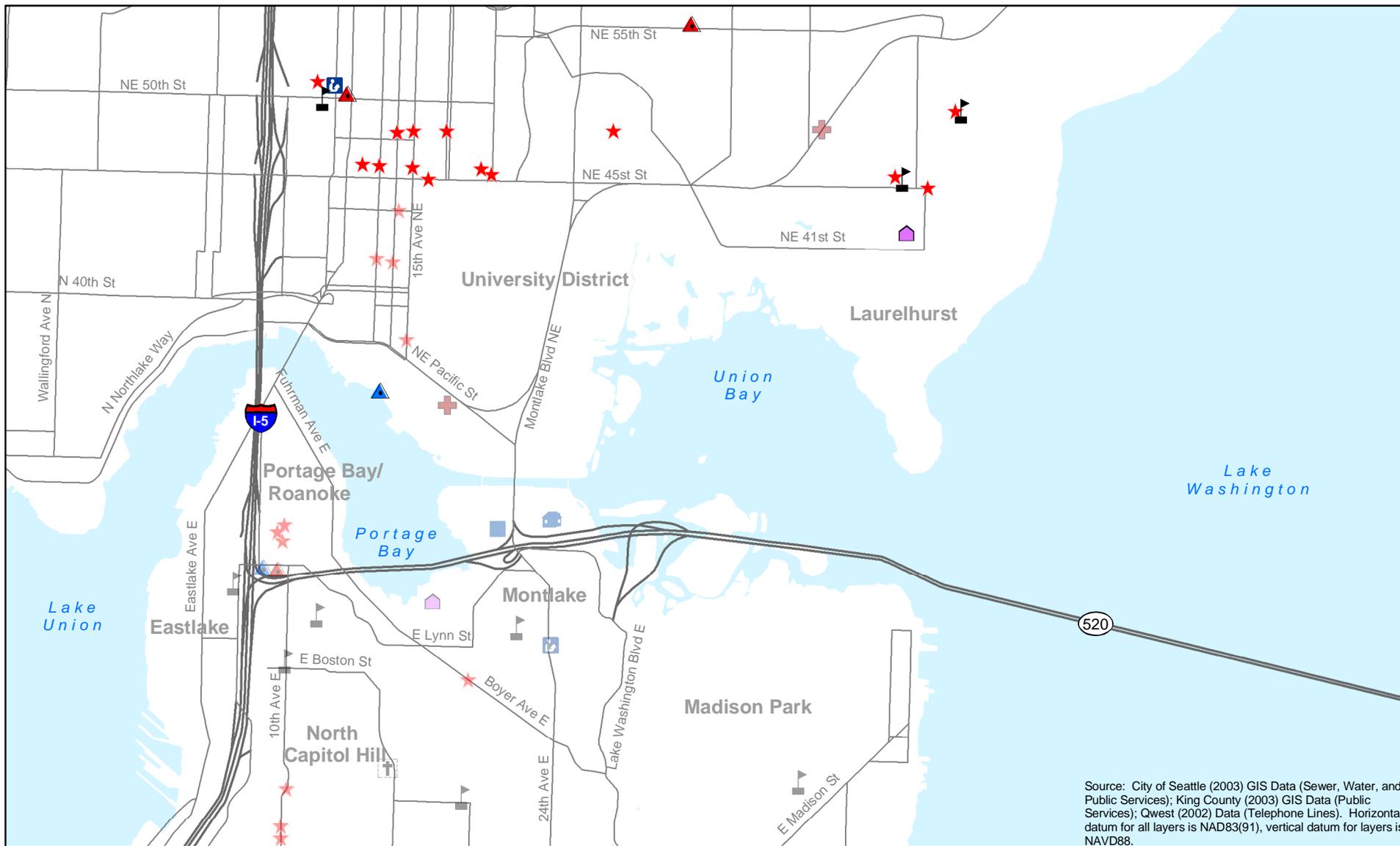
What are the existing public services and utilities characteristics of the project area?

This addendum discusses those public services and utility characteristics located in the neighborhoods and communities in the project area that were not affected by the original 6-Lane Alternative. Refer to the *Public Services and Utilities Discipline Report* for information on the public services and utilities characteristics for the original 6-Lane Alternative. This addendum provides additional information on existing public service and utility characteristics for the Seattle project area only because there are no additional existing public services and utilities characteristics in the Lake Washington and Eastside project areas.

