

19 April 2005

**SR 520 Bridge Replacement
and HOV Project Draft EIS**

**Appendix Q
Social
Discipline Report**



SR 520 Bridge Replacement and HOV Project Draft EIS

Social Discipline Report



Prepared for
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Federal Highway Administration
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Acronyms and Abbreviations

ADA	Americans with Disabilities Act
EIS	Environmental Impact Statement
FHWA	Federal Highway Administration
GIS	geographic information system
HOV	high-occupancy vehicle
LOS	level of service
MOHAI	Museum of History and Industry
mph	miles per hour
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
WSDOT	Washington State Department of Transportation



Introduction

Why are social elements considered in an EIS?

The National Environmental Policy Act (NEPA), USC § 4231, requires that social impacts be given adequate consideration in project decision-making. This report provides the information, as identified in the *WSDOT Environmental Procedures* (2004), needed to document potential effects on the social elements of the project area.

The term social is used to describe a range of issues that affect neighborhoods and the people living within them. The large scale of some transportation projects and the large amounts of traffic that travel on them can have pronounced effects.

This report covers several key topics:

- Community cohesion, which is the ability of people to communicate with each other in ways that lead to a sense of community. The discussion of community cohesion describes neighborhood population characteristics and linkages with churches, schools, and other community facilities.
- Regional and community growth, which looks at regional population characteristics and their potential to grow and change
- Pedestrian, transit, and bicycle facilities

Some of the topics covered in this discipline report are summarized from the *Recreation Discipline Report* (Appendix O) and the *Public Services and Utilities Discipline Report* (Appendix N). In this report, any effects on recreational or public services and utilities facilities are looked at in terms of the effects on the larger community.

What are the key points of this report?

This discipline report considers effects on the neighborhoods surrounding SR 520 in the Seattle and Eastside project areas with respect to community cohesion; recreation; regional and community growth; services; and pedestrian, bicyclist, and transit facilities. The effects of tolls are also considered.

The Seattle and Eastside project area communities and neighborhoods are well established. While some of the housing stock is condominiums and apartments, most housing in the project area is single-family



residences. The neighborhoods surrounding SR 520 tend to be predominantly white and affluent, with median household incomes and median home values greater than those countywide.

Community Cohesion

SR 520 was originally built during the 1960s. At that time, the highway divided neighborhoods in both the Seattle and the Eastside project areas. This project's alternatives would not further isolate or physically separate the project area's neighborhoods. Under the 6-Lane Alternative, the Washington State Department of Transportation (WSDOT) would construct five lids over SR 520, partially reconnecting neighborhoods separated when SR 520 was originally built. In addition to carrying local streets over SR 520, these lids would be landscaped open space areas with paths and places for small groups to gather.

The alternatives would not displace affordable housing or community facilities, and would also not create physical impediments that would make it more difficult for people to reach community facilities or affordable housing. If the Museum of History and Industry (MOHAI) was not moved as planned by the time SR 520 is being constructed, then that facility would be displaced.

The project alternatives' effects on population changes are discussed in the *Regional and Community Growth* section.

Recreation

In the Seattle project area, both the 4-Lane and 6-Lane Alternatives would require the acquisition of portions of Bagley Viewpoint, McCurdy Park, East Montlake Park, and the Washington Park Arboretum. The 6-Lane Alternative would require the most permanent acquisition of parkland (3.67 acres versus 1.96 acres for the 4-Lane Alternative). In the Eastside project area, the 6-Lane Alternative would remove a combined 0.3 acre of Fairweather Park and Wetherill Park from recreational use during construction, but this area would be returned to parkland after the project is built. Both build alternatives would require the relocation and reconstruction of the Points Loop Trail in certain locations. The build alternatives would not make it more difficult to reach recreational facilities in the project area.

Noise, air quality, and water quality would improve under the 4-Lane and 6-Lane Alternatives at the Seattle and Eastside project area parks.



The 4-Lane and 6-Lane Alternatives would both improve and degrade the visual experience at recreational facilities.

Regional and Community Growth

The proposed project would not directly affect either the number or the type of people living in the project area neighborhoods. The project would displace two residences under the 4-Lane Alternative and two residences under the 6-Lane Alternative. In addition, the alternatives would not negatively affect the quality of life in the neighborhoods. Overall, the project area contains predominantly owner-occupied and sought-after housing, as evidenced by the high median home values. Given the lack of displacements and the improvements in quality of life caused by the project, the composition of the project area's communities and neighborhoods would not change.

The Puget Sound Regional Council has forecasted 2030 population and employment for the project area under the No Build Alternative, the 4-Lane Alternative, and the 6-Lane Alternative. Population and employment changes from the No Build Alternative to the 4-Lane and 6-Lane Alternative would be minor, ranging between -0.25 percent to 0.5 percent in the Seattle project area and 0.25 percent to 1.0 percent in the Eastside project area.

Services

The build alternatives would not change the delivery of services within the project area. The project would not displace any services and would not create any impediments to reaching those services.

Pedestrian, Bicycle, and Transit Facilities

The 4-Lane and the 6-Lane Alternatives would improve capacity, circulation, and travel times for bicyclists and pedestrians. Both alternatives would provide a continuous bicycle/pedestrian path from west of the Montlake Boulevard interchange to Northeast Points Drive in Kirkland.

The 6-Lane Alternative would outperform the 4-Lane Alternative in terms of transit circulation, travel time, and access, and would similarly affect capacity. The 6-Lane Alternative would have continuous eastbound and westbound high-occupancy vehicle (HOV) lanes from I-5 to Bellevue Way. The new transit stops would have elevator access, making the stops more easily accessible for persons with physical



disabilities. The 4-Lane Alternative would provide Americans with Disabilities Act (ADA)-compliant ramps, but not elevators.

Both the 4-Lane and 6-Lane Alternatives would increase demand for transit. According to Appendix R, *Transportation Discipline Report*, the increase in the number of buses needed for the 4-Lane and 6-Lane Alternatives, in comparison to the No Build Alternative, would be 30 percent and 31 percent, respectively.

Tolls

Low-income residents would find it more difficult financially to cross Lake Washington by single- and double-occupant vehicles to work, or reach community facilities, affordable housing, and public services because of the implementation of a toll under the 4-Lane and 6-Lane Alternatives. Because of this, the toll would likely lead to low-income residents choosing to find alternative routes or means of transportation across Lake Washington, such as I-90 or transit. The alternative routes would increase travel time. These issues are also discussed in Appendix G, *Environmental Justice Analysis*.

What are the project alternatives?

The SR 520 Bridge Replacement and HOV Project area comprises neighborhoods in Seattle from I-5 to the Lake Washington shore, Lake Washington, and Eastside communities and neighborhoods from the Lake Washington shore to 124th Avenue Northeast just east of I-405. Exhibit 1 shows the general location of the project. Neighborhoods and communities in the project area are:

- Seattle neighborhoods – Roanoke/Portage Bay, North Capitol Hill, Montlake, University District, Laurelhurst, and Madison Park
- Eastside communities and neighborhoods – Medina, Hunts Point,



Exhibit 1. Project Vicinity Map



Clyde Hill, Yarrow Point, Kirkland (the Lakeview neighborhood), and Bellevue (the North Bellevue, Bridle Trails, and Bel-Red/Northrup neighborhoods)

The SR 520 Bridge Replacement and HOV Project Draft EIS evaluates the following three alternatives and one option:

- No Build Alternative
- 4-Lane Alternative
 - Option with pontoons without capacity to carry future high capacity transit
- 6-Lane Alternative

Each of these alternatives is described below. For more information, see the *Description of Alternatives and Construction Techniques Report* contained in Appendix A of this EIS.

What is the No Build Alternative?

All EISs provide an alternative to assess what would happen to the environment in the future if nothing were done to solve the project's identified problem. This alternative, called the No Build Alternative, means that the existing highway would remain the same as it is today (Exhibit 2). The No Build Alternative provides the basis for measuring and comparing the effects of all of the project's build alternatives.

This project is unique because the existing SR 520 bridges may not remain intact through 2030, the project's design year. The fixed spans of the Portage Bay and Evergreen Point bridges are aging and are vulnerable to earthquakes; the floating portion of the Evergreen Point Bridge is vulnerable to wind and waves.

In 1999, the Washington State Department of Transportation (WSDOT) estimated the remaining service life of the Evergreen Point Bridge to be 20 to 25 years based on the existing structural integrity and the likelihood of severe windstorms. The floating portion of the Evergreen Point Bridge was originally designed for a sustained wind speed of 57.5 miles per hour (mph), and was rehabilitated in 1999 to withstand sustained winds of up to 77 mph. The current WSDOT design standard for bridges is to withstand a sustained wind speed of 92 mph. In order to bring the

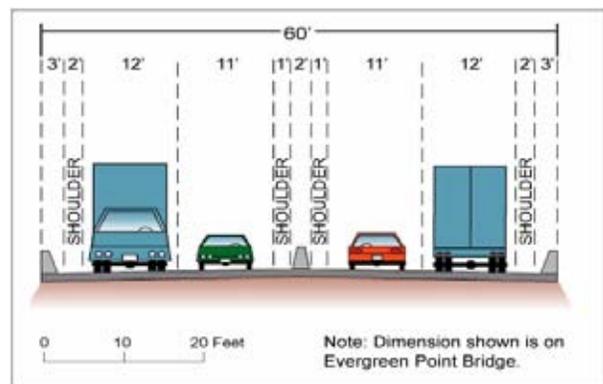


Exhibit 2. No Build Alternative



Evergreen Point Bridge up to current design standards to withstand at least 92 mph winds, the floating portion must be completely replaced.

The fixed structures of the Portage Bay and Evergreen Point bridges do not meet current seismic design standards because the bridge is supported on hollow-core piles. These hollow-core piles were not designed to withstand a large earthquake. They are difficult and cost prohibitive to retrofit to current seismic standards.

If nothing is done to replace the Portage Bay and Evergreen Point bridges, there is a high probability that both structures could fail and become unusable to the public before 2030. WSDOT cannot predict when or how these structures would fail, so it is difficult to determine the actual consequences of doing nothing. To illustrate what could happen, two scenarios representing the extremes of what is possible are evaluated as part of the No Build Alternative. These are the Continued Operation and Catastrophic Failure scenarios.

Under the Continued Operation Scenario, SR 520 would continue to operate as it does today as a 4-lane highway with nonstandard shoulders and without a bicycle/pedestrian path. No new facilities would be added and no existing facilities (including the unused R.H. Thompson Expressway Ramps near the Arboretum) would be removed. WSDOT would continue to maintain SR 520 as it does today. This scenario assumes the Portage Bay and Evergreen Point bridges would remain standing and functional through 2030. No catastrophic events (such as earthquakes or high winds) would be severe enough to cause major damage to the SR 520 bridges. This scenario is the baseline the EIS team used to compare the other alternatives.

In the Catastrophic Failure Scenario, both the Portage Bay and Evergreen Point bridges would be lost due to some type of catastrophic event. Although in a catastrophic event, one bridge might fail while the other stands, this Draft EIS assumes the worst-case scenario – that both bridges would fail. This scenario assumes that both bridges would be seriously damaged and would be unavailable for use by the public for an unspecified length of time.

What is the 4-Lane Alternative?

The 4-Lane Alternative would have four lanes (two general purpose lanes in each direction), the same number of lanes as today (Exhibit 3). SR 520 would be rebuilt from I-5 to Bellevue Way. Both the Portage Bay



and Evergreen Point bridges would be replaced. The bridges over SR 520 would also be rebuilt. Roadway shoulders would meet current standards (4-foot inside shoulder and 10-foot outside shoulder). A 14-foot-wide bicycle/pedestrian path would be built along the north side of SR 520 through Montlake, across the Evergreen Point Bridge, and along the south side of SR 520 through Medina, Hunts Point, Clyde Hill, and Yarrow Point to 96th Avenue Northeast, connecting to Northeast Points Drive. Sound walls would be built along much of

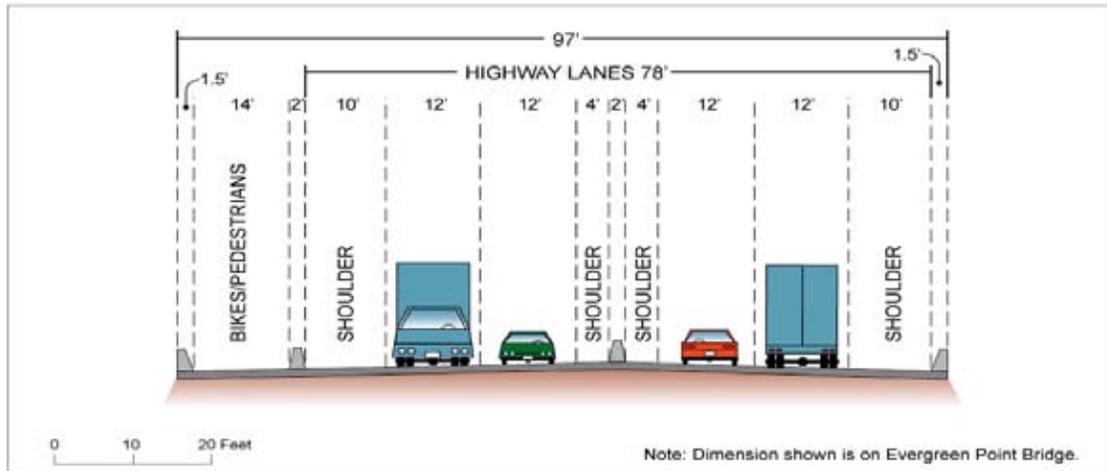


Exhibit 3. 4-Lane Alternative

SR 520 in Seattle and the Eastside. This alternative also includes stormwater treatment and electronic toll collection.

The floating bridge pontoons of the Evergreen Point Bridge would be sized to carry future high-capacity transit. An option with smaller pontoons that could not carry future high-capacity transit is also analyzed. The alternative does not include high-capacity transit.

A bridge operations facility would be built underground beneath the east roadway approach to the bridge as part of the new bridge abutment. A dock to moor two boats for maintenance of the Evergreen Point Bridge would be located under the bridge on the east shore of Lake Washington.

A flexible transportation plan would promote alternative modes of travel and increase the efficiency of the system. Programs include intelligent transportation and technology, traffic systems management, vanpools and transit, education and promotion, and land use as demand management.



What is the 6-Lane Alternative?

The 6-Lane Alternative would include six lanes (two outer general purpose lanes and one inside HOV lane in each direction; Exhibit 4). SR 520 would be rebuilt from I-5 to 108th Avenue Northeast in Bellevue, with an auxiliary lane added on SR 520 eastbound east of I-405 to 124th Avenue Northeast. Both the Portage Bay and Evergreen Point bridges would be replaced. Bridges over SR 520 would also be rebuilt. Roadway shoulders would meet current standards (10-foot-

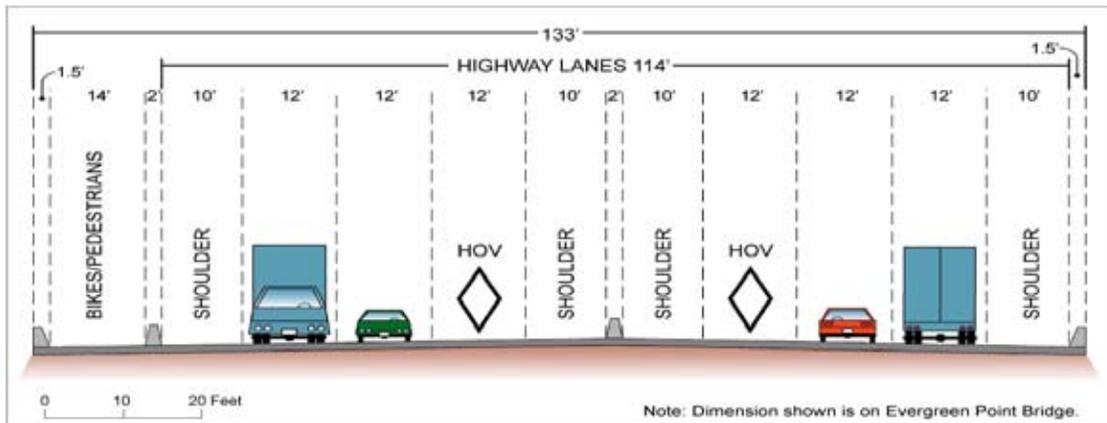


Exhibit 4. 6-Lane Alternative

wide inside shoulder and 10-foot-wide outside shoulder). A 14-foot-wide bicycle/pedestrian path would be built along the north side of SR 520 through Montlake, across the Evergreen Point Bridge, and along the south side of SR 520 through the Eastside to 96th Avenue Northeast, connecting to Northeast Points Drive. Sound walls would be built along much of SR 520 in Seattle and the Eastside. This alternative would also include stormwater treatment and electronic toll collection.

This alternative would also add five 500-foot-long landscaped lids to be built across SR 520 to help reconnect communities. These communities are Roanoke, North Capitol Hill, Portage Bay, Montlake, Medina, Hunts Point, Clyde Hill, and Yarrow Point. The lids are located at 10th Avenue East and Delmar Drive East, Montlake Boulevard, Evergreen Point Road, 84th Avenue Northeast, and 92nd Avenue Northeast.

The floating bridge pontoons of the Evergreen Point Bridge would be sized to carry future high-capacity transit. The alternative does not include high-capacity transit.

A bridge operations facility would be built underground beneath the east roadway approach to the bridge as part of the new bridge



abutment. A dock to moor two boats and maintain the Evergreen Point Bridge would be located under the bridge on the east shore of Lake Washington.

A flexible transportation plan would promote alternative modes of travel and increase the efficiency of the system. Programs would include intelligent transportation and technology, traffic systems management, vanpools and transit, education and promotion, and land use as demand management.

Public Involvement

Through its public involvement efforts, WSDOT has sought to create an atmosphere of openness and trust with interested members of the public. The goals of the public involvement process have been to cooperatively identify opportunities, challenges, and solutions. Towards these ends, WSDOT has provided information about the project and gathered public input since the project's earliest stages, and continues to do so.

How has the community been involved in the project and what are their major issues?

The SR 520 Bridge Replacement and HOV Project originally began as the Trans-Lake Washington Study back in 1998. A Study Committee consisting of 47 members was formed to provide direction and guidance. When the environmental review process started in 2000, the Study Committee was replaced with an Executive Committee, Technical Steering Committee, and an Advisory Committee. The Advisory Committee represents the concerns of the general public and includes community members, interest group representatives, and other interests in the project area. The Advisory Committee provides advice on all aspects of the project.

Since 2000, WSDOT has provided 73 public involvement opportunities, including scoping meetings, open houses, community roundtables, and community design workshops. The public has also been provided information in a variety of formats including newsletters, brochures, postcards, local newspapers, signs posted in the neighborhood and at transit facilities, and a project hotline and website. All of these venues offer an opportunity for residents and community groups to learn about the project in general, get up-to-date information, and provide comment on the project. In addition, there have also been 15 meetings



of the Advisory Committee, which has served as a resource identifying public involvement activities and supported those efforts in the community. Appendix B, *Agency Coordination and Public Involvement*, identifies the feedback received from the public throughout the project.

Meetings were held in June and July of 2004 in both the Seattle and Eastside project areas. The following summarizes the most often-heard comments at these meetings. These comments are similar to comments heard throughout the public involvement process:

- The bicycle/pedestrian path is a positive addition to the bridge.
- The landscaped lids over SR 520 included in the 6-Lane Alternative design were well received, but some people wanted lids in the 4-Lane Alternative design as well.
- Montlake residents expressed concerns about the height of the structures through their neighborhood, such as their visual appearance and potential noise levels.
- Residents in both the Seattle and Eastside project areas were concerned about noise.

Interviews were held with social service providers including Hopelink, the Fremont Public Association, and Circle of Friends – Adult Day Health Center. During the interviews, the tolls were mentioned frequently. The social service providers were concerned that the tolls would have a negative effect on some of their clients.

Refer to Appendix B, *Agency Coordination and Public Involvement*, for more information about the public involvement effort.

Are tribal governments involved in the project?

WSDOT is addressing the concerns of the tribal nations through the process outlined in Section 106 of The National Historic Preservation Act and the WSDOT Tribal Consultation Policy adopted in 2003 by the Transportation Commission as part of the WSDOT Centennial Accord Plan. WSDOT has initiated (on behalf of the Federal Highway Administration [FHWA]) government-to-government consultations with the Muckleshoot, Tulalip, Snoqualmie, Suquamish, and Yakama Nation tribes. WSDOT will continue to coordinate directly with the tribes throughout project development. The project is within the usual and accustomed fishing grounds of the Muckleshoot Tribe. Refer to Appendix D, *Cultural Resources Discipline Report*, and Appendix E,



Ecosystems Discipline Report, for additional information about tribal contacts, government-to-government consultations, and usual and accustomed fishing areas.

What is being done to include minority, disabled, and low-income populations and people with limited English proficiency in the public involvement process?

Environmental justice interviews have been held with various service providers and other identified groups in the project area. During these interviews, WSDOT gave service providers information about the project and asked a series of questions about their concerns about the project. Translated articles for publication in ethnic newspapers and general fact sheets are currently being scheduled, as well.

Affected Environment

How was the information collected?

The discipline team used U.S. Census data and employment data from the Puget Sound Regional Council to report neighborhood characteristics. We also looked at comprehensive plans for each of the cities in the project area (and in some cases, plans for neighborhoods) to identify planned pedestrian, transit, and bicycle facilities; recreational facilities; and the current providers of public services and utilities. We also consulted geographic information system (GIS) and other maps and visited neighborhoods to identify facilities within or close to the project area.

What are the existing social characteristics of the project area?

Seattle

Who lives in Seattle and how is the city projected to grow?

Founded in 1869, Seattle is a commercial, cultural, and advanced technology hub in the Pacific Northwest and a major port city for trans-Pacific and European trade. It is the largest city in Washington state and a major employment center in Puget Sound. Seattle is also the home of the University of Washington and several smaller colleges. The city offers a full range of arts, cultural, and sporting events; an abundance of



shops and restaurants; and easy access to outdoor recreational activities throughout the year (City of Seattle 2002).

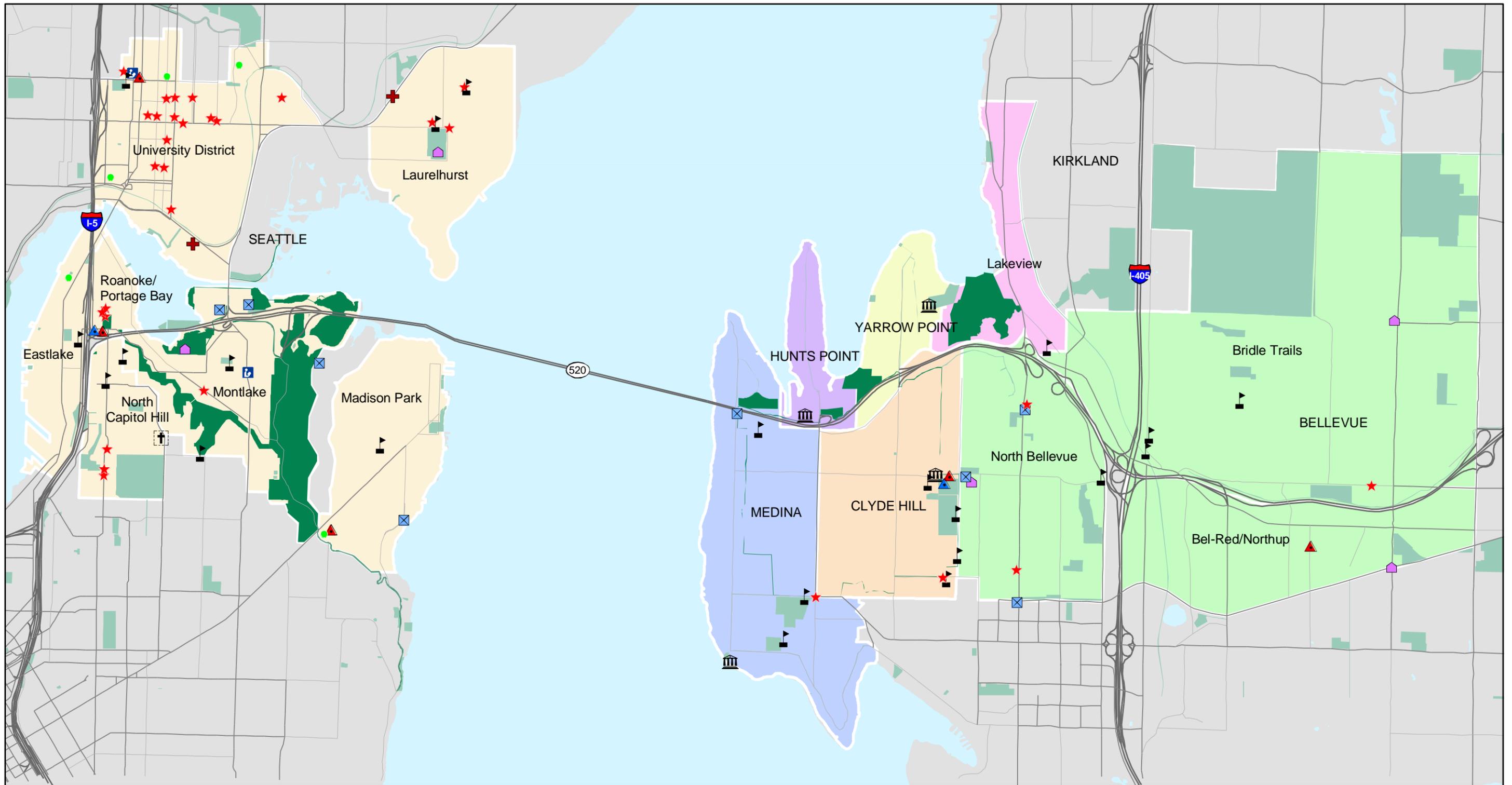
Exhibit 5 shows the location of neighborhoods in the project area. Exhibit 6 shows the current population and demographic makeup of Seattle neighborhoods in the project area. Seattle has a higher percentage of minorities than other cities in the project area. Roughly 5 percent of Seattle's population does not speak English as a first language or has difficulty speaking English. Most of these non-English-speaking households speak an Asian language. The number of jobs in Seattle nearly equals the number of residents, demonstrating a balance of jobs and housing. Nearly 45 percent of workers living in Seattle commute to work using an alternative form of transportation such as carpools, bicycles, and mass transit. Exhibit 6 provides employment and commuter mode figures for Seattle.

Seattle's population is projected to grow at a faster rate than it did during the 1990s, but at a slower pace than many Eastside cities. To a great extent, this is because Seattle is largely built-out, with an established central business district. Exhibit 6 shows population projections for Seattle through 2030. Growth in Seattle, as directed by its comprehensive plan, will mainly be the result of increased density in neighborhoods designated as Urban Centers and Villages. The project area includes one Urban Center, the University District, and one Residential Urban Village in Eastlake.

What public services are provided in Seattle?

Seattle provides a full range of public services to its citizens, including fire and emergency medical services, police protection, and utilities such as electricity and water service. Puget Sound Energy supplies natural gas to the Seattle area. The city contracts with private firms to collect solid waste and recycling, while phone service and cable service are franchised. The Seattle Public School District operates schools in the project area. Seattle Preparatory School, a private high school in the North Capitol Hill neighborhood, is closest to SR 520. School buses use several of the local streets and SR 520 to transport students. Public service facilities are shown on exhibits provided in the discussion of





- | | |
|-----------------------------|-------------------|
| Park | ★ Church |
| ■ Park in Project Area | ▲ Fire Station |
| ■ Park outside Project Area | ▲ Law Enforcement |
| ⊠ Other Place of Interest | ⊕ Hospital |
| ■ Community Center | ▲ School |
| ■ City Hall | ● P-Patch |
| ■ Library | |
| ■ Cemetery | |

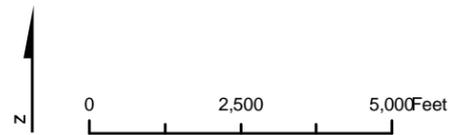
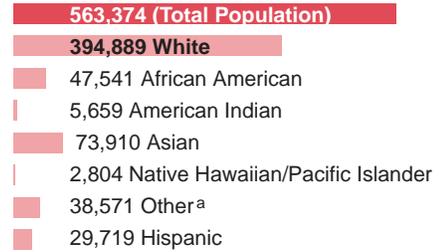
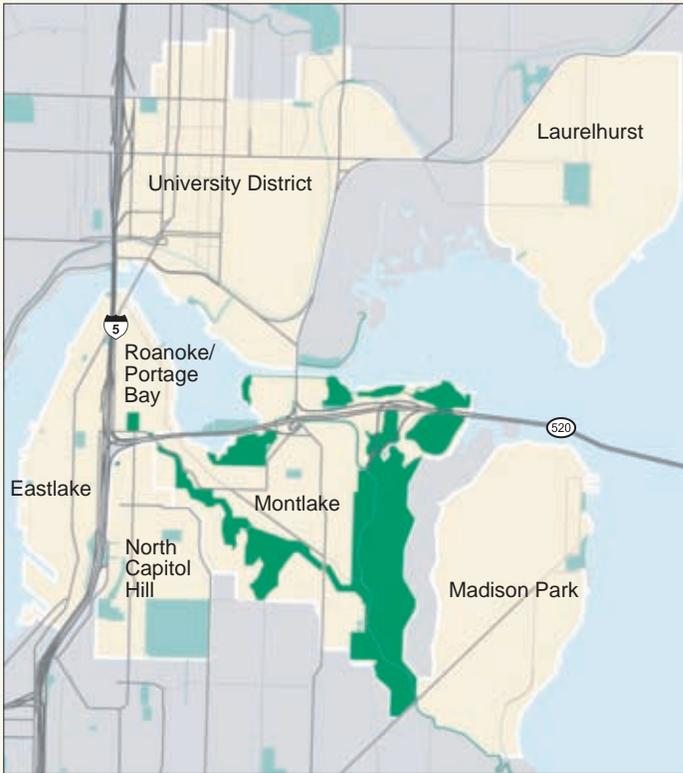
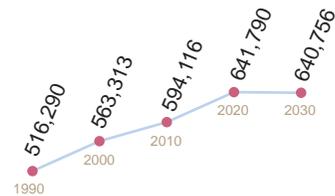


Exhibit 5. Seattle and Eastside Neighborhoods and Communities in the Project Area
SR 520 Bridge Replacement and HOV Project

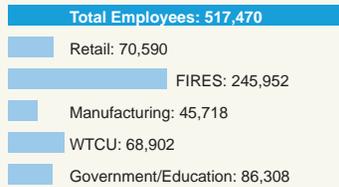
Seattle: Population and Demographic Information



Average Household Size: 2.08
 Over 65: 68,161
 Median Age: 35.4
 Median Household Income: \$45,736
 Median House Value: \$259,000



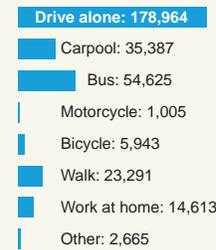
Employment^b



Limited English-Speaking Households^c



Commute Mode



Sources: U.S. Census (2000), PSRC (2002, 2004).

Notes:

^aIncludes two or more races.

^bEmployment figures are for 1998 (PSRC).

FIRES = Financial, Insurance, Real Estate, and Services
 WTCU = Warehousing, Transportation, Communication, and Utilities

^cA household with limited English-speaking abilities has all members 14 and over having at least some difficulty with English.

Population (5 years and older) with Sensory and Physical Disabilities

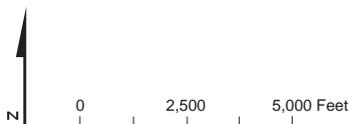


Exhibit 6. Population and Demographic Information - Seattle
 SR 520 Bridge Replacement and HOV Project

individual neighborhoods that follows. For a full discussion of these services, see Appendix N, *Public Services and Utilities Discipline Report*.

