

12 April 2005

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

**Appendix K**

**Land Use, Economics,  
and Relocations  
Discipline Report**





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and HOV Project Draft EIS

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Relocations  
Discipline Report**



Prepared for

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## Acronyms and Abbreviations

CM	Conservancy Management
CN	Conservancy Navigation
CP	Conservancy Preservation
CR	Conservancy Recreation
EIS	Environmental Impact Statement
FIRES	financial, insurance, real estate, and services sector
FHWA	Federal Highway Administration
GIS	geographic information system
GMA	Growth Management Act
HCT	high-capacity transit
HOV	high-occupancy vehicle
LOS	level of service
MOHAI	Museum of History and Industry
mph	miles per hour
NOAA	National Oceanic and Atmospheric Administration
PSRC	Puget Sound Regional Council
RCW	Revised Code of Washington
SMA	Shoreline Management Act
SOV	single-occupancy vehicle
UR	Urban Residential
WSDOT	Washington State Department of Transportation



# Introduction

## Why are land use, economics, and relocations considered in an EIS?

The land uses of a community indicate what type of activity is occurring—specifically, where people live, work, shop, and participate in community activities. Land use influences the economy through the amount, type, and location of land available for housing and jobs. When a transportation project, for example, requires land for a proposed improvement, the residents or businesses that use that land may require relocation, which could influence the economics of the area.

The discussions of land use, economics, and relocations have been combined because they are interrelated.

The economics analysis compares the effects of the proposed project on employment and the potential fiscal impacts for each jurisdiction in the project area.

Potential relocations are the businesses and residents that could be displaced from their existing locations because of the proposed project. Residents or businesses would require relocation if they were located in structures within the new right-of-way.

## What are the key points of this report?

The amount of land required for construction of the SR 520 Bridge Replacement and HOV Project 4-Lane and 6-Lane Alternatives is approximately 16 acres and 19 acres, respectively. Most of the property acquisition would occur in Seattle and would primarily affect parks, as well as the Queen City Yacht Club and the National Oceanic and Atmospheric Administration (NOAA) Northwest Fisheries Science Center. In the Eastside project area, most of the property that the Washington State Department of Transportation (WSDOT) would need to acquire is currently occupied by single-family residences. Implementation of the project would not encourage a change in the types of land uses in the project area. The existing land uses are well-established and consistent with existing zoning and comprehensive plan land use designations and policies. Under the 6-Lane Alternative, the proposed lids would reconnect land uses and neighborhoods divided by the original SR 520 construction.

WAC 468-100-002 defines a displaced person as follows:

General: means any person who moves from the real property or moves his or her personal property from the real property:

- (i) As a direct result of the agency's acquisition of, or the initiation of negotiation for, such real property in whole or in part for a project
- (ii) As a direct result of a written order from the acquiring agency to vacate such real property for a project
- (iii) As a direct result of the agency's acquisition of, or written order to vacate for a project, other real property on which the person conducts a business or farm operation
- (iv) As a direct result of a voluntary transaction by the owner pursuant to WAC 468-100-101 (2)(a) thereby displacing a tenant



The acquisition of right-of-way under the 4-Lane Alternative would displace 13 structures, consisting of single-family residences, businesses, and other facilities. Under the 6-Lane Alternative, 15 structures would be displaced. The assessed value of single-family homes that would be relocated varies considerably between the alternatives. The assessed residential property value would be roughly \$2.7 million under the 4-Lane Alternative and roughly \$1.1 million under the 6-Lane Alternative. Of three single-family residences that could be displaced, one is located in Seattle and two are located on the Eastside. (Under the 4-Lane Alternative, two residences on the Eastside would be displaced; under the 6-Lane Alternative, only one residence would be displaced on the Eastside.) Commercial buildings that would be relocated are identical between the 4-Lane and 6-Lane Alternatives, as would be the effects on the NOAA facility. The 6-Lane Alternative would result in greater displacements to the Queen City Yacht Club moorage slips.

Displaced Residential Structures		
	4-Lane Alternative	6-Lane Alternative
Seattle	0	1
Eastside	2	1
<b>Total</b>	<b>2</b>	<b>2</b>

Displaced Non-Residential Structures		
	4-Lane Alternative	6-Lane Alternative
Seattle	11	11
Eastside	3	3
<b>Total</b>	<b>14</b>	<b>14</b>

The operation of the proposed project would result in the potential for increased economic activity in the corridor that would not occur under either of the No Build Alternative scenarios. The construction of the project would temporarily increase congestion and noise, and would change access for businesses and residents in the area. Some businesses may experience fluctuations in retail sales as project construction modifies access to their places of business or their competitors. The construction of the 4-Lane and 6-Lane Alternatives would also create jobs and income for those employed by the project.

Operational effects would include the removal of taxable property from the tax base of cities within the project area. Both the 4-Lane and the 6-Lane Alternatives would each affect less than 0.01 percent of the property tax collections for Seattle and the municipalities on the Eastside. This is not considered a substantial effect.

Estimated Initial Annual Property Tax Effects on Cities Located in the Project Area		
	4-Lane Alternative	6-Lane Alternative
Seattle	\$2,900	\$5,400
Eastside	\$5,800	\$5,500

Note: Estimates are for city portion of property tax levy only.

Puget Sound Regional Council’s (PSRC) Vision 2020 and King County’s Countywide Planning Policies stress the importance of transportation system continuity, the use of alternative transportation modes, and the concentration of growth in urban centers. The 6-Lane Alternative goes further than the 4-Lane Alternative towards meeting the goals of these regional plans and



policies. The 6-Lane Alternative would better meet these goals because it would:

- Provide a continuous high-occupancy vehicle (HOV) system from I-5 to I-405, including a direct connection to I-5.
- Result in more HOV trips, according to the *Transportation Discipline Report* (see Appendix R of this Environmental Impact Statement [EIS]).
- Encourage growth to occur sooner in more urbanized areas, according to Appendix J, *Indirect and Cumulative Effects Discipline Report*.

Because each jurisdiction has its own comprehensive plan goals and policies, reflecting that community’s own specific set of interests, it is not possible to make a blanket statement about which alternative best meets the goals of the local comprehensive plans; however, overall, the 6-Lane Alternative would be consistent with more goals and policies of local comprehensive plans, and to a greater degree than the 4-Lane Alternative.

### 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, Clyde Hill, Yarrow Point, Kirkland (the Lakeview neighborhood),



Exhibit 1. Project Vicinity Map



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.

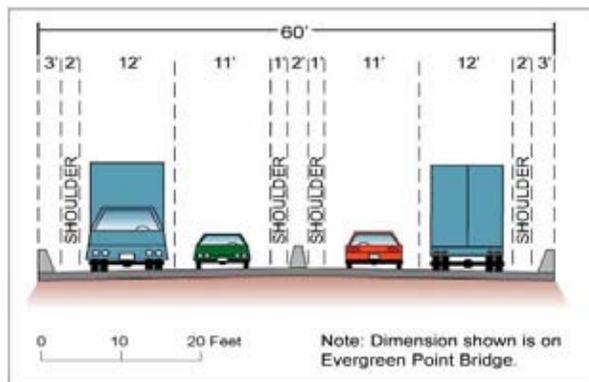


Exhibit 2. No Build Alternative

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

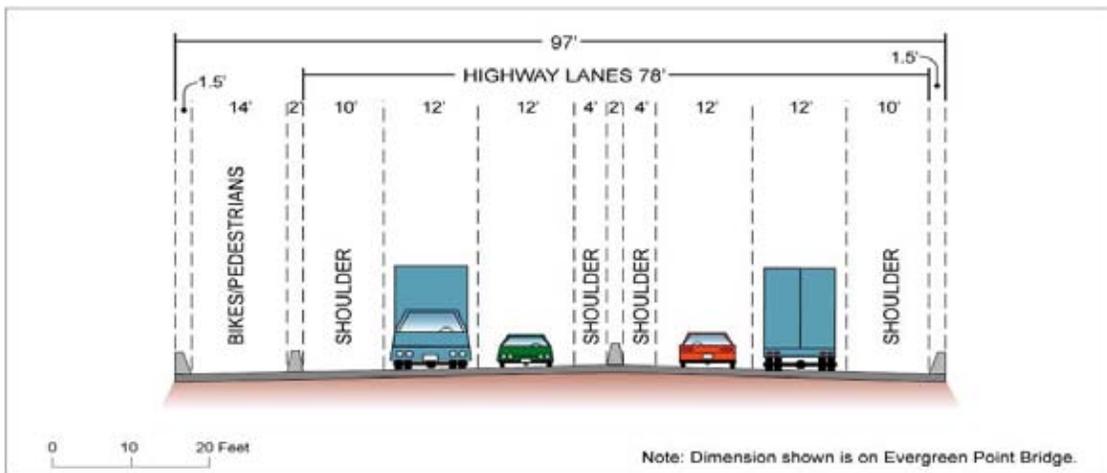


Exhibit 3. 4-Lane Alternative

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-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.

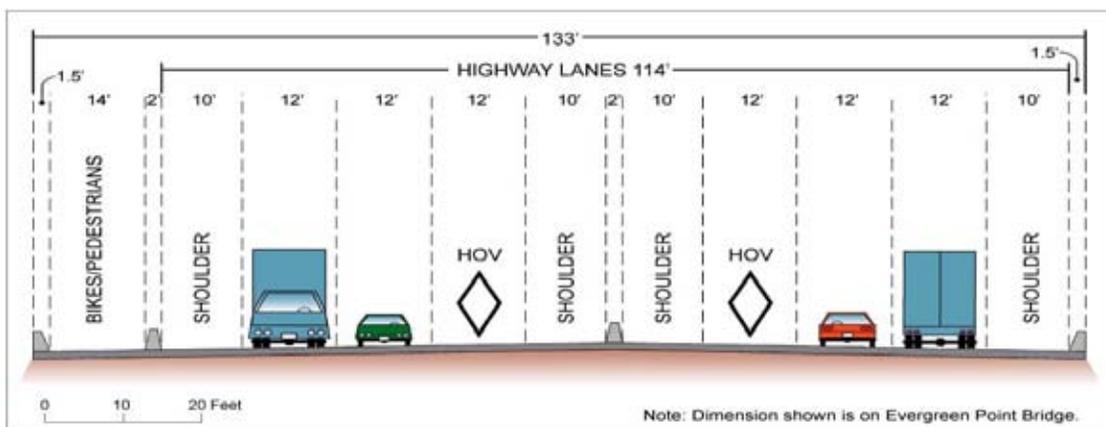


Exhibit 4. 6-Lane Alternative

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.

## Affected Environment

### How was the information collected?

For the land use and relocation analyses, the discipline team initially identified the existing land uses using King County Assessor data, and then verified these land uses by a field survey of the project area. The project area for these analyses encompasses 500 feet from the freeway right-of-way. We gathered information about potential future land uses by reviewing the comprehensive plans and zoning codes for the affected jurisdictions. Demographic and housing information came from the 2000 U.S. Census.

The economic information in this report was primarily derived from U.S. Census data, historical and projected employment data provided by PSRC, and review of land use and other planning documents related to economic issues.

### What are the existing land uses and socioeconomic characteristics of communities in the project area?

The project area includes the following jurisdictions: Seattle, Medina, Hunts Point, Clyde Hill, Yarrow Point, Kirkland, and Bellevue. All of these communities are urbanized and have little vacant land available for development. Single-family and multifamily residential uses or recreational uses occupy most of the land adjacent to SR 520, except for the Eastside, which also includes office, commercial, and light industrial uses. See Appendix Q, *Social Discipline Report*, for more discussion about each neighborhood in the project area.

#### Seattle

In Seattle, project improvements could affect the Eastlake, North Capitol Hill, Roanoke/Portage Bay, Montlake, Laurelhurst, and



Madison Park neighborhoods, and the University District. Exhibit 5 shows existing land uses and zoning for these neighborhoods.

The Eastlake and North Capitol Hill neighborhoods mostly feature multifamily land uses close to the I-5/SR 520 Interchange. To the east of I-5 in the Roanoke/Portage Bay neighborhood, established single-family houses line the hillside that slopes down toward Portage Bay. Residential uses are interspersed with parkland, most notably Interlaken Park.



**View Looking West Toward the SR 520/I-5 Interchange, which is out of view.** The Montlake neighborhood is on the left and right (foreground). The North Capitol Hill neighborhood is on the left (background) and the Roanoke/Portage Bay neighborhood is on the right (background).

The Montlake neighborhood surrounds the Montlake Boulevard/SR 520 interchange. This neighborhood is well-established with primarily single-family residences. Its demographics are similar to other neighborhoods in the project area, but the percentage of minorities is low compared to Seattle as a whole. Most of the nonresidential uses in this neighborhood – the Seattle Yacht Club, the NOAA Northwest Fisheries Science Center, and the Museum of History and Industry (MOHAI) – lie north of SR 520. A small grocery store and gas and service station directly south of SR 520 are bordered by single-family residences to the east, west, and south.

Across Portage Bay and the Montlake Cut, the University of Washington Medical Center and Husky Stadium prominently mark the southern reaches of the University campus.

As the bridge deck of SR 520 leaves Foster Island within the Washington Park Arboretum and progresses toward Lake Washington, single-family houses in the Laurelhurst and Madison Park neighborhoods are the last points of development exposed to the roadway.





**View Looking East Toward the Montlake Interchange**

The Montlake neighborhood is located on both sides of the interchange. Lake Washington and the Eastside (Kirkland on the left and Medina on the right) are in the background.



**View Looking West Across the Evergreen Point Bridge**

Madison Park neighborhood is on the left, Foster Island is in the middle, and the University of Washington is on the right.

Exhibit 6 shows the population and housing characteristics for the project area. Taken as a group, the Seattle neighborhoods are more ethnically diverse and have a higher proportion of renters than most of the project area's Eastside neighborhoods. Overall, the median house value and household income for Seattle neighborhoods are generally less than the Eastside communities, but higher than the Bellevue and Kirkland neighborhoods in the project area.

**Lake Washington**

Except for docks associated with upland residences, there are no structures in Lake Washington. Shoreline designations along Lake Washington are discussed by jurisdiction under the discussion of local and regional plans.



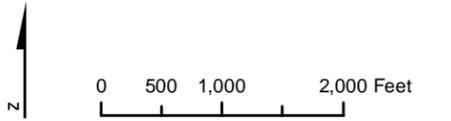


- Existing Land Use**
- Single Family Residential
  - Multifamily Residential
  - Park, Open Space, and Recreation
  - Civic and Quasi-Public
  - Commercial
  - Industrial
  - Parking
  - Vacant
  - Right-of-Way

Source: King County (2003) GIS data (Parcels, Streets, and Waterbodies); City of Seattle (2003) GIS Data (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.



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



**Exhibit 5. Existing Land Uses and Zoning in the Seattle Project Area**  
SR 520 Bridge Replacement and HOV Project



### Seattle

**563,374 (Total Population)**

- 394,889 White
- 47,541 African American
- 5,659 American Indian
- 73,910 Asian
- 2,804 Native Hawaiian/Pacific Islander
- 38,571 Other
- 29,719 Hispanic

Number of Households: 258,499  
 Owner/Renter Occupied (%): 48/52  
 Median House Value: \$259,000  
 Median Rent: \$721  
 Median Household Income: \$45,736

### University District

**2,528 (Total Population)**

- 1,454 White
- 70 African American
- 15 American Indian
- 776 Asian
- 12 Native Hawaiian/Pacific Islander
- 201 Other
- 89 Hispanic

Number of Households: 222  
 Owner/Renter Occupied (%): 4/96  
 Median House Value: Not Reported  
 Median Rent: \$656  
 Median Household Income: \$31,607

### Laurelhurst

**7,505 (Total Population)**

- 6,470 White
- 80 African American
- 28 American Indian
- 650 Asian
- 4 Native Hawaiian/Pacific Islander
- 273 Other
- 169 Hispanic

Number of Households: 3,026  
 Owner/Renter Occupied (%): 74/26  
 Median House Value: \$532,900  
 Median Rent: \$744  
 Median Household Income: \$81,866

### Hunts Point

**443 (Total Population)**

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

Number of Households: 165  
 Owner/Renter Occupied (%): 87/13  
 Median House Value: \$1,000,000+  
 Median Rent: \$888  
 Median Household Income: \$179,898

### Yarrow Point

**1,008 (Total Population)**

- 944 White
- 8 African American
- 0 American Indian
- 32 Asian
- 0 Native Hawaiian/Pacific Islander
- 24 Other
- 20 Hispanic

Number of Households: 379  
 Owner/Renter Occupied (%): 95/5  
 Median House Value: \$767,200  
 Median Rent: \$1,350  
 Median Household Income: \$117,940

### Lakeview

**2,583 (Total Population)**

- 2,296 White
- 25 African American
- 9 American Indian
- 160 Asian
- 4 Native Hawaiian/Pacific Islander
- 89 Other
- 70 Hispanic

Number of Households: 1,534  
 Owner/Renter Occupied (%): 39/61  
 Median House Value: \$412,300  
 Median Rent: \$1,031  
 Median Household Income: \$60,758

### Kirkland

**45,054 (Total Population)**

- 38,420 White
- 717 African American
- 238 American Indian
- 3,512 Asian
- 89 Native Hawaiian/Pacific Islander
- 2,078 Other
- 1,852 Hispanic

Number of Households: 20,736  
 Owner/Renter Occupied (%): 57/43  
 Median House Value: \$283,100  
 Median Rent: \$972  
 Median Household Income: \$60,332

### Eastlake

**3,689 (Total Population)**

- 3,163 White
- 85 African American
- 25 American Indian
- 252 Asian
- 8 Native Hawaiian/Pacific Islander
- 156 Other
- 96 Hispanic

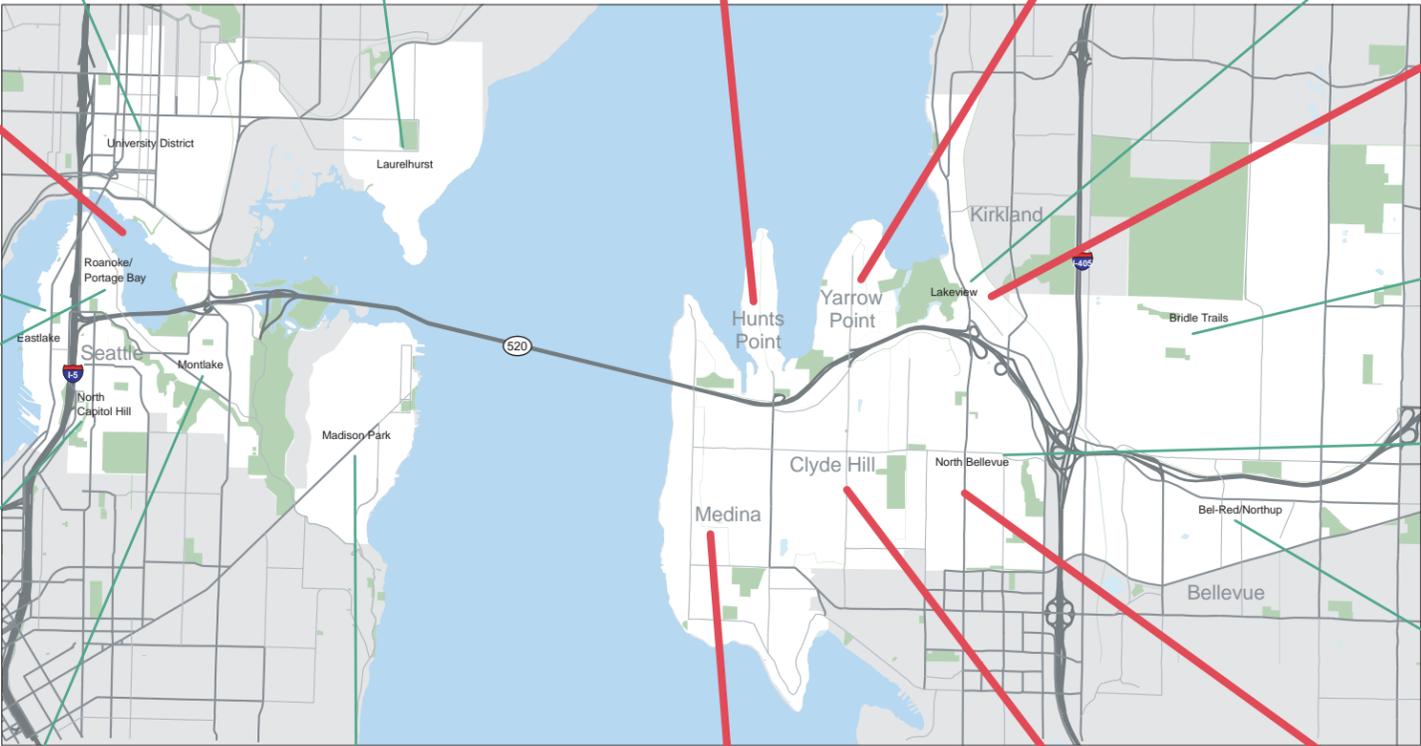
Number of Households: 2,429  
 Owner/Renter Occupied (%): 23/77  
 Median House Value: \$370,345  
 Median Rent: \$751  
 Median Household Income: \$45,682

### Roanoke/Portage Bay

**1,651 (Total Population)**

- 1,459 White
- 45 African American
- 8 American Indian
- 88 Asian
- 1 Native Hawaiian/Pacific Islander
- 50 Other
- 28 Hispanic