The two Seattle options would extend into Seattle project areas not affected by the original 6-Lane Alternative. Additional information is provided for the University of Washington campus, the University District neighborhood, and the Laurelhurst neighborhood. Exhibits 4 and 5 show existing and additional public service and utility characteristics in the Seattle project area.

The University of Washington operates a utility system that serves campus facilities. Many of their utilities are in tunnels approximately 6 to 7 feet wide by 8.5 to 10 feet high that run beneath Pacific Place and Rainier Vista. These tunnels continue underneath many of the university facilities located west of Montlake Boulevard. In addition, the utility tunnels bisect Montlake Boulevard, Pacific Street, and Campus Parkway multiple times. The closest utility tunnel to the Montlake Boulevard/Pacific Street intersection is approximately 400 feet west of the intersection bisecting Pacific Street.





Source: City of Seattle (2003) GIS Data (Sewer, Water, and Public Services); King County (2003) GIS Data (Public Services); Qwest (2002) Data (Telephone Lines). Horizontal datum for all layers is NAD83(91), vertical datum for layers is NAVD88.

- | | |
|------------------|-----------------|
| Community Center | Church |
| Cemetery | Fire Station |
| Government | Law Enforcement |
| Museum | Hospital |
| City Hall | School |
| Library | |

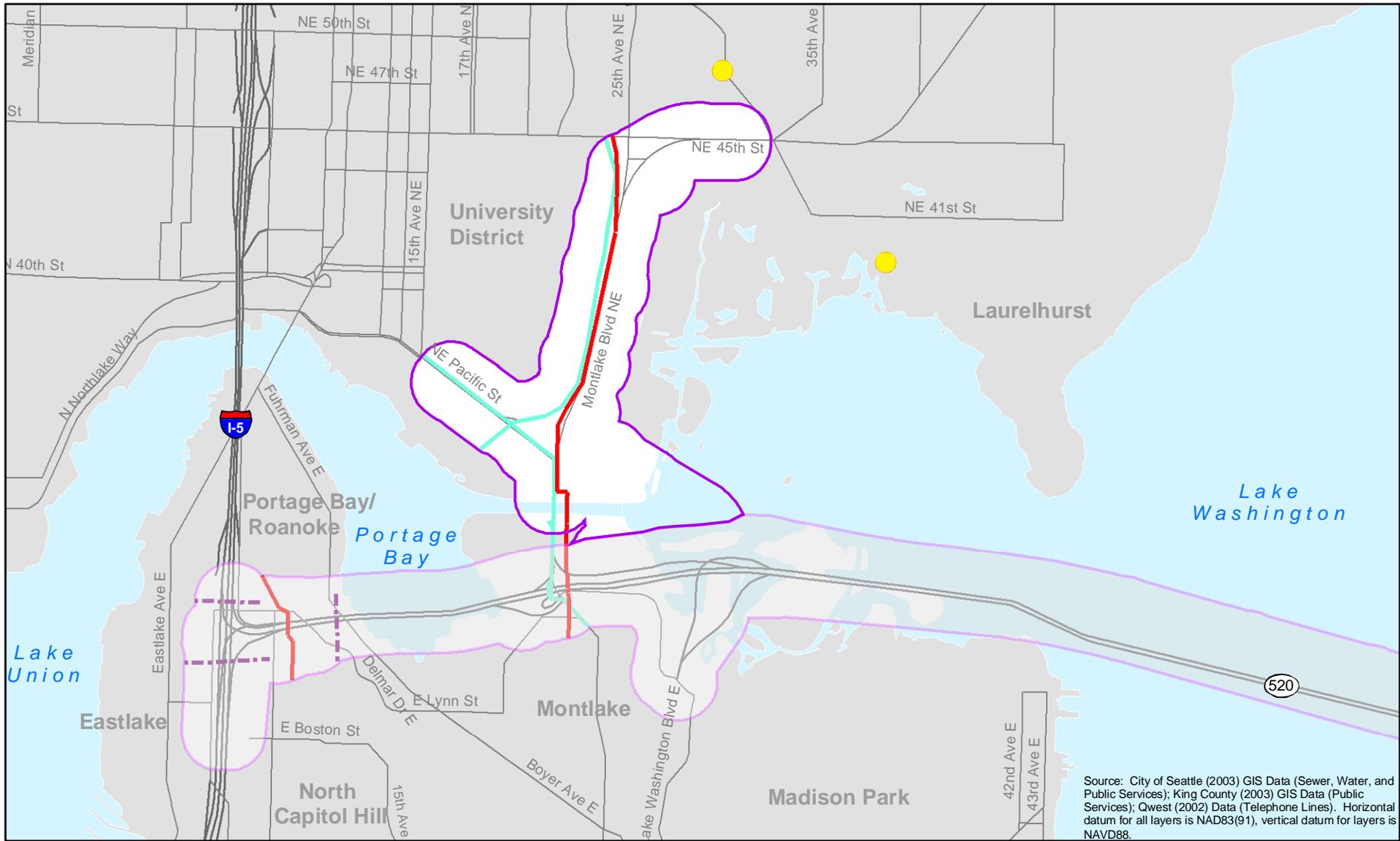
* shaded points were discussed in original Discipline Report