What Seattle parks are in the project area?

Seattle has many parks, open spaces, and trails in the project area, ranging from small street triangles and lookout points, such as Bagley Viewpoint, in the Portage Bay area to the woodlands at Interlaken Park and Washington Park Arboretum. The Montlake Community Center, located at the south end of Montlake Playfield, offers a wide array of programs and special events for all ages. The Montlake Bike Path allows pedestrians and bicyclists to travel across SR 520 from the Montlake neighborhood to Husky Stadium in the University District. The Burke-Gilman Trail begins in the Ballard neighborhood of Seattle and heads east through the University District and the Laurelhurst neighborhood via an old railroad right-of-way. The trail continues around Lake Washington and ends in Redmond. Park facilities are shown on the exhibits provided in the discussion of individual neighborhoods that follows. For a full discussion of park facilities, see Appendix O, *Recreation Discipline Report*.

What pedestrian, bicycle, and transit facilities are in the project area?

Pedestrian and bicycle facilities in the Seattle project area are primarily sidewalks and bicycle paths that run along local streets and arterials. Many sidewalks exist, but on some streets there are short but obvious gaps in the sidewalks. In addition to the previously mentioned Montlake Bike Path and Burke-Gilman Trail, the Lake Washington Loop Trail and the Arboretum Trail serve bicyclists and pedestrians in the Seattle project area. There are currently no provisions for bicycles and pedestrians on SR 520 or I-5.

Metro, Community Transit, and Sound Transit all provide bus service to the University District, which, because of the presence of the University of Washington, is the best-served neighborhood in the Seattle project area. Local Metro routes provide service to the other Seattle neighborhoods in the project area. Both Metro and Sound Transit use SR 520 for routes that run between Seattle and communities on the Eastside. Both an eastbound and a westbound transit stop are located on SR 520 near the Montlake Boulevard bridge over the



highway. Because the transit stops must be reached by stairs or a very steep ramp, the stops are not accessible by wheelchair; however, there are cross-lake routes available on Montlake Boulevard.

To cross the Evergreen Point Bridge, pedestrians and bicyclists must currently use transit. As described above, transit riders have many options for crossing the lake. While bicyclists have the same number of buses to choose from, their opportunities are more limited because each bus has only one rack, which carries two bicycles. As a result, bicyclists may have to wait for a bus with space in its rack. The delay can be longer if a bicyclist must ride a bus on a specific route instead of any bus that crosses the Evergreen Point Bridge. Metro provides bike lockers for lease and bike racks on Montlake Boulevard near the SR 520 interchange.

An HOV bypass on the eastbound on-ramp at Montlake Boulevard helps eastbound buses avoid traffic backups, but no other HOV facilities exist on SR 520 in Seattle.

Do local comprehensive plans call for more pedestrian, bicycle, and transit facilities?

Seattle is committed to providing a range of viable transportation alternatives, including transit, walking, and biking. To that end, the city's comprehensive plan encourages improving pedestrian, bicycle, and transit facilities throughout the city. Individual neighborhood plans also support improved facilities. Seattle considers recommendations from neighborhood plans, but does not have to implement these recommendations when developing facilities. Examples of neighborhood recommendations include:

- Enhancing bus and local shuttles for the University of Washington campus
- Improving bicycle connections along the University Bridge, Montlake Bridge, north to Ravenna Park, and west over I-5
- Developing green streets in Eastlake designed to give pedestrians, bicycles, and transit preference over vehicles
- Reconnecting Eastlake to neighborhoods east of I-5; installing stairs and ramps under I-5 south of Newton Street



- Redesigning the intersection of Boylston Avenue, Lakeview Boulevard, Newton Street, and the I-5 on-ramp to facilitate safer conditions for local traffic, bicycles, and pedestrians

Seattle has designated a transit priority network of streets, where the focus is to increase transit speed and reliability. I-5, SR 520, Eastlake Avenue, Pacific Street, and Montlake Boulevard are all part of the transit priority network.

The Sound Transit Board has selected a preferred route to extend Link light rail north of downtown Seattle (Sound Transit 2003). The route has two underground stations in the University District. One station will be located adjacent to Husky Stadium, providing access to the south part of University of Washington campus and the medical center. The other station will be in the area of Brooklyn Avenue and Northeast 45th Street.

Which Seattle neighborhoods are in the project area?

Eastlake

Where is this neighborhood and who lives there?

Eastlake is one of Seattle's oldest neighborhoods, comprising mixed-density residential areas, commercial development, and water-dependent industries. Its general boundaries are the Lake Washington Ship Canal to the north, I-5 to the east, Lake Union to the west, and Nelson Place to the south (Exhibit 7). Eastlake has a lower percentage of minorities compared to Seattle as a whole, but has a similar percentage of minorities compared to most other Seattle neighborhoods in the project area. A low percentage of elderly residents live in Eastlake and the average household size is substantially smaller than the average size for Seattle (Exhibit 7).

What are the physical characteristics of this neighborhood?

In the 1950s, construction of I-5 separated Eastlake from residential areas farther to the east that are now associated with the North Capitol Hill and Roanoke/Portage Bay neighborhoods. Eastlake's residential development consists mostly of single-family houses, small-scale apartment and condominium complexes, and converted houses. Residential uses front I-5 and continue down towards Lake Union.





Exhibit 7. Population and Demographic Information–Eastlake

Eastlake Avenue East runs parallel to I-5 and is the commercial hub of the neighborhood. Commercial uses are mainly retail and restaurants interspersed with office space. There is more of a maritime influence at the southern end of the neighborhood. Eastlake Avenue East provides an important connection to the University of Washington to the north and downtown Seattle to the south. Access to I-5 is provided mainly via East Lynn and Roanoke Streets, and Boylston Avenue East. A well-used park, Rogers Playfield, sits between East Louisa and Roanoke Streets on Eastlake Avenue East.



Roanoke/Portage Bay

Where is this neighborhood and who lives there?

The Roanoke/Portage Bay neighborhood is generally bordered by Portage Bay to the north and east, I-5 to the west, and East Roanoke Street and Delmar Drive East to the south (Exhibit 8). This neighborhood has a small population that is demographically similar to most other Seattle neighborhoods in the project area. Compared to Seattle as a whole, the Roanoke/Portage Bay neighborhood has a low percentage of minorities, but a higher percentage of elderly residents and a much higher median income.

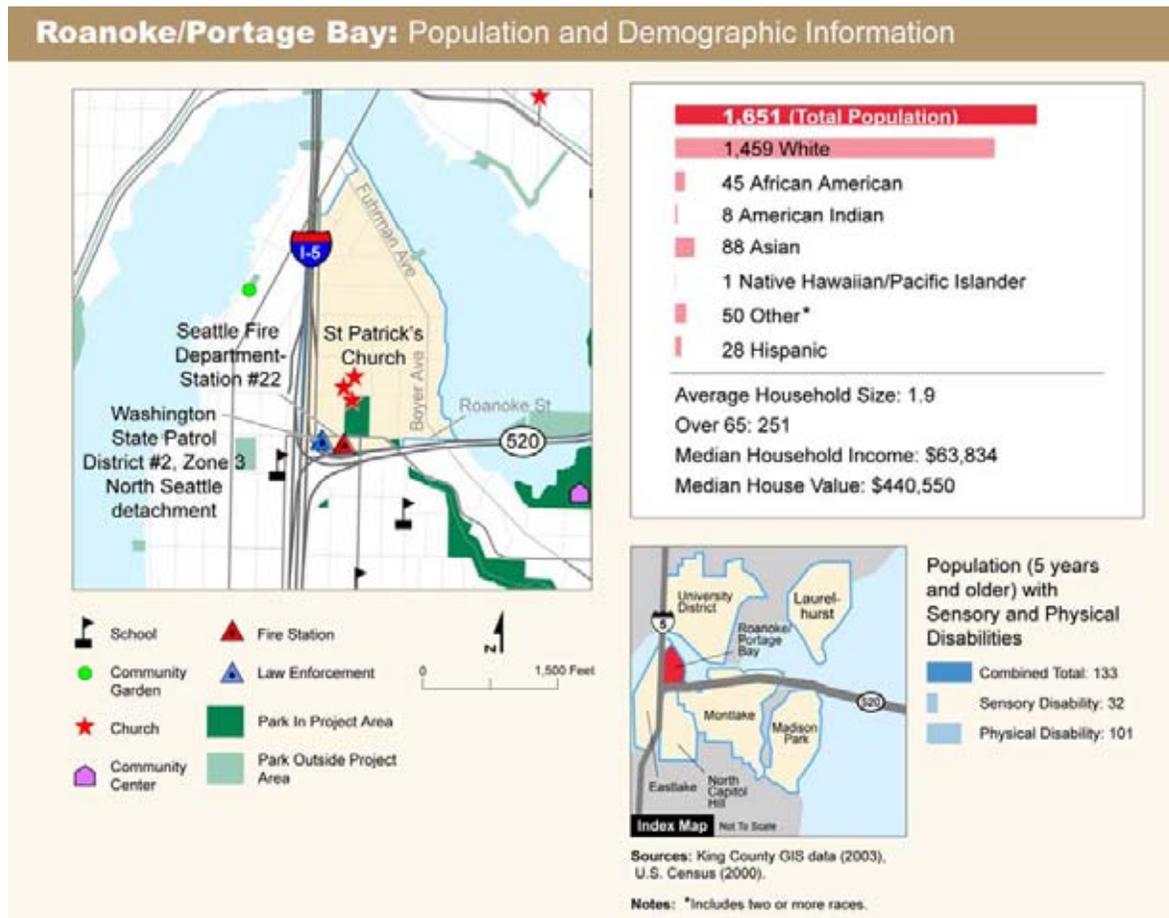


Exhibit 8. Population and Demographic Information–Roanoke/Portage Bay

What are the physical characteristics of this neighborhood?

After I-5 and SR 520 were built in the 1950s and 1960s, the Roanoke/Portage Bay neighborhood was cut off from nearby land uses to the west and south. This neighborhood is almost completely residential, with single-family houses climbing the hillside towards I-5. Some isolated commercial uses exist, mainly small retail stores and



restaurants at the corner of Eastlake Avenue East and Fuhrman Avenue East. A small neighborhood grocery store is located on Fuhrman Avenue East.

Fuhrman and Boyer Avenues East provide access around Portage Bay to the east, connecting the Roanoke/Portage Bay neighborhood to the Montlake neighborhood and providing access to SR 520. Heading northwest on these streets, vehicles connect with Eastlake Avenue East, providing access to the University of Washington and downtown Seattle. East Lynn Street (which turns into Delmar Drive East and then East Roanoke Street heading west) connects to I-5. Roanoke Park lies near I-5 on East Roanoke Street.

North Capitol Hill

Where is this neighborhood and who lives there?

The North Capitol Hill neighborhood is generally bordered by 15th Avenue East to the east, SR 520 to the north, I-5 to the west, and East Aloha Street to the south (Exhibit 9). It is a densely populated urban neighborhood made up of multifamily residential areas and storefront commercial streets. Demographically, this neighborhood is similar to most other Seattle neighborhoods in the project area. Compared to the entire city, this neighborhood has a low percentage of minorities and a substantially higher median income level (Exhibit 9).

What are the physical characteristics of this neighborhood?

North Capitol Hill can be characterized as a cluster of special districts that tend to run in a north-south direction, following the topography of the hill. The Capitol Hill Neighborhood Plan divides the Capitol Hill neighborhood into north and south “anchor districts,” with concentrations of cultural facilities, businesses, schools, open space, and transit (City of Seattle Neighborhood Planning Office 1998). In the north, this includes Volunteer Park, Seattle Preparatory High School, and Boren Park as well as churches and a fire station along 10th Avenue East. Tenth Avenue East and to a lesser degree Harvard Avenue East serve as north-south arterials providing access to I-5 and SR 520. The only true arterial running east to west is East Aloha Street, which connects 10th Avenue East with 24th Avenue East. The original construction of SR 520 in the 1960s separated North Capitol Hill from the Roanoke/Portage Bay peninsula to the north.



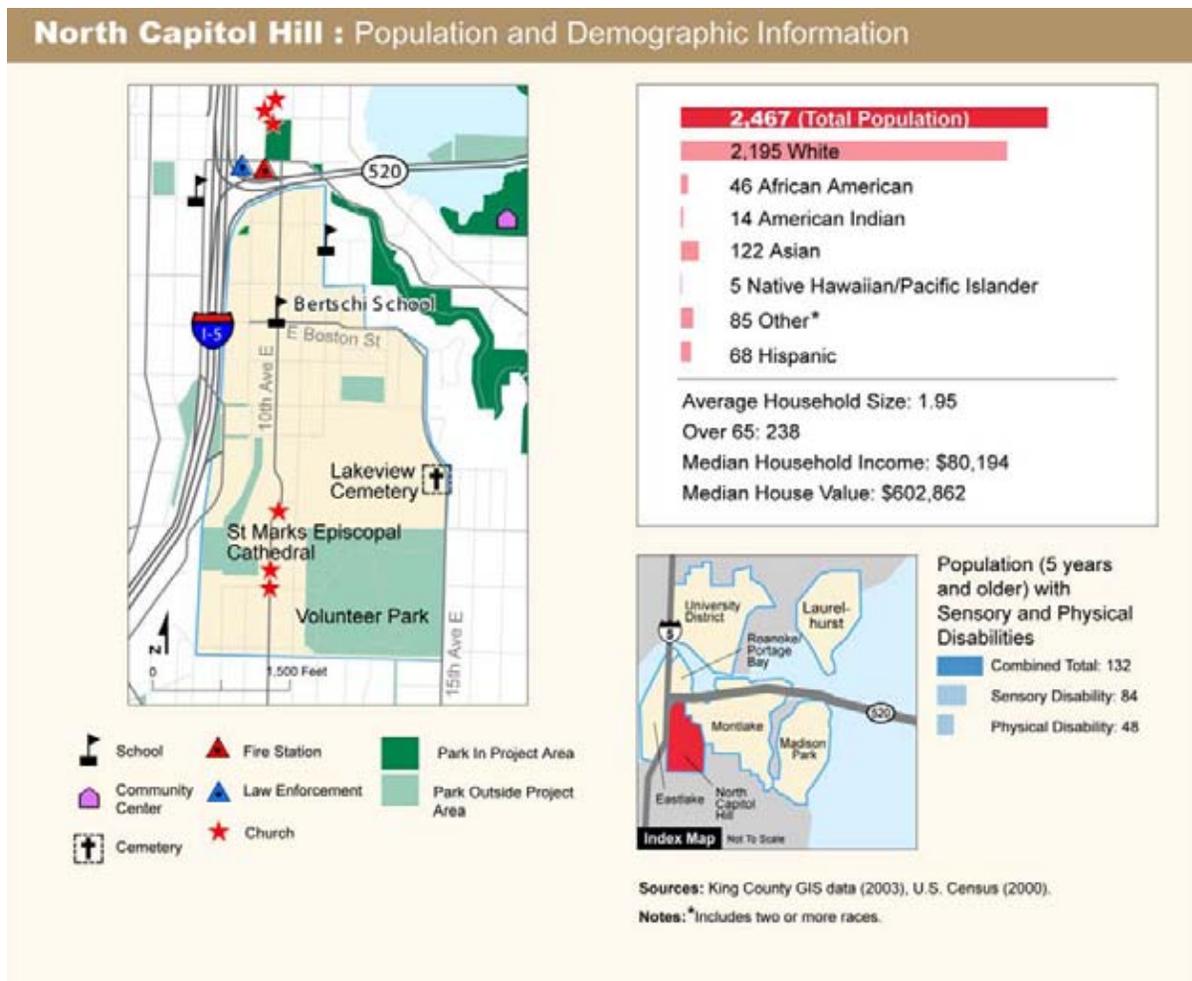


Exhibit 9. Population and Demographic Information–North Capitol Hill

Montlake

Where is this neighborhood and who lives there?

The Montlake neighborhood is known for its central location and tree-lined streets. The Montlake community comprises residences and business districts that lie north and south of SR 520. The neighborhood generally stretches from the Lake Washington Ship Canal to the north, East Madison Street to the south, Lake Washington Boulevard East to the east, and 16th Avenue East to the west (Exhibit 10).

Demographically, this neighborhood is similar to most other Seattle neighborhoods in the project area. Montlake has the second largest average household size (2.45) of the Seattle project area neighborhoods and the highest median income level (\$101,319) (Exhibit 10).

What are the physical characteristics of this neighborhood?

Almost exclusively residential, Montlake is nestled between the waters of Portage Bay and Washington Park Arboretum. A small grocery store





Exhibit 10. Population and Demographic Information–Montlake

and gas station are located on Montlake Place East near SR 520; a few additional small retail shops are located farther south along 23rd Avenue East.

Montlake Boulevard Northeast/24th Avenue East acts as the main arterial, connecting Montlake to the University of Washington, SR 520, and downtown neighborhoods like First Hill (Dubman 2001). Boyer Avenue East, East Lynn Street, and Lake Washington Boulevard East connect Montlake to nearby neighborhoods. Before SR 520 was built, the neighborhood was completely contiguous. Now SR 520 separates a small residential portion of Montlake that includes the Seattle Yacht



Club from the rest of the neighborhood; the Museum of History and Industry also lies north of SR 520, connected only by the 24th Avenue East bridge. Montlake Playfield, West Montlake Park, East Montlake Park, McCurdy Park, and Washington Park Arboretum circle the neighborhood and provide a substantial amount of public open space.

University District

Where is this neighborhood and who lives there?

The University District is an intensive commercial and high-density residential area centered around the University of Washington campus. Portage Bay and Union Bay form its southern and eastern boundaries, respectively. To the north the neighborhood extends up to 50th Street and to the west as far as I-5 (Exhibit 11). Its population and demographics are diverse due to the large number of resident students. The University District has the highest percentage of minorities in the project area; the minority population is predominantly Asian (Exhibit 11). Few elderly (0.3 percent) live in the University District, and the median household income level is considerably lower compared to Seattle. These statistics are consistent with a student population.

What are the physical characteristics of this neighborhood?

The University District is dominated by commercial and institutional uses, but there are also dense residential areas providing apartments and houses for students and other residents. Pedestrians are very common in this neighborhood. Retail use on Northeast 45th Street and University Way Northeast caters to these pedestrians. Montlake Boulevard Northeast fronts the university's sports complexes and also leads to the University Village shopping center. The University of Washington Medical Center is on Northeast Pacific Street in the south end of the neighborhood. Both Montlake Boulevard Northeast and Northeast Pacific Street are closely followed by the Burke-Gilman Trail, a regional bicycle and pedestrian trail. The university campus provides most of the open space in the neighborhood.

Laurelhurst

Where is this neighborhood and who lives there?

Laurelhurst is a predominantly residential neighborhood that sits on a peninsula extending into Lake Washington. Bounded by Sand Point Way Northeast to the north, Lake Washington to the east and south, and University of Washington property to the west (roughly 35th Avenue Northeast), the neighborhood lies directly north of the Evergreen Point Bridge (Exhibit 12). Demographically, this neighborhood is similar to most other Seattle neighborhoods in the



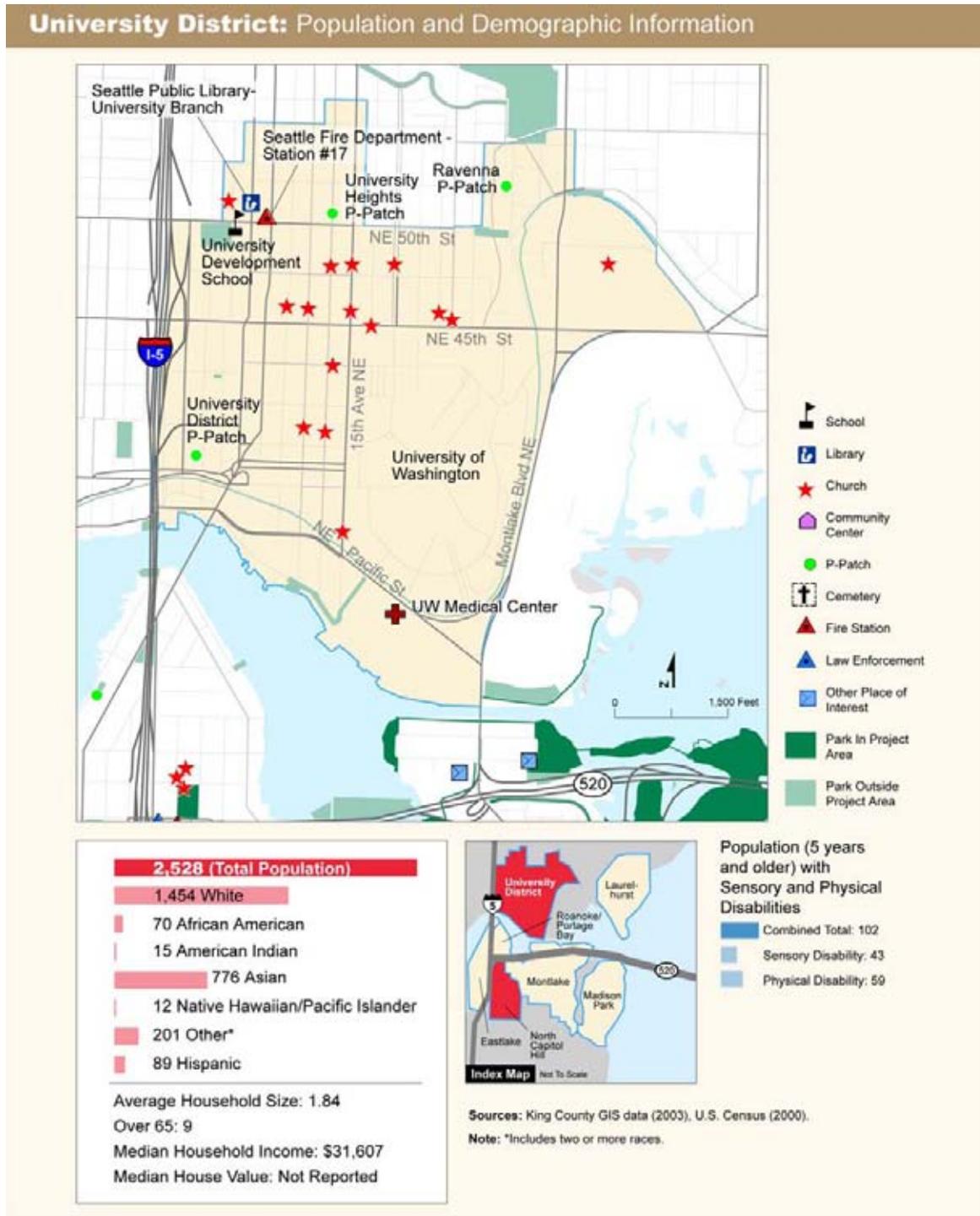


Exhibit 11. Population and Demographic Information–University District

project area, except that it has the highest average household size (2.48). This indicates a large presence of families. The median household income is also considerably higher than the Seattle median income level (Exhibit 12).



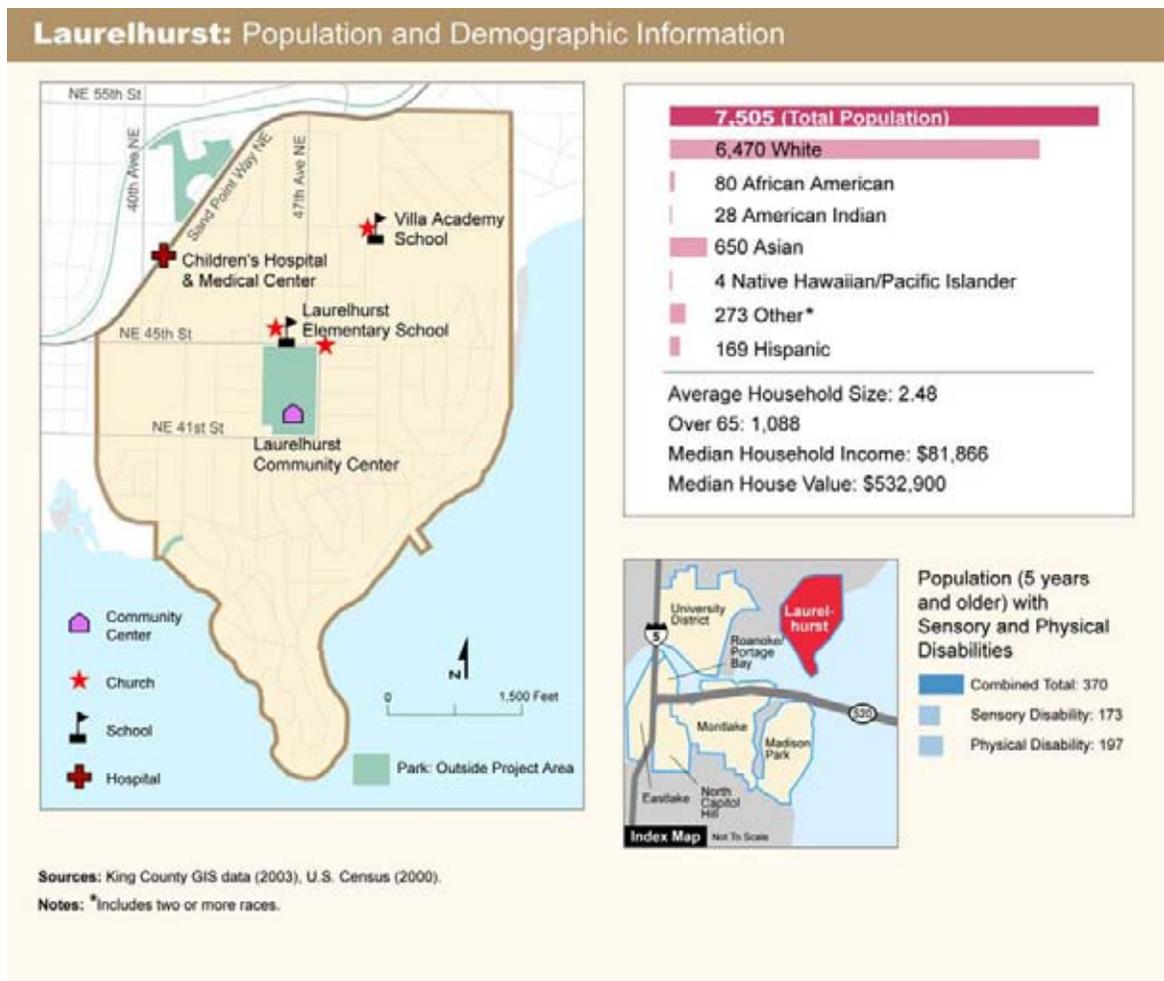


Exhibit 12. Population and Demographic Information–Laurelhurst

What are the physical characteristics of this neighborhood?

Single-family houses in Laurelhurst climb the hillside, providing excellent views of Lake Washington and Mount Rainier. The only commercial areas, mainly restaurants and small retail shops, are located along Northeast 45th Street and Sand Point Way Northeast, the main arterial through Laurelhurst. Children’s Hospital and Medical Center is also located on Sand Point Way Northeast. Laurelhurst Playfield is in the middle of the neighborhood, across the street from a public elementary school. The Burke-Gilman Trail is the other major recreational facility in the area.

Madison Park

Where is this neighborhood and who lives there?

Madison Park is buffered to the west by green space of the Broadmoor Golf Course and, farther west, the Washington Park Arboretum. Parkside Drive generally serves as the western boundary and Lake Washington Boulevard East as the southern boundary, while the shores



of Union Bay to the north and Lake Washington to the east define the rest of the neighborhood (Exhibit 13). Demographically, this neighborhood has the smallest percentage of minorities (5.2 percent) of the Seattle neighborhoods in the project area (Exhibit 13), and also has the largest percentage of elderly persons (22.3 percent). The median household income is higher than the Seattle median income level.

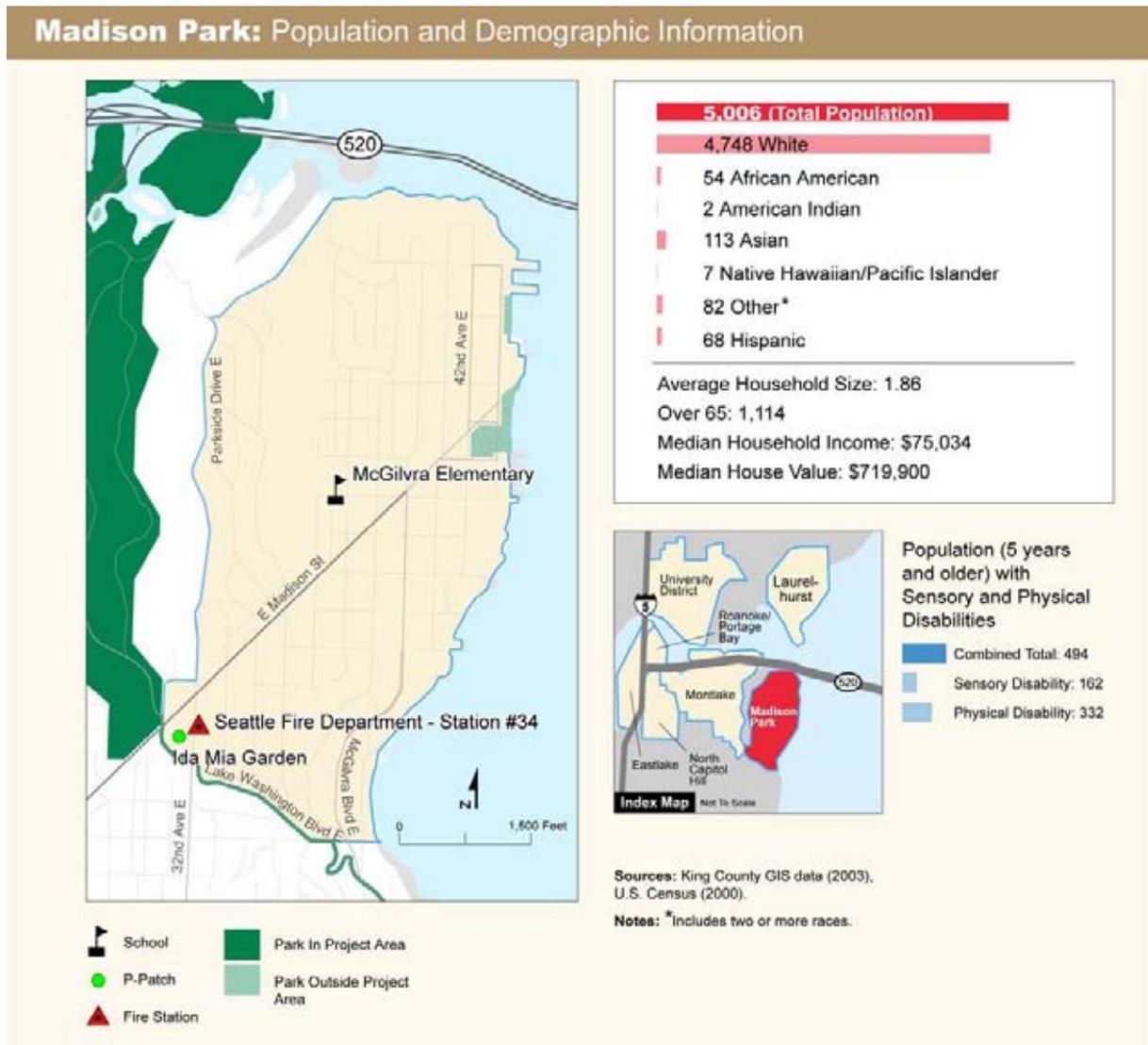


Exhibit 13. Population and Demographic Information–Madison Park

What are the physical characteristics of this neighborhood?