Number of Households: 830  
 Owner/Renter Occupied (%): 55/45  
 Median House Value: \$440,550  
 Median Rent: \$751  
 Median Household Income: \$63,834



### Bridle Trails

**10,689 (Total Population)**

- 7,549 White
- 232 African American
- 49 American Indian
- 2,037 Asian
- 24 Native Hawaiian/Pacific Islander
- 798 Other
- 775 Hispanic

Number of Households: 4,815  
 Owner/Renter Occupied (%): 49/51  
 Median House Value: \$446,220  
 Median Rent: \$861  
 Median Household Income: \$59,462

### North Capitol Hill

**2,467 (Total Population)**

- 2,195 White
- 46 African American
- 14 American Indian
- 122 Asian
- 5 Native Hawaiian/Pacific Islander
- 85 Other
- 68 Hispanic

Number of Households: 1,280  
 Owner/Renter Occupied (%): 52/48  
 Median House Value: \$602,862  
 Median Rent: \$787  
 Median Household Income: \$80,194

### Montlake

**3,800 (Total Population)**

- 3,365 White
- 114 African American
- 13 American Indian
- 174 Asian
- 2 Native Hawaiian/Pacific Islander
- 132 Other
- 56 Hispanic

Number of Households: 1,542  
 Owner/Renter Occupied (%): 82/18  
 Median House Value: \$450,800  
 Median Rent: \$1,049  
 Median Household Income: \$101,319

### Madison Park

**5,006 (Total Population)**

- 4,748 White
- 54 African American
- 2 American Indian
- 113 Asian
- 7 Native Hawaiian/Pacific Islander
- 82 Other
- 68 Hispanic

Number of Households: 2,672  
 Owner/Renter Occupied (%): 58/42  
 Median House Value: \$719,900  
 Median Rent: \$1,069  
 Median Household Income: \$75,034

### Medina

**3,011 (Total Population)**

- 2,789 White
- 5 African American
- 8 American Indian
- 147 Asian
- 2 Native Hawaiian/Pacific Islander
- 60 Other
- 42 Hispanic

Number of Households: 1,111  
 Owner/Renter Occupied (%): 92/8  
 Median House Value: \$789,600  
 Median Rent: \$1,625  
 Median Household Income: \$133,756

### Clyde Hill

**2,890 (Total Population)**

- 2,590 White
- 16 African American
- 5 American Indian
- 211 Asian
- 0 Native Hawaiian/Pacific Islander
- 68 Other
- 43 Hispanic

Number of Households: 1,054  
 Owner/Renter Occupied (%): 96/4  
 Median House Value: \$677,200  
 Median Rent: \$1,750  
 Median Household Income: \$132,468

### Bellevue

**109,569 (Total Population)**

- 81,441 White
- 2,183 African American
- 356 American Indian
- 19,056 Asian
- 257 Native Hawaiian/Pacific Islander
- 6,276 Other
- 5,827 Hispanic

Number of Households: 45,836  
 Owner/Renter Occupied (%): 62/38  
 Median House Value: \$299,400  
 Median Rent: \$916  
 Median Household Income: \$62,338

### North Bellevue

**5,705 (Total Population)**

- 4,738 White
- 82 African American
- 8 American Indian
- 645 Asian
- 12 Native Hawaiian/Pacific Islander
- 220 Other
- 199 Hispanic

Number of Households: 2,699  
 Owner/Renter Occupied (%): 61/39  
 Median House Value: \$320,258  
 Median Rent: \$1,211  
 Median Household Income: \$60,286

### North Capitol Hill

**2,467 (Total Population)**

- 2,195 White
- 46 African American
- 14 American Indian
- 122 Asian
- 5 Native Hawaiian/Pacific Islander
- 85 Other
- 68 Hispanic

Number of Households: 1,280  
 Owner/Renter Occupied (%): 52/48  
 Median House Value: \$602,862  
 Median Rent: \$787  
 Median Household Income: \$80,194

### Montlake

**3,800 (Total Population)**

- 3,365 White
- 114 African American
- 13 American Indian
- 174 Asian
- 2 Native Hawaiian/Pacific Islander
- 132 Other
- 56 Hispanic

Number of Households: 1,542  
 Owner/Renter Occupied (%): 82/18  
 Median House Value: \$450,800  
 Median Rent: \$1,049  
 Median Household Income: \$101,319

### Madison Park

**5,006 (Total Population)**

- 4,748 White
- 54 African American
- 2 American Indian
- 113 Asian
- 7 Native Hawaiian/Pacific Islander
- 82 Other
- 68 Hispanic

Number of Households: 2,672  
 Owner/Renter Occupied (%): 58/42  
 Median House Value: \$719,900  
 Median Rent: \$1,069  
 Median Household Income: \$75,034

### Medina

**3,011 (Total Population)**

- 2,789 White
- 5 African American
- 8 American Indian
- 147 Asian
- 2 Native Hawaiian/Pacific Islander
- 60 Other
- 42 Hispanic

Number of Households: 1,111  
 Owner/Renter Occupied (%): 92/8  
 Median House Value: \$789,600  
 Median Rent: \$1,625  
 Median Household Income: \$133,756

### Clyde Hill

**2,890 (Total Population)**

- 2,590 White
- 16 African American
- 5 American Indian
- 211 Asian
- 0 Native Hawaiian/Pacific Islander
- 68 Other
- 43 Hispanic

Number of Households: 1,054  
 Owner/Renter Occupied (%): 96/4  
 Median House Value: \$677,200  
 Median Rent: \$1,750  
 Median Household Income: \$132,468

### Bellevue

**109,569 (Total Population)**

- 81,441 White
- 2,183 African American
- 356 American Indian
- 19,056 Asian
- 257 Native Hawaiian/Pacific Islander
- 6,276 Other
- 5,827 Hispanic

Number of Households: 45,836  
 Owner/Renter Occupied (%): 62/38  
 Median House Value: \$299,400  
 Median Rent: \$916  
 Median Household Income: \$62,338

### Bel-Red/Norththup

**2,437 (Total Population)**

- 1,992 White
- 70 African American
- 11 American Indian
- 263 Asian
- 2 Native Hawaiian/Pacific Islander
- 99 Other
- 60 Hispanic

Number of Households: 1,097  
 Owner/Renter Occupied (%): 53/47  
 Median House Value: \$423,576  
 Median Rent: \$905  
 Median Household Income: \$60,718

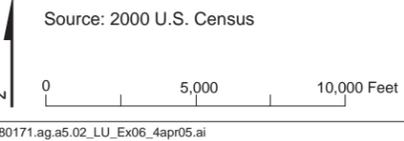


Exhibit 6. Housing and Population Characteristics of Cities and Neighborhoods in the Project Area  
 SR 520 Bridge Replacement and HOV Project



## Eastside

After SR 520 crosses Lake Washington, it travels through Medina, Hunts Point, Clyde Hill, Yarrow Point, Kirkland, and Bellevue to the project's eastern boundary. Existing land uses and zoning for these areas are shown in Exhibit 7.

Single-family homes are the predominant land use in Medina, Hunts Point, Clyde Hill, and Yarrow Point. In most areas, houses are set back from the roadway by vegetation that serves as a visual buffer from SR 520. Some recreational facilities are interspersed throughout the communities, including three parks, a wildlife conservancy, and the Points Loop Trail adjacent to SR 520. Commercial uses and employment opportunities are limited in Medina, Hunts Point, Clyde Hill, and Yarrow Point; the businesses in the project area are limited to a gas station/convenience store and an espresso shop in Clyde Hill. Planned future land uses do not differ from existing uses (City of Medina Ordinance No. 662, adopted 1991; City of Hunts Point Ordinance No. 22, adopted August 12, 1975). Overall, these communities are largely built to capacity and little growth is anticipated over the next 20 years.

Medina, Hunts Point, Clyde Hill, and Yarrow Point are similar demographically. Each community is affluent. Median household incomes are commonly twice that of other project area communities and median home values are often more than two times greater. Except for Hunts Point, more than 90 percent of the homes are owner-occupied. In Hunts Point, 87 percent of the homes are owner-occupied. The population of these communities is largely white compared to other communities within the project area. Exhibit 6 presents the demographic characteristics of Medina, Hunts Point, Clyde Hill, and Yarrow Point in detail.



View from Evergreen Point Bridge Looking East Toward Medina

Many single-family homes, like elsewhere in the Points communities, are waterfront or view properties.





**View Looking East from the 92nd Avenue Northeast Bridge**  
Trees buffer single-family homes from the highway.

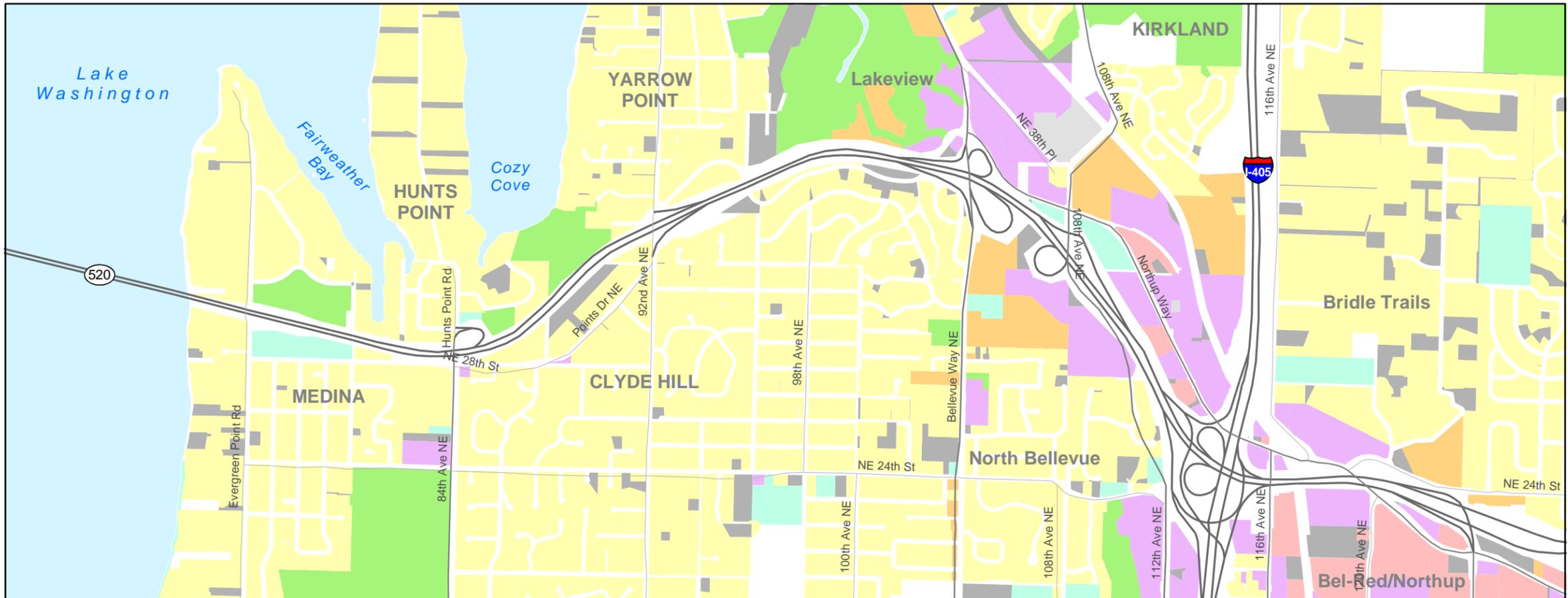
A small portion of Kirkland abuts the proposed project along SR 520. Although Kirkland has a thriving commercial district, the community as a whole is mainly residential, incorporating high- and low-density housing opportunities (Kirkland Municipal Code, Chapter 24.05, Ordinance 3153, updated 1989). Commercial uses closest to the SR 520/Bellevue Way Northeast interchange include gas stations, hotels, and restaurants. Most single-family and multifamily homes lie well outside the SR 520 corridor, except for the single-family residences located adjacent to the Yarrow Bay wetland to the west and the multifamily residences toward the east side of the wetland.

The Kirkland neighborhood in the project area is Lakeview. Lakeview is predominantly white, with Asians comprising the largest minority population (see Exhibit 6). The ratio of owner-occupied housing to renter-occupied housing is lower compared to other communities in the project area. The median house value and household income are generally lower than the Bellevue and Seattle project area neighborhoods.



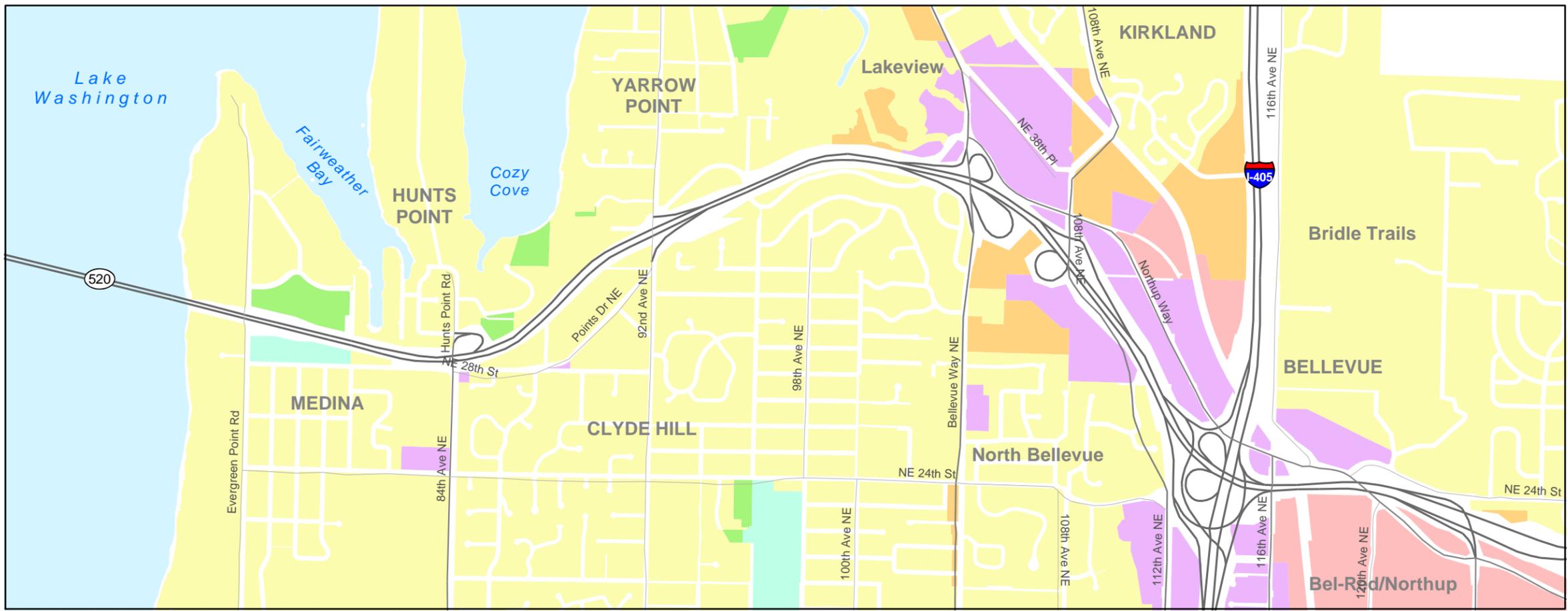
**Commercial Development in Kirkland near the Bellevue Way On-ramp to SR 520**





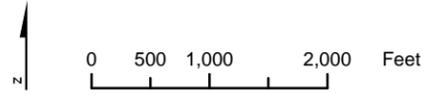
- Existing Land Use**
- Single Family Residential
  - Multifamily Residential
  - Park, Open Space, and Recreation
  - Civic and Quasi-Public
  - Commercial
  - Industrial
  - Parking
  - Vacant
  - Right-of-Way

Source: King County (2003) GIS data (Parcels, Streets, and Waterbodies); City of Bellevue (2004) GIS Data (Zoning); City of Medina (2004) Zoning Maps (Zoning); City of Clyde Hill (1999) Zoning Maps (Zoning); City of Hunts Point (1998) Zoning Maps (Zoning); City of Yarrow Point (2003) Zoning Maps (Zoning); City of Kirkland (2003) 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.



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

Notes: Due to inconsistencies in the various cities' designations, zoning designations listed above are not exactly as shown on each city's zoning map, but are the broad land use categories to which those designations apply.



**Exhibit 7. Existing Land Uses and Zoning in the Eastside Project Area**  
SR 520 Bridge Replacement and HOV Project



Bellevue is the financial, retail, and office center of the Eastside but also has many residential neighborhoods. In the Bellevue project area, single-family homes prevail along the south side of SR 520 until approximately Bellevue Way Northeast. From this point to I-405, multifamily and office uses line the hillside along the highway. Between I-405 and Northeast 124th Street, commercial uses are interspersed with industrial uses and warehouses. Bridle Trails, a low-density residential neighborhood, lies north of SR 520 and east of I-405 behind a narrow strip of commercial businesses.

Although Bellevue project area residents are mostly white, there is a substantial Asian population (see Exhibit 6). Slightly more than half of the residents own their own homes. Median home values and household income are similar to the Kirkland project area neighborhood, and less than most Seattle project area neighborhoods.



Commercial Development in Bellevue on Northeast 20th Street Adjacent to SR 520

## What geographic area is included in the economic analysis?

The economic analysis focuses on the project area (Seattle and the Eastside communities of Medina, Hunts Point, Clyde Hill, Yarrow Point, Kirkland, and Bellevue), Redmond, and King County. King County is included because of the overall size of the project and its potential regionwide effects.



## What are the population and housing trends?

Exhibit 8 shows historical and forecasted population and housing data for the project area. As shown, approximately 790,000 people live in Seattle and the Eastside communities of Medina, Hunts Point, Clyde Hill, Yarrow Point, Kirkland, Bellevue, and Redmond, which is an increase of about 74,000 people since 1990. By 2030, the population of the project area is expected to grow to approximately 1.2 million. On a percentage basis, the population is projected to grow at a slightly slower rate in the years ahead than it has in recent years.

Exhibit 8. Historical and Projected Population and Number of Households in the Seattle and Eastside Project Areas

Parameter	1990	2000	2030	Average Annual Growth Rate	
				1990-2000	2000-2030
<b>Population</b>					
Seattle	516,290	563,313	718,389	0.9%	0.8%
Eastside <sup>a</sup>	200,281	227,110	306,940	1.3%	1.0%
<b>Total Project Area</b>	<b>716,571</b>	<b>790,423</b>	<b>1,025,329</b>	<b>1.0%</b>	<b>0.9%</b>
King County	1,507,320	1,737,034	2,202,366	1.4%	0.8%
<b>Households</b>					
Seattle	236,721	258,481	353,718	0.9%	1.1%
Eastside <sup>a</sup>	79,917	94,058	136,997	1.6%	1.3%
<b>Total Project Area</b>	<b>316,638</b>	<b>352,539</b>	<b>490,715</b>	<b>1.1%</b>	<b>1.1%</b>
King County	615,806	710,916	959,507	1.4%	1.0%

Source: PSRC (2003a).

<sup>a</sup> Eastside is composed of Medina, Hunts Point, Clyde Hill, Yarrow Point, Bellevue, Kirkland, and Redmond.

From 1990 to 2000, the number of households in the overall project area grew at a slightly higher rate than the area's population. As shown in Exhibit 8, PSRC's forecasted annual rate of household formation is more than the forecasted annual rate of population growth. This means that the number of persons per household is projected to decline. This is relevant because travel demand typically correlates more closely to household formation than to population.

From 1990 to 2000, the project area has experienced slower growth in both population and number of households when compared to rapid development that occurred in parts of east King County. According to the PSRC, this trend is expected to change because the project area is



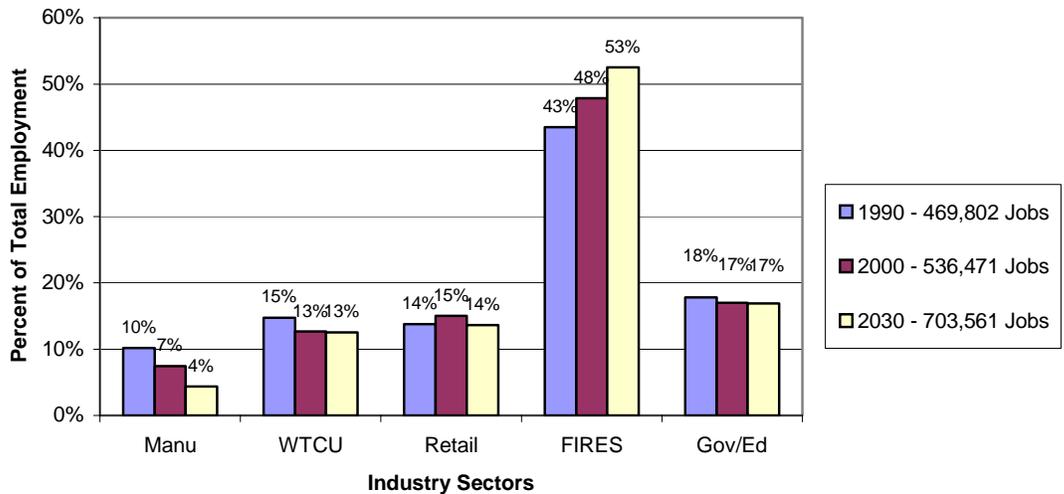
predicted to experience a slightly greater rate of growth in both population and household formation than King County over the next 30 years.