0 1,000 2,000 Feet



Exhibit 4. Public Services Locations in the Seattle Project Area

SR 520 Bridge Replacement and HOV Project



Source: City of Seattle (2003) GIS Data (Sewer, Water, and Public Services); King County (2003) GIS Data (Public Services); Qwest (2002) Data (Telephone Lines). Horizontal datum for all layers is NAD83(91), vertical datum for layers is NAVD88.

- Sewer Pump Station
- - - Main Feeder Telephone Line
- Water Main Line
- Major sewage conveyance system
- Additional Study Area
- Study Area

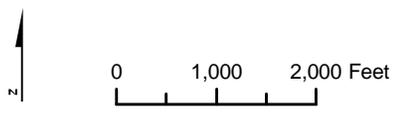


Exhibit 5. Utility Locations in the Seattle Project Area
 SR 520 Bridge Replacement and HOV Project

What public services and utilities are in the expanded project area?

Fire and Emergency Medical Services

Two additional stations would provide service to the project area. They are Seattle Fire Department's Station #17, located at 1050 Northeast 50th Street, and Station #38, located at 5503 33rd Avenue Northeast (Seattle Fire Department 2005). Exhibit 4 shows the locations of these additional stations.

There are no additional hospitals in the project area beyond those discussed for the original 6-Lane Alternative.

Police Districts

In addition to the law enforcement agencies discussed for the original 6-Lane Alternative, the University of Washington has its own police department. The University of Washington Police Department provides law enforcement and performs police functions exclusively for the main campus of the University. Their police station, located at 1117 Northeast Boat Street, consists of 43 sworn officers and 26 employees, including office and administrative support staff, dispatchers, and parking enforcement officers (University of Washington 2005b). Exhibit 4 shows the location of the University of Washington Police Department.

An additional Seattle Police Department precinct would respond to calls in Seattle. The Seattle Police Department North Precinct, located at 10049 College Way North, would respond to calls in the project area north of the Montlake Bridge (Seattle Police Department 2005).

Schools

There are no additional schools near the project footprint beyond those described for the original 6-Lane Alternative; however, a number of Seattle Public Schools' attendance boundaries border or include the Seattle project area (Seattle Public Schools 2005). In addition, there are private schools located near the Seattle project area (University Child Development School 2005; Villa Public Academy 2005). Exhibit 6 lists the schools that either have attendance boundaries that border, include, or are located near the Seattle project area.



Exhibit 6. Schools in the Seattle Project Area

School Name	Address	City	Grade	Public/Private
Laurelhurst Elementary	2409 22nd Avenue East	Seattle	K-5	Public
Bryant Elementary	3311 Northeast 60th Street	Seattle	K-5	Public
John Stanford International	4057 5th Avenue Northeast	Seattle	K-5	Public
Eckstein Middle School	3003 Northeast 75th Street	Seattle	6-8	Public
Hamilton Middle School	1610 North 41st Street	Seattle	6-8	Public
Roosevelt High School	1410 Northeast 66th Street	Seattle	9-12	Public
Villa Academy	5001 Northeast 50th Street	Seattle	K-8	Private
University Child Development	5062 9th Avenue Northeast	Seattle	K-5	Private

Source: Seattle Public Schools (2005).