East Madison Street is the main arterial connecting Madison Park to other nearby neighborhoods, downtown Seattle, and I-5. Neighborhood commercial uses, including various retail shops and restaurants, line East Madison Street. Lake Washington Boulevard East intersects East Madison Street and connects it to SR 520 to the north. Nearby public



facilities include a fire station at the corner of East Madison Street and Lake Washington Boulevard East, and a school at Garfield and East 28th Street. Madison Park (the public park) sits on the shoreline of Lake Washington near the end of East Madison Street.

Eastside

The Eastside project area comprises Medina, Hunts Point, Clyde Hill, Yarrow Point, and neighborhoods in Kirkland and Bellevue, as shown in Exhibit 5.

Medina

Who lives in Medina and how is the city projected to grow?

Comparable to Yarrow Point, Hunts Point, and Clyde Hill, Medina's population is mostly white or Asian (Exhibit 14) and the median age is higher than in other cities in the project area. Nearly all of the households are English-speaking. The median household income level is one of the highest in the project area and average household size is larger here than in other project area cities. Medina is mostly a bedroom community – few jobs are available in this and the small neighboring communities of Hunts Point, Clyde Hill, and Yarrow Point. People who do work in Medina mostly either drive alone to work or work at home (Exhibit 14). Only modest growth is expected in Medina (Exhibit 15). Most city lots have existing residences and no land is zoned for higher-density development (City of Medina 1994-1999).

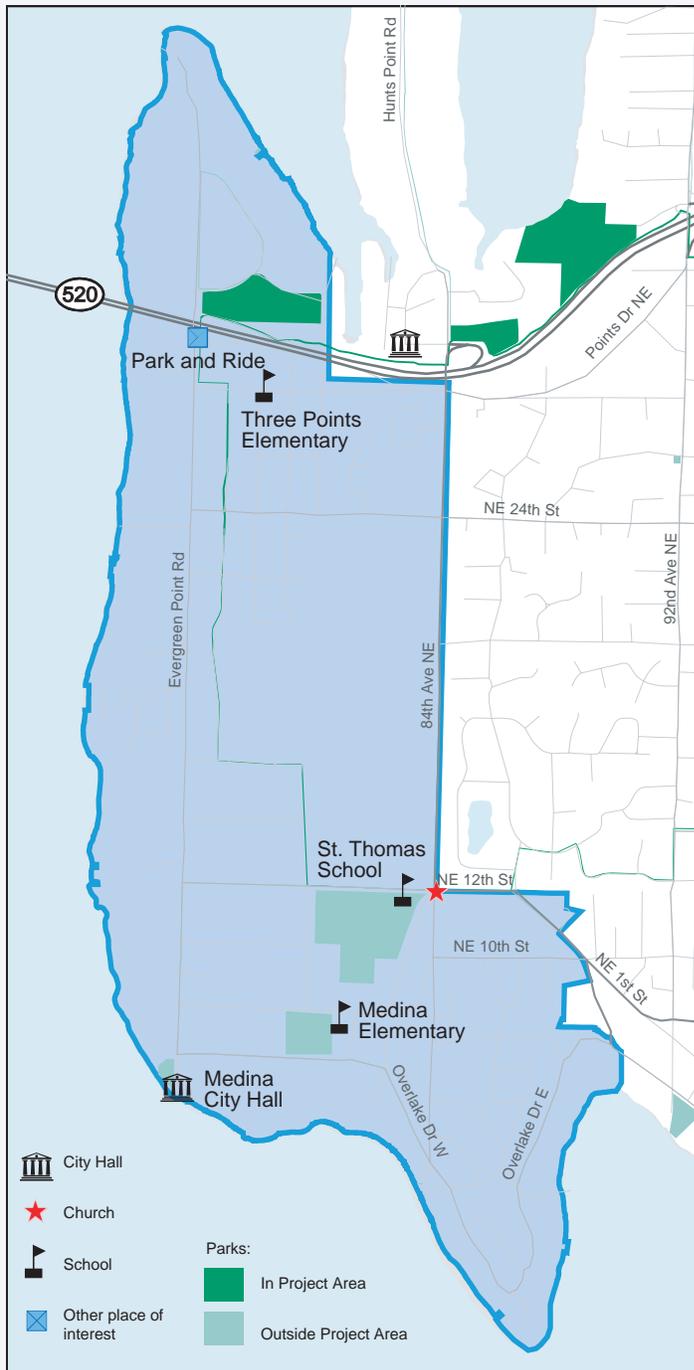
What are the physical characteristics of Medina?

Medina occupies a large peninsula projecting into the central portion of Lake Washington. Lake Washington borders the city to the south, west, and north, and 84th Avenue Northeast frames it to the east (Exhibit 14). Medina consists of single-family residences and limited commercial uses. Lots are typically semi-wooded and heavily landscaped, providing visual and acoustic privacy between neighbors and streets.

The construction of SR 520 in the 1960s split Medina in two. SR 520 separates the north portion of the city from the south except for a single overpass on Evergreen Point Road. The only other north-south arterial is 84th Avenue Northeast; it provides direct access to SR 520. Northeast 12th Street and Northeast 24th Street provide east-west movement and connect Medina to neighboring Clyde Hill. Northeast 12th Street also leads to the major shopping and office hub of downtown Bellevue.



Medina: Population and Demographic Information



Sources: King County GIS data (2003), Bellevue GIS data (2004), U.S. Census (2000).

Notes:

^a Includes two or more races.

^b A household with limited English-speaking abilities has all members 14 and over having at least some difficulty with English.

3,011 (Total Population)

2,789 White

- 5 African American
- 8 American Indian
- 147 Asian
- 2 Native Hawaiian/Pacific Islander
- 60 Other ^a
- 42 Hispanic

Average Household Size: 2.71
 Over 65: 485
 Median Age: 42.9
 Median Household Income: \$133,756
 Median House Value: \$789,600

Limited English-Speaking Households^b

Total Households: 1,095

Speaks Some English: 1,080

Limited English:

- Spanish: 0
- Indo-European: 7
- Asian, Pacific Island: 8
- Other Language: 0

Commute Mode

Drive Alone: 986

- Carpool: 59
- Bus: 32
- Motorcycle: 0
- Bicycle: 4
- Walk: 45
- Work at home: 114
- Other: 8

Population (5 years and older) with Sensory and Physical Disabilities

- Combined Total: 120
- Sensory Disability: 47
- Physical Disability: 73

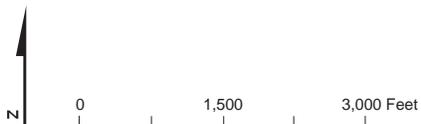
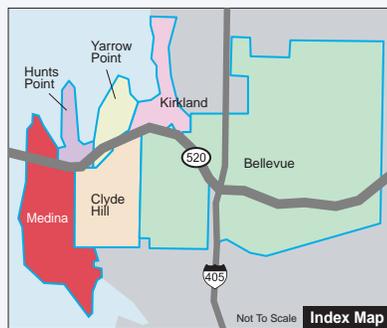


Exhibit 14. Population and Demographic Information - Medina
 SR 520 Bridge Replacement and HOV Project

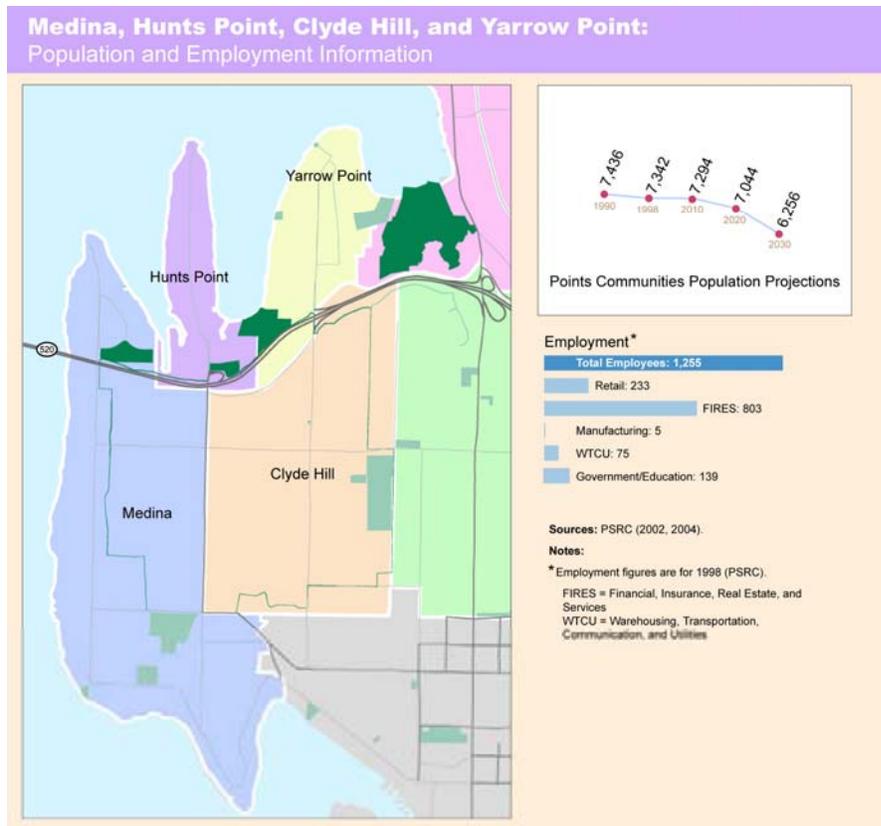


Exhibit 15. Medina, Hunts Point, Clyde Hill, and Yarrow Point Population and Employment

What parks are in the project area in Medina?

Medina is the home of Fairweather Park, which borders SR 520 between Evergreen Point Road and 80th Avenue Northeast. The Points Loop Trail also curves through Medina; it crosses over SR 520 at Evergreen Point Road and heads east into Hunts Point. The trail consists of sidewalks and designated paths and also travels along Fairweather Park. A trail splits off the Points Loop Trail into the park, eventually looping around the northern point of Medina, the Overlake Golf and Country Club, and Medina South Park. For a full discussion of park facilities, see Appendix O, *Recreation Discipline Report*.

What public services are provided in Medina?

Medina contracts with Bellevue for fire and ambulance services and is within the Bellevue Public School District. The closest school to SR 520 is Bellevue Christian School/Three Points Elementary, a private school located at the corner of Northeast 28th Street and Evergreen Point Road. Medina has its own police department and provides law enforcement services for neighboring Hunts Point. Utilities, including electrical wires and water mains, cross SR 520 at Evergreen Point Road to



provide service to the north half of Medina. Natural gas and electricity are provided by Puget Sound Energy, water by Bellevue/Cascade Water Alliance, and sewer service by King County. For a full discussion of these services, see Appendix N, *Public Services and Utilities Discipline Report*.

What pedestrian, bicycle, and transit facilities are in the project area in Medina?

Most arterials have sidewalks and bicycle lanes run along 84th Avenue Northeast and Northeast 24th Street. Elsewhere in the city, walkways are sporadic and generally graveled paths along the street right-of-way. The previously mentioned Points Loop Trail provides a pedestrian and bicycle connection to Hunts Point, Clyde Hill, and Yarrow Point. Pedestrians and bicyclists may cross over SR 520 on Evergreen Point Road, 84th Avenue Northeast, and a footbridge from the Bellevue Christian School/Three Points Elementary School campus to Fairweather Park. The ramps to the footbridge are too steep to meet ADA requirements.

Metro bus routes provide direct service to city residents, primarily along 84th Avenue Northeast. In addition, an eastbound and a westbound transit stop are located on SR 520. These transit stops are served by a park-and-ride lot located next to the Bellevue Christian School/Three Points Elementary and accessed from Evergreen Point Road. Westbound transit riders may use the previously mentioned footbridge to get to the westbound stop on the north side of SR 520.

Does the local comprehensive plan call for more pedestrian, bicycle, and transit facilities?

The Medina Comprehensive Plan calls for new sidewalks along the following street segments to complete the sidewalk system:

- Evergreen Point Road (east side from the park-and-ride lot to Overlake Drive)
- Overlake Drive West (north side from Evergreen Point Road to 84th Avenue Northeast)
- 84th Avenue Northeast (east side from Northeast 12th Street to Overlake Drive)
- Northeast 8th Street (south side from Evergreen Point Road to 81st Avenue Northeast)

These new paths would improve access for local citizens to existing transit facilities. The plan calls for new paths to be built within the



existing highway right-of-way. A central pedestrian way is intended to run from Medina Elementary School north to and through Bellevue Christian School/Three Points Elementary, across the foot bridge spanning SR 520 into Fairweather Park, with a connection to Hunts Point.

Hunts Point

Who lives in Hunts Point and how is the town projected to grow?

Citizens of Hunts Point are mainly white (Exhibit 16). They have a high median age and income relative to other cities in the project area, but their demographic information is similar to Medina, Clyde Hill, and Yarrow Point (Exhibit 16). Most workers in Hunts Point either drive alone or carpool to work. Only modest growth is expected in Hunts Point (Exhibit 15). Because the town is nearly 100 percent developed, any population increase is expected to be very minor (Town of Hunts Point 1994-1999).

What are the physical characteristics of Hunts Point?

Hunts Point is located on a peninsula roughly 1 mile in length that extends into Lake Washington. Northeast 28th Street serves as its southern boundary, with Lake Washington on all other sides (Exhibit 16). Land use is predominantly single-family residences on large lots. There are no commercial establishments and no multifamily dwellings.

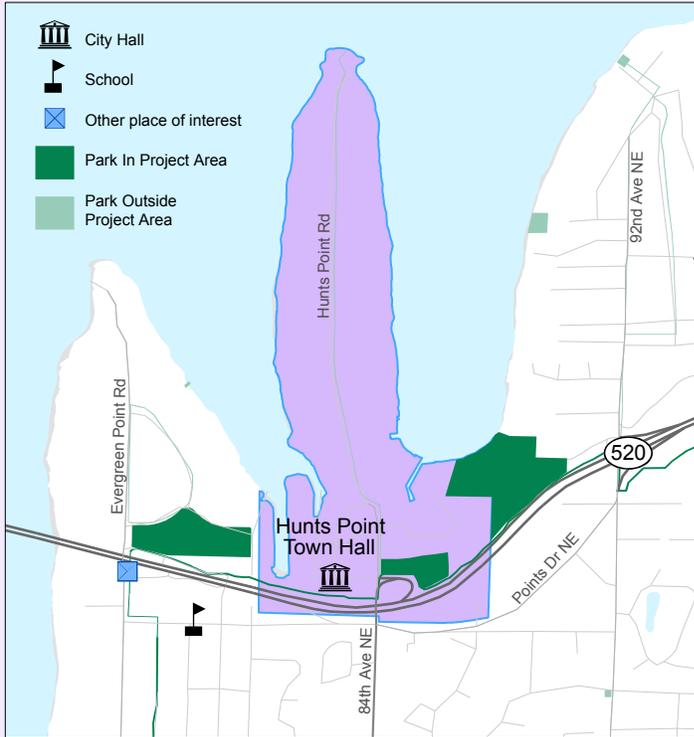
Before SR 520 was built, Hunts Point was a contiguous town. Today, SR 520 passes through the very southern end of Hunts Point and isolates fourteen lots on the town's south side, adjacent to Medina and Clyde Hill (Town of Hunts Point 1994-1999). Hunts Point Road is the single arterial in the town, traveling down the length of the peninsula and connecting to 84th Avenue Northeast and SR 520. Hunts Point Park and the Hunts Point Town Hall are adjacent to SR 520.

What parks are in the project area in Hunts Point?

Hunts Point Park has tennis courts, a children's play area, and an open sports field. Wetherill Park provides nature trails and benches to enjoy the natural setting. The Points Loop Trail travels through Hunts Point near SR 520, connecting the town to neighboring Medina and Yarrow Point. The only other designated trail is the Hunts Point Trail, which extends the length of Hunts Point Road and connects with the Points Loop Trail. For a full discussion of park facilities, see Appendix O, *Recreation Discipline Report*.



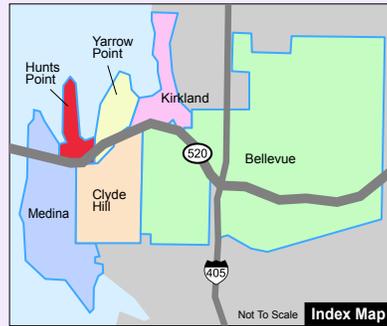
Hunts Point: Population and Demographic Information



Sources: King County GIS data (2003), Bellevue GIS data (2003), U.S. Census (2000).

Notes:

- ^a Includes two or more races.
- ^b A household with limited English-speaking abilities has all members 14 and over having at least some difficulty with English.



443 (Total Population)

420 White

- 2 African American
- 0 American Indian
- 12 Asian
- 0 Native Hawaiian/Pacific Islander
- 9 Other^a
- 10 Hispanic

Average Household Size: 2.71
 Over 65: 76
 Median Age: 44.9
 Median Household Income: \$179,898
 Median House Value: \$1,000,000+

Limited English-Speaking Households^b

Total Households: 157
Speaks Some English: 157

Limited English

- Spanish: 0
- Indo-European: 0
- Asian, Pacific Island: 0
- Other Language: 0

Commute Mode

Drive Alone: 143

- Carpool: 12
- Bus: 3
- Motorcycle: 0
- Bicycle: 0
- Walk: 6
- Work at home: 3
- Other: 3

Population (5 years and older) with Sensory and Physical Disabilities

Combined Total: 13
 Sensory Disability: 4
 Physical Disability: 9



Exhibit 16. Population and Demographic Information - Hunts Point
 SR 520 Bridge Replacement and HOV Project

What public services are provided in Hunts Point?

Hunts Point contracts with Bellevue for fire and ambulance services and is within the Bellevue Public School District. No schools are within the town's borders. The Hunts Point Town Hall is located next to Hunts Point Park near SR 520. Several utilities cross SR 520 near 84th Avenue Northeast to provide service to Hunts Point. Electric lines, water mains, and a sewer main all cross near this area. Utility service is provided by the same companies that serve Medina, Clyde Hill, and Yarrow Point. For a full discussion of these services, see Appendix N, *Public Services and Utilities Discipline Report*.

What pedestrian, bicycle, and transit facilities are in the project area in Hunts Point?

Hunts Point residents have relatively easy access to public transit. The Points Loop Trail, which runs parallel to the north side of SR 520, provides access to two major transit stops on either side of the highway in the adjacent community of Medina. There are no sidewalks or bicycle lanes in Hunts Point, but traffic is light on local streets (Town of Hunts Point 1994-1999).

Does the local comprehensive plan call for more pedestrian, bicycle, and transit facilities?

Hunts Point's Comprehensive Plan makes no specific mention of additional pedestrian, bicycle, or transit facilities; however, the plan in general supports the development of a regional transportation system and encourages its citizens to use public transit.

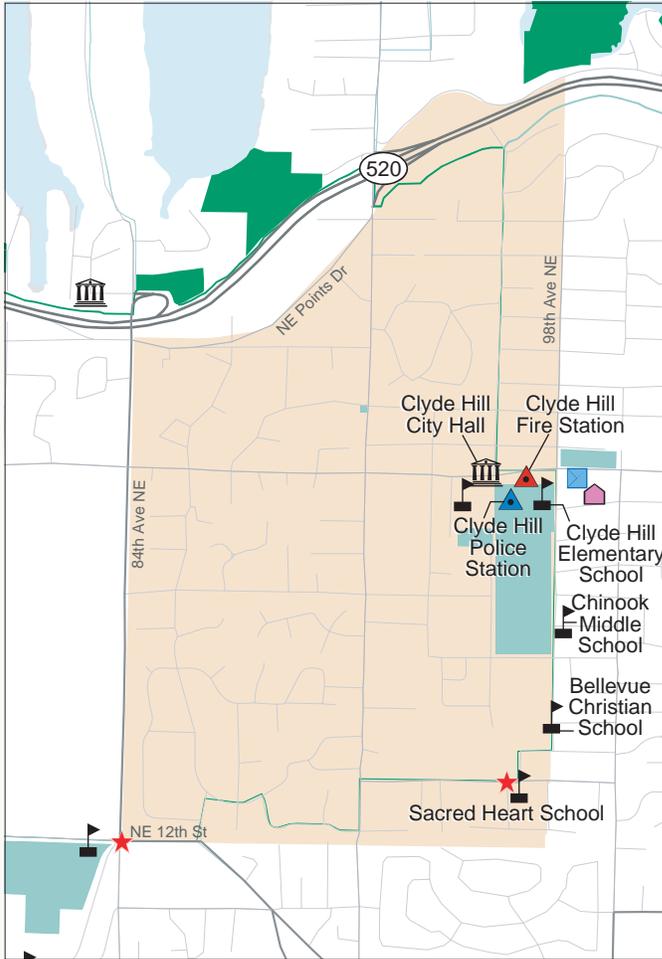
Clyde Hill***Who lives in Clyde Hill and how is the city projected to grow?***

Exhibit 17 shows that Clyde Hill has the largest percentage of minorities compared to its neighboring communities of Medina, Hunts Point, and Yarrow Point; however, this percentage is less than in Bellevue and Kirkland. Nearly all of the households in Clyde Hill speak English as a first language. The median household income and average household size are high compared to other project area cities, but comparable to Medina, Hunts Point, and Yarrow Point. Most Clyde Hill workers either drive alone to work (85 percent) or work at home (10.1 percent) (Exhibit 17).

Clyde Hill is surrounded by incorporated land and cannot extend its boundaries. Because few undeveloped parcels remain and there are no plans to increase zoning densities, Clyde Hill is near its growth capacity (Exhibit 15). The city's population is not expected to increase (City of Clyde Hill 1993-2002).



Clyde Hill: Population and Demographic Information



- City Hall
- Church
- School
- Other place of interest
- Community Center
- Fire Station
- Law Enforcement
- Park In Project Area
- Park Outside Project Area

Sources: King County GIS data (2003), Bellevue GIS data (2003), U.S. Census (2000).

Notes:

- ^a Includes two or more races.
- ^b A household with limited English-speaking abilities has all members 14 and over having at least some difficulty with English.

2,890 (Total Population)

2,590 White

- 16 African American
- 5 American Indian
- 211 Asian
- 0 Native Hawaiian/Pacific Islander
- 68 Other^a
- 43 Hispanic

Average Household Size: 2.74
 Over 65: 528
 Median Age: 44.9
 Median Household Income: \$132,468
 Median House Value: \$677,200

Limited English-Speaking Households^b

Total Households: 1,070
Speaks Some English: 1,057

Limited English

- Spanish: 0
- Indo-European: 10
- Asian, Pacific Island: 3
- Other Language: 0

Commute Mode

Drive Alone: 1,010

- Carpool: 24
- Bus: 24
- Motorcycle: 0
- Bicycle: 0
- Walk: 11
- Work at home: 120
- Other: 0

Population (5 years and older) with Sensory and Physical Disabilities

Combined Total: 168
 Sensory Disability: 71
 Physical Disability: 97

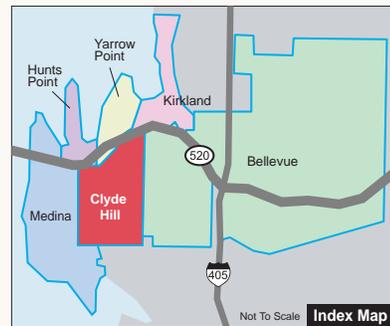


Exhibit 17. Population and Demographic Information - Clyde Hill
 SR 520 Bridge Replacement and HOV Project

What are the physical characteristics of Clyde Hill?

Clyde Hill occupies nearly 1 square mile on a hilltop that overlooks Lake Washington to the west and Bellevue to the east. It is generally bounded by SR 520 to the north, 98th Avenue Northeast to the east, Northeast 12th Street to the south, and 84th Avenue Northeast to the west (Exhibit 17). The construction of SR 520 in the 1960s cut off a small strip of the town near the 92nd Avenue Northeast off-ramp. Clyde Hill is almost exclusively residential. It has retail establishments and schools surrounded by single-family residential development typical of the character, function, and land use of an established residential neighborhood usually found within larger cities (City of Clyde Hill 1993-2002).

Clyde Hill's commercial development is situated on Hunts Point Drive near SR 520, but the busiest street is 84th Avenue Northeast, which leads to the westbound on-ramp of the freeway. Northeast 24th Street connects Clyde Hill to Medina and Bellevue; 92nd Avenue Northeast connects the city to Yarrow Point and eastbound SR 520.

What parks are in the project area in Clyde Hill?

Clyde Hill has one small park – Clyde Hill Town Park; however, playground facilities are located due east of the Clyde Hill Elementary School and the Chinook Middle School. Also, the Points Loop Trail enters the town on 96th Avenue Northeast and travels the full length of the city. Other nearby recreational facilities are located in neighboring cities. For a full discussion of park facilities, see Appendix O, *Recreation Discipline Report*.

What public services are provided in Clyde Hill?

Clyde Hill contracts with Bellevue for fire and ambulance services and is within the Bellevue Public School District. One fire station is located in Clyde Hill next to City Hall. An elementary school is located on Northeast 24th Street. The city has its own police department and provides law enforcement services for neighboring Yarrow Point. Utility service is provided by the same companies that serve Medina, Hunts Point, and Yarrow Point. For a full discussion of these services, see Appendix N, *Public Services and Utilities Discipline Report*.

What pedestrian, bicycle, and transit facilities are in the project area in Clyde Hill?

Bicycle and pedestrian lanes are marked on major arterials in Clyde Hill, such as 84th Avenue Northeast. Sidewalks are more common, existing on several heavily traveled streets. As previously mentioned,



the Points Loop Trail enters Clyde Hill on 96th Avenue Northeast and travels the full length of the town.

While transit ridership in Clyde Hill has historically been low, there appears to be sufficient capacity and opportunity for those who choose to use it. There are three regional Metro bus routes that operate along city boundaries, primarily 84th Avenue Northeast. Two of these routes provide direct access to downtown Seattle, the University District neighborhood, and downtown Bellevue. The third serves Renton and provides connections through Bellevue. In addition, there are major bus transfer points located on the SR 520 right-of-way that are accessible by pedestrian pathways, providing residents with access to other transit routes and connections (City of Clyde Hill 1993-2002).

Does the local comprehensive plan call for more pedestrian, bicycle, and transit facilities?

Clyde Hill's Comprehensive Plan makes a generic reference to encouraging alternative modes of transportation, but recommends few specific pedestrian, bicycle, or transit projects. Pedestrian walkways are recommended along arterial streets with connections to pedestrian trails in adjacent communities, including the Points Loop Trail. The plan also supports the construction of a bikeway along SR 520. The city is committed to working with Metro to improve transit service.

Yarrow Point

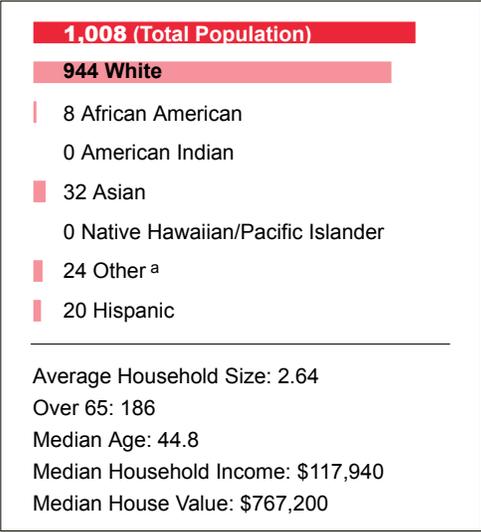
Who lives in Yarrow Point and how is the town projected to grow?

Exhibit 18 shows that Yarrow Point's residents have a similar demographic composition compared to Medina, Clyde Hill, and Hunts Point. Yarrow Point does have the largest percentage of elderly residents and lowest median household income of these neighboring communities. All of the households are English speaking. Most Yarrow Point workers either drive alone to work (80.5 percent) or work at home (12.9 percent) (Exhibit 18).

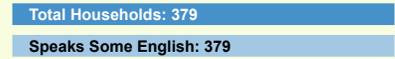
Similar to Medina, Hunts Point, and Clyde Hill, Yarrow Point has few undeveloped lots and is unable to extend its town boundaries (Exhibit 15). Therefore, limited, if any, growth is expected.



Yarrow Point: Population and Demographic Information



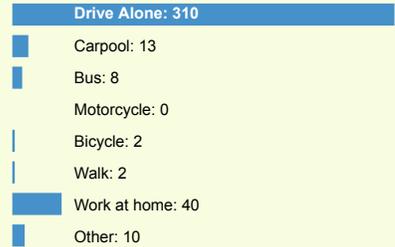
Limited English-Speaking Households^b



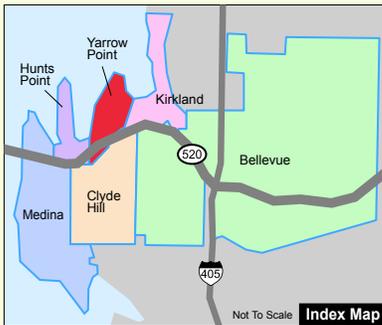
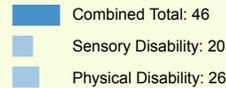
Limited English

- Spanish: 0
- Indo-European: 0
- Asian, Pacific Island: 0
- Other Language: 0

Commute Mode



Population (5 years and older) with Sensory and Physical Disabilities



Sources: King County GIS data (2003), Bellevue GIS data (2003), U.S. Census (2000).

Notes:

^aIncludes two or more races.

^bA household with limited English-speaking abilities has all members 14 and over having at least some difficulty with English.

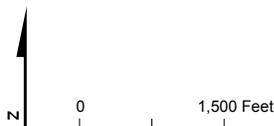


Exhibit 18. Population and Demographic Information - Yarrow Point

SR 520 Bridge Replacement and HOV Project

What are the physical characteristics of Yarrow Point?

Located on a peninsula like Hunts Point, Yarrow Point was incorporated in response to impending commercial development at the head of Yarrow Bay. Accordingly, the town was zoned for single-family residences only; to this day no commercial uses exist in the town. Lake Washington sits to the west, north, and partially to the east of the town; Kirkland is also to the east, and Clyde Hill is to the south on the other side of SR 520 (Exhibit 18). Similar to Hunts Point, Yarrow Point was a contiguous town prior to the construction of SR 520. Now a strip of the town is wedged between Points Drive Northeast and the south side of SR 520. Yarrow Point shares a residential character similar to the surrounding communities of Hunts Point and Clyde Hill, with ample-sized houses on generous lots (Town of Yarrow Point 1994). The only arterial is 92nd Avenue Northeast, also known as Yarrow Point Road. It runs north to south through town, providing access to the eastbound on-ramp of SR 520 and to Clyde Hill farther to the south.

What parks are in the project area in Yarrow Point?

Wetherill Park sits nestled between Cozy Cove and SR 520. The park is shared by Hunts Point and Yarrow Point and is maintained by an independent citizen board. The Points Loop Trail crosses into Wetherill Park in Yarrow Point, and then crosses SR 520 at 92nd Avenue Northeast on its way to Clyde Hill. A trail branches off from the Points Loop Trail and circles down the length of the peninsula. For a full discussion of park facilities, see Appendix O, *Recreation Discipline Report*.

What public services are provided in Yarrow Point?

Yarrow Point contracts with Bellevue for fire and ambulance services and is within the Bellevue Public School District. No schools are within the town's borders. Police service is provided by Clyde Hill. Electric lines and water mains cross SR 520 near 92nd Avenue Northeast. Utility service is provided by the same companies that serve Medina, Hunts Point, and Clyde Hill except for the Kirkland Utilities District/Cascade Water Alliance, which provides water to Yarrow Point. For a full discussion of these services, see Appendix N, *Public Services and Utilities Discipline Report*.

What pedestrian, bicycle, and transit facilities are in the project area in Yarrow Point?