## What are the existing and projected employment trends?

The project area includes Seattle and Bellevue, the top two cities for total employment, respectively, in the greater Puget Sound region (King, Pierce, Snohomish, and Kitsap counties). Kirkland is number 10 on the list. These communities represent areas of current and projected job growth, with employers who require efficient transportation systems for the movement of goods, services, and employees to and from their places of business.

### Seattle

Exhibit 9 presents historical and projected percent of total employment in Seattle by industry sector for 1990, 2000, and 2030. Total jobs in the Seattle area increased from 470,000 jobs in 1990 to over 536,000 jobs in 2000. By 2030, Seattle businesses are expected to employ over 703,000 individuals.



Source: PSRC (2003b).

Manu = Manufacturing

WTCU = Wholesale Trade, Transportation, Communication, and Utilities

FIRES = Financial, Insurance, Real Estate, and Services

Gov/Ed = Government (local, county, and federal) and Education

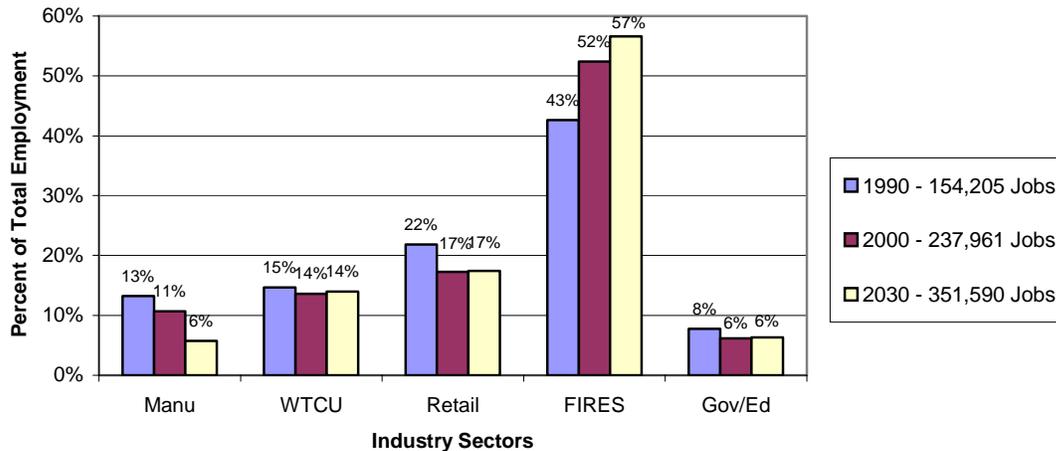
Exhibit 9. Percent of Total Employment by Industry Sector, Seattle



The sector with the largest share of total employees is the financial, insurance, real estate, and services sector (FIRES). In 1990, the FIRES sector accounted for 43 percent of all jobs in Seattle, and by 2030, it is projected that this sector will account for 53 percent of all jobs in Seattle. This is consistent with a national economic trend that has seen the relative share of employment in the service sector increase and the relative share of employment in manufacturing decrease. With the exception of retail, all of the other sectors are projected to have a smaller share of total jobs in 2030 than they did in 1990.

### Eastside

Exhibit 10 presents historical and projected percent of total employment on the Eastside by industry sector for 1990, 2000, and 2030. For this analysis, the Eastside communities include Medina, Hunts Point, Clyde Hill, Yarrow Point, Kirkland, Bellevue, and Redmond. Total jobs on the Eastside increased from 154,000 jobs in 1990 to nearly 238,000 jobs in 2000. By 2030, the communities of the Eastside are expected to employ over 351,000 individuals.



Source: PSRC (2003b).  
 Manu = Manufacturing  
 WTCU = Wholesale Trade, Transportation, Communication, and Utilities  
 FIRES = Financial, Insurance, Real Estate, and Services  
 Gov/Ed = Government (local, county, and federal) and Education

Exhibit 10. Percent of Total Employment by Industry Sector, Eastside



The sector with the largest share of total employees is the FIRES sector. In 1990, this sector accounted for 43 percent of all jobs on the Eastside. By 2030, it will account for 57 percent. The Eastside is experiencing the same type of growth in the FIRES sector as Seattle. All of the other sectors are projected to have a smaller share of total jobs in 2030 than they did in 1990.

Compared to Seattle, the Eastside economy has a larger percentage of jobs in the FIRES, retail, and manufacturing sectors. Seattle has a larger percentage of government and education employment.

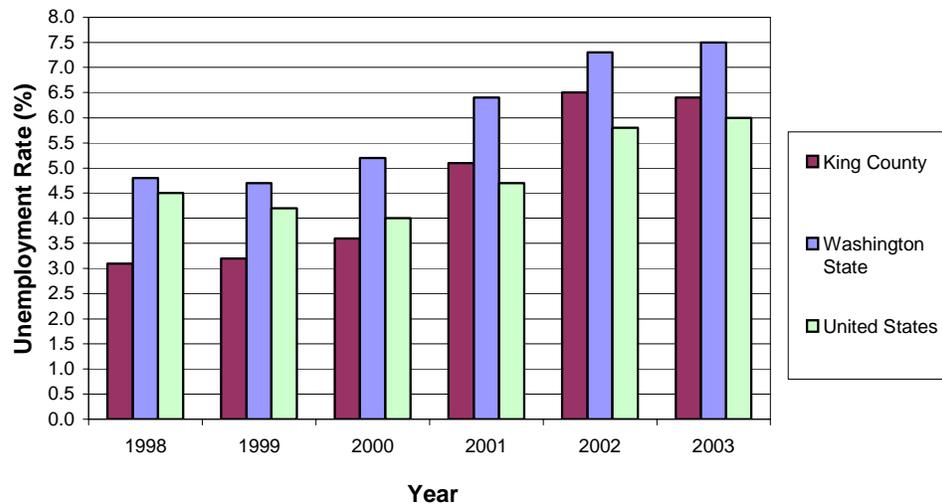
A somewhat greater travel demand per employee can be expected in the Eastside project area compared to the rest of the region. The trend to increased service employment at the expense of manufacturing is evident throughout the region and is consistent with national trends. This has implications for travel demand because retail and service businesses usually generate more trips per employee than manufacturing facilities. Retail businesses generally produce the most trips of all the business types, and the project area has a large share of King County's retail employment.

In recent years, the regional economy has diversified, resulting in an economy less affected by downturns in a single industry such as manufacturing. One of the primary sectors responsible for this diversification is the high-tech sector. King County experienced strong growth of "new economy" jobs between 1995 and 2001, with a total of 60,000 new high-tech jobs. Much of that growth occurred in Seattle and in Eastside cities such as Bellevue and Redmond. From 2001 to 2002, King County lost over 13,000 high-tech jobs because of the downturn in the regional and national economy.

## **What is the unemployment trend in the project area?**

Exhibit 11 shows unemployment rates for King County, Washington state, and the United States. The economic growth experienced towards the end of the 1990s dropped the unemployment rate in both the county and the state to levels unseen in the last 25 years. In 2001, unemployment rates in the project area increased because of the slowdown in the regional and national economy. Slow job growth continued through 2003.





Source: Bureau of Labor Statistics (2004)

Exhibit 11. Unemployment Trends

## What is the income level in the project area?

Median household income in the cities and neighborhoods of the project area is generally much higher than regional and state averages. As shown in Exhibit 6, 14 of the 18 cities and neighborhoods have median household incomes above \$60,000, compared to \$53,157 in King County and \$45,766 statewide.

## Who are the major employers?

Exhibit 12 lists the largest 20 employers in the central Puget Sound area. SR 520 is a key transportation route for employers on this list (Microsoft, Safeco, and the University of Washington) that are headquartered just outside the project area. The diversity of the companies on this list is representative of the region's economy. Each of these businesses depends on the region's transportation system to provide reliable movement of goods and services, customers, and employees to and from their business locations. SR 520 is a critical component of the region's transportation system.



Exhibit 12. Top 20 Employers in the Central Puget Sound Region <sup>a</sup>

Company	Number of Employees
The Boeing Company	63,361
Microsoft Corporation	24,903
University of Washington, Seattle Campus (includes Medical Center)	23,288
Costco Wholesale Corporation	15,000
Safeway Inc.	12,809
Fred Meyer Stores	12,197
Weyerhaeuser Company	10,000
Group Health Cooperative	9,790
Providence Health	8,412
Swedish Health	7,115
Starbucks Corporation	6,736
Washington Mutual Inc.	6,139
Bank of America	5,463
Multicare Health Systems	5,083
Nordstrom Inc.	4,500
Macy's	4,300
Alaska Air Group	4,000
Haggen Inc.	4,000
Safeco Corporation	3,800
Evergreen Healthcare	2,700

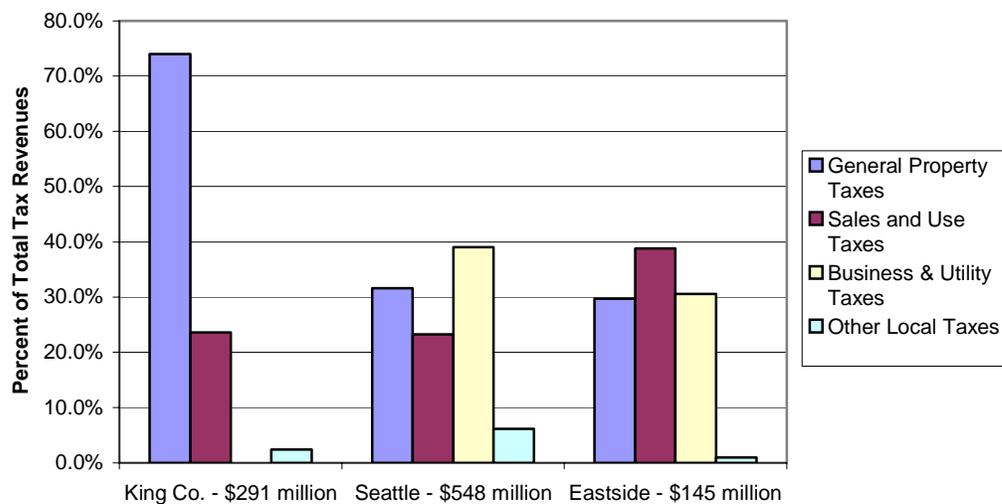
Sources: PSBJ (2002).

<sup>a</sup> Central Puget Sound region includes King, Kitsap, Pierce, and Snohomish counties.

## What are the main tax revenues for the jurisdictions in the project area?

City and county governments rely on tax revenues to fund general services to their respective communities. The project could affect property tax and retail sales revenues for jurisdictions in the project area. The largest sources of tax revenues are property taxes, sales taxes, business and occupation taxes, and other taxes. Exhibit 13 shows the percent of total general fund revenues by source.





Source: Washington State Auditor (2003).

Exhibit 13. General Fund Tax Revenues

King County relies extensively on property tax collections. Seattle and the Eastside communities receive the vast majority of their tax revenue from property taxes, sales taxes, and business and utility taxes.

### What are the state, regional, and local plans and policies relevant to this project?

WSDOT proposes to fund construction of the project by charging a toll for crossing the Evergreen Point Bridge. This is consistent with state law. The Revised Code of Washington (RCW), specifically RCW 47.56.070, authorizes WSDOT, with the approval of the transportation commission, to establish, construct, and operate toll tunnels, toll roads, and other facilities necessary for their construction and connection with state highways. RCW 7.56.284 directly addresses toll facilities on Lake Washington, stating that “the department may authorize additional toll bridges across Lake Washington at such times as traffic may warrant and at such sites as deemed feasible.”

From a state and regional perspective, three key planning documents establish the framework for local land use plans and programs. These planning documents are the Growth Management Act (GMA); Vision 2020 (PSRC 1995) and its transportation element, Destination 2030 (PSRC 2001); and King County’s Countywide Planning Policies (King



County 2003). In addition, the voter-approved Sound Move proposal provides a multiyear regional transit plan.

Local planning documents directly guide land use development along the SR 520 corridor through comprehensive plan, zoning, and shoreline designations. Some local comprehensive plans identify transportation policies to support the land use vision expressed in the plans.

Washington state's GMA is a comprehensive framework for managing growth and coordinating land use planning with infrastructure. The GMA's planning goals are intended to guide development of local comprehensive plans and development regulations, such as directing growth to urban areas, reducing sprawl, and encouraging efficient transportation systems. Local, county, and regional plans are required to be consistent with the GMA. Local comprehensive plan policies applicable to the SR 520 Bridge Replacement and HOV Project are discussed below by jurisdiction; the following describes applicable regional and county planning policies.

Vision 2020 is PSRC's long-range growth management, economic, and transportation strategy for the central Puget Sound region, which encompasses King, Kitsap, Pierce, and Snohomish counties. Vision 2020 contains numerous transportation-related policies that emphasize concentrating growth in urban centers and connecting those centers with an efficient, transit-oriented, multimodal transportation system. Designated urban centers near the study area are First Hill/Capitol Hill, the University District, and downtown Bellevue. Vision 2020 supports the development of a transportation system that connects urban centers with frequent service, convenient connections, and easy transfers between modes. Vision 2020 calls for maintaining existing transportation systems and for providing improvements to the regional HOV system that improve travel time for HOVs and transit. Transportation investments in major facilities and services should maximize transportation system continuity and be phased to support regional economic development and growth management objectives.

The transportation element of Vision 2020, Destination 2030, translates the policies of Vision 2020 into implementation strategies, providing a guide for large regional projects and important local solutions over the next 30 years. The plan calls for coordinating transportation and land use decisions to support transit and pedestrian-oriented land use patterns. High-capacity transit (HCT) station areas that reinforce urban design characteristics promoting mobility and access are high priorities.



Destination 2030 supports priority treatment for HOVs through investment in a core HOV network on regional freeways, as well as direct access for more efficient use of HOV facilities. Appendix 9 of Destination 2030 (PSRC 2003c) provides a list of approved and candidate projects; it identifies widening SR 520 from the Evergreen Point Bridge to Redmond for HOV facilities as an approved project. Appendix 9 also identifies the following projects in the SR 520 corridor as candidate projects:

- Construction of a new road and new bridge and widening of the facility for HOVs from east of Lake Washington to I-5.
- Addition of a general purpose lane in each direction from Redmond to I-5.

Sound Move, the Ten-Year Regional Transit System Plan (Sound Transit 1996a), is an integral part of Destination 2030. The plan was developed by the Regional Transit Authority (now Sound Transit), assisted by citizens and local elected officials. It provides a balanced approach to increasing the capacity, utility, and convenience of public transit by offering an integrated package of new transit options. Elements of the first 10-year phase of the Sound Move plan include the following:

- A regional system of HOV improvements to create a continuous HOV network
- New Regional Express bus routes that will use the HOV system
- Light rail service from South 200th Street in SeaTac to Northgate in Seattle

The Central Link and North Link light rail projects are part of the light rail service proposed by Sound Move. Currently under construction, the Central Link will serve downtown Seattle, the industrial area south of downtown, and residential and commercial neighborhoods in Beacon Hill, the Rainier Valley, and Tukwila. A shuttle bus will connect passengers from the South 154th Station in Tukwila to Seattle-Tacoma International Airport until a light rail station is built there. For the North Link, Sound Transit has selected a preferred route that goes from downtown Seattle to First Hill and Capitol Hill, across the Lake Washington Ship Canal, through the University Campus and District and Ravenna, and along I-5 to Northgate. The preferred North Link route crosses SR 520 at Montlake Boulevard and would have a station near Husky Stadium.



Following implementation of the first 10-year phase (Sound Move), Sound Transit's Long-Range Vision (Sound Transit 1996b) foresees expanded high-capacity corridors that balance the blend of transportation services offered within the regional transit network. Although rail may be the technology used in some corridors, other HCT components of the regional transit system (HOV expressway, regional bus service, and additional community connections) may be expanded as well. Factors determining what additional HCT investments will be made in future phases (including future rail extensions) will take into account evolving technologies, environmental analysis, actual population growth and employment, changing development trends, and future transportation priorities in the region.

The Long-Range Vision identified two potential light rail extensions from the Central and North Links, including from downtown Seattle to Issaquah via I-90 and from downtown Seattle via I-90 to downtown Bellevue and downtown Redmond. The Trans-Lake Washington Project, a precursor to the SR 520 Bridge Replacement and HOV Project, analyzed these potential high-capacity transit corridors and considered HCT on SR 520. As a result of this analysis, the Trans-Lake Washington Executive Committee endorsed placing fixed guideway transit in the I-90 corridor (January 30, 2002).

Consistent with the provisions of the GMA and Vision 2020 (PSRC 1995), King County's Countywide Planning Policies (King County 2003) serve as the vision and framework for the comprehensive plans of King County and its cities. King County and its cities developed the countywide policies to meet GMA requirements and to coordinate planning among all of the jurisdictions. These policies establish an urban growth area in the western one-third of King County, where most growth and development is projected to occur. The policies' goals address reducing urban sprawl; protecting rural areas; and more efficiently providing roads, parks, and other services. Attachment 1 provides the pertinent King County Planning Policies.



## Consistency with Plans and Policies

### Are the project alternatives consistent with state, regional, and local plans and policies?

The regional and county plans discussed above present common policies regarding urban growth and transportation system development, which are summarized as follows:

- Maintain existing transportation systems.
- Maximize transportation system continuity.
- Develop a regional HOV system that gives HOVs priority and serves regional express bus routes.
- Promote alternatives to single-occupancy vehicles (SOV).
- Concentrate growth in urban centers.
- Connect urban centers with alternative modes to the SOV.
- Provide HCT.

The proposed project is consistent with applicable regional and county plans. The No Build Alternative would not contribute to the achievement of regional goals. The 6-Lane Alternative would more closely match the visions put forth by regional and county plans than the 4-Lane Alternative.

#### No Build Alternative

The Continued Operation Scenario would not further the goals of the regional plans because it would not provide any improvements. For example, the Continued Operation Scenario would not lead to greater transportation system continuity because facilities such as direct HOV access lanes to and from I-5 would not be constructed. The Continued Operation Scenario would also not expand the corridor's HOV system because no HOV facilities would be constructed. The Continued Operation Scenario would not directly promote alternatives to the SOV because no new HOV facilities or bicycle paths would be constructed. As a result, no new alternative modes would connect the area's urban centers.

Despite the lack of new or alternative mode facilities, non-SOV use would increase under the Continued Operation Scenario (see Appendix R, *Transportation Discipline Report*). The changes in mode use



would occur as traffic volumes in the project corridor increased, leading travelers to choose carpools and transit. The increased HOV and transit use under the No Build Alternative, however, would not be as substantial as the increases that would occur under the 4-Lane and 6-Lane Alternatives (Exhibit 14).

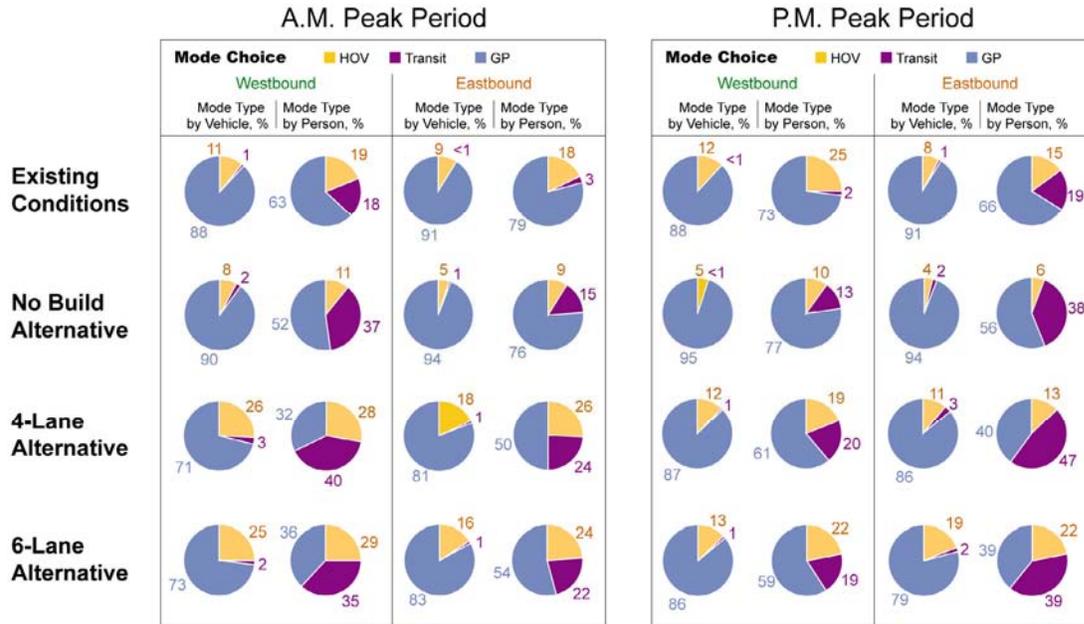


Exhibit 14. A.M. and P.M. Peak Period Mode Choice at Midspan of Evergreen Point Bridge

The Catastrophic Failure Scenario would be inconsistent with regional plans and policies because it would take no action to preserve the existing transportation system. Furthermore, the Catastrophic Failure Scenario would lead to greater congestion on the region’s other trans-Lake Washington transportation facilities, like SR 522 and I-90, as travelers sought alternative routes during the period that the SR 520 bridges were not operating. Some travelers would probably choose to carpool or take transit, but these facilities would likely be overburdened by the immediate upswing in use.