Public school bus routes serving these schools use Montlake Boulevard Northeast and Northeast 45th Street.

Churches

In addition to the churches discussed for the original 6-Lane Alternative, the Seattle project area contains a number of churches and cathedrals of various denominations (Exhibit 4; Area Connect 2005). Religious facilities within a couple of blocks of the project footprint are the City Calvary Chapel at 1610 North 41st Street, the Newman Center at University of Washington at 4502 20th Avenue Northeast, and the Chabad-Lubavitch Chabed House at 4541 19th Avenue Northeast.

Other Prominent Community Centers or Facilities

In addition to the community centers discussed for the original 6-Lane Alternative, the Laurelhurst Community Center is near the Seattle project area. The center, which is in the Laurelhurst neighborhood at 4554 Northeast 41st Street, is operated by the Seattle Parks and Recreation Department. The center offers a wide array of programs and special events for all ages, including dance classes, sports programs, and adult fitness.



Cemeteries

There are no additional cemeteries located in the project area beyond those discussed for the original 6-Lane Alternative.

Governmental Offices

There are no additional governmental offices located in project area beyond those discussed for the original 6-Lane Alternative.

Electricity and Natural Gas Services

There are no additional providers of electricity and natural gas services in the project area beyond those discussed for the original 6-Lane Alternative.

Telephone Service

There are no additional providers of telephone service in the project area beyond those discussed for the original 6-Lane Alternative.

Cable Service

There are no additional providers of cable service in the project area beyond those discussed for the original 6-Lane Alternative.

Water, Sewer, and Garbage Service

There are no additional water, sewer, and garbage service providers in the project area beyond those discussed for the original 6-Lane Alternative. Both water and sewer mains travel through the Seattle project area. The water main travels along Montlake Boulevard, and the sewer main travels along Pacific Street and Montlake Boulevard. Exhibit 5 shows their locations.



Potential Effects of the Project

What methods were used to evaluate effects?

The same methods used to evaluate the potential effects of the original 6-Lane Alternative were used to evaluate the 6-Lane Alternative options. There are no additional potential effects associated with the Lake Washington project area; therefore, a discussion regarding this area is not included in this addendum.

How would the project permanently affect public services and utilities?

Permanent effects on public services and utilities would be the same as those discussed for the original 6-Lane Alternative, except as noted below.

6 Lanes with Pacific Street Interchange Option

Public service vehicles would have better access to the area north of Montlake Bridge and potentially reduced response and travel times. In addition, public service vehicles (such as fire, emergency medical, police, and school buses) that must travel across the Montlake Bridge would no longer be delayed if the bridge was open. Although congestion in the Montlake neighborhood would be reduced, the removal of the Montlake on- and off-ramps may increase the response and travel times for vehicles that provide service to the Montlake neighborhood and may increase travel times for those employed or visiting the National Oceanic and Atmospheric Administration Northwest Fisheries Science Center.

Second Montlake Bridge Option

The addition of the second Montlake Bridge may reduce congestion along Montlake Boulevard, as long as the bridge is not open, which would reduce response and travel times for public service vehicles traveling through the area.



South Kirkland Park-and-Ride Transit Access – 108th Avenue Northeast Option

By reducing public service vehicle response and travel times, the direct access ramp with this option would have a positive benefit on any public service vehicles allowed to use the direct access ramp.

How do the options differ in their effects on public services and utilities?

The main difference between the original 6-Lane Alternative and the 6 Lanes with Pacific Street Interchange option is the addition of the Union Bay Bridge and the extension of the project area from Montlake Boulevard to Northeast 45th Street. This option would affect a larger area of utilities than the original 6-Lane Alternative. In addition, public service vehicles would no longer be impeded by the opening of the Montlake Bridge, which may increase response and travel times.

The Second Montlake Bridge option would add capacity and may improve response and travel times along Montlake Boulevard for public service vehicles.

The addition of the direct access ramp associated with the South Kirkland Park-and-Ride Transit Access - 108th Avenue Northeast option would improve response and travel times of public service vehicles that use the ramp compared to the original 6-Lane Alternative.