A concrete sidewalk exists along Points Drive from Northeast 34th Street to 88th Avenue Northeast. The only other formal walking path is the Points Loop Trail. There are no formal bicycle facilities in Yarrow Point. The town is served by the Metro bus system. Metro buses using



SR 520 have two stops at 92nd Avenue Northeast – one eastbound to Bellevue and Redmond and one westbound to Seattle.

Does the local comprehensive plan call for more pedestrian, bicycle, and transit facilities?

Yarrow Point’s Comprehensive Plan states that additional safe walking paths are desired within the town. A park commission study recommended walking/biking paths running along the west side of 92nd Avenue Northeast from Northeast 34th Street to Northeast 47th Street, and on the unimproved section of Northeast 38th Street from 94th Avenue Northeast to 95th Avenue Northeast. The comprehensive plan also includes a general statement encouraging the using of public transportation but does not recommend specific additional facilities.

Kirkland

Kirkland covers approximately 11 square miles and is located north of Bellevue and west of Redmond, along the eastern shore of Lake Washington (Exhibit 5). Kirkland includes a diverse business community. Kirkland is predominantly white, with Asians comprising the largest minority group (Exhibit 19). Nearly all of the households speak English as a first language (Exhibit 19). The city is projected to have a fairly strong average annual growth compared to other project area cities (Exhibit 19). The median age is relatively young compared to other project area cities, and the median income is on par with other Eastside cities (Exhibit 19).

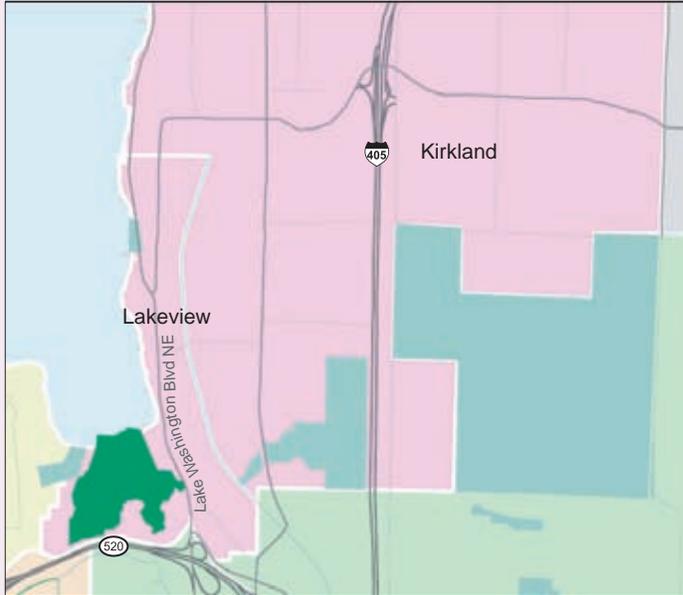
Most residential land in Kirkland is designated single-family. Multifamily units are located mainly in the central business district and the Totem Lake area near the I-405/Northeast 124th Street Interchange. About a fourth of Kirkland workers commute to work using an alternative to driving alone, carpooling being the most common alternative.

What Kirkland parks are in the project area?

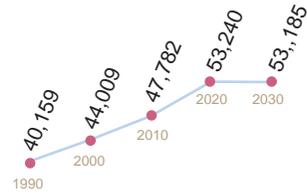
Yarrow Bay wetland and Watershed Park are two prominent recreation areas in Kirkland near the project area. The wetland is a wildlife conservancy covering about 66 acres. Pedestrian and bicycle facilities in the project area are limited to sidewalks and bicycle paths associated with local streets and arterials. A multiuse path is proposed along the Burlington Northern Santa Fe Railroad right-of-way that runs north to south through Kirkland. These park facilities can be seen later in this report in the neighborhood-specific exhibit that follows. For a full discussion of park facilities, see Appendix O, *Recreation Discipline Report*.



Kirkland: Population and Demographic Information



Average Household Size: 2.12
 Over 65: 4,536
 Median Age: 36.1
 Median Household Income: \$60,332
 Median House Value: \$283,100



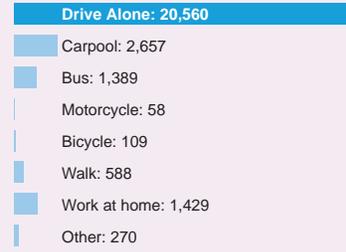
Employment^b



Limited English-Speaking Households^c



Commute Mode



Sources: U.S. Census (2000), PSRC (2002, 2004).

Notes:

^aIncludes two or more races.

^bEmployment figures are for 1998 (PSRC).

FIRES = Financial, Insurance, Real Estate, and Services
 WTCU = Warehousing, Transportation, Communication, and Utilities

^cA household with limited English-speaking abilities has all members 14 and over having at least some difficulty with English.

Population (5 years and older) with Sensory and Physical Disabilities

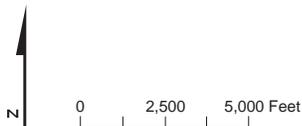
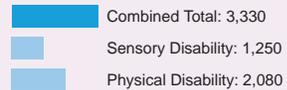


Exhibit 19. Population and Demographic Information - Kirkland

SR 520 Bridge Replacement and HOV Project

What public services are provided in Kirkland?

Kirkland has its own fire and police departments, although no stations are located in the project area. The Lake Washington School District includes Kirkland. No schools are in the project area, although Northwest Community College sits north of Watershed Park near I-405. Puget Sound Energy supplies natural gas and electric power to Kirkland and has lines crossing SR 520 at Bellevue Way. Private firms handle solid waste management, phone service, and cable service. Kirkland provides water service and sewer service; King County provides sewer treatment (City of Kirkland 2002). For a full discussion of these services, see Appendix N, *Public Services and Utilities Discipline Report*.

What pedestrian, bicycle, and transit facilities are in the project area?

Bicycle lanes exist along Lake Washington Boulevard and 108th Avenue Northeast in south Kirkland. The bicycle lanes on Lake Washington Boulevard lead to a park-and-ride lot near SR 520. Sidewalks are present along Northeast Points Drive and Lake Washington Boulevard. Transit service is provided by Metro and Sound Transit. Numerous routes serve the area and the park-and-ride lot.

Do local comprehensive plans call for more pedestrian, bicycle, and transit facilities?

The transportation chapter of Kirkland's Comprehensive Plan has policies to increase travel options in the city. These include developing a system of pedestrian and bicycle routes that form an interconnected network between local and regional destinations. To help implement this goal, the city developed a Nonmotorized Transportation Plan (City of Kirkland 2002), which examines existing facilities in detail and provides suggestions for new ones. This plan recommends new pedestrian and bicycle facilities on most arterials in the project area, as well as along the Burlington Northern Santa Fe Railroad tracks. This plan does not provide a specific time frame for construction, aside from an assumed 20-year buildout period.

The Kirkland Comprehensive Plan does not propose any other new transit facilities in the project area (City of Kirkland 2002).

Which Kirkland neighborhoods are in the project area?**Lakeview****Where is this neighborhood and who lives there?**

The Lakeview neighborhood in Kirkland is located between Lake Washington and the Burlington Northern Santa Fe Railroad tracks in



south Kirkland. Northeast 68th Street is the northern boundary and Northeast Points Drive is the southern boundary (Exhibit 20).

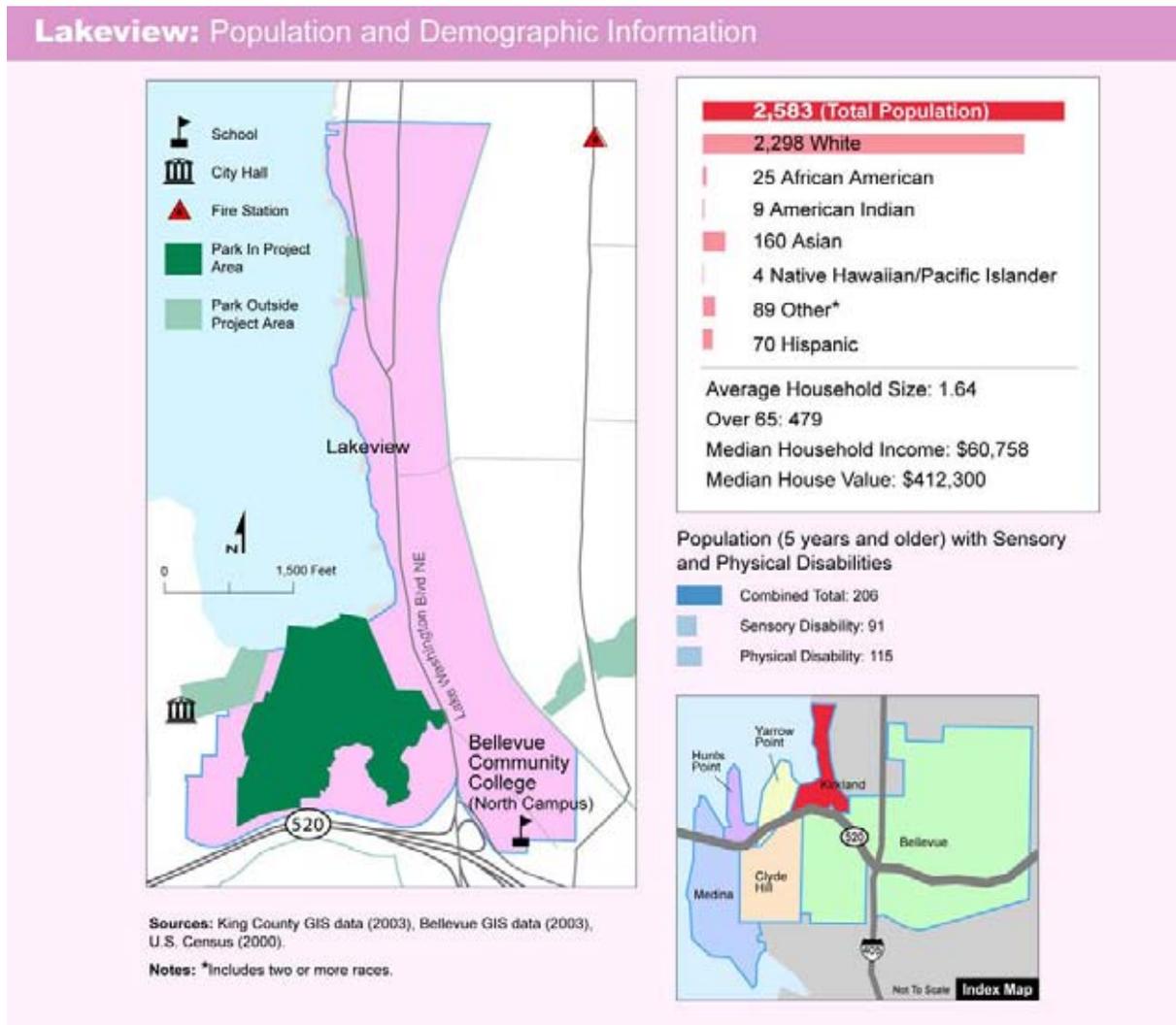


Exhibit 20. Population and Demographic Information–Lakeview

Lakeview’s racial demographics (Exhibit 20) mirror those of Kirkland in general. However, there is a substantially higher percentage of elderly residents in this neighborhood and a substantially lower average household size compared to the city as a whole. The median household income for Lakeview is similar to the city’s as a whole.

What are the physical characteristics of this neighborhood?

The Lakeview neighborhood features a mix of uses including single- and multifamily residences, commercial uses, parks, and marinas. Most of the single-family housing consists of older houses that are well



maintained (City of Kirkland 1995-2001). Gas stations, hotels, and restaurants are prominent on the southern edge of the neighborhood near SR 520.

Lake Washington Boulevard and Lakeview Drive Northeast serve both as a focus of activity in the neighborhood and, to an extent, also act as barriers. Lake Washington Boulevard provides direct access to SR 520 and is frequently busy with commuter traffic (City of Kirkland 1995-2001). The boulevard also continues into Bellevue and directs traffic to Bellevue's downtown city center. Two park-and-ride lots exist near the Lake Washington Boulevard/SR 520 interchange. The Yarrow Bay wetland is located in the Lakeview neighborhood.

Bellevue

Bellevue is the fifth largest city in Washington, located south of Kirkland and north of Newcastle. It is the financial, retail, and office center of the Eastside. The downtown is an increasingly compact mixed-use hub with places to live, shop, play, and work. Although Bellevue residents are mostly white, there is a substantial Asian population (Exhibit 21). A future growth pattern similar to Seattle's is expected—strong through 2010 and then slowing moderately in later years (Exhibit 21). Bellevue has more jobs than residents, indicating that it is not only a residential community but also a commercial center (Exhibit 21). Similar to Kirkland, about a fourth of Bellevue workers commute to work in a manner other than driving alone. Carpooling and busing are the two most common forms of alternative commuting.

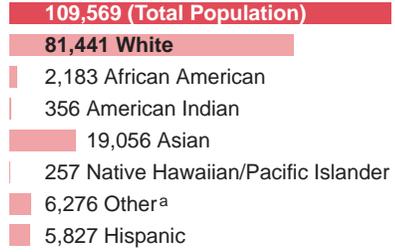
What Bellevue parks are in the project area?

No Bellevue parks lie within the project area. Hidden Valley Sports Park and Bellevue Highland Park are closest, but these parks are relatively removed from and do not have direct access to SR 520.

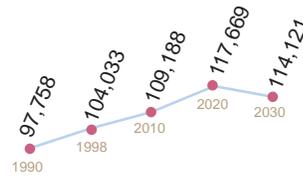
Pedestrian and bicycle facilities in the area are limited to sidewalks and bicycle paths associated with local streets and arterials. A bicycle trail is proposed to be built from Bellevue to Redmond along the SR 520 corridor north of the highway. The proposed trail along the Burlington Northern Santa Fe Railroad right-of-way would also cross through Bellevue from Kirkland. These park facilities can be seen later in this report in the neighborhood-specific exhibits that follow. For a full discussion of park facilities, see Appendix O, *Recreation Discipline Report*.



Bellevue: Population and Demographic Information



Average Household Size: 2.37
 Over 65: 14,661
 Median Age: 38.2
 Median Household Income: \$62,338
 Median House Value: \$299,400



Bellevue Population Projections

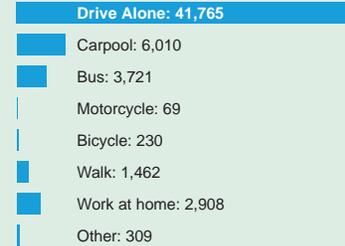
Employment^b



Limited English-Speaking Households^c



Commute Mode



Sources: U.S. Census (2000), PSRC (2002, 2004).

Notes:

^aIncludes two or more races.

^bEmployment figures are for 1998 (PSRC).

FIRES = Financial, Insurance, Real Estate, and Services
 WTCU = Warehousing, Transportation, Communication, and Utilities

^cA household with limited English-speaking abilities has all members 14 and over having at least some difficulty with English.

Population (5 years and older) with Sensory and Physical Disabilities

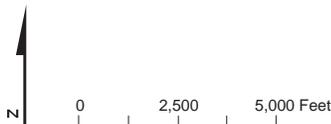


Exhibit 21. Population and Demographic Information - Bellevue

SR 520 Bridge Replacement and HOV Project

What public services are provided in Bellevue?

The Bellevue Fire Department provides protection to Bellevue, as well as to the neighboring communities of Medina, Hunts Point, Clyde Hill, and Yarrow Point. Police protection is provided by the Bellevue Police Department. The Bellevue Public School District operates schools in the area, but no schools are near SR 520. School buses use several of the local streets that cross SR 520 to transport students to and from school. The Bellevue Community College North Campus is located in the project area. Bellevue is serviced by the same utility providers as Kirkland. There are several utility crossings of SR 520 within the city limits of Bellevue. The Highland Community Center and the North Bellevue Community and Senior Center are near the project area. For a full discussion of these services, see Appendix N, *Public Services and Utilities Discipline Report*.

What pedestrian, bicycle, and transit facilities are in the project area?

No pedestrian or bicycle facilities are currently on SR 520; however, many sidewalks and bicycle lanes cross underneath the highway or run parallel on city arterials. Northrup Way, Northeast 24th Street, 124th Avenue Northeast, 116th Avenue Northeast, and 112th Avenue Northeast all have pedestrian and bicycle facilities. Both Metro and Sound Transit provide transit service from Bellevue throughout the Puget Sound region. A park-and-ride is on Bellevue Way near North 29th Street; transit stops are located throughout the project area.

Do local comprehensive plans call for more pedestrian, bicycle, and transit facilities?

The Bellevue Comprehensive Plan emphasizes reducing auto dependency through creation of viable travel options, including a strong transit system. Bellevue has a Transit Plan that includes a set of recommendations about future transit service. Adopted by the City Council on June 2, 2003, the Bellevue Transit Plan includes recommendations for transit service improvements, supportive capital investments, and policies for inclusion in the city's comprehensive plan. The Transit Plan focuses on improving service to core activity areas that lie outside of the project area. However, the SR 520 corridor plays a key role for transit movement in serving these activity areas and the greater Bellevue area. No additional transit facilities are specifically recommended for construction in the project area.

Bellevue's Pedestrian and Bicycle Transportation Plan Update provides detailed guidance for pedestrian and bicycle facilities. Specific future improvements include:



- Completion of sidewalks along Bellevue Way, Northrup Way Northeast, 112th Avenue Northeast, 116th Avenue Northeast, Northeast 24th Street, and 124th Avenue Northeast
- Installation of a paved path along the Burlington Northern Santa Fe Railroad tracks
- Construction of several multipurpose paths throughout Bridle Trails neighborhood
- Installation of bikeways along Northrup Way, 112th Avenue Northeast, and Bel-Red Road, as well as striping on Bellevue Way, Northeast 24th Street, 124th Avenue Northeast, and 115th Avenue Northeast

Which Bellevue neighborhoods are in the project area?

North Bellevue

Where is this neighborhood and who lives there?

Just south of SR 520 and framing downtown Bellevue on the north and west, North Bellevue is a mixed residential area of low to moderate population densities. North Bellevue is generally bounded by 98th Avenue Northeast to the west, SR 520 to the north, I-405 to the east, and Northeast 12th Street to the south (Exhibit 22).

North Bellevue has a lower percentage of minorities compared to Bellevue in general (Exhibit 22), but a much higher percentage of elderly residents. The median household income is slightly lower than the Bellevue median, and the average household size is the smallest of the Bellevue project area neighborhoods.

What are the physical characteristics of this neighborhood?

The North Bellevue Shopping Center, which includes a grocery store and gas station, sits near the center of the neighborhood and provides nearby shopping for area residents. Single-family and multifamily housing surround the shopping center. There are more mixed-use buildings and office space closer to I-405 and downtown Bellevue.

Bellevue Way runs north-south, bisecting the community into west and east halves. Neighborhoods west of Bellevue Way blend into Clyde Hill (Kuhn pers. comm. 2001). Bellevue Way provides direct access to SR 520 and the nearby park-and-ride lot, as well as downtown Bellevue. Northeast 24th Street and Northeast 12th Street provide east-west access across and out of the neighborhood. The Northwest Community Center lies on Northeast 24th Street, near the western edge of the



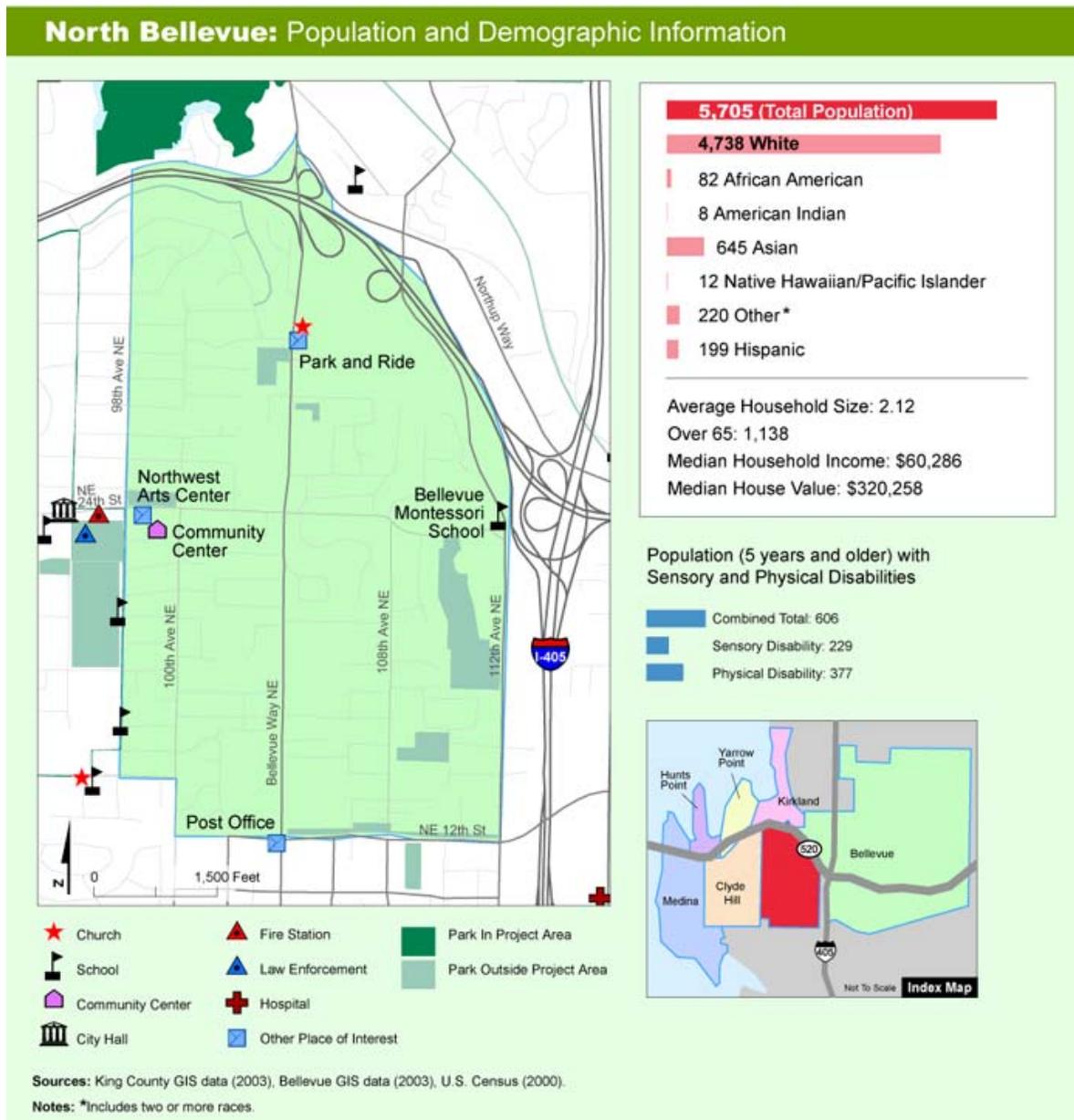


Exhibit 22. Population and Demographic Information–North Bellevue

neighborhood. Hidden Valley Park is located in the North Bellevue neighborhood.

Bridle Trails

Where is this neighborhood and who lives there?

The Bridle Trails neighborhood comprises a large part of northern Bellevue and is primarily residential in use and character. Many residents are attracted to the neighborhood because of its proximity to Bridle Trails State Park, which provides equestrian paths. The



neighborhood is bordered by two major highways, with I-405 to the west and SR 520 to the south. Northeast 60th Street serves as the northern boundary and 148th Avenue Northeast is the eastern boundary (Exhibit 23).

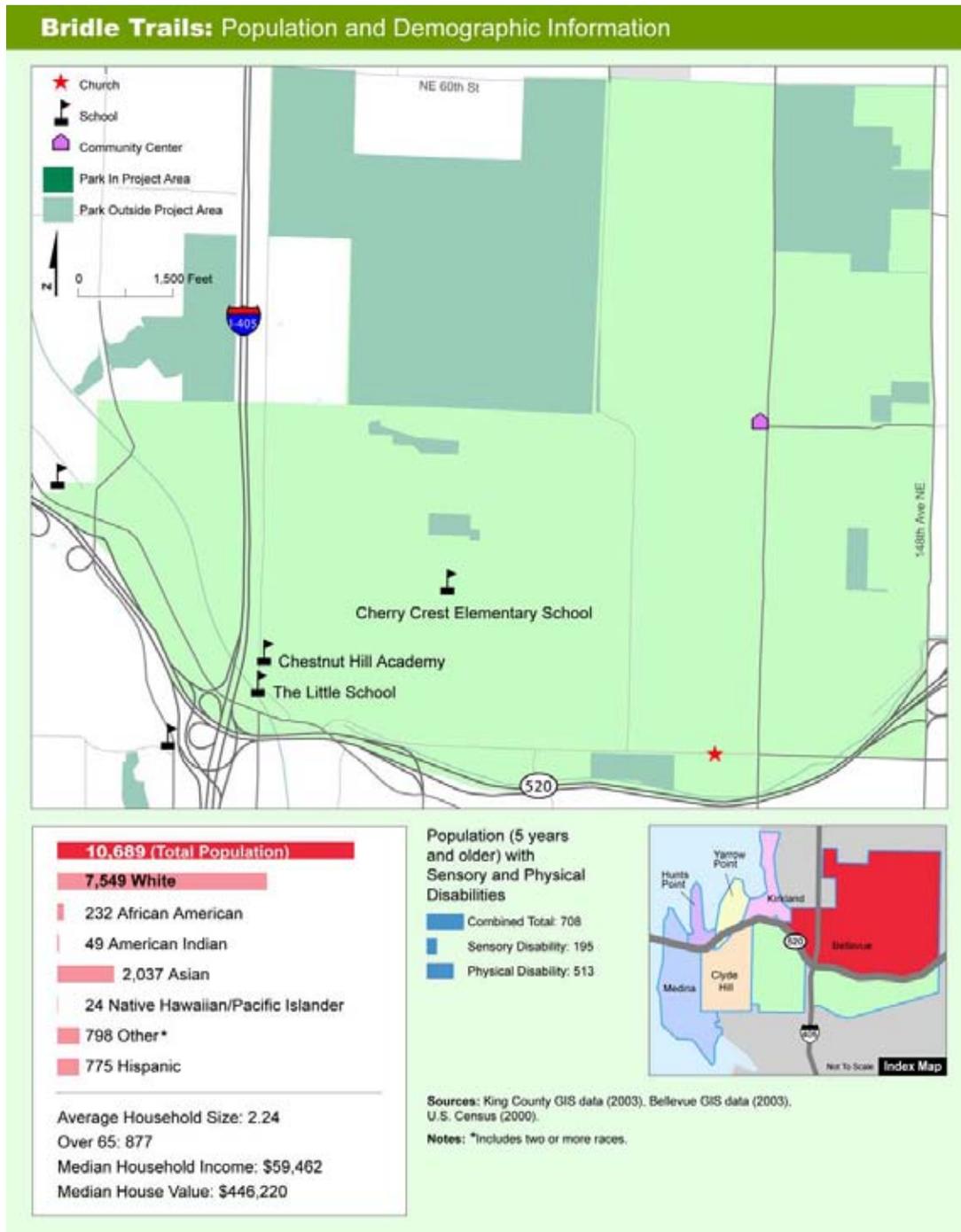


Exhibit 23. Population and Demographic Information–Bridle Trails



Nearly 10 percent of Bellevue’s population lives in Bridle Trails and there is a large percentage of Asians in the neighborhood (Exhibit 23). This neighborhood has the largest percentage of minorities of the Bellevue project area neighborhoods. The percentage of elderly residents is below the city average, while the average household size is higher.

What are the physical characteristics of this neighborhood?

Other than the apartments and condominiums along 148th Avenue Northeast, Bridle Trails housing is single-family on large lots. In addition, there are some commercial uses along the southern edge of Bridle Trails near SR 520. What distinguishes Bridle Trails is its wooded character – some two-thirds of the area is covered with second-growth timber. The wooded character lends itself to the equestrian paths found throughout the Bridle Trails neighborhood and the neighborhood’s proximity to Bridle Trails State Park (Kuhn pers. comm. 2001).

Northeast 24th Street, the only arterial that traverses the neighborhood from east to west, is located at the very southern end of the neighborhood. Access to Bridle Trails State Park is from 134th Avenue Northeast. North-south access through the Bridle Trails neighborhood is along 140th Avenue Northeast, which passes under SR 520. The Bellevue Municipal Golf Course, a popular local course, is also located on 140th Avenue Northeast. The neighborhood’s access to SR 520 is from 108th Avenue Northeast, 124th Avenue Northeast, and 148th Avenue Northeast.

Bel-Red/Northup

Where is this neighborhood and who lives there?

The Bel-Red/Northup neighborhood became a strong commercial area due to access to freeways, arterials, and a railroad. The neighborhood is generally bounded by I-405 to the west, SR 520 to the north, and 148th Avenue Northeast to the east (Exhibit 24).

The racial demographics of Bel-Red/Northup are very similar to North Bellevue, although North Bellevue has half as many residents. There are few elderly residents in this neighborhood, the smallest percentage of the Eastside neighborhoods. Both average household size and median household income are roughly similar to the other Bellevue neighborhoods.



What are the physical characteristics this neighborhood?

Early planning and development took advantage of this favorable location by designating districts for light industrial and general commercial businesses. Redevelopment in Bel-Red/Northup has not taken the form of “urban renewal”; instead it has come in the form of additions to existing structures. Though largely a commercial area, the neighborhood also includes some residential uses. These residences are concentrated in an area known as Dogwood Park, a neighborhood built in the 1950s (City of Bellevue 1993-2001).