### 4-Lane Alternative

The 4-Lane Alternative would maintain the existing transportation system by using an already existing transportation corridor rather than creating a new one, such as a new bridge across Lake Washington from Sand Point to downtown Kirkland, which was one option proposed as part of the Trans-Lake Washington Study.



The 4-Lane Alternative would modestly improve the continuity of the transportation system and the development of a regional system that gives HOVs priority. The 4-Lane Alternative would slightly improve continuity of the regional HOV system by providing a new HOV connection from SR 520 to the I-5 reversible lanes, when traffic in the reversible lanes is heading southbound. Other HOV system improvements would include a priority, eastbound on-ramp lane at Montlake Boulevard and a westbound HOV lane on the Eastside. The 4-Lane Alternative would serve regional express bus routes with the same transit stops on SR 520 that are currently available but the lanes serving the transit stops would be improved, increasing safety and the ability to merge with traffic.

Overall, components of the 4-Lane Alternative, including a toll to cross Lake Washington, would lead to greater use of alternative travel modes. As shown in Exhibit 14, more people would travel by HOV or transit. In addition, the 4-Lane Alternative would promote bicycle use by providing an important connection in the region's bicycle system—a continuous bicycle/pedestrian path across Lake Washington that connects to existing bicycle facilities.

In terms of concentrating growth in urban centers, the 4-Lane Alternative would encourage a greater increase in population and employment outside of Seattle and downtown Bellevue than would occur under the No Build Alternative. If a package of regional transportation projects was implemented in conjunction with the 4-Lane Alternative, the redistribution of population and employment outside of Seattle and downtown Bellevue would be less. This assessment is based on the results of a population and employment distribution forecast described in detail in Appendix J, *Indirect and Cumulative Effects Discipline Report*.

## 6-Lane Alternative

Like the 4-Lane Alternative, the 6-Lane Alternative would maintain the existing transportation system, but would also improve the continuity of the overall system. While the 6-Lane Alternative would provide the same improvements to the regional bicycle system, it would also substantially improve the HOV system. The continuity of the HOV system would be considerably improved based on the following improvements:

- Direct eastbound and westbound HOV connections to the I-5 reversible lanes



- Continuous inside eastbound and westbound HOV lanes throughout the project area
- Direct HOV connections at the Montlake interchange

Buses would benefit from the inside HOV lanes and transit stops, which would eliminate the need to merge with traffic entering and exiting the highway.

With or without a package of regional transportation improvements, the 6-Lane Alternative would more likely encourage residents and employers to stay within urban centers than the 4-Lane Alternative, with the exception of the Kitsap Peninsula. The increased capacity and mobility across Lake Washington under the 6-Lane Alternative is the likely reason for population and employment continuing to concentrate in urban centers, and redistributing in an east-west pattern rather than a north-south pattern.

## Seattle

### Comprehensive Plan

Seattle's Comprehensive Plan land use policies (City of Seattle 2002) are geared toward creating urban centers that concentrate residential development and employment centers, while maintaining the density and character of the neighborhoods outside those centers (Exhibit 15). There are no substantial changes in land use patterns planned for the Seattle neighborhoods along SR 520. The Seattle Comprehensive Plan does identify the Eastlake neighborhood as a residential urban village, which calls for the intensification of residential land use and the provision of neighborhood services.

Seattle's Comprehensive Plan policies relating to transportation are focused on:

- Supporting and protecting neighborhoods
- Discouraging traffic diversions from regional highways to local roadways
- Developing a transit network that serves activity centers in the city and the region





- Single Family
- Multifamily
- Park
- Civic and Quasi-Public
- Commercial
- Industrial

Source: City of Seattle (2003) Comprehensive Plan (Land Use); King County (2003) GIS Data (Streets and Waterbodies). Horizontal datum for all layers is NAD83(91), vertical datum for layers is NAVD88.



0 1,000 2,000 Feet



**Exhibit 15. Comprehensive Plan Land Uses in the Seattle Project Area**

SR 520 Bridge Replacement and HOV Project

- Not expanding roadway and freeway facilities to accommodate general traffic
- Providing an HCT system that connects urban centers

Attachment 1 presents the pertinent policies in more detail.

### **No Build Alternative**

The Continued Operation Scenario would support the policy to not expand general purpose or SOV facilities on freeways and would be neutral regarding other policies. It would not contribute to an HCT system connecting urban centers.

The Catastrophic Failure Scenario would not be consistent with Seattle Comprehensive Plan policies. This scenario would lead to increased traffic through neighborhoods because motorists would be forced to use local streets to get to other regional facilities like I-5 and I-90. This diverted traffic would decrease the livability of these neighborhoods by increasing traffic and noise. Like local neighborhoods, the regional transit system would be disrupted as alternative routes became overtaxed and congested with new riders. Finally, while Seattle Comprehensive Plan policies do not support the creation of additional SOV capacity on freeways, they do not call for the elimination of that capacity, which would occur under the Catastrophic Failure Scenario.

### **4-Lane Alternative**

Overall, the 4-Lane Alternative would be consistent with Seattle Comprehensive Plan policies.

This alternative would help to protect the Roanoke/Portage Bay, North Capitol Hill, and Montlake neighborhoods through the installation of sound walls from east of 10th Avenue to approximately the eastern border of the multifamily residences on Lake Washington in Madison Park. The sound walls would dampen traffic noise in the vicinity of the highway. Traffic congestion on local streets would not increase following implementation of the 4-Lane Alternative. According to Appendix R, *Transportation Discipline Report*, level of service (LOS) at local intersections would not degrade (increase from LOS D to LOS E or from LOS E to LOS F). During certain periods of the day, three intersections would improve: Montlake Boulevard/East Shelby Street, Montlake Boulevard/Northeast Pacific Street, and Lake Washington Boulevard/SR 520 Arboretum ramp.



The 4-Lane Alternative would not add more travel lanes, making it consistent with the policy not to expand general purpose capacity on freeways.

The 4-Lane Alternative would also contribute to improved transit operations by reconfiguring the westbound Montlake transit stop on SR 520. Under the 4-Lane Alternative, buses would have better visibility and a greater distance to increase speed than currently available. These improvements would make merging back into the traffic lanes easier, thereby increasing the speed and reliability of service. For the most part, HOV travel times through the project corridor would decrease during the a.m. and p.m. peak periods (Exhibit 16). The exception to this is westbound traffic during the a.m. peak period.

### **6-Lane Alternative**

The 6-Lane Alternative would be consistent with most but not all of the applicable Seattle Comprehensive Plan policies. Like the 4-Lane Alternative, the 6-Lane Alternative would protect adjacent neighborhoods by installing sound walls that dampen traffic noise. The 6-Lane Alternative would also improve the quality of adjacent neighborhoods by providing a partial reconnection between the Roanoke/Portage Bay and North Capitol neighborhoods and by doing the same for the two portions of the Montlake neighborhood now separated by SR 520. The new connections would be provided by the 10th and Delmar lid and the Montlake lid. The parklike settings of these lids would provide a sense of place and a pleasant atmosphere in which to cross over SR 520, unlike the current roadway crossings, which have no landscaping or screening from SR 520.

Similar to the 4-Lane Alternative, the 6-Lane Alternative would slightly improve local traffic operations. The LOS would improve at the same intersections indicated for the 4-Lane Alternative, as well as at the Montlake Boulevard/45th Street intersection during the p.m. peak period. However, congestion would increase at Fairview Avenue/Valley Street and Harvard Avenue East/Roanoke Street/SR 520 westbound off-ramp during the p.m. peak period.

The 6-Lane Alternative would indirectly increase capacity for SOVs on the freeway, which is not consistent with Seattle Comprehensive Plan policies. Although the 6-Lane Alternative would not increase the number of general purpose lanes, it would provide a new HOV lane. When HOVs move out of the general purpose lanes, more capacity becomes available for SOVs in the general purpose lanes.

#### **What is a lid, and when will it be designed?**

In addition to carrying the streets for which they are named, the lids would provide landscaped passive open space. The lids would be designed after the EIS is completed and an alternative is selected. WSDOT will work with the City of Seattle and the affected neighborhoods to complete the designs.



**A.M. Peak Period Travel Time**

**P.M. Peak Period Travel Time**

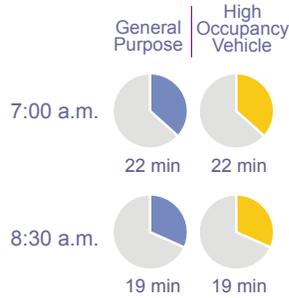
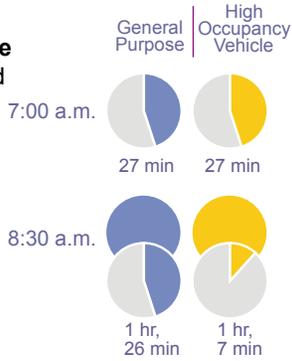
**Westbound Traffic**  
From 124th Ave NE to I-5

**Eastbound Traffic**  
From I-5 to 124th Ave NE

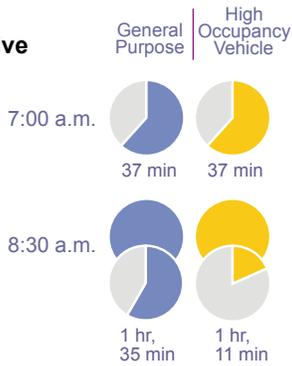
**Westbound Traffic**  
From 124th Ave NE to I-5

**Eastbound Traffic**  
From I-5 to 124th Ave NE

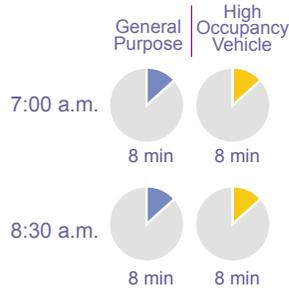
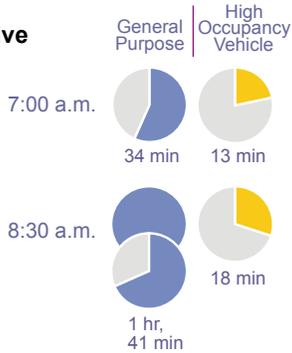
**No Build Alternative**  
(Continued Operation Scenario)



**4-Lane Alternative**



**6-Lane Alternative**



**Exhibit 16. A.M. and P.M. Peak Period Travel Times**

SR 520 Bridge Replacement and HOV Project

By providing an HOV-only lane, the 6-Lane Alternative would increase transit speed and reliability. Under the 6-Lane Alternative, buses would not travel or merge with general purpose vehicles, reducing delays caused by congestion. According to Appendix R, *Transportation Discipline Report*, transit and HOV travel time would be faster under the 6-Lane Alternative than the No Build Alternative (Continued Operation Scenario) and approximately the same as the 4-Lane Alternative except for westbound HOV traffic during the early part of the p.m. peak period (Exhibit 16).

Like the other alternatives, the 6-Lane Alternative would not provide any new HCT system connections between urban centers.

### **Neighborhood Plan**

The Eastlake community adjacent to I-5 has an adopted neighborhood plan. The plan's policies call for reduced freeway-related noise, air, and water pollution and supporting the neighborhood's visibility and identity from I-5 through such means as landscaping and signage (Eastlake Tomorrow 1998).

### **No Build Alternative**

The Continued Operation Scenario would not cause substantial changes to the Eastlake community because the status quo would be maintained.

The Catastrophic Failure Scenario would not be consistent with the Eastlake community plan. This scenario could lead to increased southbound traffic on I-5 because drivers traveling to the Eastside that would have taken the SR 520 off-ramp would no longer be diverted. Instead they would continue through Eastlake to the I-90 interchange as an alternative means of crossing the lake. The increased traffic would create more noise, air, and water pollution than would occur under the Continued Operation Scenario.

### **4-Lane Alternative**

Even though limited project improvements are proposed adjacent to the Eastlake neighborhood, this neighborhood would experience the traffic from the 4-Lane Alternative as it transitions from SR 520 to north- and southbound I-5. The quality of stormwater runoff would improve over existing conditions. Currently, stormwater is untreated but the proposed project would have facilities to treat stormwater prior to its discharge to surface water resources.



### **6-Lane Alternative**

The 6-Lane Alternative would be as consistent with the Eastlake neighborhood plan as would the 4-Lane Alternative.

### **Shoreline Master Program**

Under Washington State's Shoreline Management Act (SMA), each city and county adopts a shoreline master program based on state guidelines but tailored to its specific needs to guide development. Based on the SMA, preference is given to uses that protect water quality and the natural environment, depending on proximity to the shoreline, and preserve and enhance public access or increase recreational opportunities. Local shoreline master programs combine both plans (the vision of the shoreline's use and development) and regulations (the standards that shoreline projects must meet).

The following identifies the applicable shoreline designations for areas affected by the project in Seattle and describes each designation's purpose. Exhibit 17 shows where these designations apply.

- CN – Conservancy Navigation – preserve open water for navigation.
- CR – Conservancy Recreation – protect areas for environmentally related purposes such as public and private parks, aquaculture, residential piers, underwater recreational sites, fishing grounds, and fish migratory routes.
- CP – Conservancy Preservation – preserve and improve areas that are biologically or geologically fragile and encourage public enjoyment of those areas.
- CM – Conservancy Management – conserve and manage areas for public purposes, recreational activities, and fish migration routes.
- UR – Urban Residential – protect residential areas in a manner consistent with single-family and multifamily residential policies.

Bridges are permitted as a special use under the CN, CR, and CM shoreline designations and as a conditional use under the CP designation. Bridges and streets are permitted outright in areas designated UR. While a small portion of the Portage Bay Bridge would be in the UR shoreline, the rest of it would be in the CR shoreline and would require a special use permit. The remaining portion of SR 520 subject to the shoreline master program would also require a special



use permit because it would pass through CR, CP, and CN shoreline areas.

## **Eastside—Medina**

### **Comprehensive Plan**

The land uses identified by the City of Medina Comprehensive Plan (1999) do not differ from existing uses, and no substantial changes in land use patterns are planned for the community (Exhibit 18).

The Medina Comprehensive Plan also identifies two special planning areas related to the proposed project: the SR 520 Corridor Special Planning Area and the 84th Avenue Northeast Corridor Special Planning Area. These special planning areas include the public right-of-way and are intended to guide future development to limit or mitigate potential effects on surrounding development. Facilities sited within these areas require the submittal of a master plan by the applicant.

Medina Comprehensive Plan policies support:

- Developing a bicycle path along SR 520 and across the Evergreen Point Bridge
- Improving access to transit and pedestrian facilities
- Increasing public transit and HOV use within the SR 520 corridor
- Mitigating the noise and appearance of SR 520

Pertinent policies of this plan are presented in detail in Attachment 1.

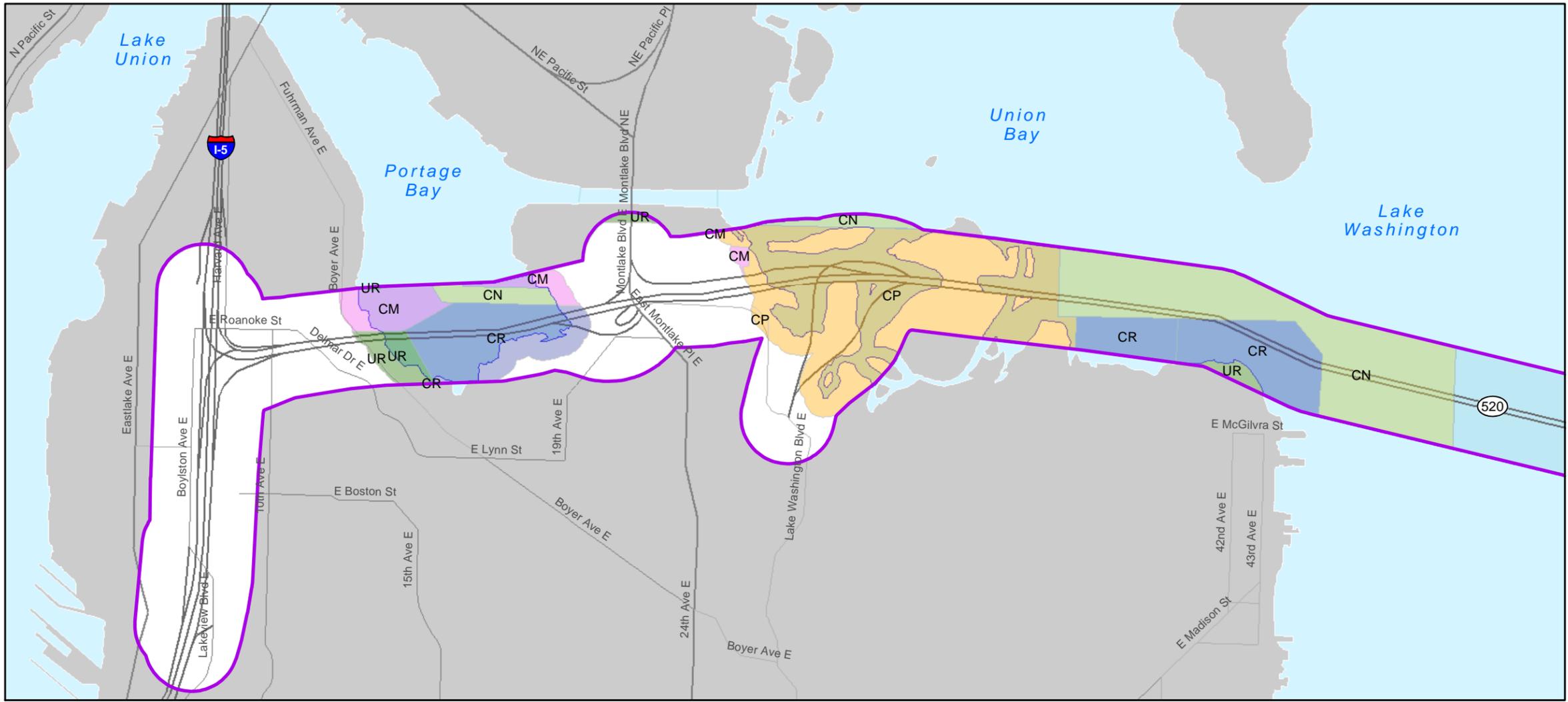
### **No Build Alternative**

Neither the Continued Operation Scenario nor the Catastrophic Failure Scenario are consistent with the City of Medina Comprehensive Plan. However, under the Catastrophic Failure Scenario, far less traffic would use SR 520 in Medina, thereby substantially decreasing traffic noise.

### **4-Lane Alternative**

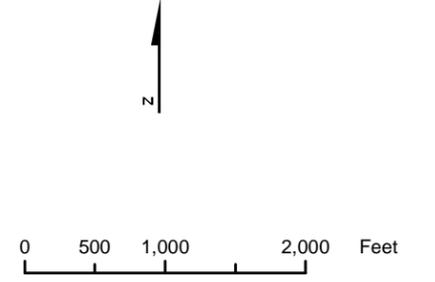
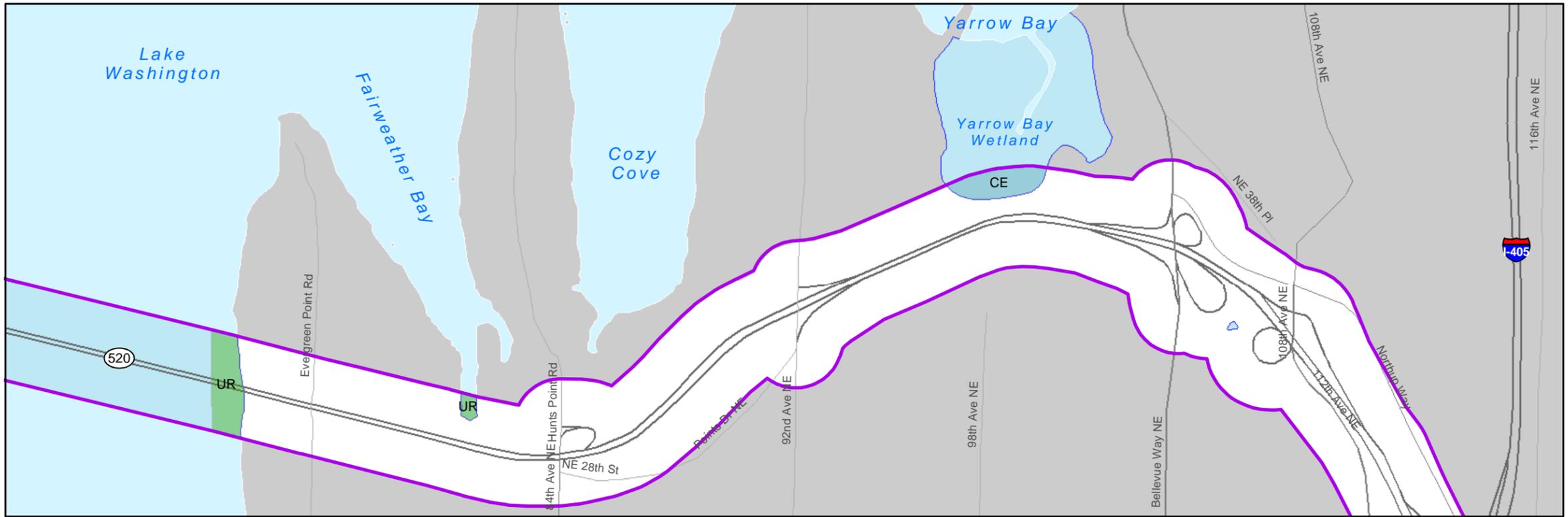
The 4-Lane Alternative would be consistent with Medina's Comprehensive Plan policies. The 4-Lane Alternative would develop a bicycle path along SR 520 and across the Evergreen Point Bridge. The new pedestrian and bicycle path, which connects with local pathways, would improve pedestrian and bicycle access to transit and to other local pedestrian and bicycle facilities. Transit and HOV use would also increase, as shown in Exhibit 14. The 4-Lane Alternative would provide sound walls that would diminish traffic noise in the adjacent neighborhoods.