How would project construction temporarily affect public services and utilities?

Each option would have the same temporary construction effects on public services and utilities as discussed for the original 6-Lane Alternative.

What construction effects are common throughout the project area?

Construction effects common throughout the project area would be the same as those discussed for the original 6-Lane Alternative.



What are the construction effects in the project area?

The effects of construction in the project area would be the same as discussed for the original 6-Lane Alternative, except as noted below for the two Seattle options.

6 Lanes with Pacific Street Interchange Option

Access through the Pacific Street interchange and along Montlake Boulevard may be affected at times because of construction activities related to the depressing of the Montlake Boulevard/Pacific Street intersection and the widening of Montlake Boulevard. These construction activities may affect access for people who use the lots east of the campus and who need to cross Montlake Boulevard. In addition, widening Montlake Boulevard may require the relocation of the Seattle Public Utilities (SPU) water main (Exhibit 5) and the relocation of (SPU) stormwater lines that connect to the existing King County sewer trunk line (Exhibit 5).

Second Montlake Bridge Option

During construction of the second Montlake Bridge, access across the Montlake Bridge may be affected. The public services and utilities discipline team expects that the Montlake Bridge would remain in operation during construction; however, construction activities may require temporary closures.



Mitigation

Mitigation measures to minimize potential construction and operational effects on public services and utilities are the same as discussed for the original 6-Lane Alternative. The measures may be refined or revised upon selection of the preferred alternative and when construction techniques are finalized.

What has been done to avoid or minimize negative effects?

The effects on public services and utilities from construction and operation of the 6-Lane Alternative options would be minimal. Design or construction measures would be taken to prevent or further minimize potential effects on public services and utilities. During construction, SR 520 would remain open to four lanes of traffic and the Montlake Bridge would remain open to traffic at most times, maintaining access for public service vehicles in the project area.

How could the project compensate for the unavoidable negative effects that are common to all areas?

The potential mitigation measures that would be implemented are the same as those discussed for the original 6-Lane Alternative and would apply to areas not discussed in the *Public Service and Utilities Discipline Report*, such as Montlake Boulevard to Northeast 45th Street. The following additional potential mitigation measures would also be implemented:

- Ensure pedestrian access is maintained to and from parking areas around Husky Stadium and the University of Washington during construction.
- Maintain access to the University of Washington parking areas during construction.



References

Area Connect. 2005. *Seattle Washington Churches and Religion Resources*. <http://seattle.areaconnect.com/churches.htm>, last accessed November 22, 2005.

CH2M HILL, Parametrix, Inc., Parsons Brinckerhoff, and Michael Minor and Associates. 2005. *Public Services and Utilities Discipline Report*. SR 520 Bridge Replacement and HOV Project EIS. Prepared for Washington State Department of Transportation.

City of Seattle Department of Planning and Development. 2005. *Seattle's Comprehensive Plan*. http://www.seattle.gov/dpd/Planning/Seattle_s_Comprehensive_Plan/DPD_001178.asp, last updated May 18, 2005, accessed November 22, 2005.

Seattle Fire Department. 2005. *Seattle Fire Department Fire Stations*. <http://www.seattle.gov/fire/firestations/stations.htm>, last updated March 29, 2005, accessed November 22, 2005.

Seattle Police Department. 2005. *Seattle Police Department North Precinct*. <http://www.cityofseattle.net/police/Precincts/North/default.htm>, accessed November 22, 2005.

Seattle Public Schools. 2005. *School Alphabetical Listing*. <http://www.seattleschools.org/area/main/schools.xml>, last updated August 6, 2004, accessed November 22, 2005.

University Child Development School. 2005. *Explore UCDS*. http://www.ucds.org/main_explore_page.html, last accessed November 22, 2005.

University of Washington. 2005a. *UW Seattle Campus Master Plan*. <http://www.washington.edu/community/cmp/cmp.html>, last updated July 15, 2003, accessed November 22, 2005.

University of Washington. 2005b. *UW Police Department*. <http://www.washington.edu/admin/police/index.php>, last updated September 27, 2005, accessed November 22, 2005.

Villa Public Academy. 2005. *School Profile*. <http://www.thevilla.org>, accessed November 22, 2005.