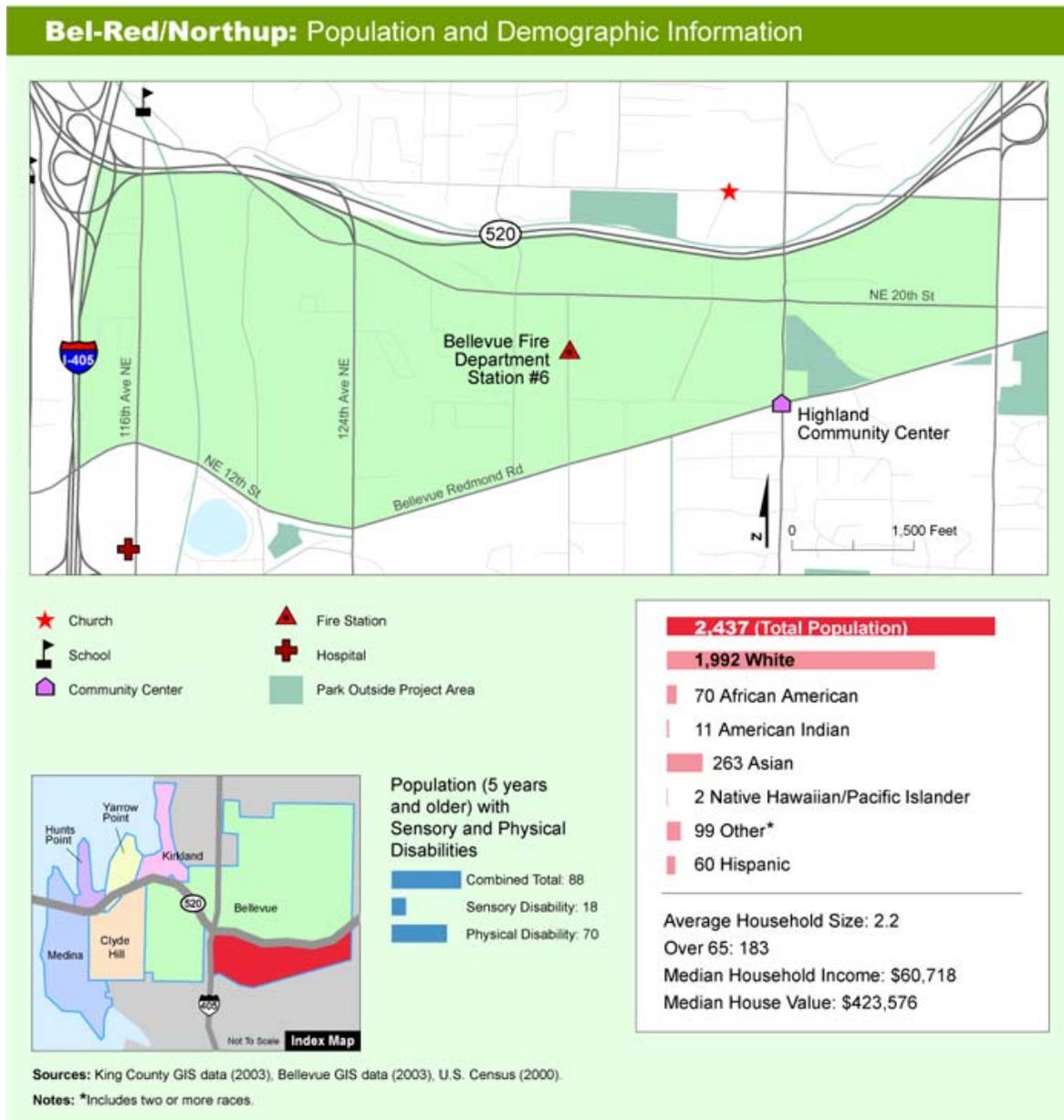


Exhibit 24. Population and Demographic Information–Bel-Red/Northup



Because of its commercial nature, Bel-Red/Northup has several arterials running through it. North-south arterials are 116th, 124th, 130th, 134th, 140th, and 148th Avenues Northeast. Additional access to other parts of Bellevue is available from 140th Avenue Northeast and 148th Avenue Northeast, which continue past the neighborhood boundaries in both directions. SR 520 can be directly accessed from 124th Avenue Northeast and 148th Avenue Northeast. Northeast Bel-Red Road connects the neighborhood to Bellevue's downtown, as well as neighboring Redmond. In the center of the neighborhood on Northeast 20th Street is a fire station, and a community center sits on Northeast Bel-Red Road near 140th Avenue Northeast.

Potential Effects of the Project

This section discusses the factors that would have both favorable and unfavorable effects on the communities and neighborhoods in the project area. In general, this includes any changes to community cohesion; recreational facilities; services; regional and community growth (including effects on population composition); and facilities for pedestrians, bicyclists, and transit. In the introduction to each section, we describe the methodology used to determine the effects on each neighborhood.

Seattle

Community Cohesion

Community cohesion is the degree to which residents have a sense of belonging to their neighborhood and an attachment to neighbors, groups, and institutions, usually as a result of continued association over time. The social discipline team considered project effects on community life that could alter the social and physical connections between persons and groups, such as physically isolating or dividing a neighborhood; residents' access to community facilities, adjoining residential areas, and affordable housing; and the composition of a neighborhood's population.

Would the project physically alter or separate portions of neighborhoods?

We reviewed the project alternatives to see if they would isolate or separate any neighborhoods by cutting off any existing streets or creating physical barriers between neighborhoods. We also considered project elements that could help link neighborhoods.



No Build Alternative

When constructed in the early 1960s, SR 520 physically altered and separated the Roanoke/Portage Bay, North Capitol Hill, and Montlake neighborhoods in the Seattle project area. At the same time, construction of the SR 520 created a new transportation link between the Montlake neighborhood and the Roanoke/Portage Bay and North Capitol Hill neighborhoods via the Portage Bay Bridge. Under the Continued Operation Scenario, SR 520 would continue to operate as it does today and the neighborhoods that were altered and separated by the original construction would remain that way. Under the Catastrophic Failure Scenario, the failure of the Portage Bay Bridge would sever the link that the bridge provides between the Seattle project area neighborhoods.

4-Lane Alternative

The 4-Lane Alternative would not physically alter or separate portions of any neighborhoods. The 4-Lane Alternative would replace the existing highway within the same corridor (i.e., the proposed alternative would follow approximately the same alignment, requiring the acquisition of some property adjacent to the existing WSDOT right-of-way, but would not create a new highway corridor). In addition to not dividing or isolating any areas, the 4-Lane Alternative would not cut off any streets.

While the 4-Lane Alternative would not physically reunite any of the Seattle project area neighborhoods, it would provide a new transportation link between the different areas of the Montlake neighborhood. A new bicycle/pedestrian path would connect to the existing Bill Dawson Trail, which runs from Montlake Playfield to the south side of the National Oceanic and Atmospheric Administration's (NOAA) Northwest Fisheries Science Center, to the northeast area of Montlake neighborhood and then south to the Arboretum. On a larger community scale, the new bicycle/pedestrian path would extend across Lake Washington, creating a link between Seattle and Eastside project area neighborhoods.

6-Lane Alternative

The 6-Lane Alternative would have the same effects as the 4-Lane Alternative. However, the 6-Lane Alternative would also provide two physical connections between the separated neighborhoods. Under the 6-Lane Alternative, WSDOT would construct two lids in the Seattle project area. These lids would be extensions to the bridges over SR 520 that would provide landscaped, open space. The specific design of



these lids has not yet been developed, but WSDOT has asked community members to share their vision of the lids. Examples of the visions are presented in Exhibit 25. The 10th and Delmar lid would partially reconnect the Roanoke/Portage Bay and North Capitol Hill neighborhoods, and the Montlake lid would partially reconnect the Montlake neighborhood. The lids would provide a point of reconnection and a place to gather.

Would it be more difficult to reach community facilities or affordable housing?

We reviewed the project alternatives for any physical impediments that would make it more difficult for neighborhood residents to get to community facilities or affordable housing. We also considered changes in travel times as a potential improvement or hindrance to accessing community facilities or affordable housing.

No Build Alternative

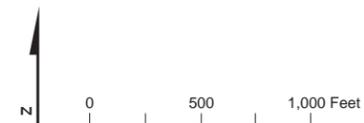
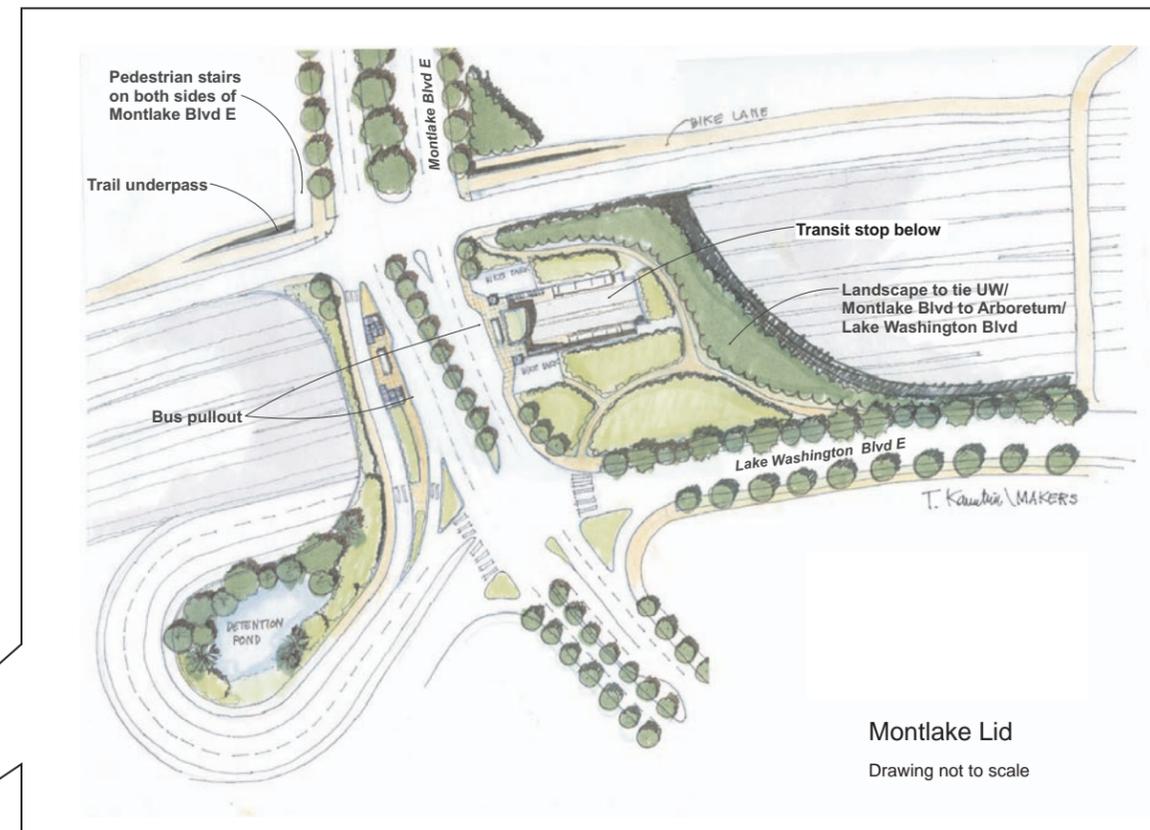
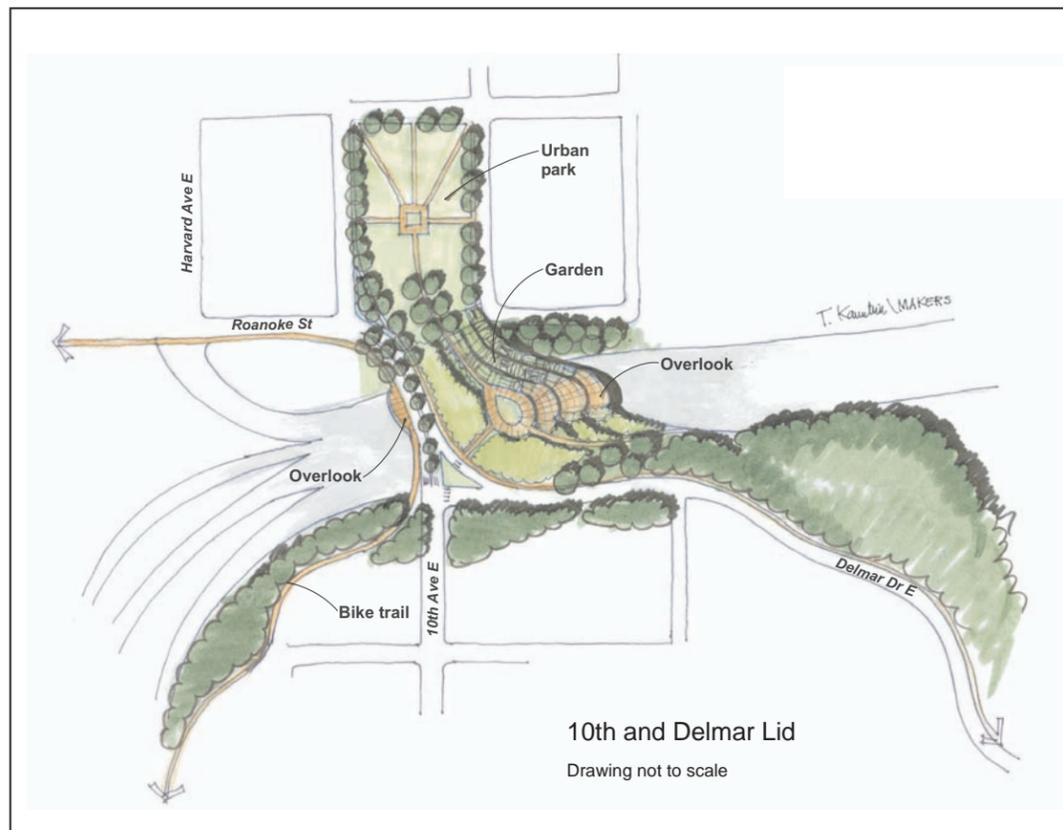
Under the Continued Operation Scenario, it would take longer to reach community facilities and affordable housing. Exhibit 26 shows that during most of the a.m. and p.m. peak hours, travel times on SR 520 would be longer under the No Build Alternative than under the 4-Lane and 6-Lane Alternatives, primarily due to the cost of tolls to cross the Evergreen Point Bridge, which would cause a shift from single-occupancy vehicles to HOVs and transit.

The Catastrophic Failure Scenario would mean anyone who used the Portage Bay Bridge or the Evergreen Point Bridge to reach community facilities or affordable housing would no longer be able to do so by those routes. People who used these bridges would be forced to use other routes that could be circuitous, making it more difficult to reach facilities or housing. Furthermore, these routes would likely be very congested as other travelers sought alternative ways to their destinations and cut through neighborhoods on local streets.

4-Lane Alternative

The 4-Lane Alternative would not create any physical impediments that would make it more difficult for people to reach community services or affordable housing. The project would be constructed within the existing corridor. The existing local roadway network would not be altered and would maintain all existing connections. Furthermore, the 4-Lane Alternative would not displace any community facilities or affordable housing, as documented in Appendix K, *Land Use, Economics,*





The lids would provide landscaped passive open space. The design of the lids would be done after the EIS is completed and an alternative selected. WSDOT will work with the City of Seattle and the affected neighborhoods to complete the designs. These drawings reflect the ideas of local residents about the look and feel of the lids and represent possible lid designs.



Exhibit 25. **Community Ideas for Lid Design, Seattle Project Area**
SR 520 Bridge Replacement and HOV Project

A.M. Peak Period Travel Time

P.M. Peak Period Travel Time

	Westbound Traffic From 124th Ave NE to I-5	Eastbound Traffic From I-5 to 124th Ave NE	Westbound Traffic From 124th Ave NE to I-5	Eastbound Traffic From I-5 to 124th Ave NE
No Build Alternative (Continued Operation Scenario)	<p>7:00 a.m.</p> <p>General Purpose: 27 min</p> <p>High Occupancy Vehicle: 27 min</p>	<p>7:00 a.m.</p> <p>General Purpose: 22 min</p> <p>High Occupancy Vehicle: 22 min</p>	<p>4:30 p.m.</p> <p>General Purpose: 38 min</p> <p>High Occupancy Vehicle: 31 min</p>	<p>4:30 p.m.</p> <p>General Purpose: 9 min</p> <p>High Occupancy Vehicle: 9 min</p>
	<p>8:30 a.m.</p> <p>General Purpose: 1 hr, 26 min</p> <p>High Occupancy Vehicle: 1 hr, 7 min</p>	<p>8:30 a.m.</p> <p>General Purpose: 19 min</p> <p>High Occupancy Vehicle: 19 min</p>	<p>6:00 p.m.</p> <p>General Purpose: 32 min</p> <p>High Occupancy Vehicle: 26 min</p>	<p>6:00 p.m.</p> <p>General Purpose: 9 min</p> <p>High Occupancy Vehicle: 9 min</p>
4-Lane Alternative	<p>7:00 a.m.</p> <p>General Purpose: 37 min</p> <p>High Occupancy Vehicle: 37 min</p>	<p>7:00 a.m.</p> <p>General Purpose: 8 min</p> <p>High Occupancy Vehicle: 8 min</p>	<p>4:30 p.m.</p> <p>General Purpose: 10 min</p> <p>High Occupancy Vehicle: 9 min</p>	<p>4:30 p.m.</p> <p>General Purpose: 8 min</p> <p>High Occupancy Vehicle: 8 min</p>
	<p>8:30 a.m.</p> <p>General Purpose: 1 hr, 35 min</p> <p>High Occupancy Vehicle: 1 hr, 11 min</p>	<p>8:30 a.m.</p> <p>General Purpose: 8 min</p> <p>High Occupancy Vehicle: 8 min</p>	<p>6:00 p.m.</p> <p>General Purpose: 10 min</p> <p>High Occupancy Vehicle: 10 min</p>	<p>6:00 p.m.</p> <p>General Purpose: 8 min</p> <p>High Occupancy Vehicle: 8 min</p>
6-Lane Alternative	<p>7:00 a.m.</p> <p>General Purpose: 34 min</p> <p>High Occupancy Vehicle: 13 min</p>	<p>7:00 a.m.</p> <p>General Purpose: 8 min</p> <p>High Occupancy Vehicle: 8 min</p>	<p>4:30 p.m.</p> <p>General Purpose: 15 min</p> <p>High Occupancy Vehicle: 14 min</p>	<p>4:30 p.m.</p> <p>General Purpose: 8 min</p> <p>High Occupancy Vehicle: 8 min</p>
	<p>8:30 a.m.</p> <p>General Purpose: 1 hr, 41 min</p> <p>High Occupancy Vehicle: 18 min</p>	<p>8:30 a.m.</p> <p>General Purpose: 8 min</p> <p>High Occupancy Vehicle: 8 min</p>	<p>6:00 p.m.</p> <p>General Purpose: 9 min</p> <p>High Occupancy Vehicle: 8 min</p>	<p>6:00 p.m.</p> <p>General Purpose: 20 min</p> <p>High Occupancy Vehicle: 8 min</p>



Exhibit 26. A.M. and P.M. Peak Period Travel Times

SR 520 Bridge Replacement and HOV Project

and Relocations Discipline Report. If MOHAI has not moved to downtown Seattle as planned by the time SR 520 starts construction, then that facility would be displaced.

The 4-Lane Alternative would make it easier to reach community facilities or affordable housing in the Seattle project area because of improved transportation facilities and operations. For example, the bicycle/pedestrian path would provide a new link in the nonmotorized transportation system that would provide people another means of reaching their destination. Also, travel times during a.m. and p.m. peak hour traffic would be less than the No Build Alternative except during the a.m. peak hours in the westbound direction (Exhibit 26.)

6-Lane Alternative

The 6-Lane Alternative would have similar effects as the 4-Lane Alternative; however, the benefits would be greater for the most part. The HOV connections to I-5 and the continuous HOV lanes in both directions would potentially make it easier to reach community facilities and affordable housing by improving mobility and reducing travel times, particularly for HOVs and transit (Exhibit 26).

Would neighborhood population distribution be affected?

To assess how the distribution of the neighborhoods' populations may be affected, we reviewed Appendix K, *Land Use, Economics, and Relocations Discipline Report*, for the number of residential displacements resulting from the project and the potential for the creation of excess land following construction that could be privately redeveloped for housing. We also considered changes in traffic, air quality, and noise levels, which could affect the quality of life in neighborhoods and prompt people to move.

We also reviewed Appendix J, *Indirect and Cumulative Effects Discipline Report*, which considers the indirect effects of the 4-Lane and 6-Lane Alternative on population and employment compared to the No Build Alternative in neighborhoods and community planning areas in Seattle and on the Eastside. The indirect and cumulative effects analysis relied on forecasts of 2030 population and employment changes prepared by the Puget Sound Regional Council.

No Build Alternative

Neither the Continued Operation Scenario nor the Catastrophic Failure Scenario would have a direct effect on population distribution in the Seattle project area. Under both scenarios, the neighborhoods would not be altered and would remain as they are today. The Catastrophic



Failure Scenario could displace residents if falling debris caused damage to residences in the vicinity of Boyer Avenue East, but displacement would not be permanent and would not be large enough to affect population distribution.

4-Lane Alternative

The 4-Lane Alternative would not affect the distribution of population in the Seattle project area neighborhoods. These neighborhoods are well established and have persisted next to the highway for more than 40 years. The 4-Lane Alternative would not require the acquisition of any residential properties. Also, the 4-Lane Alternative would not result in excess property suitable for residential redevelopment. The 4-Lane Alternative would not encourage people to move from project area neighborhoods because it would not degrade living conditions in these neighborhoods. As noted in Appendix M, *Noise Discipline Report*; Appendix R, *Transportation Discipline Report*; and Appendix C, *Air Quality Discipline Report*, quality of life factors such as noise, traffic, and air quality would improve with the implementation of the 4-Lane Alternative.

According to Appendix J, *Indirect and Cumulative Effects Discipline Report*, the 4-Lane Alternative would have virtually no indirect effect on the Seattle project area neighborhoods. Population in the Eastlake and University neighborhoods would increase by approximately 0 to 0.25 percent compared to the No Build Alternative. The population in Roanoke/Portage Bay, North Capitol Hill, Montlake, and Madison Park neighborhoods would either not change or would decline by a 0.25 percent compared to the No Build Alternative.

6-Lane Alternative

The 6-Lane Alternative would have similar direct effects on neighborhood population distribution as the 4-Lane Alternative. While one residence would be relocated under the 6-Lane Alternative, this would not affect population distribution, and the residences could be replaced after construction of the project.

The 6-Lane Alternative's influence on indirect population and employment growth in the Eastlake and University neighborhoods would be similar to the 4-Lane Alternative's influence, increasing the neighborhoods' populations by approximately 0 to 0.25 percent compared to the No Build Alternative. Under the 6-Lane Alternative, the population in the Roanoke/Portage Bay, North Capitol Hill, Montlake, and Madison Park neighborhoods would either not change

The **indirect effects analysis** is based on population and employment forecasts prepared by the Puget Sound Regional Council.

These forecasts are based in part on people's transportation choices. As a result, the forecasts assume the same transportation network as Appendix R, *Transportation Discipline Report*, and include the tolls on SR 520 under the 4-Lane and 6-Lane Alternatives.



or would increase by a 0.25 percent compared to the No Build Alternative.

How might community life change in general?

We looked at the answers to the following questions to evaluate in general how community life might change in the Seattle project area neighborhoods:

- Would the project physically alter or separate portions of neighborhoods?
- Would it be more difficult to reach community facilities or affordable housing?
- Would neighborhood population distribution be affected?

Tolls are not discussed here because this section focuses on community life in the Seattle project area; however, tolls could affect social interactions that require crossing the lake. Tolls are therefore discussed in the *Lake Washington* section below.

No Build Alternative

Community life would remain as it is today under the Continued Operation Scenario. Under the Catastrophic Failure Scenario, community life would potentially change. With the losses of the Portage Bay and Evergreen Point bridges, some residents in the neighborhoods would have to adjust their travel patterns. In addition, traffic on the local roadways may increase as motorists from other areas cut through the Seattle project area neighborhoods in search of alternative routes. This cut-through traffic could increase noise and the likelihood of accidents.

4-Lane Alternative

In general, after construction of the 4-Lane Alternative, community life would remain as it is today. As described above, the Seattle project area neighborhoods are well established and the project would do little to negatively affect conditions in those neighborhoods. For example, the 4-Lane Alternative would not:

- Separate, alter, or isolate any portions of the neighborhoods
- Disrupt the existing roadway network, thereby making it more difficult to reach community services and affordable housing
- Cause the neighborhoods' populations to change because residential properties would not be acquired



During the public involvement meetings, people were concerned that traffic congestion would increase on local streets, noise and air pollution would increase, and the community feel of the neighborhoods would change. The results of the transportation, noise, and air quality analyses (Appendices R, M, and C of this EIS) indicate that the opposite is expected. Communities in the area would benefit from the 4-Lane Alternative through decreased traffic congestion at local intersections, reduced noise levels with the construction of sound walls, and improved air quality due to increased mobility. These changes would be likely to improve the quality of life in communities. People also wanted bicycle and pedestrian access along the SR 520 corridor, which the build alternatives would provide in the project area.

6-Lane Alternative

The 6-Lane Alternative would have a similar effect on community life as the 4-Lane Alternative but the effect would be more beneficial. The Montlake, Roanoke/Portage Bay, and North Capitol Hill neighborhoods would benefit from the construction of the lids. These lids would potentially change community life in these neighbors by serving as community connectors and gathering places, helping to strengthen the ties between neighborhoods that were disconnected during construction of the original highway.

Recreation

When we analyzed the effects that the project would have on recreation, the following elements were taken into consideration: the amount of parkland acquisition; changes to park access; changes to aesthetics, air quality, noise, and water quality in the vicinity of project area parks; and effects on land uses around project area parks.

Would recreational facilities be displaced or harder to reach?

To identify potential displacement of recreational facilities, the social discipline team reviewed Appendix O, *Recreation Discipline Report*. We also reviewed the project alternatives to see if any of the project elements would create physical or traffic-related impediments that would affect access and travel times to recreational facilities.

No Build Alternative

The Continued Operation Scenario would not displace any parks or create any physical impediments to accessing the parks, but the parks may become more difficult to reach as peak travel times increased in the project area (Exhibit 26). As mobility within the project area decreases, travel times to reach the parks would increase.



Under the Catastrophic Failure Scenario, existing elevated ramps and bridges could collapse into portions of adjacent parks, rendering those areas inaccessible for recreational use until the debris was removed. Travel times would increase in the project area as congestion increased on local streets with people seeking alternative routes; this congestion could increase travel times for people trying to reach any of the recreational facilities.

4-Lane Alternative

The 4-Lane Alternative would require acquisition of property from four recreational facilities: Bagley Viewpoint, McCurdy Park, East Montlake Park, and Washington Park Arboretum. The amount of area needed from these parks is listed in Exhibit 27. Only one of these parks, Bagley Viewpoint, may be displaced entirely. Over 40 percent of Bagley Viewpoint's 0.09 acre would be needed for the 4-Lane Alternative; the remainder of the viewpoint may become unusable depending on whether access and parking can be provided in the remaining portion of the viewpoint (Exhibit 28). At McCurdy and East Montlake Parks, the MOHAI building would be partially or totally removed for construction of the project (Exhibit 29). MOHAI is planning on relocating, but the Arboretum Master Plan suggests using the building as part of a future expansion. If the building were totally removed, a suitable location for the Arboretum staff would need to be found.

Exhibit 27. Differences in Effects on Recreation Facilities between the 4-Lane and 6-Lane Alternatives—Seattle Project Area

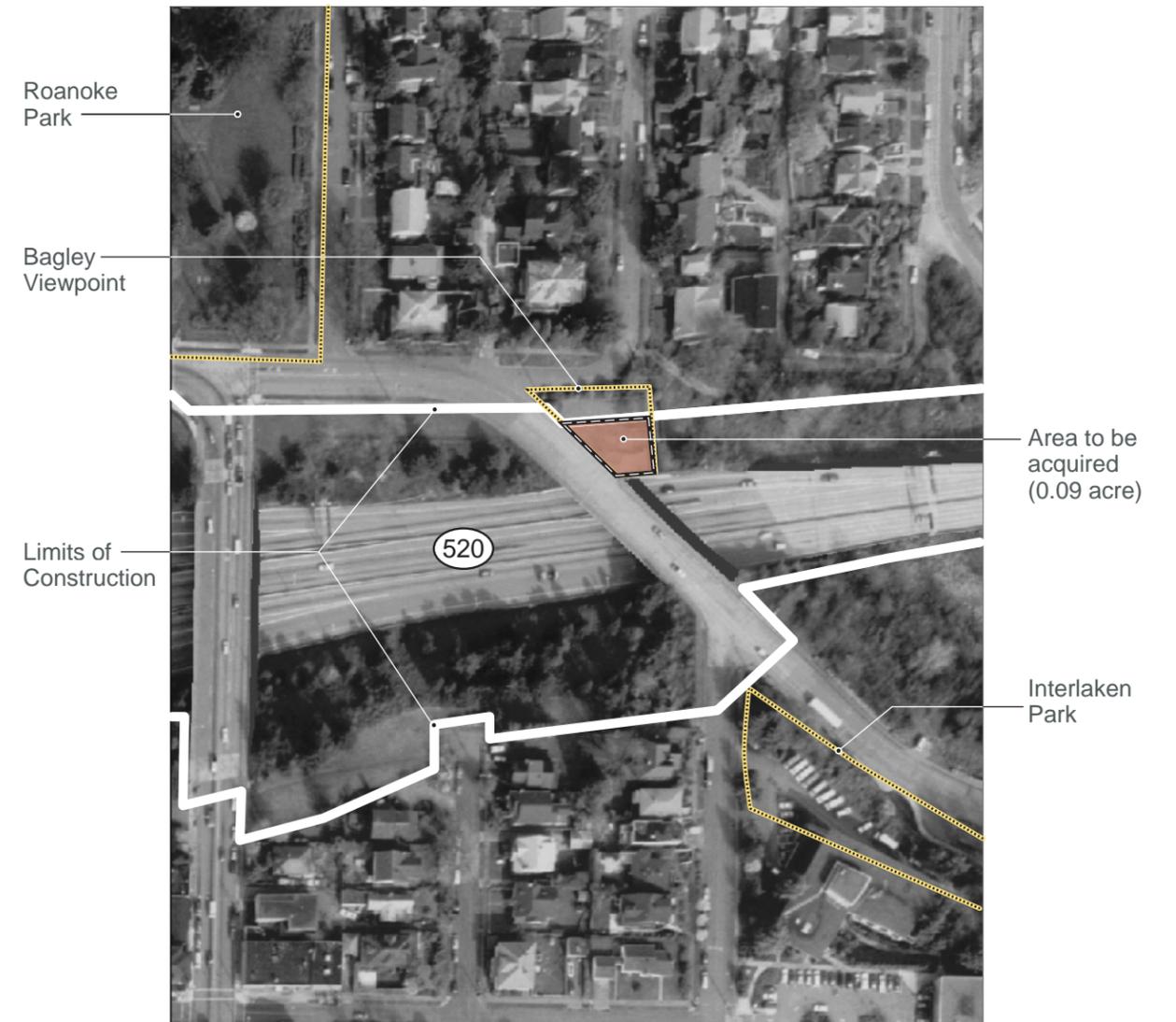
Resource	4-Lane Alternative (in acres)			6-Lane Alternative (in acres)		
	Acquired	Returned to Parkland	Net Gain or Loss	Acquired	Returned to Parkland	Net Gain or Loss
Seattle						
Bagley Viewpoint	0.06	—	-0.06	0.09	—	-0.09
Bill Dawson Trail (Montlake Bike Path)	Section of trail under SR 520 would be lengthened by 55 feet			Section of trail under SR 520 would be lengthened by 85 feet		
McCurdy Park	1.5	0.62	-0.88	1.5	—	-1.5
East Montlake Park	3.25	2.19	-1.06	3.25	1.87	-1.38
Washington Park Arboretum	1.7	1.74 ^a	+0.04	1.8	1.1 ^a	-0.7
Total	6.51	4.55	-1.96	6.64	2.97	-3.67

^a The WSDOT right-of-way where the existing highway is located could be returned to parkland.