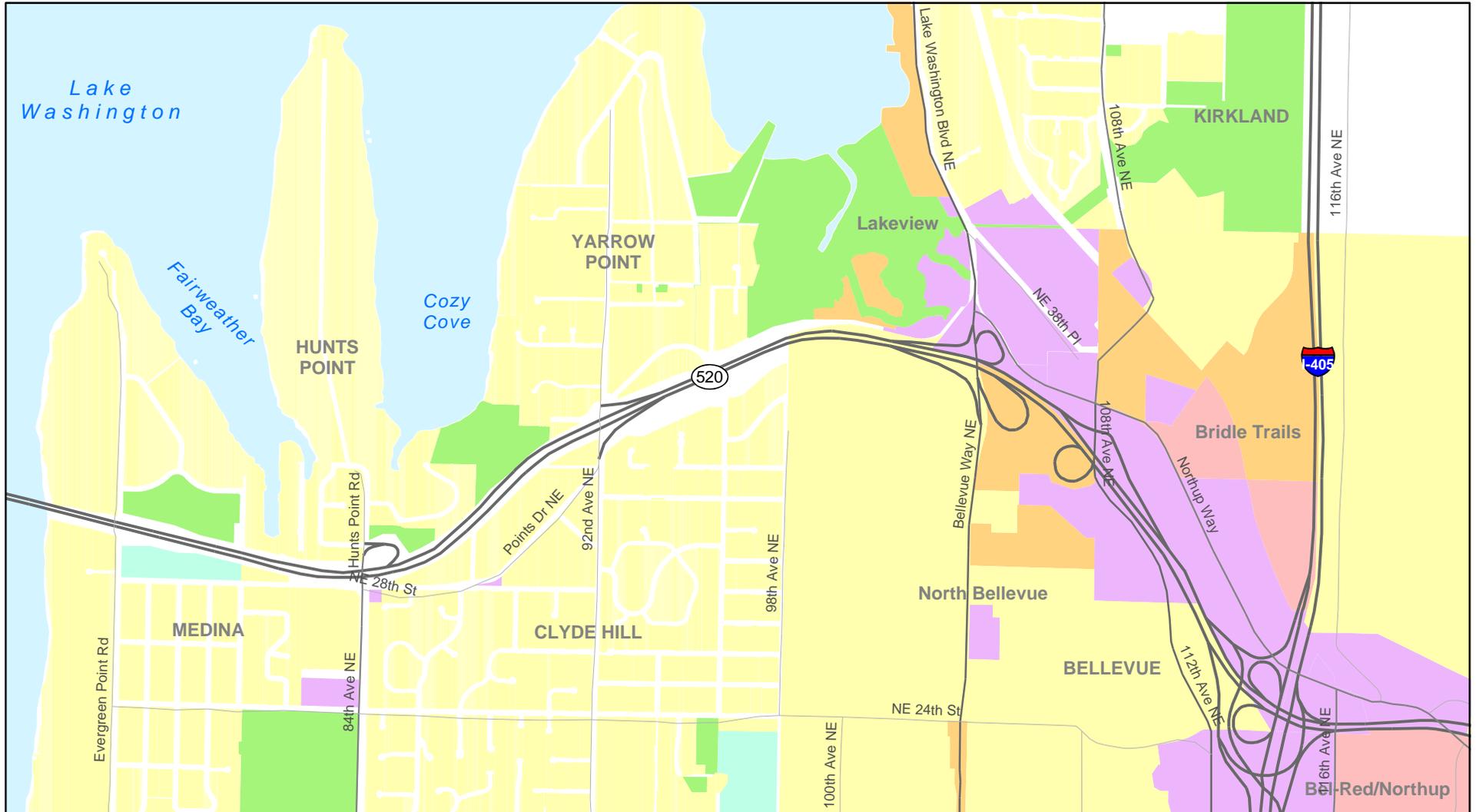
- Project Area (500' from Project)
- Shoreline Designation**
- CE Conservancy Environment
- CM Conservancy Management
- CN Conservancy Navigation
- CP Conservancy Preservation
- CR Conservancy Recreation
- UR Urban Residential

Sources: City of Seattle (2001) Municipal Code (Shoreline Designations); City of Medina (1994) Comprehensive Plan (Shoreline Designations); City of Hunts Point (1975) Municipal Code (Shoreline Designations); City of Kirkland (1989) Municipal Code (Shoreline Designations).  
 Horizontal datum for all layers is NAD83(91), vertical datum for layers is NAVD88.



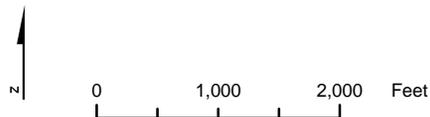
**Exhibit 17. Shoreline Designations in the Seattle and Eastside Project Areas**  
 SR 520 Bridge Replacement and HOV Project





- Single Family
- Multifamily
- Park
- Civic and Quasi-Public
- Commercial
- Industrial

Source: City of Bellevue (1993) Comprehensive Plan (Land Use); King County (2003) GIS Data (Streets and Waterbodies). Horizontal datum for all layers is NAD83(91), vertical datum for layers is NAVD88.



**Exhibit 18. Comprehensive Plan Land Uses in the Eastside Project Area**

SR 520 Bridge Replacement and HOV Project

**6-Lane Alternative**

The 6-Lane Alternative would be more consistent than the 4-Lane Alternative with Medina's Comprehensive Plan policies. Under the 6-Lane Alternative, landscaped lids at Evergreen Point Road and 84th Avenue Northeast would be constructed. These lids would improve the visual character of the SR 520 corridor and reconnect the northern and southern portions of Medina. The addition of HOV lanes would increase public transit and HOV use.

**Shoreline Master Program**

Exhibit 17 shows the applicable shoreline designations for Medina, Hunts Point, Clyde Hill, and Yarrow Point. In Medina, the shoreline designation is urban, indicating that it is designated for low-density single-family development. Medina's Shoreline Management Master Program (Medina 1990) does not address roads or bridges.

**Eastside—Hunts Point****Comprehensive Plan**

The Comprehensive Plan land uses identified by Hunts Point (Exhibit 18) do not differ from existing uses, and no substantial changes in land use patterns are planned for the community. The Town of Hunts Point Comprehensive Plan (2004) has one policy applicable to the proposed project: the plan calls for the installation of noise baffling or construction of a lid over SR 520.

**No Build Alternative**

Neither scenario would provide sound walls or a lid.

**4-Lane Alternative**

The 4-Lane Alternative would install sound walls along the SR 520 corridor adjacent to Hunts Point.

**6-Lane Alternative**

In addition to sound walls, the 6-Lane Alternative would include a lid at 84th Avenue Northeast.

**Shoreline Master Program**

Exhibit 17 shows the shoreline designation for Hunts Point. Hunts Point identifies its shoreline as urban residential. Its shoreline master program does not address roads and bridges.



## Eastside—Yarrow Point

### Comprehensive Plan

The Comprehensive Plan land uses identified by Yarrow Point (Exhibit 18) do not differ from existing uses and no substantial changes in land use patterns are planned for the community (Town of Yarrow Point 1994). Yarrow Point's Comprehensive Plan calls for transportation capabilities ranging from SOVs to HOVs to regional transit that would provide an efficient system which minimizes the demand for new streets and highways. The plan also advocates pedestrian and bicycle travel.

#### Shoreline Management Program – Yarrow Point

The proposed project would not come within 200 feet of the shoreline management areas of Yarrow Point. As a result, shoreline management requirements would not be triggered.

### No Build Alternative

The Continued Operation Scenario would increase HOV and transit use (Exhibit 14). This scenario, however, would not provide any new bicycle and pedestrian facilities. The Catastrophic Failure Scenario could encourage transit and HOV use as a means of coping with the congestion occurring on alternative routes around and across Lake Washington.

### 4-Lane Alternative

The 4-Lane Alternative would encourage greater HOV and transit use than the Continued Operation Scenario (Exhibit 14). It would also encourage pedestrian and bicycle travel by providing facilities along the entire SR 520 corridor.

### 6-Lane Alternative

The 6-Lane Alternative would provide HOV lanes and therefore go further than the 4-Lane Alternative in encouraging travelers to take transit or participate in a carpool. The 6-Lane Alternative would provide the same bicycle and pedestrian facilities as the 4-Lane Alternative.

## Eastside—Clyde Hill

### Comprehensive Plan

The Comprehensive Plan land uses identified by Clyde Hill (Exhibit 18) do not differ from existing uses, and no substantial changes in land use patterns are planned for the community (City of Clyde Hill 2002).

Clyde Hill's Comprehensive Plan presents policies aimed at:

- Encouraging alternative modes of travel
- Increasing transit accessibility

#### Shoreline Management Program – Clyde Hill

Clyde Hill does not have any water bodies subject to the SMA; therefore, it has no shoreline designations.



- Developing a bicycle and pedestrian path that connects Seattle and the Eastside
- Decreasing through-traffic on local streets

### **No Build Alternative**

The Continued Operation Scenario would be consistent with one of Clyde Hill's Comprehensive Plan policies. Specifically, transit and HOV use would increase, but not as much as it would under the 4-Lane or 6-Lane Alternatives. The Catastrophic Failure Scenario could increase transit and HOV use as travelers sought alternative routes across Lake Washington.

### **4-Lane Alternative**

The 4-Lane Alternative would encourage more HOV and transit use than the No Build Alternative (Continued Operation Scenario) (Exhibit 14). The 92nd Avenue Northeast transit stop on SR 520 would be closer to local streets and adjacent to the pedestrian and bicycle path that would travel across Lake Washington. Through-traffic from SR 520 might increase. According to Appendix R, *Transportation Discipline Report*, the 92nd Avenue Northeast/SR 520 westbound off-ramp would become more congested during the a.m. peak period.

### **6-Lane Alternative**

The 6-Lane Alternative would result in more travelers taking transit and participating in carpools than the 4-Lane Alternative. The transit stop on SR 520 would be slightly farther away from local streets. The 6-Lane Alternative would provide the same bicycle and pedestrian facilities as the 4-Lane Alternative. More congestion would occur at the 92nd Avenue Northeast/SR 520 westbound off-ramp than under the No Build Alternative, but less than expected under the 4-Lane Alternative.

## **Eastside—Kirkland**

### **Comprehensive Plan**

The Comprehensive Plan land uses identified by Kirkland (City of Kirkland 2002) are similar to existing uses, with a slight shift of use from commercial to office in the area east of Lake Washington Boulevard and adjacent to SR 520 (Exhibit 18).

Kirkland's Comprehensive Plan policy pertaining to transportation emphasizes development of pedestrian and bicycle facilities, linking to a future regional HCT system, and working with Metro Transit to provide local bus service and connections to the regional transit system.



Pertinent policies are presented in Attachment 1. The transportation element of Kirkland’s Comprehensive Plan also supports promotion of transit and ridesharing on a local and regional basis.

### **No Build Alternative**

Neither the Continued Operation or Catastrophic Failure scenarios would support the transportation goals of Kirkland’s Comprehensive Plan because no new facilities or services would be provided. As mentioned earlier, the Catastrophic Failure Scenario could encourage increased transit use, but this use would not be based on a deliberate plan to expand connections between the local and regional transit systems.

### **4-Lane Alternative**

The 4-Lane Alternative would be partially consistent with the policies of the Kirkland Comprehensive Plan. While the 4-Lane Alternative includes a bicycle and pedestrian path stretching from Montlake Boulevard in Seattle across Lake Washington and through the communities of Medina, Hunts Point, Clyde Hill, and Yarrow Point, the path would end on Northeast Points Drive at the western limit of Kirkland. The 4-Lane Alternative would not include an HCT system and it would not provide a direct connection for local transit routes and regional routes.

### **6-Lane Alternative**

The 6-Lane Alternative would be more consistent with the Kirkland Comprehensive Plan than the 4-Lane Alternative. This greater consistency would result from the added HOV lane connectivity in the 6-Lane Alternative, which better supports transit and ridesharing.

### **Shoreline Management Program**

Kirkland has designated shoreline, primarily the Yarrow Bay wetland, near the project area as Conservancy Environment 2. The Conservancy Environment designation is for characteristically large undeveloped or sparsely developed areas exhibiting some natural constraints such as wetland conditions, frequently containing a variety of flora and fauna and in a natural or seminatural state. This wetland contains a variety of flora and fauna in a natural or seminatural state (Exhibit 17). Roads are permitted in Conservancy Environment 2 areas.

### **Eastside—Bellevue**

#### **Comprehensive Plan**

Bellevue's Comprehensive Plan (City of Bellevue 1993) land uses do not differ from existing uses, except that a greater area is planned for

**Shoreline Master Program – Bellevue**  
Bellevue does not have any shoreline within the project area.



industrial use between Bel-Red Road and SR 520 near I-405 than currently exists (Exhibit 18). There are no substantial changes in land use patterns planned for the Bellevue neighborhoods in the project area.

Bellevue's Comprehensive Plan policies relating to highways and transit support:

- Adequate highway capacity for general purpose and HOV traffic
- Downtown Bellevue as a major urban center with multimodal transit facilities
- Local and regional transit services

The policies also discourage traffic from using local streets to bypass state highways. Pertinent policies are presented in Attachment 1.

#### ***No Build Alternative***

The Continued Operation Scenario would not advance the policies of the Bellevue Comprehensive Plan. The Catastrophic Failure Scenario would disrupt available highway capacity for both HOV and general purpose traffic, but could inadvertently encourage the growth of regional and local transit services.

#### ***4-Lane Alternative***

The 4-Lane Alternative would not expand HOV or general purpose capacity on the Eastside, but it would improve HOV operations by improving the interface between the HOV lanes and traffic merging from the on-ramps. Regional transit services would also benefit from this improved interface. As shown in Exhibit 16, HOV travel times during the peak periods would improve compared to the No Build Alternative (Continued Operation Scenario), except in the westbound direction during the morning.

#### ***6-Lane Alternative***

The 6-Lane Alternative would directly increase HOV capacity by providing an HOV lane in the eastbound direction and would indirectly increase HOV capacity westbound by moving the westbound HOV lane to the inside lane. An inside HOV lane would eliminate the slowdowns that currently occur at each interchange as merging general purpose traffic crosses the HOV lane to get to the general purpose lanes. The new HOV lanes would also indirectly increase general purpose capacity. With HOVs in their own eastbound lane, more capacity would be available for SOVs in the eastbound general purpose lanes.



According to Appendix R, *Transportation Discipline Report*, HOV travel time, including transit travel time, would be faster under the 6-Lane Alternative than the No Build Alternative (Continued Operation Scenario) (Exhibit 16). This increased speed would be an attractive incentive to use transit.

## Potential Effects of the Project

### How were the effects of the alternatives determined?

The land use, economics, and relocations discipline team used the following guidance to prepare this report:

- U.S. Department of Transportation, Federal Highway Administration (FHWA), *Community Impact Assessment, A Quick Reference for Transportation*, September 1996.
- WSDOT, *Environmental Procedures Manual*, March 2004.
- FHWA Technical Advisory 6640.8A.
- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended in 1987.

### Land Use

To identify direct land use effects, the land use discipline team superimposed the footprint of each alternative on a geographic information system (GIS) parcel map showing existing land uses to determine which parcels would be needed, in part or in total, for the proposed improvements.

### Economics

The method used to determine the economic effects of the alternatives varied depending on the economic effect being assessed. These effects are discussed below.

- **Property Tax Revenue Changes** – The economics discipline team estimated the loss of taxable property for project right-of-way. Appraised property values reported by the King County Assessor, also referred to as assessed property values, were used to estimate the assessed value of lost property. Each property (or portion of a property) in a jurisdiction and average property tax levies for that jurisdiction were used to estimate the amount of property tax



revenue that would be affected by the project. Total parcel area and the estimated acquired area were obtained from GIS analysis. These effects are called direct property tax effects.

- **Economic Effects During Operation** – Localized effects on businesses were estimated using the same methods outlined below for construction effects. For broader regional effects, we reviewed research about the relationship between transportation infrastructure improvements, mobility, congestion, and economic growth, and applied it to the different alternatives. A summary of that research follows.

Investment in the transportation infrastructure can be beneficial to businesses and consumers because of a series of interrelated effects. Changes in transportation infrastructure can benefit users by improving accessibility (i.e., the ease with which specific locations or activities can be reached). Accessibility depends on travel times, safety, vehicle operating costs, and the transportation choices available to users (Transportation Research Board 2001). Changes in accessibility can, in turn, create new economic development.

Economic development is typically defined as the process by which additional income is generated within a region (Eberts 1999).

Transportation investments can contribute to growth in three ways:

- Internal growth, which is an increase in the economic use of resources already in a region, such as increases in a region's employment rate or labor participation rate.
- External growth, which is an inflow of labor resources and businesses from other regions.
- Increased efficiency, or more efficient use of labor and capital resources already in place in the region, thereby resulting in productivity gains.

Researchers generally agree that it is increasingly important to manage existing capacity and sustain proper maintenance of transportation systems, rather than just expanding the capacity of those systems. The value of well-developed and maintained corridor systems is the connectivity offered to consumers and producers within the region (UCLA EPPPASS 1997).

- **Effects on Residences and Businesses During Construction** – Reductions in the gross revenues of firms affected by construction can result both from overall congestion that affects freight and



worker mobility, and from the localized effects of restricted access, reduced parking, dust, and noise. For this report, analysis of these effects was conducted on the basis of a memorandum about construction techniques (WSDOT 2004b), a review of aerial photographs, site visits, and information about transportation effects from Appendix R, *Transportation Discipline Report*.

- **Construction Spending Effects** – One potential benefit from the build alternatives is the potential for a temporary increase in jobs and income in the region resulting from construction spending. Expenditures during construction would result in demand for construction materials and jobs. These expenditures are considered direct effects. These direct effects lead to indirect effects as the output of firms in other industries increases to supply the demand for inputs to the construction industry. Finally, wages paid to workers in construction trades or supporting industries are spent on other goods and services; these are referred to as induced effects. Direct, indirect, and induced effects may occur in the region from construction of the project. Construction spending would also generate local and state sales and use taxes over the entire construction period.

Because funding for this project is uncertain and no federal funding has been earmarked for this project, the potential for these effects is discussed qualitatively.

- **Indirect and Cumulative Effects** – The overall level of economic activity in the region, and changes in the timing of development that may result from construction and operation of the alternatives are considered indirect economic effects. Cumulative economic effects include local and long-term regional economic growth that may result from the interactions with other policies and infrastructure that affect long-term economic development. Indirect and cumulative effects are discussed in Appendix J, *Indirect and Cumulative Effects Discipline Report*.

## Relocations

The relocations discipline team used current aerial photographs overlaid with the footprint of each alternative to determine if any existing structures would be displaced. Before identifying effects, the analyst visited each structure, as necessary, to identify the type and number of businesses, nonprofit organizations, or dwelling units



located within each structure that would be displaced or would have impaired access.

## **What would be the permanent effects in the Seattle project area?**

### **How would the project alternatives directly affect existing land uses?**

#### **No Build Alternative**

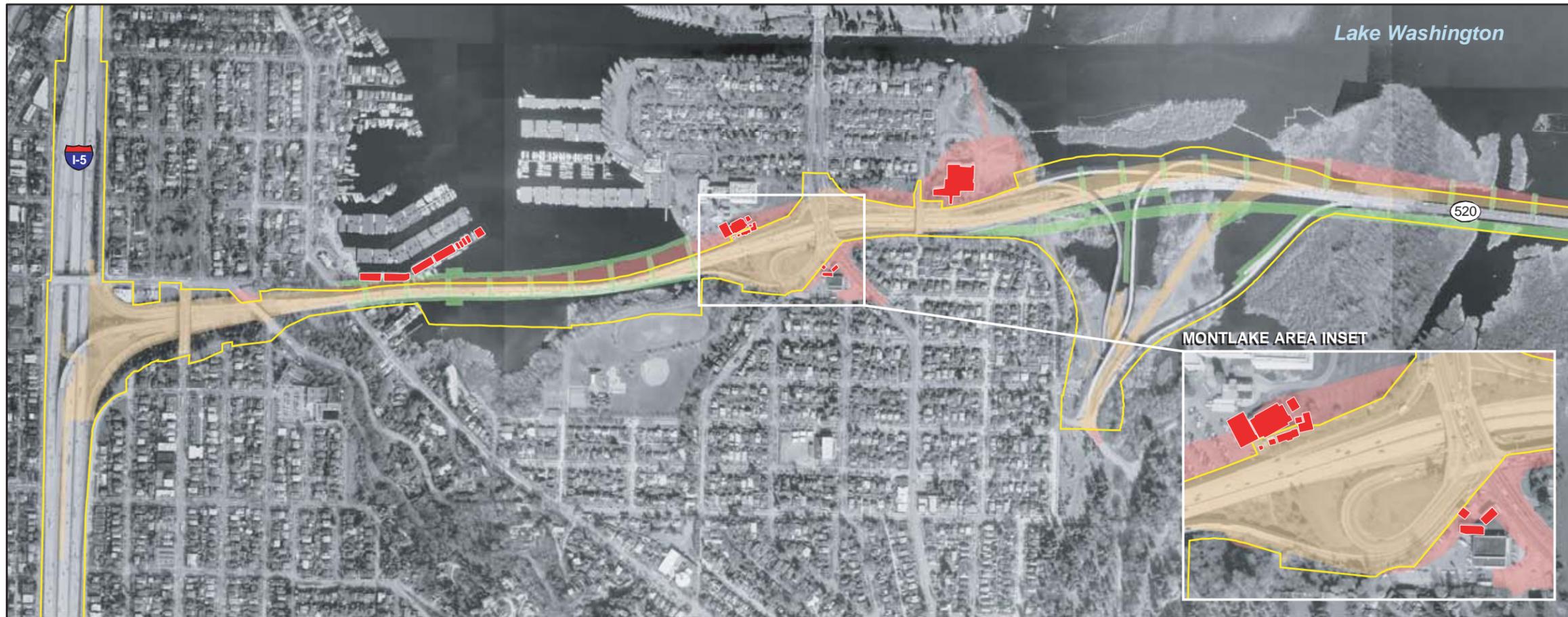
The Continued Operation Scenario would not directly affect existing land uses or zoning in the Seattle project area. Under the Catastrophic Failure Scenario, if the Portage Bay Bridge collapsed, the potential effects could range from damaging the buildings and boats adjacent to the bridge and in the vicinity of Boyer Avenue East to temporarily prohibiting access to such properties until the debris could be removed.