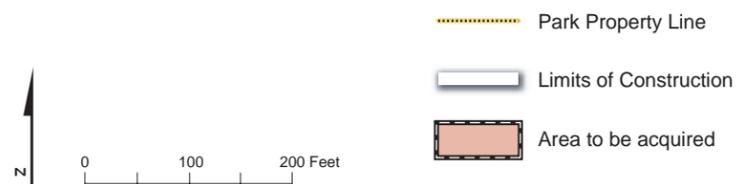




4-Lane Alternative

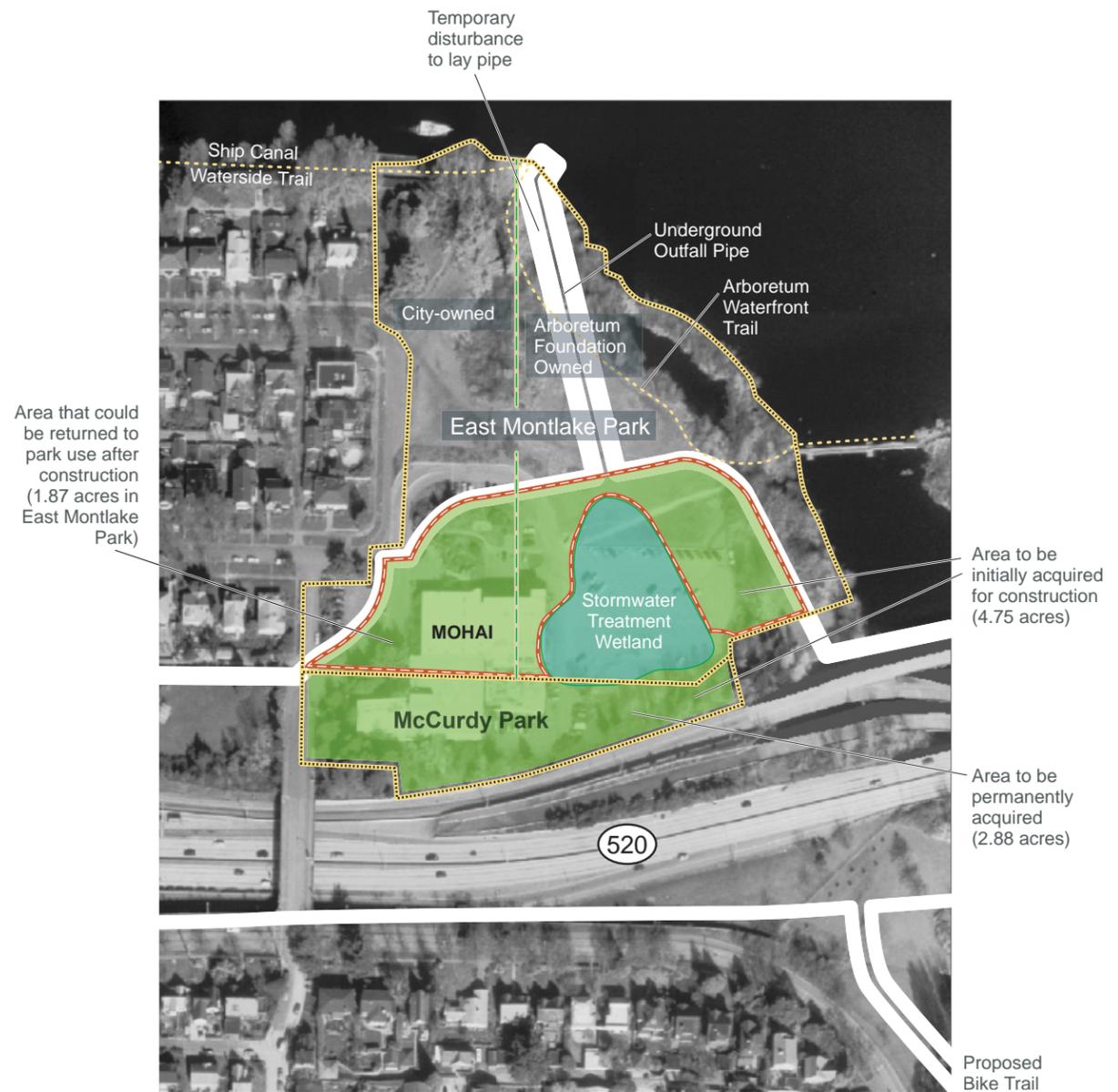


6-Lane Alternative



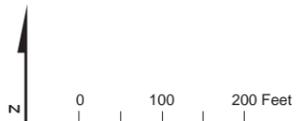


4-Lane Alternative



6-Lane Alternative

- Park Property Line
- Park Ownership Line
- Limits of Construction
- Area to be acquired
- Area that could be returned to park use after construction



While 1.7 acres of WSDOT right-of-way on Foster Island in the Arboretum would be used for this alternative, approximately 1.74 acres of WSDOT's existing right-of-way could be officially designated for park use following construction (Exhibit 30). This potential parkland would be available due to a northward shift in the alignment. Refer to Appendix O, *Recreation Discipline Report*, for a complete description of how the recreational facilities would be affected by the project.

6-Lane Alternative

The 6-Lane Alternative would affect the same recreational facilities as the 4-Lane Alternative, but the 6-Lane Alternative has the potential to return fewer acres to recreational use (see Exhibit 27).

Would the project change the visual appearance of any recreational facilities?

We reviewed the project alternatives and Appendix S, *Visual Quality and Aesthetics Discipline Report*, to see how the project elements would change the appearance of the recreational facilities.

No Build Alternative

The Continued Operation Scenario would not change the visual appearance of any recreational facilities. The Catastrophic Failure Scenario would have a negative effect on the visual appearance of recreational facilities where debris falls.

4-Lane Alternative

The 4-Lane Alternative would have both positive and negative effects on the appearance of recreational facilities in the Seattle project area. The removal of vegetation from property acquired at Bagley Viewpoint could make sound walls more noticeable, and a 10-foot-high sound wall could encroach on the viewpoint, potentially obstructing views to the south.

The MOHAI building and parking lot (in McCurdy and East Montlake Parks) would be removed and replaced by the roadway and a stormwater treatment wetland. An example of a stormwater treatment wetland is presented in Appendix T, *Water Resources Discipline Report*. The stormwater treatment wetland would be a positive visual quality change because the parking lot would be replaced by a natural-appearing landscape that would be more appropriate to the adjacent Union Bay shoreline and Arboretum.

The 4-Lane Alternative would remove the old, unused R.H. Thompson Expressway Ramps, opening up views in the Washington Park Arboretum. The new roadway structures through the Arboretum



would be higher than the existing highway, which would potentially affect views. The columns supporting the new roadway structure would be spaced every 250 feet, compared to the current spacing of every 100 feet. The increased spacing would open up views in the surrounding area. On the other hand, the new roadway structures over the Arboretum would be more noticeable than the existing SR 520 structures because of the increased height and width of the roadway, greater thickness of the roadbed, and the addition of 8-foot-high sound walls on both sides of the roadway.

6-Lane Alternative

The effects of the 6-Lane Alternative on visual appearance would include effects discussed under the 4-Lane Alternative; however, the 6-Lane Alternative would add two HOV flyover ramps to Montlake Boulevard. These ramps would cross over the highway approximately 60 to 65 feet above the water and would be very visible elements in the landscape.

Would the air quality, water quality, or noise within the recreational facilities be different?

We reviewed Appendix C, *Air Quality Discipline Report*; Appendix T, *Water Quality Discipline Report*; and Appendix M, *Noise Discipline Report*, to see what effects the project alternatives would have on recreational facilities.

No Build Alternative

Under the Continued Operation Scenario, noise levels near the recreational facilities during peak-hour traffic would increase, while air quality would decrease. Longer peak travel times would occur because more vehicles would be traveling on the existing roadway. This would result in longer periods of time during which traffic would be present near the recreational facilities, thus increasing the level of noise and decreasing the air quality. Under the Catastrophic Failure Scenario, noise levels would decrease and air quality would improve within recreational facilities due to the elimination of traffic on SR 520.

4-Lane Alternative

WSDOT would construct sound walls in the vicinity of the project area recreational facilities. After construction of the 4-Lane Alternative, park users either would not experience an increase in the noise levels or would experience a decrease at all of the Seattle project area recreational facilities. Appendix M, *Noise Discipline Report*, and Appendix O, *Recreation Discipline Report*, describe these changes in more detail.





Zoning

- Single Family
- Multifamily
- Parks/Open Space
- Civic and Quasi-Public
- Commercial
- Industrial
- Right-of-Way

Source: King County (2003) GIS data (Parcels, Streets, and Waterbodies); City of Seattle (2003) GIS Data (Zoning), Comprehensive Plan (Land Use). Existing land use based on King County parcel layer; only parcels within the study area (500 feet from SR 520) were field verified (March 2004). Horizontal datum for all layers is NAD83(91), vertical datum for layers is NAVD88.



Comprehensive Plan Land Use

- Single Family
- Multifamily
- Parks/Open Space
- Civic and Quasi-Public
- Commercial
- Industrial

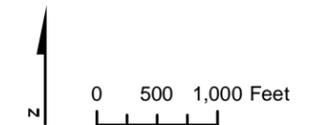


Exhibit 30. Zoning and Comprehensive Plan Land Uses in the Seattle Project Area
SR 520 Bridge Replacement and HOV Project

Water quality is expected to improve in the vicinity of Seattle project area parks. Four of these parks are located on water bodies; Montlake Playfield and Ship Canal Park are next to Portage Bay, and East Montlake Park and Lake Washington Arboretum are on Union Bay. Currently, stormwater runoff from SR 520 goes untreated. The 4-Lane Alternative would include the construction of facilities that would treat stormwater runoff before it enters both bays and improve water quality in the Seattle project area.

Air quality in the local area would improve compared to existing conditions and would not result in adverse effects from other pollutants, including greenhouse gases.

6-Lane Alternative

The 6-Lane Alternative would have similar effects on air quality and noise as described for the 4-Lane Alternative. The 6-Lane Alternative would generate a larger quantity of pollutants, but the water quality treatment facilities would be larger to accommodate the increased amount of the stormwater, resulting in a similar effect as the 4-Lane Alternative.

Would land uses near recreational facilities change?

To evaluate the potential for land uses to change near recreational facilities, we reviewed Appendix K, *Land Use, Economics, and Relocations Discipline Report*, for current land use plans and policies to determine the potential for any property acquired near recreational facilities to be redeveloped following construction.

No Build Alternative

Neither the Continued Operation Scenario nor the Catastrophic Failure Scenario would cause any land uses to change near any of the recreational facilities in the Seattle project area.

4-Lane Alternative

The 4-Lane Alternative would not encourage land uses around recreational facilities to change in the Seattle project area. Land uses around SR 520 are primarily single-family residences and parks. These uses have been constant since construction of SR 520 in the 1960s. Seattle Comprehensive Plan land use and zoning designations support the continuation of these uses. The 4-Lane Alternative would not cause any effects that would induce these land uses to change. The types of effects that could induce land use changes include substantial displacements, increases in noise and traffic congestion, and decreases in air quality. As described in the immediately preceding sections, noise



levels, traffic congestion, and air quality would improve with implementation of the 4-Lane Alternative. The 4-Lane Alternative would acquire land from two adjacent parks, McCurdy Park and East Montlake Park; a portion of this land could be redeveloped after project construction (Exhibit 29). According to Appendix O, *Recreation Discipline Report*, the most probable reuse of this land would be to return the land to the parks in partial compensation for recreational facilities displaced by the project.

6-Lane Alternative

The 6-Lane Alternative would have similar effects as those described for the 4-Lane Alternative. However, only land from East Montlake Park would be available for reuse following construction. This land would likely return to park use as partial compensation for loss of the rest of the park.

Regional and Community Growth

For the analysis of regional and community growth, we considered how the project would change population patterns and population characteristics (race, age, family composition, income levels, and major employment) in the project area. Appendix J, *Indirect and Cumulative Effects Discipline Report*, addresses changes to regional population as a result of the project.

Would this project cause changes in population growth?

To assess the project's potential to cause direct changes in the project area's population, we considered the amount of residential displacement that would occur as a result of the project, the land use plans and policies in place, and the quality of life factors that can shape a neighborhood's desirability. The indirect effects of the 4-Lane and 6-Lane Alternatives are also summarized below, based on Appendix J, *Indirect and Cumulative Effects Discipline Report*.

No Build Alternative

The Continued Operation Scenario and Catastrophic Failure Scenario would not cause the population in the Seattle project area neighborhoods to change.

The neighborhoods in the Seattle project area were established during the early part of the twentieth century. Other than the Eastlake neighborhood and limited areas in North Capitol Hill, Montlake, and Madison Park, the Seattle project area neighborhoods (Roanoke/Portage Bay, Montlake, Laurelhurst, and Madison Park) are primarily single-family residential areas. Seattle's zoning ordinance and



comprehensive plan, which establish the type and density of development that may occur, have designated these neighborhoods for single-family use (Exhibit 31). A number of these neighborhoods were divided during construction of the original SR 520 in the 1960s. That division did not cause the remaining portions of these neighborhoods to substantially change at that time or over the last 40 years. Based on the persistence of these neighborhoods and Seattle's policy for them to remain intact, the Continued Operation Scenario would not cause the population of these neighborhoods to change.

Like the Continued Operation Scenario, the Catastrophic Failure Scenario would not change the population in Seattle project area neighborhoods. The Catastrophic Failure Scenario could lead to residential displacements if falling debris from the Portage Bay Bridge caused structural damage to residences in the vicinity of Boyer Avenue East. Any residential displacements would be temporary and would not cause a discernable shift in the surrounding neighborhoods' population.

4-Lane Alternative

The 4-Lane Alternative would not cause an increase or a decrease in the populations residing in the Seattle project area neighborhoods. First, the 4-Lane Alternative would not displace any residences. Therefore, this alternative would not cause any neighborhoods to decline in population. Second, the 4-Lane Alternative would not diminish the quality of life in these communities. For example, air quality would improve, noise levels would decline, and traffic congestion on local streets would not worsen. As a result, residents would have little impetus to move elsewhere. Finally, Seattle land use policies encourage the project area neighborhoods to remain as they currently exist today (Exhibit 31).

Population and employment forecasts for 2030 indicate that population and employment throughout Seattle and the Eastside would fluctuate marginally from the No Build Alternative to the 4-Lane Alternative. Under the 4-Lane Alternative, population and employment, as compared to the No Build Alternative, would be the same or decrease by approximately 0.25 percent in most Seattle neighborhoods, except for several neighborhoods north of downtown Seattle that would experience no change to an increase of 0.25 percent. The population and employment growth forecasted for the Seattle project area neighborhoods is shown in Exhibit 32.



6-Lane Alternative

The 6-Lane Alternative would be similar to the 4-Lane Alternative in its direct effects on population distribution.

Population and employment forecasts for 2030 indicate that population and employment under the 6-Lane Alternative would follow a slightly different trend than the 4-Lane Alternative. Under the 6-Lane Alternative more growth would be directed to the Seattle neighborhoods north of downtown and less growth would occur in the less urbanized areas of the Eastside. For example, under the 6-Lane Alternative, population and employment, as compared to the No Build Alternative, would be the same or increase by approximately 0.25 percent in most Seattle neighborhoods, with the exception of several neighborhoods that would experience an increase of approximately 0.25 percent to 0.5 percent. Most Eastside neighborhoods that would experience increases of 0.5 percent to 1.0 percent in population under the 4-Lane Alternative compared to the No Build Alternative would experience less change under the 6-Lane Alternative, typically increases of 0.25 to 0.5 percent.

Would this project change population characteristics such as race, age, or income in the project area?

To evaluate effects on the composition of the project area's population, we considered the factors that could lead to changes in the number of people living in the project area's neighborhoods: the amount of residential displacement resulting from the project, the land use plans and policies in place, and the quality of life factors that can shape a neighborhood's desirability.

No Build Alternative

The Continued Operation Scenario would not cause any changes to population characteristics in the project area because it would not displace any residents, it would not change local land use policies, and it would not substantially degrade the quality of life in the project area neighborhoods. Even though the Catastrophic Failure Scenario could cause minor temporary residential displacements in the vicinity of Boyer Avenue East, it would not cause the surrounding neighborhoods' population to change for the same reasons cited for the Continued Operation Scenario.

4-Lane Alternative

The 4-Lane Alternative would not cause the neighborhood composition to change. The neighborhoods in the project area are well established and highly valued neighborhoods in Seattle. As shown in Exhibits 7





Zoning

- Single Family
- Multifamily
- Parks/Open Space
- Civic and Quasi-Public
- Commercial
- Industrial
- Right-of-Way

Source: King County (2003) GIS data (Parcels, Streets, and Waterbodies); City of Seattle (2003) GIS Data (Zoning), Comprehensive Plan (Land Use). Existing land use based on King County parcel layer; only parcels within the study area (500 feet from SR 520) were field verified (March 2004). Horizontal datum for all layers is NAD83(91), vertical datum for layers is NAVD88.



Comprehensive Plan Land Use

- Single Family
- Multifamily
- Parks/Open Space
- Civic and Quasi-Public
- Commercial
- Industrial

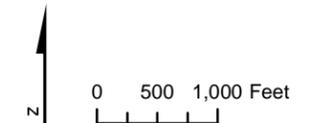


Exhibit 31. Zoning and Comprehensive Plan Land Uses in the Seattle Project Area
SR 520 Bridge Replacement and HOV Project

Exhibit 32. 2030 Seattle Population and Employment Distribution

Neighborhoods ^a	No Build Alternative	4-Lane Alternative			6-Lane Alternative		
		Total	Change from No Build		Total	Change from No Build	
			No.	%		No.	%
Eastlake, Roanoke/Portage Bay, North Capitol Hill, Montlake, Madison Park	28,766	28,716	-50	-0.17	28,824	58	0.20
University District	86,414	86,438	24	0.03	86,602	188	0.22
Laurelhurst	21,405	21,394	-11	-0.05	21,476	71	0.33

^a Population and employment projections are based on PSRC (2004) forecast analysis zones, which may not match the boundaries of the listed project area neighborhoods.

to 13, the median house value and median household incomes in the Seattle project area neighborhoods are considerably higher than those citywide. The 4-Lane Alternative would not result in any effects that would substantially diminish the quality of life in these neighborhoods and as a result lead residents to move elsewhere.

6-Lane Alternative

The 6-Lane Alternative would have similar effects on population characteristics as those discussed in the 4-Lane Alternative.

Services

When we analyzed the effects on services within the project area, we considered the educational facilities, religious institutions, social institutions (community centers), medical services, fire and police protection, utilities, cemeteries, government institutions, and other governmental services that exist within the boundaries of the project area.

Would service travel times for school buses, fire trucks, and police cars be affected?

We reviewed Appendix R, *Transportation Discipline Report*, to identify the travel times for the alternatives. We also reviewed the preliminary designs for the project alternatives to determine if any existing streets would be cut off or altered, thereby creating longer routes and increasing travel times.



No Build Alternative

Both the Continued Operation Scenario and the Catastrophic Failure Scenario would have a negative effect on the response and travel times of school buses and emergency service vehicles (police and fire) in the Seattle project area. Under the Continued Operation Scenario, more vehicles would be traveling on the existing roadway, causing travel times to increase (Exhibit 26) and resulting in longer periods of time when traffic would be present. The loss of the Portage Bay Bridge, as envisioned under the Catastrophic Failure Scenario, would sever a major transportation link. As a result, response and travel times would increase for school buses and emergency service vehicles as they used alternative routes on local streets, which would be clogged with other vehicles no longer able to use SR 520.

4-Lane Alternative

Construction of the 4-Lane Alternative would reduce response times for emergency service vehicles (fire trucks and police cars) along SR 520. Emergency service vehicles would benefit from the addition of a full shoulder, which is not currently available on the Portage Bay Bridge or the Evergreen Point Bridge. A full shoulder would allow fire trucks and police cars to go around traffic in the travel lanes. Under the 4-Lane Alternative, school buses would travel with general purpose traffic because SR 520 would not have HOV lanes in the Seattle project area. General purpose travel speeds on SR 520 from Montlake Boulevard to I-5 would be faster than the No Build Alternative during the morning and evening peak period in the eastbound direction (see Exhibits 4-27 through 4-30 in Appendix R, *Transportation Discipline Report*). Faster travel speeds indicate decreased travel times. In the westbound direction, however, general purpose travel speeds are slightly slower for the 4-Lane Alternative than the No Build Alternative.

6-Lane Alternative

The 6-Lane Alternative would have greater beneficial effects on travel times for school buses and emergency service vehicles than the 4-Lane Alternative. The 6-Lane Alternative would provide a continuous HOV lane in both travel directions throughout the Seattle project area, in addition to four general purpose lanes. This HOV lane would decrease travel times for school buses.

Would access to and from any public service buildings be more difficult?

We reviewed the project alternatives to see if the project would cause any physical changes that would impede access, such as cut off streets,



or if the project would displace any public service buildings. We also reviewed Chapters 4 and 5 of Appendix R, *Transportation Discipline Report*, to see if travel times under the alternatives would lead to longer trips.

No Build Alternative

Access to and from public service buildings would not be physically impeded under the Continued Operation Scenario, but it may take longer to get to these facilities during peak travel times (Exhibit 26). The Catastrophic Failure Scenario would make access to public service buildings more difficult, especially to two important services – the University of Washington and the University Hospital. Students, patients, professors, doctors, and other personnel would have to find alternative routes from certain locations, which would be likely to extend their travel times.

4-Lane Alternative

The 4-Lane Alternative would not make it more difficult to reach public service buildings. Construction of the 4-Lane Alternative would occur within the existing project corridor and the highway and roadway network would remain the same, so no existing access routes to public services would be blocked or altered. Travel times for the most part would decrease (Exhibit 26), easing access to public service buildings. In addition, the 4-Lane Alternative would not displace any buildings that provide services to the general public, so people would not need to go elsewhere for community and social services. However, MOHAI would be displaced if it does not move to downtown Seattle prior to project construction, as is currently planned. The 4-Lane Alternative would displace approximately eight buildings at NOAA's Northwest Fisheries Science Center. This facility is a research center that benefits from its proximity to the University of Washington.

6-Lane Alternative

The 6-Lane Alternative would have similar effects on access to public service buildings as the 4-Lane Alternative. During certain travel periods, travel times would improve under the 6-Lane Alternative (Exhibit 26), making it possible for service users to get to their destinations more quickly.

Would any service areas change?

We reviewed the project alternatives to see if the project would cut off any existing streets, requiring service areas to change. We also considered if there would be any population changes that would affect the service areas.



No Build Alternative

The Continued Operation Scenario and Catastrophic Failure Scenario would not affect the service areas in the Seattle project area. The Catastrophic Failure Scenario may affect the routing through service areas and increase travel times, but is not anticipated to change the service areas.

4-Lane Alternative

The 4-Lane Alternative would not cause service areas to change. The project would replace the existing facility in the same project corridor. Traffic circulation would not be affected because no new access points would be created or eliminated, and travel routes would remain the same. Furthermore, Level of Service (LOS), a measure of traffic mobility, would not degrade (see Chapter 5 of Appendix R, *Transportation Discipline Report*). Because travel routes would not change and traffic mobility would not decrease, service areas would not need to change. As described earlier in the *Would this project cause population growth?* section, the 4-Lane Alternative would lead to neither an increase nor a decrease in the Seattle project area population.

6-Lane Alternative

Like the 4-Lane Alternative, the 6-Lane Alternative would not cause service areas to change.

How would any changes in public services affect the neighborhoods they serve?

We reviewed the answers to the above questions (*Would service travel times for school buses, fire trucks, and police vehicles be affected?*, *Would access to and from any public service building be more difficult?*, and *Would any service areas change?*) to evaluate how changes in public services would affect Seattle project area neighborhoods.

No Build Alternative

As described above, the travel times, access, and service areas of public services in the Seattle project area would not substantially change under the Continued Operation Scenario. Because the Continued Operation Scenario would not cause any changes in public services, there would be no effect on the neighborhoods that they serve. While the Catastrophic Failure Scenario would increase travel times and not allow access from the Portage Bay Bridge and the Evergreen Point Bridge, these changes would not be so substantial as to affect the neighborhoods served by the affected public services.



4-Lane Alternative

No public services associated with Seattle project area neighborhoods would change as a result of the 4-Lane Alternative. As described above, travel times, access, and service areas for public services would not substantially change. Because the 4-Lane Alternative would not affect public services, the neighborhoods they serve would not experience any effects.

6-Lane Alternative

The 6-Lane Alternative would have similar effects as discussed for the 4-Lane Alternative.

Pedestrian, Bicycle, and Transit Facilities

We considered how the project would affect residents' ability to travel within their own neighborhoods and to other neighborhoods in the project area. We considered the following factors:

- Would the alternatives provide new facilities?
- Would the alternatives improve connections between facilities?
- How long would it take bicyclists, pedestrians, and transit riders to travel?
- Would the alternatives change the access to facilities?

Would the project change the capacity, circulation, or travel time for these facilities?

We reviewed the preliminary designs for the project alternatives to see how proposed improvements would interconnect with existing facilities and reviewed Appendix R, *Transportation Discipline Report*, for information on how the new facilities would operate.

No Build Alternative

The Continued Operation Scenario would not change the capacity, circulation, or travel time for bicycle and pedestrian facilities.

Transit travel times on the SR 520 corridor would increase under the Continued Operation Scenario (Exhibit 26). Despite increased travel times for transit, the demand for transit would increase. Exhibit 33 shows the anticipated demand for transit service. Under the Continued Operation Scenario, the number of people wanting to take transit would increase by 226 percent. To serve these riders, 100 buses would be needed, which is 113 percent more than is currently available. The increased demand shows the need for additional bus capacity. See



Chapter 7 of Appendix R, *Transportation Discipline Report*, for more information about transit demand, capacity, and travel times.

Exhibit 33. A.M. Peak Hour Passenger and Vehicle Volumes for Buses Crossing Lake Washington

	Number of Passengers	Forecasted Buses	Avg. Bus Occupancy	Number of Buses Needed	Adjusted Avg. Bus Occupancy ^a
Baseline Conditions (1998)					
Westbound	1,542	39	39	38	41
Eastbound	191	14	14	9	21
Total	1,733	53		47	
No Build Alternative (Continued Operation Scenario)					
Westbound	4,288	45	95	76	56
Eastbound	1,354	20	68	24	56
Total	5,642	65		100	
Growth over Existing Conditions	226%	23%		113%	
4-Lane Alternative					
Westbound	5,295	45	115	92	58
Eastbound	2,183	20	109	38	57
Total	7,478	65		130	
Growth over No Build	33%	0%		30%	
6-Lane Alternative					
Westbound	5,376	45	119	91	59
Eastbound	2,348	20	117	40	59
Total	7,724	65		131	
Growth over No Build Alternative	37%	0%		31%	

^a Based on an average bus capacity of 65 passengers.

The Catastrophic Failure Scenario could block bicycle and pedestrian traffic on the portion of the Bill Dawson Trail that goes under the Portage Bay Bridge. Bicyclists and pedestrians would be rerouted across the Montlake bridge over SR 520.

The Catastrophic Failure Scenario would not allow transit travel across the Portage Bay Bridge or the Evergreen Point Bridge. Existing transit routes that use the bridges would have to be rerouted, affecting circulation and travel times. Increased traffic on neighborhood streets would also negatively affect travel times for transit.



4-Lane Alternative

The 4-Lane Alternative would add a continuous bicycle/pedestrian path across Lake Washington to Montlake, improving both capacity and circulation. The bicycle/pedestrian path would separate bicyclists and pedestrians from motor vehicles, which would provide a safer travel environment. The new bicycle/pedestrian path would also connect with the existing path system in East Montlake Park and the planned extension of the Washington Park Arboretum trail. These connections would help complete the loop path through the Arboretum and provide an additional link between the southern and northern areas of the Montlake neighborhood. The overall effect would be to increase capacity and circulation.

Travel times for bicyclists may also improve across Lake Washington and between parks in the Seattle project area. Currently, bicyclists must wait for a bus to take them across Lake Washington. During peak periods, bicyclists may have a longer wait than just one bus because space is not available on the bicycle rack. The continuous bicycle/pedestrian path would mean bicyclists' trips would not be delayed. Depending on their routes, bicyclists' travel times may also be lower in the Seattle project area because the newly connected bicycle/pedestrian paths would allow them to avoid traffic signals and congestion.

The 4-Lane Alternative would not increase the highway capacity for transit, but it would increase the demand for transit. The 4-Lane Alternative would include some improvements that would make transit operations easier, such as longer merging lanes and peak hour access to the I-5 reversible lanes. Exhibit 33 shows that the number of transit riders is anticipated to increase 33 percent over the No Build Alternative. This additional demand would require a 30 percent increase in the number of buses needed (see Chapter 7 of Appendix R, *Transportation Discipline Report*).

6-Lane Alternative

The 6-Lane Alternative would provide the same benefits to the bicycle/pedestrian system as the 4-Lane Alternative.

The 6-Lane Alternative would also improve highway capacity for transit, decreasing the travel times. Under the 6-Lane Alternative, transit would travel on inside HOV lanes in both the eastbound and westbound directions of SR 520. WSDOT would relocate the Montlake transit stop to the inside lane. The inside HOV lanes and transit stop



would not require transit to merge with general purpose traffic, thereby increasing circulation, travel times, and safety for transit riders.

Exhibit 33 shows that the number of transit riders would increase 37 percent over the No Build Alternative. This additional demand would require a 31 percent increase in the number of buses needed (see Chapter 7 of Appendix R, *Transportation Discipline Report*).

Would the project affect access to these facilities?

We reviewed the project alternatives to see if there would be any project elements that would improve or impede access to bicycle, pedestrian, and transit facilities.

No Build Alternative

Under the Continued Operation Scenario, access would remain as is. Under the Catastrophic Failure Scenario, the collapse of the Portage Bay Bridge could affect access to the existing bicycle/pedestrian path because the Bill Dawson Trail could be blocked. Also, the failure of the Evergreen Point Bridge would make the existing Montlake transit stop on SR 520 of no use.

4-Lane Alternative

The 4-Lane Alternative would increase access to bicycle/pedestrian paths but would not affect transit facilities. As indicated above in *Would the project change the capacity, circulation, or travel time of these facilities?*, WSDOT would construct new bicycle/pedestrian paths that would connect to one existing path, the Bill Dawson Trail, and one planned path in the Arboretum. These new connections would increase accessibility to paths throughout the Montlake neighborhood. With the construction of a path across Lake Washington, bicycle/pedestrian paths on the Eastside would also become accessible.

The 4-Lane Alternative would not provide any new transit stops. The 4-Lane Alternative would improve access to the eastbound and westbound Montlake transit stop on SR 520 by providing pedestrian ramps accessible to persons with physical disabilities.

6-Lane Alternative

Like the 4-Lane Alternative, the 6-Lane Alternative would increase the accessibility of bicycle/pedestrian facilities.

The 6-Lane Alternative also would not add any additional transit stops along SR 520; however, the 6-Lane Alternative would improve access to the Montlake transit stops on SR 520. Currently, the eastbound Montlake transit stop is not accessible to persons in wheelchairs



because that stop can only be reached by a staircase. The westbound transit stop is difficult to access because of the steep slope from Montlake Boulevard down to the stop. Under the 6-Lane Alternative, the Montlake transit stop would be accessible by elevator from the Montlake lid, allowing persons in wheelchairs to access the stop. Elevators rather than ramps would be installed because the 6-Lane Alternative's center lane transit stops make it difficult to provide ramps compliant with the ADA.

Lake Washington

Low-income residents would find it more financially difficult than other residents to cross Lake Washington under the 4-Lane and 6-Lane Alternatives because of the tolls. While the median incomes in the Seattle and Eastside project areas are greater than the countywide median, people both inside and outside the project area use the Evergreen Point Bridge and some of these people are low income. The bridge is a conduit for social interactions between the opposite sides of Lake Washington for all income groups. People use the bridge to commute to work; travel to regional community facilities and services such as the University of Washington and other institutions of higher education, private elementary and secondary schools, federal courts, hospitals, or other service organizations; and visit friends and families. Low-income residents would likely find the tolls a major factor in their decisions about when to travel, what mode of transportation to use (single-occupancy vehicle versus transit), or what route to take (SR 520, I-90, SR 522, or I-405).

For purposes of evaluating the potential effects of the proposed project, WSDOT has assumed that the one-way toll across the Evergreen Point Bridge would be \$3.05 (1998 dollars) during peak hours; the roundtrip cost would be \$6.10. WSDOT has also assumed a one-way toll of \$1.65 (1998 dollars) during off-peak hours or \$3.30 roundtrip. Based on inflation, WSDOT projects the one-way toll during peak hours to be \$6.50 or \$13.00 roundtrip in 2030, and \$3.50 one-way or \$7.00 roundtrip during off-peak hours.

To evaluate effects on low-income residents in today's dollars, we have estimated that, based on an average annual inflation rate of 2.4 percent, in 2005 dollars the one-way toll during peak hours would be \$3.60 or \$7.20 roundtrip. During off-peak hours, the one-way toll would be \$1.95, or \$3.90 roundtrip. In 2005, if an individual commuted across the



Evergreen Point Bridge 5 days a week for 50 weeks each year during peak hours, that individual would spend \$1,800 per year on tolls.

According to the U.S. Census, 8.4 percent of the population in King County is below the federal poverty threshold (2000). In 2004, the U.S. Department of Health and Human Services identified \$9,310 as the federal poverty threshold for a family of one; the threshold increases by \$3,180 for each additional family member (69 FR 30, pp. 7336-7338). A person or family at or near the poverty threshold would have a greater difficulty absorbing the toll in the family budget than families with more financial means.

A person crossing the bridge on transit would not have to pay the toll. In 2005, an adult would spend 80 percent more roundtrip to pay the toll during the peak hours than to pay for transit or ride in a vanpool. Crossing the Evergreen Point Bridge on Sound Transit currently costs \$2.00 one-way or \$4.00 roundtrip. On King County Metro the current one-way cost during peak hours is \$2.00 during peak hours, thus the roundtrip cost would be \$4.00.

The cost of taking transit and its effect on the family budget would be less than driving across the Evergreen Point Bridge during the off-peak hours under the same circumstances (5 days a week, 50 weeks a year). Taking Metro during off-peak hours would cost approximately 37.5 percent less than paying the off-peak toll. The comparative costs of taking transit versus commuting by car across SR 520 is even less when the cost to operate and maintain the vehicle and to park are taken into consideration.

In addition to using transit, people may avoid the Evergreen Point Bridge toll by driving across Lake Washington on the I-90 bridges or by traveling around the lake on I-405 or SR 522. Most likely people would choose their preferred route based on convenience – in other words – the next quickest and shortest route to their origin and destination compared to SR 520. Any alternative route would represent increased travel time and mileage, which equates to increased expense. The extent to which these increases would be a negative effect would depend on how substantial the increased travel time and mileage would be. Also, if a low-income person does not have to commute across the bridge for work, but crosses the bridge on a less frequent basis to socialize or visit a community or service facility, the financial effect would be much less than commuting daily.



The effects of the tolls are also discussed in Appendix G, *Environmental Justice Analysis*.

Eastside

Descriptions of the aspects of the social environment that are discussed for the potential effects are provided in the preceding discussion of the Seattle project area.

Community Cohesion

Would the project physically alter or separate portions of neighborhoods?

No Build Alternative

The physical composition of the neighborhoods in the Eastside project area would not change under the Continued Operation Scenario because the existing highway would remain in place without any physical modifications. Under the Catastrophic Failure Scenario, the loss of the Evergreen Point Bridge would not separate Eastside project area communities or neighborhoods. Loss of the Evergreen Point Bridge, however, would eliminate a transportation link between Seattle and the Eastside project area.

4-Lane Alternative

The 4-Lane Alternative would not physically alter or separate portions of neighborhoods that were not already separated when the existing facility was constructed in the 1960s. (During the 1960s, portions of Medina, Hunts Point, Clyde Hill, Yarrow Point, and Bellevue were divided.) The 4-Lane Alternative would replace the existing facility within the same corridor and would not change the local roadway system or relocate any on- and off-ramps. As a result, this alternative would not cut through any communities or neighborhoods and separate or isolate them from any other areas any more than the existing SR 520 does.

6-Lane Alternative

Like the 4-Lane Alternative, the 6-Lane Alternative would not separate any neighborhoods because it would remain in the same corridor and would not cut off any streets or relocate any on- and off-ramps. The 6-Lane Alternative would, however, provide new physical connections in Medina, Hunts Point, Yarrow Point, and Clyde Hill by constructing lids over SR 520 at Evergreen Point Way, 84th Avenue Northeast, and 92nd Avenue Northeast. These lids would have landscaped, open space with paths that would connect the opposite sides of the neighborhoods



together. Exhibit 34 shows some concepts developed by the affected communities for these lids.

Would it be more difficult to reach community facilities or affordable housing?

No Build Alternative

Under the Continued Operation Scenario, it would take longer to reach community facilities and affordable housing. The increased travel times would result from increased traffic congestion.

If the Evergreen Point Bridge were lost, as described in the Catastrophic Failure Scenario, access to community facilities and affordable housing within the Eastside project area would not be physically impaired. Traffic on roadways in Medina, Hunts Point, Clyde Hill, and Yarrow Point may decrease as fewer vehicles would use the local roadways in these communities to access SR 520. This potential decrease may lead to reduced traffic congestion, reduced noise levels, and increased air quality in these communities.

Reaching community facilities outside of Medina, Hunts Point, Clyde Hill, and Yarrow Point could take more time because of increased traffic congestion, as people sought alternative routes across Lake Washington on the Eastside project area's major roadways, such as Bellevue Way, I-405, and I-90. Collapse of the Evergreen Point Bridge would make it difficult to reach community facilities on the other side of Lake Washington that serve the region, such as universities and colleges as well as private primary and secondary schools. As a result, people may turn more to community services on their own side of Lake Washington rather than use services on the other side.

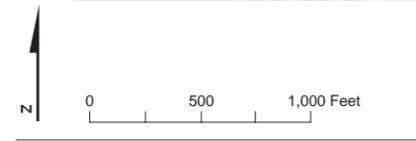
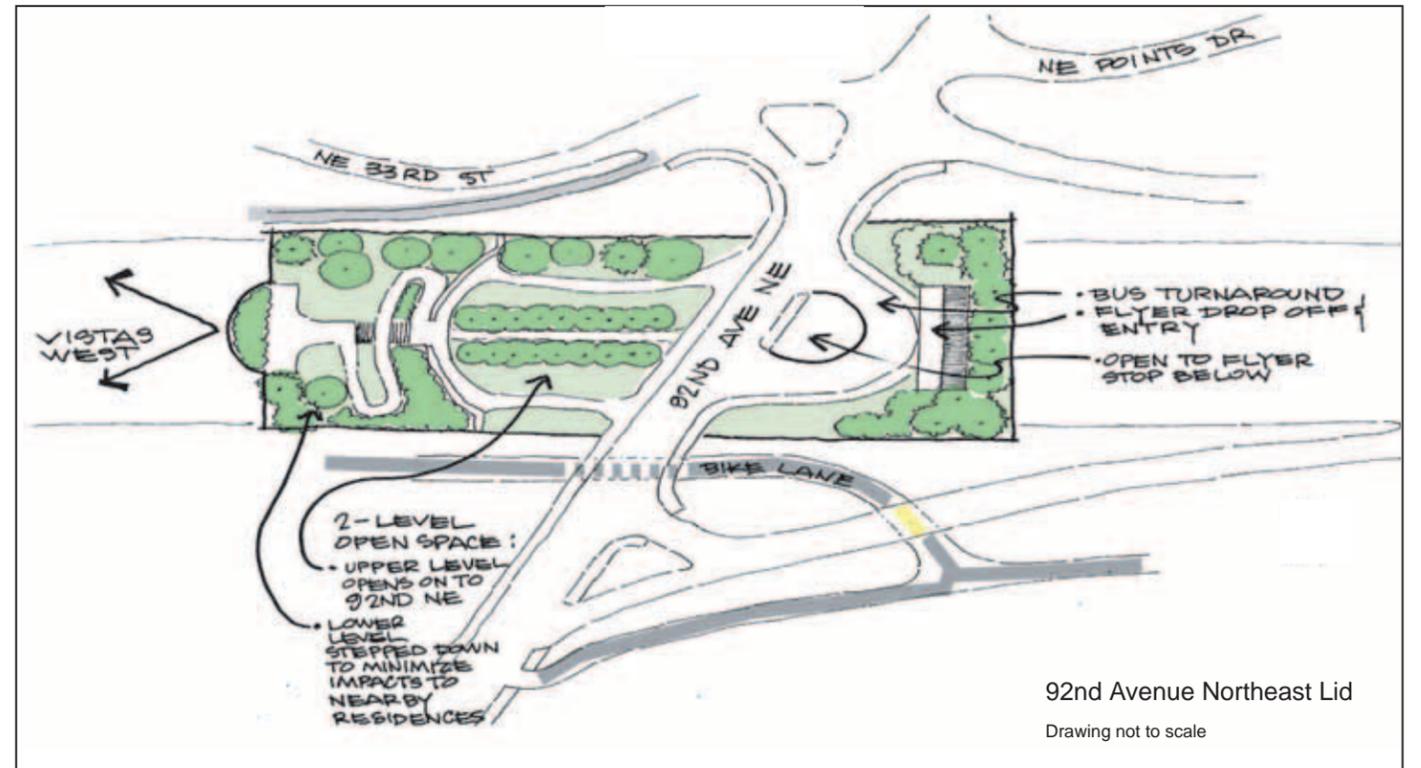
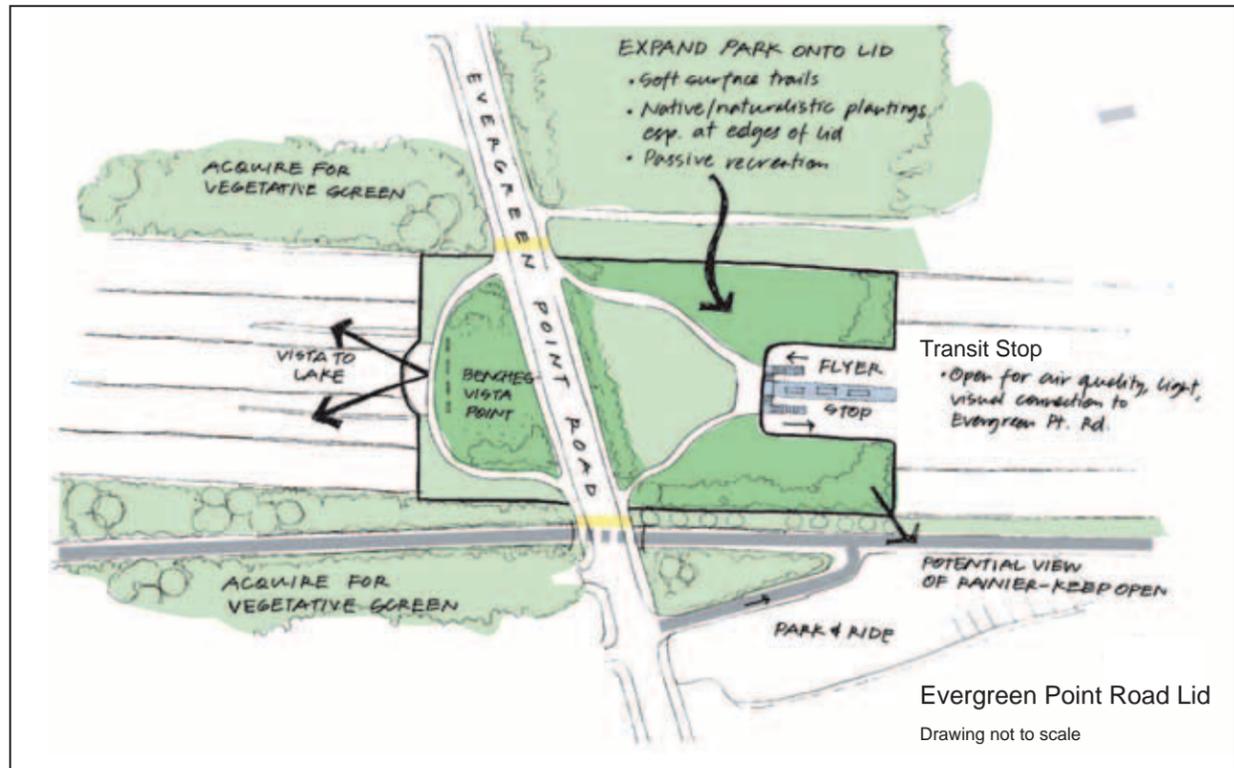
4-Lane Alternative

The 4-Lane Alternative would not create any physical impediments that would make it more difficult for people to reach community services or affordable housing. The project would be constructed within the existing project corridor. The existing local roadway network would not be altered and all existing connections would be maintained. Furthermore, the 4-Lane Alternative would not displace any community facilities or affordable housing.

6-Lane Alternative

The 6-Lane Alternative would have the same effects as the 4-Lane Alternative.





The lids would provide landscaped passive open space. The design of the lids would be done after the EIS is completed and an alternative selected. WSDOT will work with Medina, Hunts Point, Yarrow Point, Clyde Hill, and the affected neighborhoods to complete the designs. These drawings reflect the ideas of local residents about the look and feel of the lids and represent possible lid designs.



Exhibit 34. Community Ideas for Lid Design, Eastside Project Area
SR 520 Bridge Replacement and HOV Project

Would neighborhood population distribution be affected?

No Build Alternative

The Continued Operation Scenario and Catastrophic Failure Scenario would have no direct effect on population distribution in the project area. Under both scenarios, the communities and neighborhoods would remain as they are today.

4-Lane Alternative

The 4-Lane Alternative would not directly change the population distribution in the Eastside project area. The 4-Lane Alternative would require the acquisition of two residences in Medina, which would not have a perceivable effect on the number of people living in the Eastside project area. Furthermore, the 4-Lane Alternative would improve such quality of life factors as air quality, noise levels, and traffic congestion. With the improvement of such conditions, people would have no reason to leave the project area communities and neighborhoods.

The indirect effects analysis is based on population and employment forecasts prepared by the Puget Sound Regional Council.

These forecasts are based in part on people's transportation choices. As a result, the forecasts assume the same transportation network as Appendix R, the *Transportation Discipline Report*, and include the tolls on SR 520 under the 4-Lane and the 6-Lane Alternatives.

According to Appendix J, *Indirect and Cumulative Effects Discipline Report*, the indirect effect of the 4-Lane Alternative would be to increase population and employment growth in the Eastside project area neighborhoods compared to the No Build Alternative. The forecasted increases would range from 0.25 percent to 0.5 percent in Medina, Hunts Point, Clyde Hill, and Yarrow Point. In North Bellevue, Lakeview, Bridle Trails, and Bel-Red/Northup, the forecasted increase would range from approximately 0.4 percent to a less than 1 percent increase (Exhibit 35). These small increases would not have a noticeable effect on these communities.

Exhibit 35. 2030 Eastside Population and Employment Distribution

Neighborhoods/Cities ^a	No Build Alternative	4-Lane Alternative			6-Lane Alternative		
		Total	Change from No Build		Total	Change from No Build	
			No.	%		No.	%
Medina, Hunts Point, Clyde Hill Yarrow Point	7,829	7,862	33	0.42	7,858	29	0.37
Lakeview	52,745	53,081	336	0.64	52,965	220	0.42
North Bellevue	13,288	13,399	111	0.84	13,348	60	0.45
Bridle Trails, Bel-Red Northup	46,106	46,403	297	0.64	46,319	213	0.46

^a Population and employment projections are based on PSRC (2001) forecast analysis zones, which may not match the boundaries of the listed project area neighborhoods.



6-Lane Alternative

Similar to the 4-Lane Alternative, the 6-Lane Alternative would not directly change the population distribution in the Eastside project area.

When compared to the No Build Alternative, the 6-Lane Alternative would increase population and employment in 2030 less than the 4-Lane Alternative would. All of the Eastside project area neighborhoods would have a population increase ranging from 0.25 percent to 0.5 percent when compared to the No Build Alternative. These small changes would likely be imperceptible.

How might community life change in general?

Tolls are not discussed here because this section focuses on community life in the Seattle project area; however, tolls could affect social interactions that require crossing the lake. Tolls are discussed in the *Lake Washington* section above.

No Build Alternative

Community life would remain as it is today under the Continued Operation Scenario. Under the Catastrophic Failure Scenario, community life would potentially change. With the loss of the Evergreen Point Bridge, residents in the neighborhoods who use the bridge would have to adjust their travel patterns, possibly seeking community facilities closer to their residences. Noise and traffic congestion may decrease and air quality may improve, making use of the outdoors more pleasant.

4-Lane Alternative

In general, after construction of the 4-Lane Alternative, community life would remain as it is today. The Eastside project area communities and neighborhoods are well established, and the project would do little to negatively affect conditions in those areas. For example, the 4-Lane Alternative would not:

- Separate, alter, or isolate any portions of the neighborhoods more than they are already
- Disrupt the existing roadway network, thereby making it more difficult to reach community services and affordable housing
- Cause populations to change because residential properties would not be acquired

Eastside project area residents expressed concerns that the project would have negative effects on local traffic congestion, noise, and air



quality. Appendix R, *Transportation Discipline Report*; Appendix M, *Noise Discipline Report*; and Appendix C, *Air Quality Discipline Report* indicate that, for the most part, the opposite would happen.

Communities in the area would benefit from the 4-Lane Alternative because local traffic congestion would decrease, sound walls would reduce noise levels, and less traffic congestion would improve air quality. Residents were also interested in a continuous bicycle/pedestrian lane along the SR 520 corridor, which both build alternatives would provide in the project area. These improvements would maintain the quality of these communities.

6-Lane Alternative

The 6-Lane Alternative would have a similar effect on community life as the 4-Lane Alternative, but the effect would be more beneficial to the residents of Medina, Hunts Point, Clyde Hill, and Yarrow Point. The 6-Lane Alternative would provide three new physical connections between the previously divided communities. Construction of the three lids would provide additional places for people to gather, helping to strengthen the ties between the divided communities.

Recreation

Would recreational facilities be displaced or harder to reach?

No Build Alternative

The Continued Operation Scenario and the Catastrophic Failure Scenario would not affect recreational facilities in the Eastside project area.

4-Lane Alternative

Construction of the 4-Lane Alternative would not require acquisition of any parklands. However, as described in Exhibit 36, the 4-Lane Alternative would require relocation and reconstruction of the Points Loop Trail in places. All existing trail crossings would remain.

6-Lane Alternative

The 6-Lane Alternative would reconstruct small sections of the Points Loop Trail in Fairweather Park in Medina (Exhibit 37) and in Wetherill Park in Hunts Point (Exhibit 38). The 0.2 acre of Fairweather Park is needed to relocate a small section of the Points Loop Trail, which is displaced by the expanded SR 520. The 0.1 acre of Wetherill Park is needed to relocate a section of the trail, which would shift to the north to accommodate the 92nd Avenue lid.



Exhibit 36. Differences in Effects on Recreational Facilities between the 4-Lane and 6-Lane Alternatives—Eastside Project Area

Resource	4-Lane Alternative (in acres)			6-Lane Alternative (in acres)		
	Acquired	Returned to Parkland	Net Gain or Loss	Acquired	Returned to Parkland	Net Gain or Loss
Fairweather Park		No effect		0.20	0.20	—
Points Loop Trail		Existing trail would be relocated and reconstructed in places.		Existing trail would be relocated and reconstructed in places and rerouted along the eastern edge of Wetherill Park.		
Wetherill Park		No effect		0.11	0.11	—
Total		—		0.31	0.31	—

Would the project change the visual appearance of any recreational facilities?

No Build Alternative

Both the Continued Operation Scenario and the Catastrophic Failure Scenario would not affect the visual appearance of recreational facilities.

4-Lane Alternative

Construction of the sound walls and removal of vegetation along the Points Loops Trail through Medina, Hunts Point, Clyde Hill, and Yarrow Point would change the visual experience of trail users by diminishing the natural character of the trail on the highway side. This change would be most noticeable near the Evergreen Point Road transit stop and on the trail in Wetherill Park, which would be close to a sound wall and/or relocated a few feet to the north of the existing trail. On the other hand, the sound wall would reduce traffic noise and completely screen the highway from view.

6-Lane Alternative

Like the 4-Lane Alternative, the 6-Lane Alternative would change the visual experience of pedestrians and bicyclists on the Points Loop Trail, especially near the Evergreen Point Road transit stop, and along Wetherill Park. The lids constructed at Evergreen Point Road, 84th Avenue Northeast, and 92nd Avenue North would be a positive open



Area for reconstruction of Points Loop Trail would be returned to park after construction (0.2 acre)

Proposed Trail

Evergreen Point Road Lid

Existing Points Loop Trail



Existing Points Loop Trail

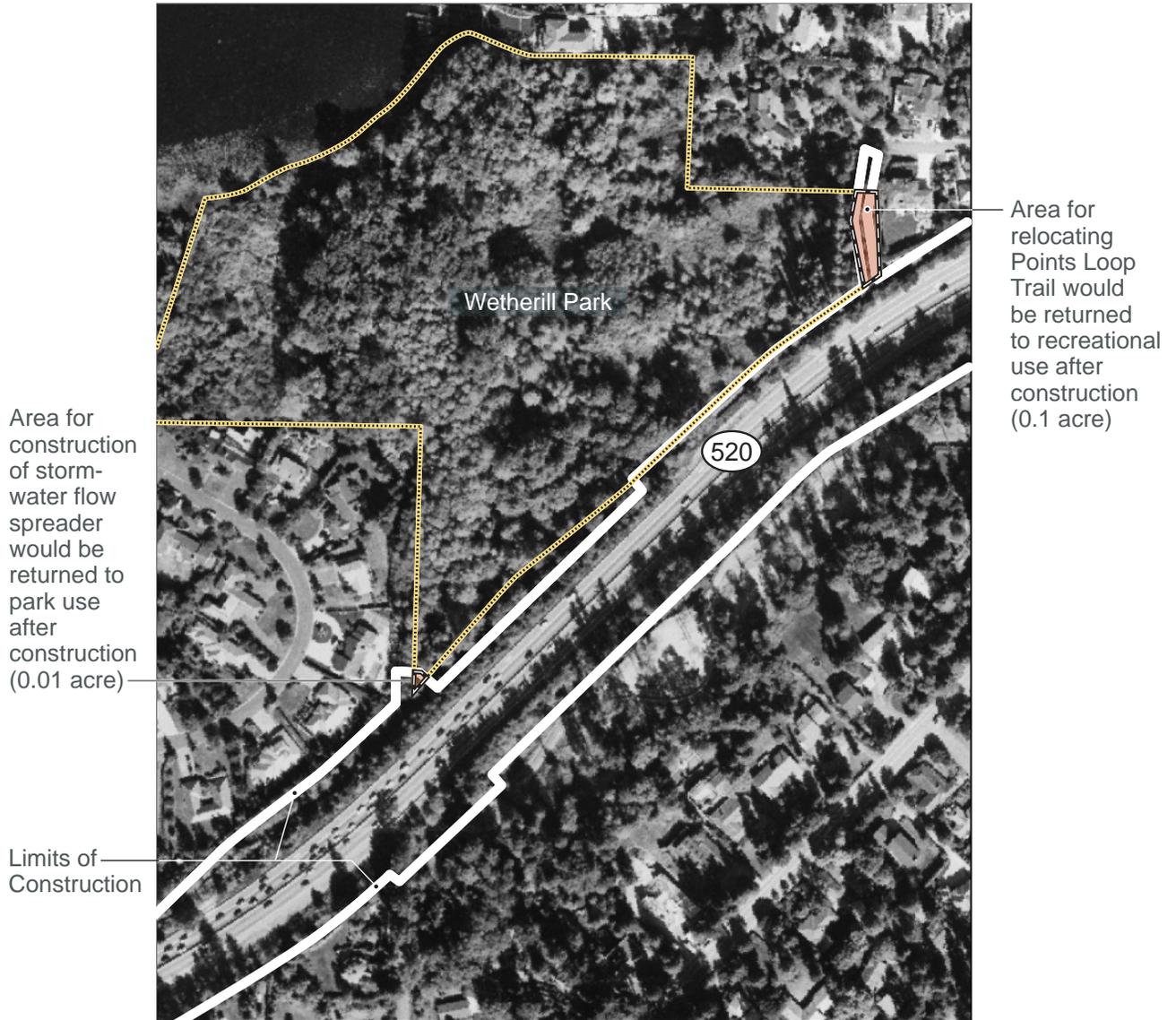
Limits of Construction

-  Park Property Line
-  Points Loop Trail
-  Proposed Trail
-  Limits of Construction
-  Area for reconstruction to be returned after construction



Exhibit 37. 6-Lane Alternative Effects on Fairweather Park

SR 520 Bridge Replacement and HOV Project



-  Park Property Line
-  Limits of Construction
-  Area for relocating Points Loop Trail, and Drainage Easement Area

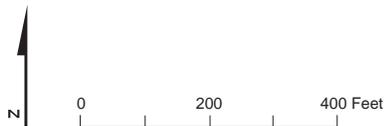


Exhibit 38. 6-Lane Alternative Effects on Wetherill Park

SR 520 Bridge Replacement and HOV Project

Would the air quality, water quality, or noise within the recreation space contribution to Medina, Hunts Point, Clyde Hill, and Yarrow Point—particularly in Medina where the Evergreen Point lid would connect directly to Fairweather Park and could serve as an extension of that open space. al facilities be different?

No Build Alternative

Under the Continued Operation Scenario, there may be increases in noise levels and decreases in air quality around the recreational facilities in the Eastside project area. Longer peak travel times would occur because more vehicles would be traveling on the existing roadway. This would result in longer periods of time in which traffic would be present near the recreational facilities, thus increasing noise levels and decreasing the air quality. Under the Catastrophic Failure Scenario, noise levels would decrease and air quality would improve within recreational facilities because of the reduced numbers of vehicles traveling in the Eastside project area.

4-Lane Alternative

Construction of sound walls would reduce noise levels along the Points Loop Trail and at Fairweather Park, Hunts Point Park/D.K. McDonald Park, Wetherill Park, and Yarrow Bay wetland. The decreases in noise levels would be noticeable. Appendix M, *Noise Discipline Report*, identifies the anticipated changes in noise levels throughout the project area.

Water quality is expected to improve near the Eastside project area parks. Two of these parks are located on Lake Washington bays, Wetherill Park on Cozy Cove and Yarrow Bay wetland on Yarrow Bay. Currently, stormwater runoff from SR 520 goes untreated. The 4-Lane Alternative would construct facilities that would treat stormwater runoff before it enters both bays, thus improving water quality in the Eastside project area.

Air quality in the area would improve compared to existing conditions, and air quality would not be affected by other pollutants such as greenhouse gases.

6-Lane Alternative

The 6-Lane Alternative would have similar effects on noise, air quality, and water quality near parks in the Eastside project area as those described for the 4-Lane Alternative. The 6-Lane Alternative would generate a larger quantity of pollutants, but water quality treatment facilities would be larger to accommodate the increased amount of



stormwater, resulting in a similar effect as the 4-Lane Alternative (see Appendix T, *Water Resources Discipline Report*, for details).

Would land uses near recreational facilities change?

No Build Alternative

Neither the Continued Operation nor Catastrophic Failure scenarios would affect land uses near any recreational facilities in the Eastside project area.

4-Lane Alternative

The 4-Lane Alternative would not encourage changes in land use around recreational facilities. Land uses around SR 520, primarily single-family residences and parks, have been very constant since construction of the highway in the 1960s. The 4-Lane Alternative would not have any effects that would induce communities to change their comprehensive plans. The types of effects that could induce land use changes include substantial displacements, increases in noise and traffic congestion, and decreases in air quality. As described in the preceding sections, noise levels and air quality are expected to improve with implementation of the 4-Lane Alternative. Additionally, construction of this alternative would not change local land use plans, which prescribe the type and intensity of development. Zoning and comprehensive plan land use designations are primarily single-family throughout the Eastside project area (Exhibit 39).

6-Lane Alternative

Like the 4-Lane Alternative, the 6-Lane Alternative would not prompt communities to changes their comprehensive plans. The 6-Lane Alternative would provide new areas of landscaped, open space on lids at Evergreen Point Road, 84th Avenue Northeast, and 92nd Avenue Northeast. The Evergreen Point Road lid would be adjacent to Fairweather Park and could act as an extension to that park.

Regional and Community Growth

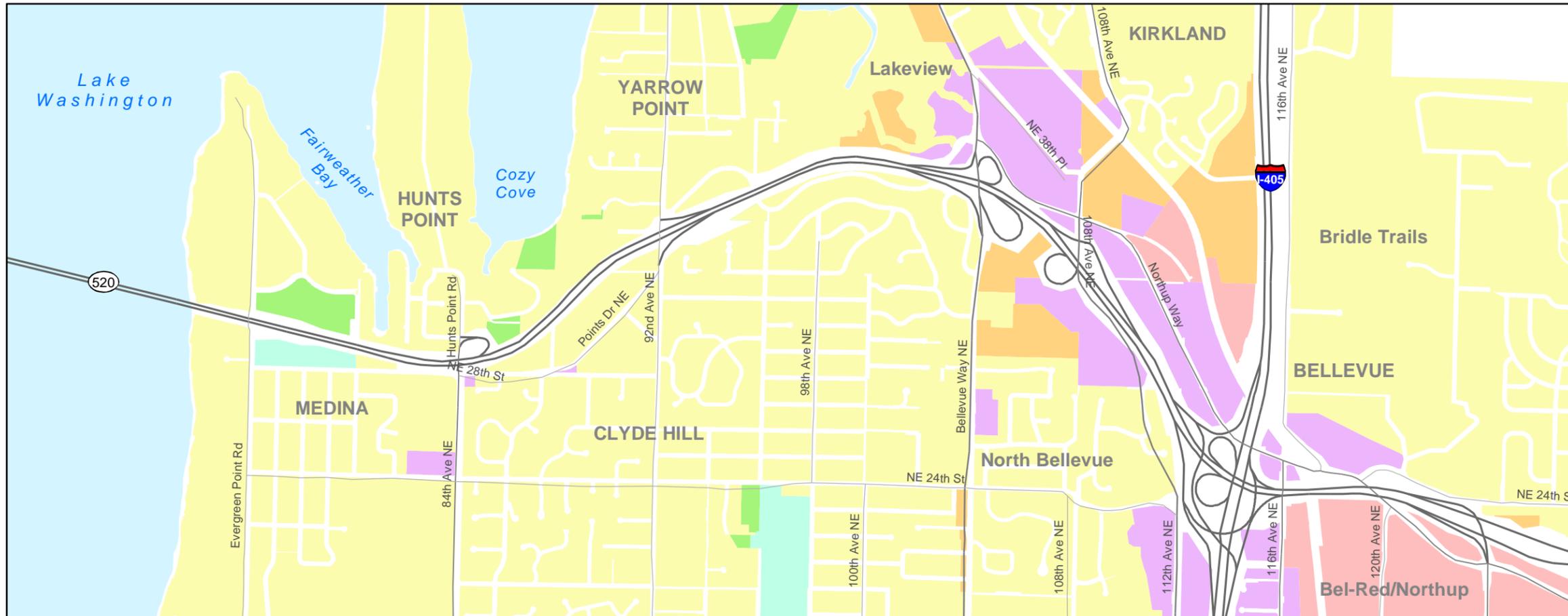
Would this project cause changes in population growth?

No Build Alternative

The Continued Operation Scenario and the Catastrophic Failure Scenario would not cause the population residing in the Eastside project area to change.

The communities and neighborhoods in the Eastside project area started to develop as summer homes or farm communities in the early 1900s and became suburban communities following World War II. The Eastside project area communities and neighborhoods are primarily





Source: King County (2003) GIS data (Parcels, Streets, and Waterbodies); City of Bellevue (2004) GIS Data (Zoning); City of Medina (1994-1999) Zoning Maps (Zoning); City of Clyde Hill (1993-2002) Zoning Maps (Zoning); Town of Hunts Point (1994-1999) Zoning Maps (Zoning); Town of Yarrow Point (1994) Zoning Maps (Zoning); City of Kirkland (1995-2001) Zoning Maps (Zoning). Existing land use based on King County parcel layer; only parcels within the study area (500 feet from SR 520) were field verified (March 2004). Horizontal datum for all layers is NAD83(91), vertical datum for layers is NAVD88.