#### **4-Lane Alternative**

In the Seattle project area, the 4-Lane Alternative would require the acquisition of land currently used for public, commercial, park, and residential purposes, as well as vacant properties. Exhibit 19 shows the areas between the existing right-of-way and the limits of construction that WSDOT would need to acquire for the construction of the 4-Lane and 6-Lane Alternatives. Exhibit 20 shows the amount and type of land needed for implementation of the 4-Lane and 6-Lane Alternatives by existing land use and zoning designation. This report assumes that WSDOT would acquire only that portion of a property needed for right-of-way or for construction staging, unless a building or other property improvement would be displaced. If the utility of property was impaired, the entire property would be acquired. See *How many homes and businesses would be relocated?* below for a discussion of potential relocations.

In the Seattle project area, the total amount of land needed for the 4-Lane Alternative would be approximately 12.6 acres. The majority of the directly affected area is used for parks and includes effects to MOHAI, McCurdy Park, East Montlake Park, and the Washington Park



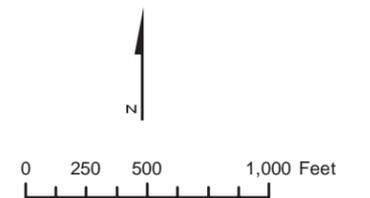


- Existing Right-of-Way
- 4-Lane Affected Structures
- 4-Lane Affected Property
- 4-Lane Limits of Construction
- 4-Lane Temporary Work and Detour Bridges



- Existing Right-of-Way
- 6-Lane Affected Structures
- 6-Lane Affected Property
- 6-Lane Limits of Construction
- 6-Lane Temporary Work and Detour Bridges

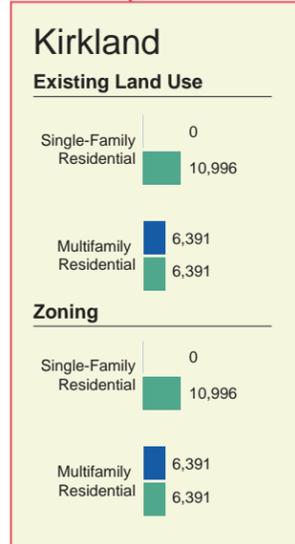
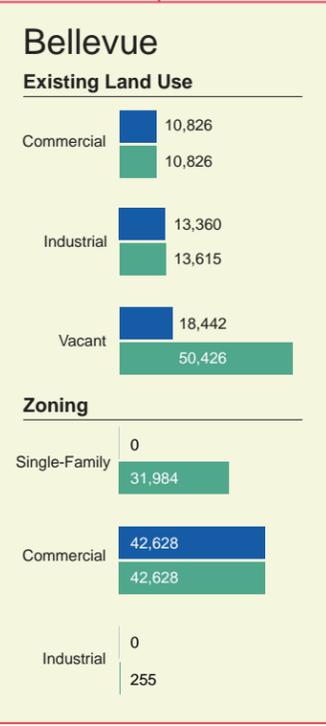
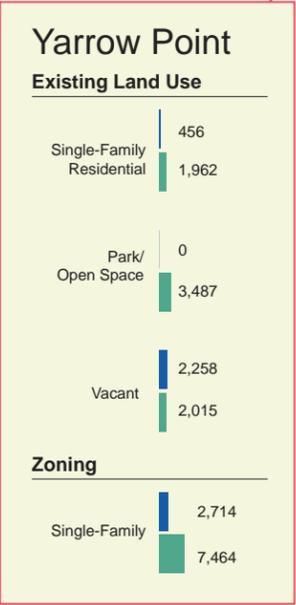
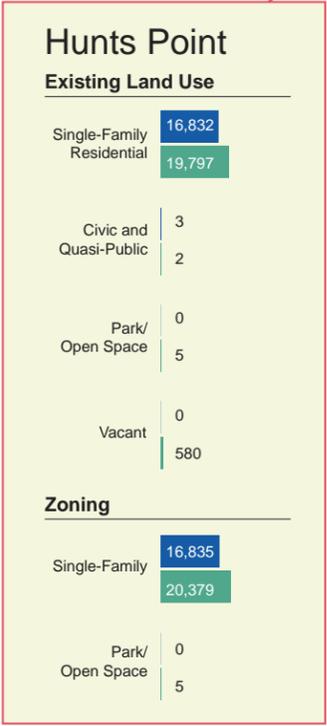
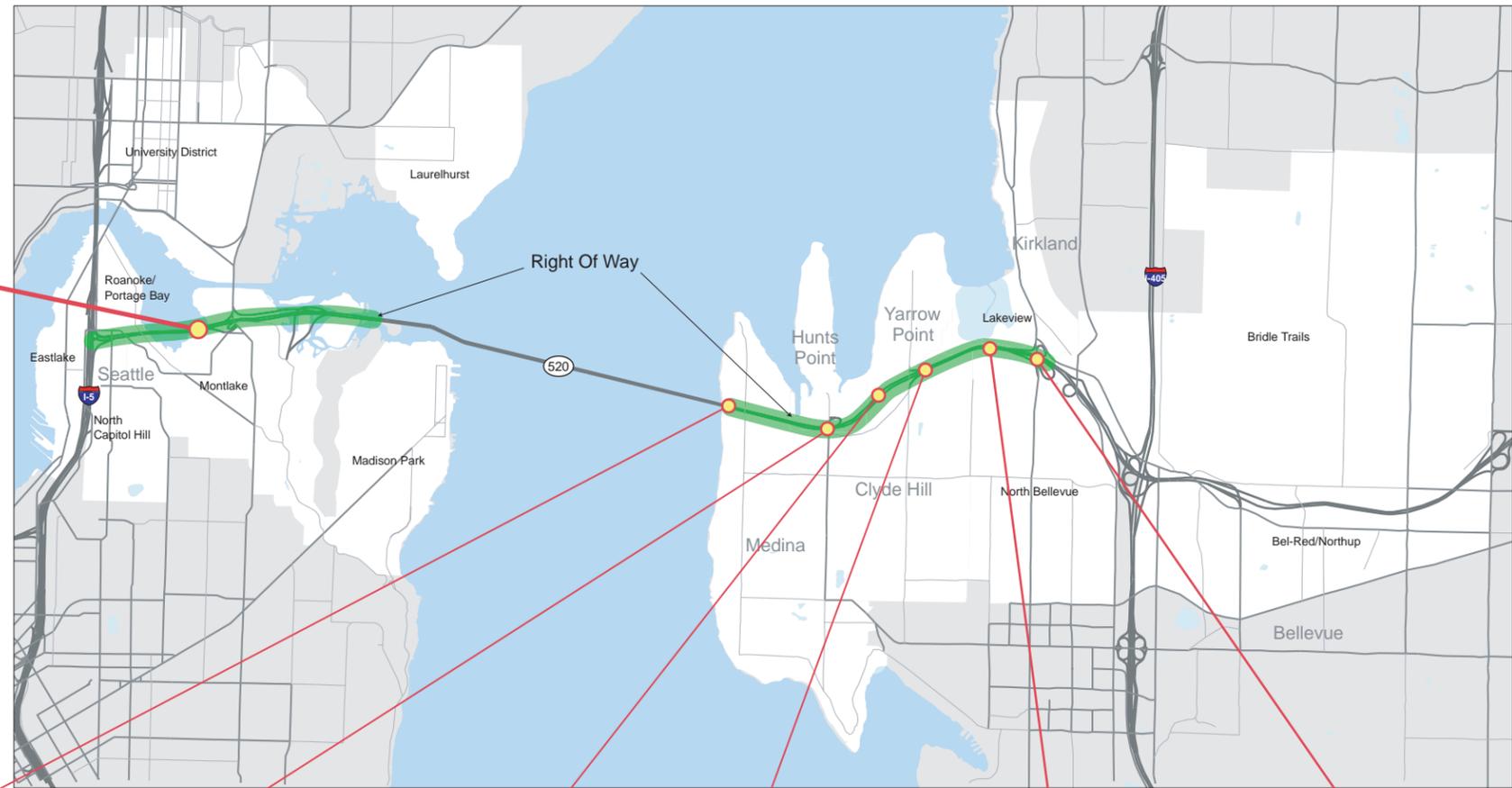
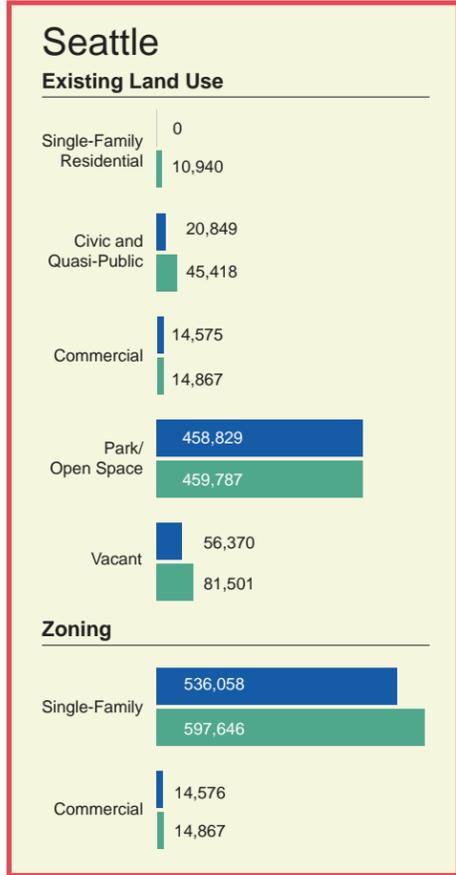
Source: City of Seattle (2003) GIS Data (Building Footprints)



**Figure 19. Properties and Structures Affected by the 4-Lane and 6-Lane Alternatives in the Seattle Project Area**

SR 520 Bridge Replacement and HOV Project





**NOTE: ALL UNITS ARE IN SQUARE FEET**  
 Source: King County (2003) GIS data (Parcels); City of Seattle (2003); City of Bellevue (2004) GIS Data (Zoning), Zoning Maps for City of Medina (2004), City of Clyde Hill (1999), City of Hunts Point (1998), City of Yarrow Point (2003), City of Kirkland (2003). Horizontal datum for all layers is NAD83(91), vertical datum for layers is NAVD88. Existing land use based on King County parcel layer. Only parcels within the study area (500 feet from SR 520) were field verified. Field-checked March 2004.



**Exhibit 20. Affected Area by Existing Land Use and Zoning for Each Project Area Jurisdiction**  
 SR 520 Bridge Replacement and HOV Project



Arboretum. (See Appendix O, *Recreation Discipline Report*, for more information on parkland acquisition.) Other affected uses include the Queen City Yacht Club, the NOAA Northwest Fisheries Science Center, and one business. Most of these uses would require relocation of some or all of their facilities. Right-of-way acquisition would affect in part or in whole 21 King County assessor parcels, of which 11 are used for parklands, 3 have commercial uses, 3 have civic and quasi-public uses, and 4 are vacant.

Nearly all of the property needed for the 4-Lane Alternative is zoned for single-family residential development. The remaining area required for the 4-Lane Alternative is zoned commercial.

Future development opportunities would be limited in the project corridor. The widening of SR 520 and right-of-way acquisitions would reduce the amount of land available for future development. Following construction, portions of two properties acquired for project improvements (McCurdy Park and East Montlake Park) would be available for reuse as parkland. Finally, the project would not vacate any area onshore of sufficient dimensions for private redevelopment. The project would not change the remaining land uses in its vicinity.

### **6-Lane Alternative**

Under the 6-Lane Alternative, the project would require approximately 14.1 acres, and would affect in part or in whole 23 King County assessor parcels. The 6-Lane Alternative would affect the same parcels as the 4-Lane Alternative but usually to a greater extent. In addition, the 6-Lane Alternative would affect two single-family residential parcels, adjacent to the Portage Bay Bridge and belonging to the same owner. Nearly all of the land within the footprint of the 6-Lane Alternative is zoned for single-family residential use, except for a small area zoned as commercial.

Like the 4-Lane Alternative, the 6-Lane Alternative would provide limited redevelopment opportunities. Excess property from the acquisition of East Montlake Park would be available for reuse as parkland. In addition, the 6-Lane Alternative would require the acquisition of a residential property for placement of a work bridge during construction of the Portage Bay Bridge. This property would not be needed after construction, and could be redeveloped consistent with its single-family residential zoning. Otherwise, the new alignment of the 6-Lane Alternative would not vacate any right-of-way adequate for



development. Rather, the expanded highway under the 6-Lane Alternative would decrease the amount of property available for development in the corridor. The project would not change the remaining land uses in its vicinity.

Unlike the 4-Lane Alternative, the 6-Lane Alternative would provide other opportunities for replacing lost parklands and for creating new utility easements. Under the 6-Lane Alternative, WSDOT would construct lids between 10th Avenue East and Delmar Drive East linking the North Capitol Hill/Roanoke/Portage Bay neighborhoods, and at the Montlake interchange. These lids would provide space for street right-of-way and passive recreational uses such as pathways, benches, and landscaping. Utility lines could also cross SR 520 via the lids.

**How many homes and businesses would be relocated?**

Exhibit 21 summarizes the relocation effects of each alternative by the type of property or facility that would be affected in the Seattle project area. Vacant parcels are not included in this summary.

Exhibit 21. Displacements by Alternative—Seattle Project Area

4-Lane Alternative			6-Lane Alternative		
Single-Family	Business	Civic and Quasi-Public	Single-Family	Business	Civic and Quasi-Public
-	1	3	1	1	3

Source: King County Assessor (2004).

**No Build Alternative**

No relocations would occur in the Seattle project area under the Continued Operation Scenario. Relocations could be required under the Catastrophic Failure Scenario if the Portage Bay Bridge collapsed or falling debris damaged buildings and moorage facilities adjacent to the bridge. Relocations could also occur temporarily if debris prohibited access to adjacent properties until it was removed.

**4-Lane Alternative**

The 4-Lane Alternative would not affect any single-family residences, but would affect three civic and quasi-public facilities and one business in the Seattle project area.

**Residential Effects**

No residences would be displaced in the Seattle project area under the 4-Lane Alternative.



### ***Business, Civic, and Quasi-Public Effects***

The 4-Lane Alternative would affect three civic and quasi-public facilities and one business in the Seattle project area, as shown in Exhibit 21. These are discussed below.

The 4-Lane Alternative would affect the Queen City Yacht Club, which is located on the west side of Portage Bay abutting the Roanoke/Portage Bay neighborhood. The Queen City Yacht Club employs from 5 to 9 employees. With a shift of the SR 520 alignment to the north, several moorage slips along the south side of the dock would be eliminated because the highway would be directly overhead. Although WSDOT currently allows moorage under a bridge, there is a possibility in the future that Homeland Security could prohibit any uses under the bridge.

No docks would be displaced by the permanent roadway; however, the entire south dock would be displaced to accommodate the temporary work bridge necessary to construct the first stage of the Portage Bay Bridge construction. See *Construction Effects in the Seattle Project Area* for more information.

The 4-Lane Alternative would displace the MOHAI building. Because of the northern shift of the SR 520 alignment and the construction of a stormwater treatment wetland near the MOHAI facility, the entire building would require removal. The museum building straddles the boundaries of McCurdy and East Montlake Parks. The Historical Society of Seattle and King County operates MOHAI. The society originally built the museum in 1952, deeding it at that time to the City of Seattle but retaining a lease in perpetuity. The building is a good example of the Modernist style, but subsequent alterations have damaged its historic integrity. The architectural style and historical quality of MOHAI are discussed further in Appendix D, *Cultural Resources Discipline Report*. MOHAI has approximately 24 full- and part-time staff positions.

The 4-Lane Alternative would affect the NOAA Northwest Fisheries Science Center located directly north of SR 520 along the eastern shore of Portage Bay. This research complex contains multiple buildings. The original building, known as the North Campus, is made up of three sections:

- The west wing containing offices and dry laboratories



- The center wing, which includes the library and a 150-seat auditorium
- The east wing, which is primarily laboratories

The west wing of the North Campus was designed in the Art Deco style by John Graham, Sr., who is responsible for a number of buildings in Seattle, including Macy's. Additional information on the architectural and historical qualities of these buildings is provided in Appendix D, *Cultural Resources Discipline Report*. The other facilities at the center consist mainly of smaller buildings, which are primarily referred to as the South Campus, where fish rearing, fish disease, and general fish research take place.

There is also a hazardous materials storage building, a small emergency generator building, and the new interim pilot plant fronting SR 520. The principal water line to the facility runs along the southern edge of the NOAA property.

To accommodate the wider highway footprint, the 4-Lane Alternative would displace approximately eight of the south campus buildings. Historically the number of employees working at NOAA has ranged from 250 to 499 employees. NOAA also has five other subsidiary research sites located around the region, including Manchester, Washington; Newport, Oregon; Pasco, Washington; Mukilteo, Washington; and Point Adams, Oregon.

Because of the reconfiguration of the intersection and SR 520 on- and off-ramps, the 4-Lane Alternative would displace the 76 service station at the Montlake Boulevard and Lake Washington Boulevard intersection, just south of the SR 520 on- and off-ramps. The service center includes a 10-pump gas station; it is the only gas station to serve the surrounding neighborhood within an approximate 1-mile radius. The business employs up to four full-time employees.

### **6-Lane Alternative**

The 6-Lane Alternative would affect the same properties as the 4-Lane Alternative, but to a greater degree, and also one residence.

#### ***Residential Effects***

The 6-Lane Alternative would displace one single-family residence in the Roanoke/Portage Bay neighborhood. This residence is located on Portage Bay with a view of the water and a dock. This displacement would occur to accommodate the temporary work bridge constructed for the second phase of the Portage Bay Bridge construction. See



*Construction Effects in the Seattle Project Area* for more information. Exhibit 22 describes the characteristics of this residence, represented as ID #1.

Exhibit 22. Displaced Single-Family Housing Characteristics—Seattle Project Area

	Identification Number	Square Footage of Structure	No. of Bedrooms	Assessed Value
4-Lane Alternative	—	—	—	—
6-Lane Alternative	ID#1	2,880	4	\$332,000

Source: King County Assessor (2004).

### ***Business, Civic, and Quasi-Public Effects***

The 6-Lane Alternative would have similar effects as the 4-Lane Alternative, except that the wider highway footprint would displace the southern dock at the Queen City Yacht Club.

The 6-Lane Alternative would permanently displace the southern dock at the Queen City Yacht Club, or roughly one-third of the Queen City Yacht Club’s moorage. A portion of the dock farthest from shore could potentially be saved if it could be reconnected to the dock north of it.

The effects of the 6-Lane Alternative on the NOAA facility, MOHAI building, and 76 service station would be the same as under the 4-Lane Alternative.

### **What effect would the project have on property tax collections?**

Property and sales taxes represent the major sources of revenues for county and city government. The project would affect these funding sources during operation and construction of the project. Both of the build alternatives would require the acquisition of publicly and privately owned property for additional right-of-way. The economic effect of acquiring privately owned parcels would be the permanent removal of these parcels from the tax base of King County and the affected cities, thus potentially affecting property tax collections.

### **No Build Alternative**

Neither scenario under the No Build Alternative would require the acquisition of taxable property in the Seattle project area; thus no direct effects on property tax collections are anticipated.



### 4-Lane Alternative

Twenty-one parcels within the Seattle project area would be affected by the 4-Lane Alternative. Most of these parcels are owned by public agencies that do not pay property taxes. However, there is an opportunity cost associated with the conversion of the publicly owned property, as the parcels are transferred from their current public use to project right-of-way. Exhibit 23 summarizes the amount of land that would be acquired, the value of the properties, and the tax effects associated with the removal of the acquired properties from the tax base for the 4-Lane Alternative. The estimated tax effects of the 4-Lane Alternative would be approximately 0.002 percent of the total property tax collections in 2002 for Seattle. The effect is not expected to be substantial.