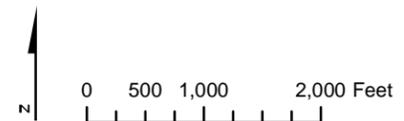
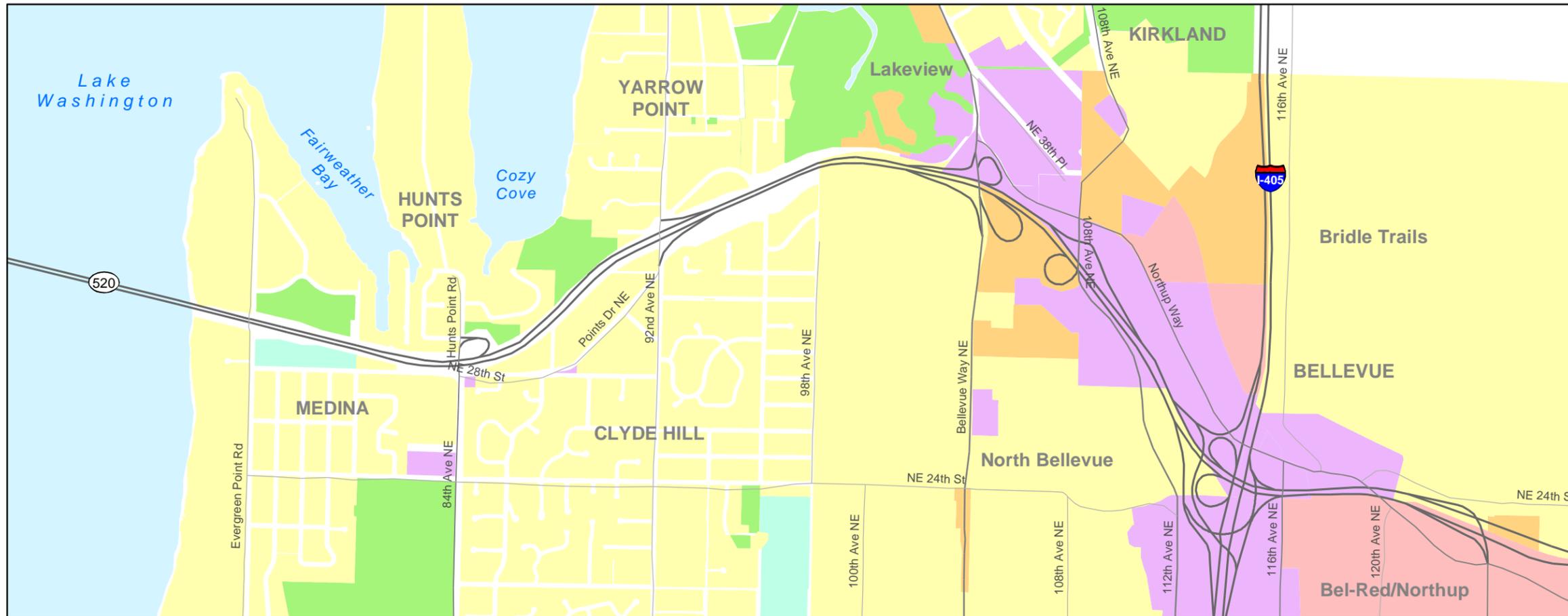


Exhibit 39. Zoning and Comprehensive Plan Land Uses in the Eastside Project Area
SR 520 Bridge Replacement and HOV Project

single-family residential areas, with one multi-family development in Kirkland. The cities in the Eastside project area have zoning ordinances and comprehensive plans which establish the type and density of development that may occur in their jurisdictions. Each jurisdiction in the Eastside project area designates its portion of the project area as single-family residential neighborhoods, except for portions of Bellevue that are designated commercial and industrial (Exhibit 39).

During construction of the original SR 520 in the 1960s, most of the Eastside project area communities and neighborhoods were divided by the highway. That division did not cause these neighborhoods to change from residential uses at that time, or over the last 40 years since SR 520 was constructed. In addition, new residential construction has occurred close to the highway over the last several years. Based on the persistence of these communities and the Eastside jurisdictions' policies for them to remain intact, the Continued Operation Scenario would not cause the population to change.

Like the Continued Operation Scenario, the Catastrophic Failure Scenario would not change the population of the communities and neighborhoods in Eastside project area.

4-Lane Alternative

The 4-Lane Alternative would not directly cause an increase or decrease in the population residing in the Eastside project area. First, the 4-Lane Alternative would displace two residences in Medina. Therefore, this alternative would not cause any community or neighborhood to decline in population due to large displacements. Second, the 4-Lane Alternative would not diminish the quality of life in the project area. For example, air quality would improve, noise levels would decline, and traffic congestion on local streets would not worsen; therefore, residents would have little impetus to move elsewhere as a result of the project. Finally, the Eastside jurisdictions' land use policies encourage the project area communities and neighborhoods to remain as they currently exist today.

Population and employment changes throughout Seattle and the Eastside are discussed above under the *Regional and Community Growth* heading for the Seattle project area.

6-Lane Alternative

The 6-Lane Alternative would be similar to the 4-Lane Alternative in its direct effects on population distribution.



Would this project change population characteristics such as race, age, or income in the project area?***No Build Alternative***

The Continued Operation Scenario would not cause any changes to population characteristics in the project area because these have not substantially changed during the past 40 years and are not likely to change over the next 30 years. Similarly, the Catastrophic Failure Scenario would not cause the population to change.

4-Lane Alternative

The 4-Lane Alternative would not cause the neighborhood composition to change. The communities and neighborhoods in the project area are well established and highly valued on the Eastside. As shown in Exhibits 14 and 16 through 24, the median house value and median household incomes in the Eastside project area are relatively high compared to the county as a whole. The median household values in the Eastside project area range from \$320,258 to more than \$1,000,000, as compared to the King County median household value of \$236,900 (U.S. Census 2000). The 4-Lane Alternative would not result in any effects that would substantially diminish the quality of life in these communities and neighborhoods, and as a result lead residents to move elsewhere. Therefore, the characteristics of the population are not expected to change.

6-Lane Alternative

The 6-Lane Alternative would have the same effect on population characteristics as those discussed in the 4-Lane Alternative.

Services**Would service travel times for school buses, fire trucks, and police cars be affected?*****No Build Alternative***

The Continued Operation Scenario would have a negative effect on the response and travel times of service vehicles in the Eastside project area because of increased travel times (Exhibit 26).

Under the Catastrophic Failure Scenario, loss of the Evergreen Point Bridge would reduce the number of vehicles using SR 520 and the roads leading to SR 520 west of Bellevue Way in the project area. This reduction would allow emergency service vehicles to respond more quickly and school buses to reduce travel times, but as the traffic moved outside of this area to alternate routes, congestion would increase.



4-Lane Alternative

Construction of the 4-Lane Alternative would reduce the travel times for school buses, fire trucks, and police cars along SR 520, and would provide shoulders for emergency access. The project would increase mobility and reduce travel times. The addition of enforcement areas and pullouts for HOV violators located by the 84th Avenue Northeast and Lake Washington Boulevard on-ramps would potentially reduce response times for police cars, if they were stationed in the enforcement areas during an incident.

6-Lane Alternative

Emergency service vehicles would receive greater benefits – faster travel and response times – under the 6-Lane Alternative than they would under the 4-Lane Alternative. Travel and response times would be faster because under the 6-Lane Alternative an HOV lane would be constructed in each direction, which would increase mobility over the 4-Lane Alternative. The additional lane would also provide emergency service vehicles with another lane in which to move through traffic. School buses would be able to use the HOV lane, decreasing travel times.

Would access to and from any public service buildings be more difficult?**No Build Alternative**

Access to and from public service buildings would not be affected under the Continued Operation Scenario, but may take longer to access during peak travel times (Exhibit 26).

If the Evergreen Point Bridge were lost, as anticipated under the Catastrophic Failure Scenario, access to public service buildings within the Eastside project area and the greater Eastside would not be physically impaired. Traffic on roadways in Medina, Hunts Point, Clyde Hill, and Yarrow Point may decrease because fewer vehicles would use the local roadways in these communities to access SR 520.

Reaching public service buildings outside of Medina, Hunts Point, Clyde Hill, and Yarrow Point could take more time due to increased traffic congestion, as people sought alternative routes across Lake Washington along the Eastside project area's major roadways, such as Bellevue Way, I-405, and I-90. Collapse of the Evergreen Point Bridge would make it more difficult to reach public service buildings on the other side of Lake Washington that serve the region, like hospitals and the federal courts.



4-Lane Alternative

The 4-Lane Alternative would not make it more difficult for people to get to public service buildings from the Eastside project area, nor would it impair access to public service buildings within the Eastside project area. The 4-Lane Alternative would not change any possible travel routes; specifically, it would not eliminate any SR 520 on- and off-ramps and it would not cut off or reroute any local roadways. The 4-Lane Alternative would not displace any public services, so people would not have to travel any farther to get to the services they now use. The 4-Lane Alternative would improve mobility and provide an additional bicycle/pedestrian path in the Eastside project area that extends farther east along SR 520 than the Points Loop Trail.

6-Lane Alternative

The 6-Lane Alternative would have a similar effect on access to and from public service buildings as the 4-Lane Alternative. However, access would be further improved under the 6-Lane Alternative with the addition of the continuous eastbound HOV lane and improvements to transit stops. These improvements would decrease HOV and transit travel times throughout the a.m. and p.m. peak hours. General purpose traffic would also move more quickly than in the other alternatives at certain times during the rush hours.

Would any service areas change?**No Build Alternative**

The Continued Operation Scenario and the Catastrophic Failure Scenario would not affect the service areas in the Eastside project area.

4-Lane Alternative

Public service providers would not have to change their service areas under the 4-Lane Alternative. The 4-Lane Alternative would not create or eliminate any highway access points and would not change the local roadway system. As a result, service providers would continue to be able to serve the same areas they have been serving and in the same manner. As discussed above in the *Would this project cause changes in population growth?* section, the population of the Eastside project area would not change as a result of this project.

6-Lane Alternative

Like the 4-Lane Alternative, the 6-Lane Alternative would not cause service providers to change their service areas.



How would any changes in public services affect the neighborhoods they serve?

No Build Alternative

As described above, the travel times, access, and service areas of the public services in the Eastside project area would not substantially change under either the Continued Operation Scenario or the Catastrophic Failure Scenario. Because these scenarios would not cause any changes in public services, there would not be any effect on the communities and neighborhoods that they serve.

4-Lane Alternative

No public services associated with the Eastside project area neighborhoods would change as a result of the 4-Lane Alternative. As described above, travel times, access, and service areas for public services would not substantially change. Because the 4-Lane Alternative would not affect public services, the communities and neighborhoods they serve would not experience any effects.

6-Lane Alternative

The 6-Lane Alternative would have similar effects as discussed for the 4-Lane Alternative.

Pedestrian, Bicyclist, and Transit Facilities

Would the project change the capacity, circulation, or travel time of these facilities?

No Build Alternative

The Continued Operation Scenario would not change the capacity or circulation of pedestrian and bicycle facilities. Travel times for bicyclists could increase if they commute across the Evergreen Point Bridge and therefore need to use transit to get across the lake.

Transit travel times along the SR 520 corridor would increase under the Continued Operation Scenario (Exhibit 26). Despite the increased travel times for transit, the demand for transit would increase. Exhibit 33 shows the anticipated demand for transit service. Under the Continued Operation Scenario, the number of people wanting to take transit would increase by 223 percent. To serve these riders, 100 buses would be needed, or 113 percent more than is currently available. The increased demand indicates a need for additional bus capacity. See Chapter 7 in Appendix R, *Transportation Discipline Report*, for more information about transit demand, capacity, and travel times.

The Catastrophic Failure Scenario would not affect bicycle and pedestrian facilities in the Eastside project area. Under the Catastrophic



Failure Scenario, no transit would travel across the Evergreen Point Bridge, and existing transit routes that used the bridge would have to be rerouted, affecting circulation and travel times.

4-Lane Alternative

The 4-Lane Alternative would add a continuous bicycle/pedestrian path across Lake Washington and along the south side of SR 520, increasing circulation along this cross-lake connection and providing new capacity to the Eastside project area's bicycle/pedestrian system. The new bicycle/pedestrian path has the potential to partially separate bicyclists from pedestrians; pedestrians would be more likely to use the Points Loop Trail because of its established recreational use, and faster-paced bicyclists could opt to use the new path to avoid pedestrians. Bicyclists could increase their speeds and decrease their travel times if they did not have to avoid pedestrians. Bicyclists could also increase their travel times across Lake Washington because they would no longer have to wait for a bus with an available bike rack to get across the lake.

The 4-Lane Alternative would not increase the highway capacity for transit, but it would increase the demand for transit. Under the 4-Lane Alternative, the westbound HOV lane would be available for transit and include some improvements that would make transit operations easier, such as longer merging lanes, but an HOV lane in the eastbound direction would not be available. The Evergreen Point and the 92nd Avenue transit stops would remain the only SR 520 transit stops in the Eastside project area.

Exhibit 33 shows that the number of transit riders is anticipated to increase 33 percent over the No Build Alternative. This additional demand would require a 30 percent increase in the number of buses needed (see Chapter 7 of Appendix R, *Transportation Discipline Report*).

6-Lane Alternative

The 6-Lane Alternative would provide the same benefits to the bicycle/pedestrian system as the 4-Lane Alternative.

The 6-Lane Alternative would also improve highway capacity and transit travel times. Under the 6-Lane Alternative, transit would travel on inside HOV lanes in both the eastbound and westbound directions of SR 520. WSDOT would relocate the Evergreen Point and 92nd Avenue transit stops to the inside lanes. As a result of the inside HOV lanes and transit stops, transit would not have to merge with general



purpose traffic, thereby increasing circulation, travel times, and safety for transit riders.

Exhibit 33 shows that the number of transit riders is anticipated to increase 37 percent over the No Build Alternative. This additional demand would require a 31 percent increase in the number of buses needed (see Chapter 7 of Appendix R, *Transportation Discipline Report*).

Would the project affect access to pedestrian, bicyclist, and transit facilities?

No Build Alternative

The Continued Operation Scenario would not affect access to any of the facilities and access would remain as it exists today. The Catastrophic Failure Scenario would not affect access to any bicycle/pedestrian facilities or transit stops. However, transit across Lake Washington via SR 520 would not be possible until the Evergreen Point Bridge was reconstructed.

4-Lane Alternative

The 4-Lane Alternative would have neutral, negative, and positive effects on access to existing pedestrian, bicyclist, and transit facilities. Even though the Points Loop Trail would be relocated and reconstructed in some areas, the existing crossings would not be eliminated. The 4-Lane Alternative could eliminate some parking at the Evergreen Point park-and-ride lot, with the realignment of the Evergreen Point Bridge. The Evergreen Point and 92nd Avenue transit stops would be accessible to persons with physical disabilities.

The project would add more connections that would improve access to the pedestrian, bicycle, and transit facilities and would construct a continuous bicycle/pedestrian path, creating a link to Seattle. The bicycle/pedestrian path would separate people on the path from motor vehicles, which would provide a safer travel environment.

6-Lane Alternative

The 6-Lane Alternative would have the same benefits as discussed for the 4-Lane Alternative. The transit stops would have elevators, improving accessibility to persons with physical disabilities.



How do the alternatives differ in their effect on community cohesion?

Seattle

The 6-Lane Alternative would have a more beneficial effect on community cohesion than the 4-Lane Alternative because it would provide two lids over SR 520. These lids at 10th and Delmar and Montlake would partially restore the connections between the Roanoke/Portage Bay and North Capitol Hill neighborhoods and the north and south areas of the Montlake neighborhood. These connections were severed by the original construction of SR 520 in 1960s. The lids, in addition to carrying the local streets across SR 520, would have landscaped, open space with paths connecting the separated neighborhoods and places for small groups to gather.

Eastside

As in the Seattle project area, the 6-Lane Alternative would have a more beneficial effect on community cohesion than the 4-Lane Alternative because it would provide three lids over SR 520. The three freeway lids proposed for the Eastside project area (at Evergreen Point Road, 84th Avenue Northeast, and 92nd Avenue Northeast) would link portions of Medina, Hunts Point, Clyde Hill, and Yarrow Bay back together, providing new pedestrian connections and space for small groups to gather.

How do the alternatives differ in their effect on recreation?

Seattle

The 6-Lane alternative would require the permanent acquisition of more parkland than the 4-Lane Alternative. However, land in the current WSDOT right-of-way at the north end of Washington Park Arboretum and west of the Arboretum, as well as the lids associated with the 6-Lane Alternative, may be used to replace recreational facilities lost due to property acquisition. Appendix O, *Recreation Discipline Report*, provides more details about potential effects and mitigation measures.

Eastside

Under both alternatives, sections of the Points Loop Trail would be relocated and reconstructed. The 6-Lane Alternative would require



0.3 acre of parklands (0.2 acre from Fairweather Park and 0.1 acre from Wetherill Park) for relocation of the trail into these parks, while the 4-Lane Alternative would not require relocation of the trail into the parks. The Evergreen Point Road, 84th Avenue Northeast, and 92nd Avenue Northeast lids would provide benefits to recreation that the 4-Lane Alternative would not offer. The Evergreen Point lid would extend from Fairweather Park, creating additional open and green space in Medina. The other lids in Hunts Point, Clyde Hill, and Yarrow Point would also create additional recreational facilities.

How do the alternatives differ in their effect on regional and community growth?

Seattle

There are no differences between the alternatives and their effect on regional and community growth. The neighborhoods in the project area are already well developed and only one single-family residential property would be acquired (6-Lane Alternative), not enough to change the population of the neighborhoods. Additionally, current land use plans and policies envision the continued use of the project area as single-family neighborhoods. Effects from the project would not alter the quality of life in the neighborhoods to any degree that would cause changes in the number or characteristics of the people living in them.

Eastside

There are no differences between the alternatives and their effect on regional and community growth. The neighborhoods in the project area are already well developed and two single-family residential properties would be acquired, not enough to change the population of the neighborhoods. Additionally, current land use plans and policies envision the continued use of the project area as single-family neighborhoods. Effects from the project would not alter the quality of life in the communities and neighborhoods to any degree that would cause changes to the number or characteristics of the people living in them.



How do the alternatives differ in their effect on services?

Seattle

The 6-Lane Alternative differs from the 4-Lane Alternative in Seattle by further improving response and travel times of service vehicles.

Eastside

The 6-Lane Alternative differs from the 4-Lane Alternative in the Eastside project area by further improving response and travel times of service vehicles.

How do the alternatives differ in their effect on pedestrian, bicycle, and transit facilities?

Seattle

The 6-Lane Alternative would improve transit facilities and travel times more than the 4-Lane Alternative. The 6-Lane Alternative would provide both an eastbound and a westbound HOV lane throughout the Seattle project area, as well as direct HOV access to and from I-5. Transit facilities in the 6-Lane Alternative would improve transit mobility and safety by separating the SR 520 transit stops from general purpose traffic. Under the 6-Lane Alternative, elevators at the transit stops would make access to these stops easier for the physically disabled than the ramps provided as part of 4-Lane Alternative.

Eastside

The 6-Lane Alternative would have the same advantages over the 4-Lane Alternative in the Eastside project area as it would in the Seattle project area.

How would project construction temporarily affect neighborhoods?

When compared to the operational life of the project, construction effects are considered short term. Construction of the entire length of the project could take up to 8 years for both alternatives; however, the duration for individual neighborhoods would be less; nonetheless, the construction period may seem like a very long time to residents in the affected neighborhoods. Most construction effects would cease when construction ended. In areas where trees were removed, the effect on



visual quality would continue after construction; however, over time, these effects would diminish as new vegetation grew.

Construction Effects in the Seattle Project Area

Project construction may affect the quality of life at nearby residences. Such effects are caused by aspects of construction like the following:

- Increased noise, dust, and changes in visual quality (e.g., glare from nighttime construction lighting or unscreened construction staging areas)
- Traffic congestion and changes in access
- Elimination of on-street parking

4-Lane Alternative

During construction, neighboring properties in the Eastlake, North Capitol Hill, Roanoke/Portage Bay, Montlake, and Madison Park neighborhoods, as well as people and wildlife in the Washington Park Arboretum, would experience increased noise, dust, traffic congestion, and possibly glare from nighttime construction lighting. Parks and trails in the project area may be partially or totally inaccessible during construction. See Appendix O, *Recreation Discipline Report*, for a discussion of the effects of construction on the Arboretum and other parks in the Seattle project area. The Laurelhurst neighborhood would likely experience construction noise, but to a much lesser extent than neighborhoods adjacent to SR 520.

The duration of construction would vary for the different neighborhoods. The intensity of construction effects would also vary based on the proximity of the property to the construction and the type of construction. For example, construction of the Portage Bay Bridge and the west approach of the Evergreen Point Bridge would require pile driving, which is one of the loudest construction techniques. (The duration of pile driving would be much shorter than the entire construction duration.) Dust would be prevalent during demolition of facilities like the Delmar Drive East and 10th Avenue East bridges between the Roanoke/Portage Bay and North Capitol Hill neighborhoods. Dust from the removal of the Portage Bay Bridge would most affect properties almost immediately below the bridge in the vicinity of Boyer Avenue East, particularly the Queen City Yacht Club and the Portage Bayshore Condominiums.



The long duration of construction activities may have an effect on community cohesion. The combination of traffic congestion; noise; and access to recreational, community facilities, and other service buildings, may affect the interaction of residents in the neighborhoods.

The Lake Washington Boulevard on- and off-ramps, which provide access for the Montlake and Madison Park neighborhoods, would be closed during construction of the west approach of the Evergreen Point Bridge. It is estimated that the ramps would be closed for up to 37 months. Detour routes have been developed (see Chapter 9 of Appendix R, *Transportation Discipline Report*).

The Montlake neighborhood would likely absorb most of the detour traffic, increasing congestion in an already congested area. The temporary increased congestion would likely lead to highway-bound traffic trying to use local streets, decreased air quality due to congestion, and increased traffic noise for longer periods during the day as drivers wait to get on the highway. The section of Delmar Drive East over SR 520 would be closed as a through route during construction due to the low traffic volume and the possibility of detour routes. Other local street crossings and local streets would remain open during construction. Any temporary street closures and traffic detours are unknown at this time, so the potential extent and duration of effects on nearby residents is also unknown. Disruptions in access to transit, recreation, and community facilities may affect some residents in the neighborhoods by causing additional stress, especially to elderly, disabled, and transit-dependent persons. See Appendix N, *Public Services and Utilities Discipline Report*, for additional information about construction effects on services.

Traffic would increase on local streets that would be used as haul routes. Properties along these routes would experience dust, truck noise, and traffic congestion. For more information about construction traffic, see Chapter 10 in Appendix R, *Transportation Discipline Report*.

6-Lane Alternative

The 6-Lane Alternative would have the same type of construction effects as the 4-Lane Alternative; however, the duration of construction would be slightly longer and the intensity of construction would be slightly greater in certain areas, and thus effects could be greater. Specifically, the new west approach would require more pilings under the 6-Lane Alternative than the 4-Lane Alternative, resulting in more noise. (The same number of pilings would be used for the Portage Bay



Bridge under the 4-Lane and 6-Lane Alternatives.) Also, slightly more than twice as much earth would be moved during construction of the 6-Lane Alternative than the 4-Lane Alternative, resulting in more truck traffic and the potential for more dust.

Construction Effects in the Eastside Project Area

The Eastside project area would experience many of the same general construction effects as the Seattle project area during construction of the highway:

- Increased noise, dust, and changes in visual quality
- Traffic congestion and changes in access routes
- Elimination of on-street parking

4-Lane Alternative

The entire Eastside project area would experience increased noise, dust, traffic, and glare from nighttime lighting. Areas near the Evergreen Point Bridge and the bridges over SR 520, however, would experience greater effects during construction. The construction effects at these locations would be greater because construction activities would be more extensive, such as pile driving for the east approach of the Evergreen Point Bridge or demolition and reconstruction of the bridges over SR 520. Properties in Medina would be exposed to noise generated by pile driving for the new east approach structure and dust from the demolition of the existing east approach structure and the Evergreen Point Road bridge over SR 520. The long duration of construction activities may have an effect on community cohesion. The combination of traffic congestion, noise, and access to recreational, community facilities, and other service buildings may affect the interaction of residents in the neighborhoods.

6-Lane Alternative

The 6-Lane Alternative would have the same type of construction effects as the 4-Lane Alternative. However, construction would last slightly longer, affect a larger area, and generate more truck traffic and dust. While construction would end before the Bellevue Way/Lake Washington Boulevard interchange under the 4-Lane Alternative, it would extend to slightly west of the 108th Avenue Northeast interchange under the 6-Lane Alternative and would include construction of a new bridge at Bellevue Way. It would also include a small construction area on the south side of SR 520 from approximately 116th Avenue Northeast to nearly 124th Avenue Northeast. More than



2.5 times the amount of earth moved for the 4-Lane Alternative would be moved for the 6-Lane Alternative in the Eastside project area, creating more traffic as material is brought to and removed from the construction site.

Mitigation

What has been done to avoid or minimize negative effects?

The 4-Lane and 6-Lane Alternatives include a number of measures to avoid or minimize negative effects on the neighborhoods surrounding the proposed project. These measures avoid or minimize negative effects on quality of life factors such as noise, air quality, water quality, visual quality, and recreation opportunities and enjoyment. The measures that have been included in the project to avoid or minimize negative effects are summarized below and presented in detail in the following discipline reports:

- Appendix C, *Air Quality Discipline Report*
- Appendix M, *Noise Discipline Report*
- Appendix O, *Recreation Discipline Report*
- Appendix P, *Section 4(f) Evaluation*
- Appendix S, *Visual Quality and Aesthetics Discipline Report*
- Appendix T, *Water Resources Discipline Report*

Noise

Early in the development of this project, WSDOT committed to installing sound walls wherever they were needed to reduce the noise levels caused by the SR 520 Bridge Replacement and HOV Project to below the noise abatement criteria. These sound walls are included as part of the project design; in other words, they are integral to and inseparable from the project, not just mitigation added to the project. In addition, several other design elements also help reduce noise levels from those caused by the current roadway. The sound walls and the other noise-reducing features are discussed in detail in Appendix M, *Noise Discipline Report*.

Air Quality

The build alternatives would reduce traffic congestion and thus would improve air quality.



Water Quality

Negative effects of the build alternatives would be avoided or minimized through the inclusion of stormwater flow control and water quality facilities in the overall design of both the 4-Lane and 6-Lane Alternatives. Inclusion of high-efficiency sweeping, sedimentation vaults, and stormwater treatment wetlands for the bridge columns at the west approach of the Evergreen Point Bridge would provide a higher rate of metal removal than basic treatment.

Negative effects on surface water and groundwater quality during construction would be avoided and minimized by implementing the water quality pollution control measures outlined in the required Temporary Erosion and Sedimentation Control Plan and the Spill Prevention Controls and Countermeasures Plan and by following permit conditions.

Visual Quality

The build alternatives would reduce the number of bridge columns by increasing the spacing between columns from 100 to 250 feet. This would substantially reduce the visual clutter when looking at the bridge from outside the roadway.

In some cases sound walls would also serve as visual screens. This must be balanced against situations where the sound walls simply act as barriers and create a confined or hard-edged visual character or reduce visual quality by cutting off desirable views.

Many of the stormwater facilities would be placed underground, out of sight, or would have natural-appearing landscaping, which would be consistent with the parks and open spaces where they are located.

Recreation

The following measures and features would minimize the effects on recreation facilities:

- The new Lake Washington Boulevard west-to-south off-ramp and north-to-east on-ramp would be located close together in the existing WSDOT right-of-way to avoid further effects on the adjacent park.
- The new ramps and mainline structures near the Washington Park Arboretum, while elevated, have been designed to be below the existing tree line to minimize adverse visual effects. In addition,



these structures would include haunched girders designed to reduce their visual bulk.

- Retaining walls have been incorporated into the design to minimize encroachment into adjacent parklands and historic properties.
- The width of the proposed transit stop in the Montlake area has been designed to be narrower than the maximum width allowed for a transit stop to reduce the width of the SR 520 footprint and minimize property acquisition in the National Register of Historic Places-eligible Montlake historic district.
- Existing curves in the alignment have been retained in the Montlake area. The more efficient, straight-line alternative was not selected in order to avoid existing structures and minimize property acquisition and displacements.

How could the project compensate for unavoidable negative effects?

Neither the 4-Lane Alternative nor the 6-Lane Alternative would have negative long-term effects on community cohesion, regional and community growth, or services. Both the 4-Lane and 6-Lane Alternatives would improve pedestrian and bicycle facilities. As a result, no long-term mitigation is proposed or necessary for these aspects of the social environment. To reduce or avoid the negative long-term effects of the 4-Lane and 6-Lane Alternatives on recreation and transit facilities, the following mitigation measures are proposed.

Recreation

- Replace Seattle parkland acquired for the proposed project in accordance with the requirements of Seattle Ordinance 118477 (equivalent or better size, value, location, and usefulness).
- Work with the Seattle Parks and Recreation Department to determine whether a potential land bank, created from land within the current WSDOT right-of-way at the north end of the Washington Park Arboretum, could satisfy Ordinance 11847 replacement requirements.
- Under the 6-Lane Alternative, provide a sign at the new connection to Northeast 33rd Street to direct trail users to 92nd Avenue Northeast; this would maintain continuity of the trail.



- Under the 6-Lane Alternative, work with Hunts Point and Yarrow Point to determine appropriate mitigation for the construction of the trail within and along the eastern boundary of Wetherill Park and the construction of the flow spreader along the southwestern boundary of the park.

Refer to Appendix O, *Recreation Discipline Report*, for a complete discussion of mitigation measures.

Transit Facilities

The proposed project would increase the demand for transit. Although the 6-Lane Alternative would provide improved transit facilities such as continuous eastbound and westbound HOV lanes, neither the 6-Lane nor the 4-Lane Alternative would provide the number of buses necessary to serve the increased demand. WSDOT would work with King County Metro Transit and Sound Transit to provide the increased number of buses necessary to meet demand.

How could temporary construction effects be minimized?

Neither the 4-Lane Alternative nor the 6-Lane Alternative would have negative temporary effects on regional and community growth during construction. To reduce or avoid the negative long-term effects of both the 4-Lane and the 6-Lane Alternatives on community cohesion; recreation; services; and pedestrian, bicycle and transit facilities, the following mitigation measures are proposed.

Community Cohesion

- Work with any existing community groups or help to establish community groups to develop specific mitigation measures. During construction, meet with these groups to inform them about any construction activities and ensure that mitigation measures are effective.
- Schedule neighborhood meetings, as often as needed, to keep residents informed of any construction activities before and during construction.
- Continue to use the project website and send out newsletters providing information about the project, such as road closures and detour routes. Newsletters should be sent out in the appropriate



languages to ensure effective communication with project area residents.

- Provide contact numbers (project website and newsletters) to allow neighborhood residents to voice their concerns.
- Minimize, as much as possible, any land acquisitions that may be required, especially where it would have a negative effect on residential property.
- Ensure that temporary road closures are minimized. Detour routes should be well signed.

Recreation

- Identify and provide signage for detour routes for bicycle/pedestrian paths.
- Return portions of any parks used during construction to preconstruction conditions.

Refer to Appendix O, *Recreation Discipline Report*, for complete discussion of construction mitigation measures.

Services

- Coordinate with public service providers before construction.
- Present service providers with the proposed detour routes and work with them to establish alternative detour routes if necessary.
- Coordinate with school officials during construction.
- Notify residents of any disruptions or changes to services well in advance.

Pedestrian, Bicycle, and Transit

- Identify and sign detour routes on bicycle/pedestrian paths.
- Identify and sign detour routes for the closures of the Delmar Drive bridge over SR 520 and Lake Washington Boulevard ramps.
- Improve intersection channelization, signal operations, or both along the detour route.
- Chapter 9 of Appendix R, *Transportation Discipline Report*, identifies the following potential mitigation measures:



- Provide the contractor with an incentive for opening the SR 520 westbound HOV lane quickly.
- Require the contractor to minimize and/or prohibit construction truck trips during the peak periods.
- Use barges for transporting materials.



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