Exhibit 23. Effects of Right-of-Way Property Acquisition under the 4-Lane Alternative—Seattle Project Area

Property Elements	4-Lane Alternative			
	Taxable Parcels		Tax-Exempt Parcels	
	Occupied	Vacant	Occupied	Vacant
Total Assessed Value of Parcels	\$8,479,800	\$19,000	\$28,786,400	\$2,367,700
Total Area of Parcels (sf)	503,210	1,843	3,502,371	104,443
Total Area to be Acquired (sf)	15,644	1,070	478,655	55,300
Percent of Total Area Acquired	3.1%	58.1%	13.7%	52.9%
Estimated Property Tax Effect (\$) <sup>a</sup>	\$2,865	\$37	\$0	\$0
Percent of Seattle's 2002 Property Tax Collections	<0.01%	<0.01%	0.0%	0.0%

Source: King County Assessor (2004).

<sup>a</sup> Includes city portion of property tax levy only.

### 6-Lane Alternative

Twenty-three parcels within the Seattle project area would be affected by the 6-Lane Alternative. Like the 4-Lane Alternative most of these parcels are owned by public agencies that do not pay property taxes and would incur similar opportunity costs. Exhibit 24 shows the property tax effects for the 6-Lane Alternative. The estimated tax effects of the 6-Lane Alternative would be approximately 0.003 percent of the total property tax collections in 2002 for Seattle. The effect is not expected to be substantial.



Exhibit 24. Effects of Right-of-Way Property Acquisition under 6-Lane Alternative—Seattle Project Area

Property Elements	6-Lane Alternative			
	Taxable Parcels		Tax-Exempt Parcels	
	Occupied	Vacant	Occupied	Vacant
Total Assessed Value of Parcels	\$10,031,800	\$19,000	\$41,160,800	\$2,368,700
Total Area of Parcels (sf)	530,723	1,843	2,748,179	110,553
Total Area to be Acquired (sf)	30,726	1,843	500,034	79,659
Percent of Total Area Acquired	5.8%	100%	18.2%	72.1%
Estimated Property Tax Effect (\$) <sup>a</sup>	\$5,324	\$64	\$0	\$0
Percent of Seattle's 2002 Property Tax Collections	<0.01%	<0.01%	0.0%	0.0%

Source: King County Assessor (2004).

<sup>a</sup> Includes city portion of property tax levy only.

## What would be the economic effect on residences and businesses during operations?

### No Build Alternative

Under the Continued Operation Scenario, the extent to which congestion could adversely affect overall growth is uncertain. There is a point at which congestion can influence companies and workers to locate elsewhere. Several major employers in the region have recently indicated that current congestion levels are becoming a major negative factor when weighing where to establish new facilities to meet projected business growth. However, it is unlikely that overall levels of employment and income in the region would change substantially based on the level of congestion on the regional road network.

Under the Catastrophic Failure Scenario, travel times for commuters and goods and services deliveries between Seattle and the Eastside would increase substantially. In response, a substantial reduction in regional economic activity would likely include substantial job losses and income reductions.

### 4-Lane Alternative

The 4-Lane Alternative could result in effects that would make it more difficult for existing institutions and businesses to operate profitably or efficiently. NOAA could lose approximately 8 buildings currently used either for research or as facility support buildings (generators, hazardous materials storage, etc.) at the Northwest Fisheries Science Center. Some parking spaces would be lost, but sufficient parking



should be available for the remaining buildings. The Queen City Yacht Club could permanently lose several of its moorage slips.

In addition to direct effects to businesses and institutions, the proposed improvements could have a generalized effect on businesses in the project area. As mentioned in the section *How were the effects of the alternatives determined?*, investment in the transportation infrastructure can be beneficial to businesses and consumers by improving accessibility, which depends on travel times as well as other factors. Changes in accessibility can, in turn, create new economic development.

The 4-Lane improvements would reduce average travel times and increase person-trips in the SR 520 corridor (Exhibit 25). As shown in Exhibit 26, the 4-Lane Alternative would reduce travel times from 27 minutes to 21 minutes during the peak period. As shown, the 4-Lane Alternative would increase person trip demand by about 5 percent over the No Build Alternative. See Appendix R, *Transportation Discipline Report*, for additional information on the effects of the project alternatives on mobility in the corridor.

Another relevant aspect of accessibility and mobility is changes in the LOS. Increased congestion at intersections could negatively affect businesses whose customers and suppliers must pass through those intersections. Conversely, congestion could improve business for retail businesses that rely on stops by through-traffic because those customers would be moving at a slower speed past their store fronts. As noted in Appendix R, *Transportation Discipline Report*, the 4-Lane Alternative would positively affect three Seattle project area intersections:

- Lake Washington Boulevard/SR 520 Arboretum ramp operations would improve from LOS F to A during the a.m. peak hour, and from LOS E to B during the p.m. peak hour (assuming signalization at this currently stop-controlled intersection).
- Montlake Boulevard/East Shelby Street operations would improve from LOS E to D during the p.m. peak hour.
- Montlake Boulevard/Northeast Pacific Street operations would improve from LOS E to D during the p.m. peak hour.



Exhibit 25. Average Person Demand Across Lake Washington (Per Hour)



Exhibit 26. Average Peak-Period Travel Times



Overall, those intersections with improved operational performance would likely affect businesses more than those intersections with reduced operational performance. This is because the intersections with improved performance are generally along arterials that lead to and from concentrated business centers. The improved LOS at these three intersections is further evidence that overall regional mobility would improve somewhat in the corridor, with the potential for increased economic activity.

### **6-Lane Alternative**

The NOAA Northwest Fisheries Science Center would lose the same number of buildings under the 6-Lane Alternative as the 4-Lane Alternative; sufficient parking would be available for the remaining buildings. The Queen City Yacht Club would incur a greater effect under the 6-Lane Alternative than the 4-Lane Alternative, potentially losing up to one-third of its moorage slips.

Like the 4-Lane Alternative, the 6-Lane Alternative would experience some improved accessibility and mobility. The 6-Lane Alternative would reduce travel times from 27 minutes under the No Build Alternative to 21 minutes. The 6-Lane Alternative would result in a 24 percent increase in person trip demand compared to the No Build Alternative.

The 6-Lane Alternative would both negatively and positively affect LOS at intersections in the Seattle project area: The 6-Lane Alternative would negatively affect the following two intersections:

- Fairview Avenue/Valley Street operations would shift from LOS E to F during the p.m. peak hour.
- Harvard Avenue East/Roanoke Street/SR 520 westbound off-ramp operations would shift from LOS D to E during the p.m. peak hour.

There are five intersections where LOS would improve from LOS E or LOS F:

- Lake Washington Boulevard/SR 520 Arboretum ramp operations would improve from LOS F to A during the a.m. peak hour, and from LOS E to B during the p.m. peak hour (assuming signalization at this currently stop-controlled intersection).
- Montlake Boulevard/Lake Washington Boulevard/SR 520 eastbound ramp operations would improve from LOS F to E during the a.m. peak hour.



- Montlake Boulevard/East Shelby Street operations would improve from LOS E to D during the p.m. peak hour.
- Montlake Boulevard/Northeast Pacific Street operations would improve from LOS E to D during the p.m. peak hour.
- Montlake Boulevard/Northeast 45th Street operations would improve from LOS F to E during the p.m. peak hour.

The effect of these changes would be the same as those described for the 4-Lane Alternative.

## **What would be the permanent effects in the Eastside project area?**

### **How would the project alternatives directly affect existing land uses?**

#### **No Build Alternative**

Neither the Continued Operation Scenario nor the Catastrophic Failure Scenario would directly affect existing land uses or zoning in the Eastside project area. A few docks and one single-family residence are located immediately adjacent to the east highrise of the Evergreen Point Bridge in Medina; therefore, the potential exists for some structures to be damaged if the bridge collapsed under the Catastrophic Failure Scenario. No roads pass underneath the bridge in Medina, so access to properties would not be impaired.

#### **4-Lane Alternative**

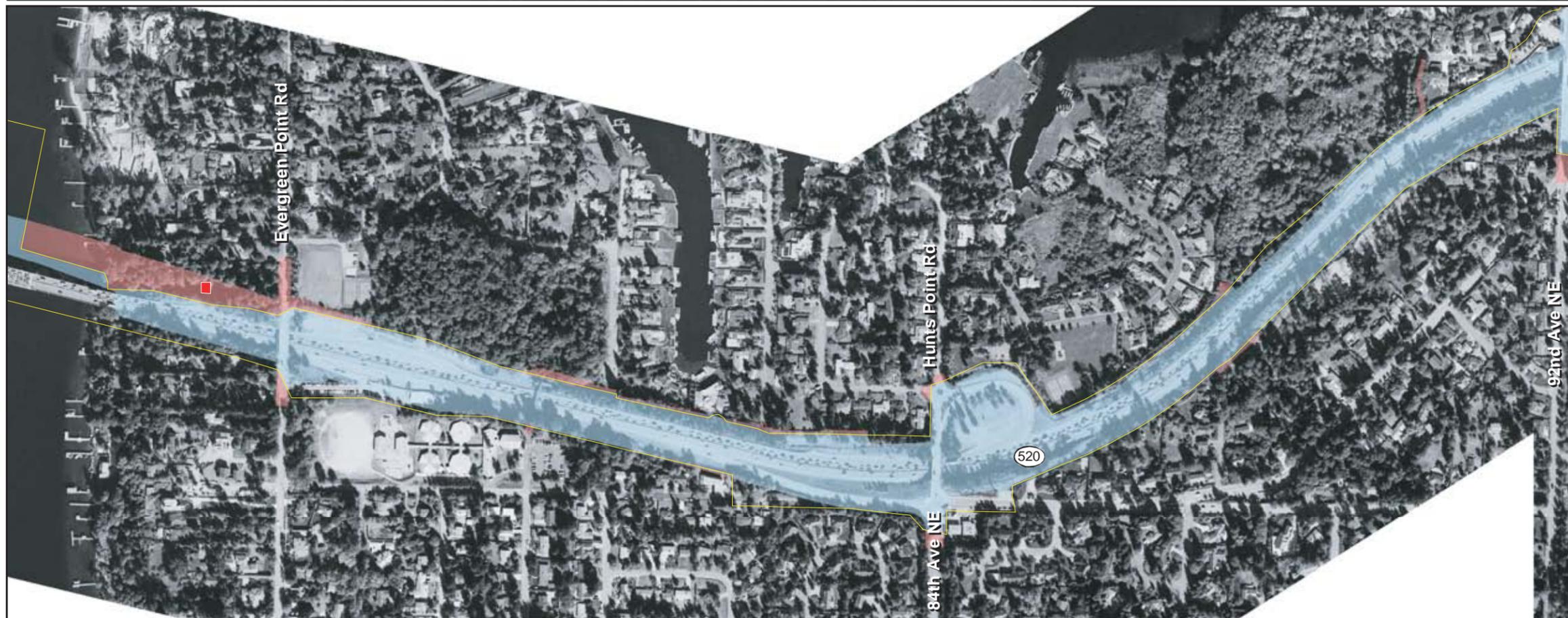
Exhibits 27 and 28 show the areas between the existing right-of-way and the limits of construction that WSDOT would need to acquire for the construction of the 4-Lane and 6-Lane Alternatives. Exhibit 20 shows the amount of land by existing use and zoning designation that would be acquired in the Eastside project area. WSDOT would need to acquire the following amounts of land and parcels in the following communities:

- Medina – 73,323 square feet from 7 single-family parcels and 1 civic/quasi-public parcel
- Hunts Point – 16,835 square feet from 12 single-family parcels and 1 civic/quasi-public parcel
- Yarrow Point – 2,714 square feet from 2 single-family parcels and 3 vacant parcels

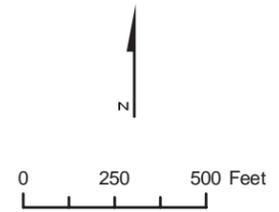




- Existing Right-of-Way
- 4-Lane Affected Structures
- 4-Lane Affected Property
- 4-Lane Limits of Construction



- Existing Right-of-Way
- 6-Lane Affected Structures
- 6-Lane Affected Property
- 6-Lane Limits of Construction



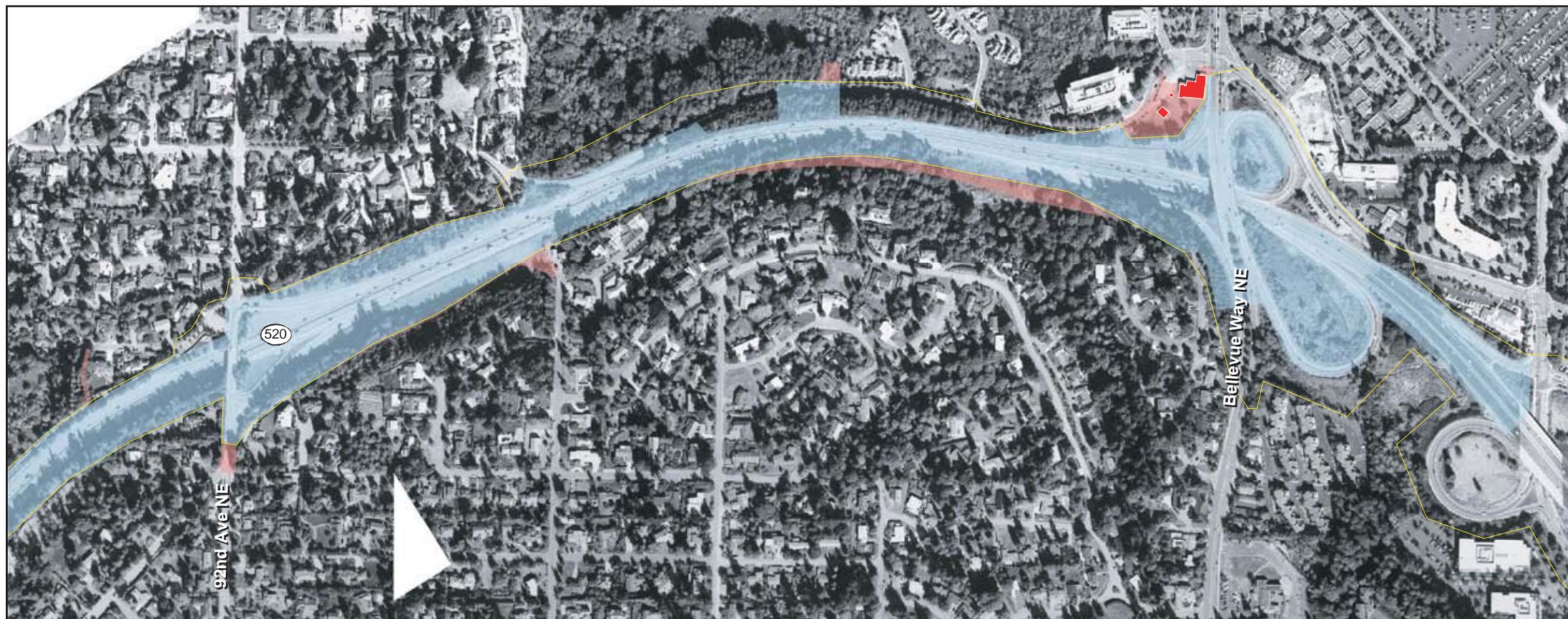
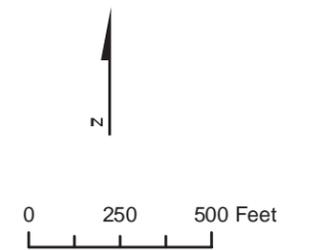
**Figure 27. Properties and Structures Affected by the 4-Lane and 6-Lane Alternatives in the Western Portion of the Eastside Project Area**

SR 520 Bridge Replacement and HOV Project

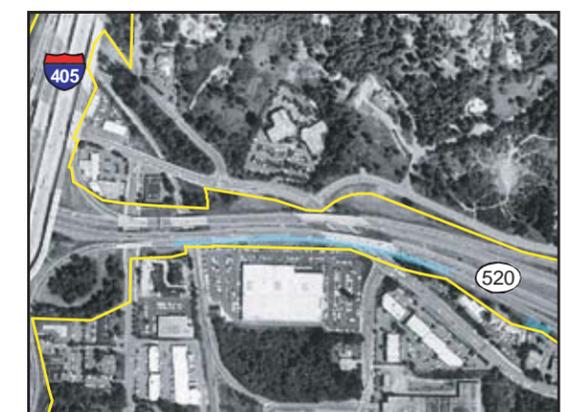




- Existing Right-of-Way
- 4-Lane Affected Structures
- 4-Lane Affected Property
- 4-Lane Limits of Construction



- Existing Right-of-Way
- 6-Lane Affected Structures
- 6-Lane Affected Property
- 6-Lane Limits of Construction



West of I-405 to 124th Ave NE



Figure 28. **Properties and Structures Affected by the 4-Lane and 6-Lane Alternatives in the Eastern Portion of the Eastside Project Area**  
SR 520 Bridge Replacement and HOV Project



- Clyde Hill—5,091 square feet from 10 single-family parcels, 1 vacant parcel, and 1 commercial parcel
- Bellevue—42,628 square feet from 1 commercial parcel, 1 industrial parcel, and 2 vacant parcels
- Kirkland—6,391 square feet from 1 multi-family parcel

Under the 4-Lane Alternative, WSDOT would acquire mostly single-family properties in Medina, Hunts Point, Clyde Hill, and Yarrow Point. Of the 44 parcels that would be acquired in the Eastside project area, 32 are used for single-family residential purposes. Except for two single-family residences, the homes on these parcels would not be displaced. Most commonly WSDOT would acquire a portion of the backyard of these residences, bringing the right-of-way closer to the homes; however, the sound walls would dampen the highway noise and screen the highway from view. Two residential properties to the north of the Evergreen Floating Bridge's east highrise would lose their waterfront access and docks.

In Medina, the Bellevue Christian School/Three Points Elementary would lose a sliver of property along the SR 520 right-of-way. Similarly, improvements associated with the 84th Avenue Northeast off-ramp would clip the convenience store. A small portion of natural area, which is part a multifamily residential use in Kirkland, would be affected by a stormwater treatment facility. In Bellevue, a stormwater treatment facility would also require acquisition of two commercial and two vacant parcels.

The 4-Lane Alternative would provide a potential redevelopment or open space opportunity in Medina because the highway would shift slightly to the north of its current location just east of the Evergreen Point Bridge landing. Approximately 11,450 square feet of the existing alignment that would no longer be needed for the highway right-of-way could be vacated. The redevelopment of this piece of property would be limited by its restricted accessibility and size. The area would not be accessible unless an easement over private property were provided. The property is located in an area zoned for single-family uses on properties no smaller than 16,000 square feet. At 12,000 square feet, this area would be approximately 75 percent of that required by zoning regulations. Medina has expressed an interest in using this area as a landscaped buffer between the highway and residences to the south.



Overall, the 4-Lane Alternative would reduce the amount of land available for private development in the project corridor.

Implementation of the 4-Lane Alternative would not induce changes in the existing land use pattern.

### **6-Lane Alternative**

The 6-Lane Alternative would affect the same types of land uses in the same communities as the 4-Lane Alternative. The 6-Lane Alternative would require the acquisition of more land and parcels than the 4-Lane Alternative:

- Medina – 84,687 square feet from 6 single-family parcels, 1 civic/quasi-public parcel, and 1 park parcel
- Hunts Point – 20,384 square feet from 19 single-family parcels, 1 civic/quasi-public parcel, 1 park parcel, and 1 vacant parcel
- Yarrow Point – 7,464 square feet from 4 single-family parcels, 1 park parcel, and 3 vacant parcels
- Clyde Hill – 3,739 square feet from 10 single-family parcels, 1 civic/quasi-public parcel, and 1 vacant parcel
- Kirkland – 17,837 square feet from 1 single-family parcel and 1 multifamily parcel
- Bellevue – 74,876 square feet from 1 commercial parcel, 5 vacant parcels, and 2 industrial parcels

The 6-Lane Alternative would primarily affect single-family residential uses, which would account for 41 of 61 affected parcels. Other than the displacement of one single-family residence, the primary effect would be to shorten the backyards of these residential properties, bringing the highway closer to these homes. The sound walls included in this alternative would do much to dampen the noise from the highway and screen the highway from view.

In addition to the non-residential properties affected in Medina under the 4-Lane Alternative, the 6-Lane Alternative would affect less than 0.1 acre of the Fairweather Park (less than 1 percent of the property's total area). No additional non-residential properties would be affected in Hunts Point, Clyde Hill, or Kirkland. A path would require additional area from Wetherill Park for the relocation of the Points Loop Trail. (Refer to Appendix O, *Recreation Discipline Report*, for more details.) In addition, WSDOT would need to acquire small portions of three vacant parcels in Yarrow Point on the south side of SR 520.



In Bellevue, the 6-Lane Alternative would require acquisition of three additional vacant parcels; these parcels are west of the Bellevue Way interchange and south of the highway. In addition, 255 square feet of a Bellevue industrial property (less than 1 percent of the total area) would be affected by the work east of I-405 on the south side of SR 520 from approximately 116th Avenue Northeast to nearly 124th Avenue Northeast.

Similar to the 4-Lane Alternative, the 6-Lane Alternative would create a potential development opportunity where the new bridge alignment meets Medina. A small 12,350-square-foot area immediately adjacent to Lake Washington and south of the new alignment would no longer be needed for right-of-way. However, as described above, its redevelopment potential is limited by its size and accessibility.

Under the 6-Lane Alternative, WSDOT would construct three lids in the Eastside project area at Evergreen Point Road, 84th Avenue Northeast, and 92nd Avenue Northeast. Similar to the lids in the Seattle project area, these three lids would offer opportunities for the development of passive recreational uses and utility easements.

Overall, the 6-Lane Alternative would reduce the amount of land available for private development in the project corridor.

Implementation of the 6-Lane Alternative would not induce changes in the existing land use pattern.

### How many homes and businesses would be relocated?

Exhibit 29 summarizes the relocation effects of each alternative in the Eastside project area. Vacant parcels are not included in this summary.

Exhibit 29. Displacements by Alternative—Eastside Project Area

	4-Lane Alternative		6-Lane Alternative	
	Single-Family	Business	Single-Family	Business
Medina	2	-	1	-
Hunts Point	-	-	-	-
Yarrow Point	-	-	-	-
Clyde Hill	-	-	-	-
Bellevue	-	2	-	2

Source: King County Assessor (2004).

### No Build Alternative

No displacements would occur in the Eastside project area under the Continued Operation Scenario. A few docks and one single-family



residence are located adjacent to the bridge in Medina. Given their proximity to the bridge, the potential exists for some structures to be damaged if the bridge were to collapse under the Catastrophic Failure Scenario.

#### 4-Lane Alternative

The 4-Lane Alternative would displace two single-family residences and three commercial structures in the Eastside project area.

##### **Residential Effects**

Two single-family residences, including a garage and two main structures, would be displaced to accommodate the highway and bicycle/pedestrian path in Medina. Exhibit 30 describes the characteristics of these residences, represented as ID #2 and ID #3.

Exhibit 30. Displaced Single-Family Housing Characteristics—Eastside Project Area

	Identification Number	Square Footage of Structure	No. of Bedrooms	Assessed Value
<b>Medina</b>				
4-Lane Alternative	ID #2	2,320	4	\$1,941,000
	ID #3	3,060	4	\$731,000
	Total	5,380	8	\$2,672,000
6-Lane Alternative	ID #3	3,060	4	\$731,000

Source: King County Assessor (2004).

##### **Business, Civic, and Quasi-Public Effects**

The 4-Lane Alternative would displace three structures on commercial property. One structure currently operates as an espresso stand, while the other two buildings operate as a service building and general industrial. These displacements would occur because of the need to locate a stormwater facility in this area.

#### 6-Lane Alternative

The 6-Lane Alternative would displace one single-family residence (one of the two affected under the 4-Lane Alternative) and three commercial structures.

##### **Residential Effects**

The 6-Lane Alternative would displace one single-family residence in Medina to accommodate the wider highway footprint. Exhibit 30 describes the characteristics of that residence, represented as ID #3.



### **Business, Civic, and Quasi-Public Effects**

Under the 6-Lane Alternative, the same displacements reported under the 4-Lane Alternative would occur to the commercial facilities near the SR 520/Bellevue Way interchange.

### **What effect would the project have on property tax collections?**

#### **No Build Alternative**

Neither scenario under the No Build Alternative would require the acquisition of any exempt or taxable property, thus no direct effects on property tax collections are anticipated.

#### **4-Lane and 6-Lane Alternatives**

Forty-four and 61 parcels within the Eastside communities would be affected by the 4-Lane and 6-Lane Alternatives, respectively. The largest parcel affected by each of the build alternatives is owned by a tax-exempt organization and has an assessed value of over \$68 million. However, the project would affect less than 1.4 percent of the total parcel and is not likely to be essential to the organization's continued operations. Exhibits 31 and 32 summarize the amount of land to be acquired, the value of the properties, and the tax effects associated with the removal of the acquired properties from the tax base.

Exhibit 31. Effects of Right-of-Way Property Acquisition under the 4-Lane Alternative—Eastside Project Area

Property Elements	4-Lane Alternative			
	Taxable Parcels		Tax-Exempt Parcels	
	Occupied	Vacant	Occupied	Vacant
Total Assessed Value of Parcels	\$24,726,700	\$707,000	\$68,288,700	\$794,000
Total Area of Parcels (sf)	775,095	18,442	489,836	88,838
Total Area to be Acquired (sf)	117,609	18,442	9,828	1,662
Percent of Total Area Acquired	9.4%	100%	2.0%	1.9%
Estimated Property Tax Effect (\$) <sup>a</sup>	\$4,880	\$934	\$0	\$0
Percent of Affected Jurisdictions' 2002 Property Tax Collections <sup>b</sup>	<0.01%	<0.01%	0.0%	0.0%

Source: King County Assessor (2004).

<sup>a</sup> Includes city portion of property tax levy only.

<sup>b</sup> Jurisdictions include Medina, Hunts Point, Clyde Hill, Kirkland, and Bellevue.



Exhibit 32. Effects of Right-of-Way Property Acquisition under the 6-Lane Alternative—Eastside Project Area

Property Elements	6 Lane Alternative			
	Taxable Parcels		Tax-Exempt Parcels	
	Occupied	Vacant	Occupied	Vacant
Total Assessed Value of Parcels	\$34,287,500	\$1,061,500	\$82,276,700	\$440,000
Total Area of Parcels (sf)	1,067,109	86,336	1,518,113	119,507
Total Area to be Acquired (sf)	145,782	20,457	15,832	37,453
Percent of Total Area Acquired	13.7%	23.7%	1.0%	31.3%
Estimated Property Tax Effect (\$) <sup>a</sup>	\$4,597	\$942	\$0	\$0
Percent of Affected Jurisdiction's 2002 Property Tax Collections <sup>b</sup>	<0.01%	<0.01%	0.0%	0.0%

Source: King County Assessor (2004).

<sup>a</sup> Includes city portion of property tax levy only.

<sup>b</sup> Jurisdictions include Medina, Hunts Point, Clyde Hill, Kirkland, and Bellevue.

The 4-Lane and 6-Lane Alternatives would not substantially affect property taxes for the individual jurisdictions in the Eastside project area. The estimated tax effects of the 4-Lane Alternative would be 0.014 percent of the total tax collections in 2002 in the Eastside project area, and 0.013 percent for the 6-Lane Alternative. The relatively small loss of property tax revenues would not hinder the ability of the jurisdictions to operate public services funded by property tax revenues.

### What would be the economic effect on residences and businesses during operations?

On the Eastside, economic effects are not expected. As mentioned under the discussion of economic effects in Seattle, changes in accessibility and mobility could affect business operations. At the Bellevue Way Northeast/Northup Way intersection, operations would improve from LOS F to E under 6-Lane Alternative conditions during the p.m. peak hour. This increased LOS would benefit businesses whose customers and suppliers use this intersection on through trips. Conversely, it could also negatively affect those businesses whose customers are less likely to stop when they travel through the intersection at a higher rate of speed.



## How would the effects of the alternatives on land uses differ?

Neither the Continued Operation Scenario nor the Catastrophic Failure Scenario under the No Build Alternative would affect land uses in the project area.

The 4-Lane Alternative would affect 65 parcels in whole or in part for a total of approximately 16 acres. The majority of affected properties are either parks or single-family residential uses. Future development opportunities would be limited. Following construction, portions of McCurdy Park and East Montlake Park would be available for reuse as parkland. In addition, an area of vacated right-of-way, south of where the new bridge alignment would meet Medina, would be available for reuse. However, it would be smaller than the 16,000 square feet required by Medina zoning for the development of single-family residences in that area. Medina has expressed an interest in using the vacated right-of-way as a landscaped buffer between the highway and residences to the south.

The 6-Lane Alternative would affect 19 more properties than the 4-Lane Alternative, for a total of 84 parcels. WSDOT would acquire approximately 18.8 acres of area. Like the 4-Lane Alternative, the 6-Lane Alternative would mostly affect park and residential uses. The 6-Lane Alternative would also affect non-residential properties east of I-405, where the highway would be widened to accommodate an HOV lane. The 6-Lane Alternative would have excess land available in the same location as the 4-Lane Alternative; however, less land would be available for reuse.

## How would the number of relocations differ by alternative?

Under the No Build Alternative, relocations would be expected under the Continued Operation Scenario. Relocations could be required under the Catastrophic Failure Scenario if the Portage Bay Bridge or the eastern highrise collapsed and falling debris struck adjacent single-family residences.

The 4-Lane Alternative would lead to displacements at eight properties: two residential, three civic and quasi-public, and three business properties. Overall, 16 structures would be displaced. The 6-Lane Alternative would affect the same number of properties and structures as the 4-Lane Alternative. The only difference would be that under the



4-Lane Alternative no residential properties would be affected in Seattle but two residential properties would be affected on the Eastside, and under the 6-Lane Alternative only one of the Eastside residences would be affected and a single-family residence would be affected in Seattle. In addition, the 6-Lane Alternative could lead to a permanent reduction in the number of moorage slips at the Queen City Yacht Club by one-third, while the reduction would be less under the 4-Lane Alternative.

## How would the economic effects of the alternatives differ?

The economic effect on local government agencies would be the removal of taxable property from the tax base. Neither scenario under the No Build Alternative would require the acquisition of taxable property. The 4-Lane and 6-Lane Alternatives would each affect less than 0.01 percent of the property tax collections in the Seattle and Eastside project areas. Such a reduction is not substantial.

The direct economic effect of the alternatives on businesses would be related primarily to displaced facilities. Displaced facilities could make it more difficult for existing institutions and businesses to operate profitably and efficiently. The 4-Lane Alternative could result in such effects at the NOAA Northwest Fisheries Science Center, which would lose approximately eight buildings, and the Queen City Yacht Club, which would lose several of its moorage slips. Under the 6-Lane Alternative, the Queen City Yacht Club would lose a greater number of moorage slips; however, the effect on the NOAA facility would not be different.

In addition to direct effects to businesses and institutions, investment in the transportation infrastructure can be beneficial to businesses and consumers by improving accessibility. One of the factors contributing to accessibility is travel times. During the peak travel period, the 4-Lane Alternative would reduce the average travel time in the SR 520 corridor from 27 minutes under the No Build Alternative to 21 minutes. A similar reduction would occur under the 6-Lane Alternative. However, with the increased HOV usage under the 6-Lane Alternative, the average person trip demand would be 20,300, whereas it would only be 17,280 under the 4-Lane Alternative.



## What would be the construction effects in the Seattle project area?

### How would project construction affect improvements on residential and business properties?

#### 4-Lane Alternative

The 4-Lane Alternative would have short-term effects on the Queen City Yacht Club because of the temporary work bridge required to construct the proposed highway. During the first stage of the Portage Bay Bridge construction, a temporary bridge would be built extending from the west to east shores of Portage Bay, north of the proposed highway alignment. This would require displacing a dock just north and parallel to the bridge, as shown in Exhibit 33. However, the displaced dock would likely be replaced in its original location after construction is completed.

#### 6-Lane Alternative

The portion of the Queen City Yacht Club dock that would be affected by the temporary work bridge under the 4-Lane Alternative would be acquired permanently under the 6-Lane Alternative. However, construction would not affect any other Queen City Yacht Club docks. The 6-Lane Alternative would have the same short-term effects as the 4-Lane Alternative (Exhibit 33).

Similarly, docks at a single-family residence and at the Portage Bayshore Condominiums located south of the temporary work bridge would also be displaced for the duration of the second phase of the Portage Bay Bridge construction.

Construction of the span of SR 520 over Portage Bay would result in the relocation of one single-family residence in the Roanoke/Portage Bay neighborhood. Due to the permanent effect, this relocation is discussed in greater detail under the *How many homes and businesses would be relocated?* subsection in the *What would be the permanent effects in the Seattle project area?* section.

### How would project construction affect conditions at residences and businesses?

Project construction may affect the quality of life at nearby residences and businesses, result in lost revenues for businesses, and lead to temporary property value reductions. 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, changes in access routes, and reduced visibility from the street (for example, establishing a detour that requires customers to take longer or less familiar routes to a business, removing a left-hand turn lane into a shopping center, or eliminating the “street appeal” from a business that depends on drive-by or walk-up sales)
- Elimination of on-street parking

These effects can make conditions at residential and commercial properties less pleasant than they are when construction is not occurring because the occupants are experiencing more noise or are exposed to more dust and traffic. These effects can also make businesses and properties less attractive than competing ones that are not experiencing these effects, thereby resulting in short-term reductions in business sales. Residential and commercial properties could also be more difficult to sell during the construction phase. While property sales are typically more affected by long-term factors, properties that sell during the construction period could sell at a lower price than they would otherwise. This would only affect those properties that actually came up for sale during the construction period.

If these effects are severe and/or the construction period is lengthy, sales losses can be substantial enough to result in business closures. The types of businesses most likely to be affected are retail sales and personal services that depend on good access and an aesthetically pleasing experience for customers.

#### **4-Lane Alternative**

##### ***Quality of Life Effects***

During construction, neighboring properties in the Eastlake, North Capitol Hill, Roanoke/Portage Bay, Montlake, and Madison Park neighborhoods, as well as the Washington Park Arboretum, would experience increased noise, dust, traffic congestion, and possibly glare from nighttime construction lighting. See Appendix O, *Recreation Discipline Report*, for a discussion of the effects of construction on the Washington Park 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.



4-Lane Alternative

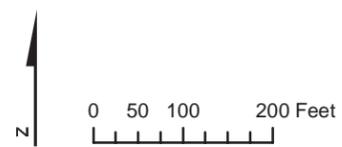


6-Lane Alternative



4-Lane Bridge Construction Stages    Temporary 4-Lane Work Bridges for each Phase

- |   |   |
|---|---|
|  Phase 1 |  Phase 1 & 2           |
|  Phase 2 |  Phase 3               |
|  Phase 3 |  Existing Right of Way |



6-Lane Bridge Construction Stages    Temporary 6-Lane Work Bridges for each Phase

- |   |   |
|---|---|
|  Phase 1 |  Phase 1               |
|  Phase 2 |  Phase 1 & 2           |
|   |  Existing Right of Way |



Exhibit 33. Temporary Construction in Portage Bay for the 4-Lane and 6-Lane Alternatives  
SR 520 Bridge Replacement and HOV Project



The duration of construction would vary for the different neighborhoods. (WSDOT's *Predraft SR 520 Construction Staging and Techniques Memorandum* [WSDOT 2004b] outlines the construction sequencing planned for the project.) As presented in Exhibit 34, construction would not happen consecutively, but would rather overlap in time (assuming full funding). The intensity of construction effects would vary according to 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 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 immediately below it in the vicinity of Boyer Avenue East, particularly the Queen City Yacht Club and the Portage Bayshore Condominiums.

Exhibit 34. Duration of Construction—Seattle Project Area

Construction Segment	Construction Duration (months) <sup>a</sup>		Affected Community
	4-Lane	6-Lane	
I-5/SR 520 Interchange	13	15	Eastlake North Capitol Hill Roanoke/Portage Bay
Portage Bay Bridge	28	28	North Capitol Hill Roanoke/Portage Bay Montlake
Montlake Interchange	20	26	Montlake Roanoke/Portage Bay
West Approach	37	52	Montlake Madison Park Laurelhurst
Floating Section of Evergreen Point Bridge <sup>b</sup>	66	75	Madison Park Laurelhurst

<sup>a</sup> Construction of the project elements may occur concurrently.

<sup>b</sup> These durations include the time for fabrication of the pontoons.



The Lake Washington Boulevard ramps, which provide access and egress from SR 520 to the Montlake and Madison Park neighborhoods, would be closed during construction of the west approach of the Evergreen Point Bridge. The ramps could be closed for up to 37 months. The roadway designers have developed detour routes, which are presented in Chapter 9 of Appendix R, *Transportation Discipline Report*. The Montlake neighborhood would likely absorb most of the detour traffic, thus increasing congestion in an already congested area. The temporary increase in 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.

Traffic would increase on the local streets that would be used as haul routes. Exhibit 35 describes the haul routes, including the duration of their anticipated use and the number of trips per day. Properties along these routes would experience dust, truck noise, and traffic congestion. For more information regarding construction traffic refer to Appendix R, *Transportation Discipline Report*, Chapter 9.

### ***Economic Effects***

For both the 4-Lane and 6-Lane Alternatives, WSDOT plans to keep all interchanges and most local streets open during daylight hours, except for Delmar Drive East, which would be closed during construction. This closure would likely not result in substantial economic effects on businesses because reasonably convenient detour routes would be available, and because this road is not the primary access route for any business.

It is possible that evening lane closures could affect businesses that receive much of their revenue in the evening hours, such as restaurants, theaters, gas stations, or other specialty retailers. As a result, some sales losses could be experienced by those businesses. However, lane closures would not take place next to any businesses, and SR 520 would not be the only (or even the main) road that is used by customers of those businesses. Thus, it is unlikely that many businesses would experience a substantial loss of sales from nighttime lane restrictions.

During construction, congestion in the SR 520 corridor would likely increase. This may result in reduced sales during construction for local businesses that have competitors in other areas of the region not



Exhibit 35. Construction Haul Routes—Seattle Project Area

Construction Segment	Duration (Months) <sup>a</sup>		Haul Routes	Truck Trips / Day			
	4-Lane	6-Lane		4-Lane		6-Lane	
				Avg.	Peak	Avg.	Peak
I-5/SR 520 Interchange	10	13	SR 520 to I-5 southbound/northbound	23	92 <sup>b</sup>	40	92 <sup>b</sup>
10th Avenue East and Delmar Drive—Bridge over SR 520	9	9	West on Roanoke to South on Boylston to I-5 southbound West on Roanoke to North on Harvard to I-5 northbound South on 11th Avenue to West on Miller to South on Harvard Avenue to East on Newton to I-5 southbound South on 11th Avenue to West on Miller to North on 10th Avenue to West on Roanoke to North on Harvard to I-5 northbound	15	20	15	20
10th and Delmar Lid	—	11	Westbound SR 520 to I-5 southbound/northbound Eastbound SR 520 to I-405 southbound/northbound	—	—	15	86
Portage Bay Bridge	20	28	South on Boyer to North on 24th to East on SR 520 North on Boyer to Fuhrman to North on Eastlake / 11th to West on 45th to I-5 southbound/northbound	25	86	25	86
SR 520 Mainline and Montlake Boulevard—Interchange	20	26	Eastbound SR 520 to I-405 southbound/northbound Westbound SR 520 to I-5 southbound/northbound North on Montlake to West on Pacific to North on 15th to West on 45th to I-5 southbound/northbound	19	92	26	92
Montlake Lid	--	24	Westbound SR 520 to I-5 southbound/northbound Eastbound SR 520 to I-405 southbound/northbound	—	—	15	86
Park Drive—SR 520 Undercrossing	8	8	Westbound Lake Washington Boulevard to eastbound SR 520 to I-405 southbound/northbound Westbound Lake Washington Boulevard and north on Montlake to West on Pacific to north on 15th to west on 45th to I-5 southbound/northbound	15	20	15	20
Westbound Approach	37	50	Westbound SR 520 to I-5 southbound/northbound Eastbound SR 520 to I-405 southbound/northbound Westbound Lake Washington Boulevard to eastbound SR 520 to I-405 southbound/northbound Westbound Lake Washington Boulevard and north on Montlake to West Pacific to north on 15th to west on 45th to I-5 southbound/northbound <sup>c</sup>	46	86	42	86

Source: WSDOT (2004b).

<sup>a</sup> Construction of the project elements may occur concurrently.

<sup>b</sup> Peak trips anticipated to last only 2 weeks.

<sup>c</sup> Montlake Boulevard and lid completed before construction of approaches; barges could be used.



experiencing construction-related congestion. However, most businesses would not likely experience a substantial loss of sales from this effect.

### **I-5/SR 520 Interchange**

Construction would include the closure of Delmar Drive East, modifications to the 10th Avenue East bridge, and reconstruction of the Harvard Avenue exit and the ramps to and from I-5. As discussed above, no substantial negative effects are expected from the Delmar Drive East closure. Businesses along 10th Avenue East would likely experience proximity and possibly access and parking effects. This grouping of retail and personal service businesses extends from the bridge south for about two blocks.

Negative effects from construction of the Harvard Avenue off-ramp are not likely because there are no businesses in the area that would be likely to experience access, parking, or proximity effects.

Construction may cause temporary effects on the property values of residences near the intersections of Harvard Avenue and 11th Avenue East with Roanoke Avenue, and between the 10th Avenue East bridge and East Miller Avenue along 10th Avenue East.

### **Portage Bay Bridge**

Construction could result in temporary effects on the property values of residences at the west and east endpoints of this area of the project.

### **Montlake Interchange and Surroundings**

This interchange is a primary travel route to the University of Washington and associated businesses to the north, Capitol Hill, and a small commercial area along Northeast 24th Street south of the interchange. Although there would likely be a few customers who would be deterred from shopping in these areas because of construction at the interchange, most of these businesses serve local customers who would travel to them on local streets. Thus, any economic effects on these businesses during construction would be small.

### **6-Lane Alternative**

The 6-Lane Alternative would have the same type of construction effects on quality of life, business sales, and property sales 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, construction



of the 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 the potential for more dust.

## What would be the construction effects in the Eastside project area?

### How would project construction affect residential and business properties?

Businesses and residences in the Eastside project area would experience many of the same general construction effects listed below as businesses and residences in the Seattle project area during construction of the highway:

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

### 4-Lane Alternative

Exhibit 36 shows the duration of construction activities in the Eastside project area.

Exhibit 36. Duration of Construction—Eastside Project Area

Construction Segment	Construction Duration (months) <sup>a, b</sup>		Affected Community
	4-Lane	6-Lane	
Floating Section of Evergreen Point Bridge	66	75	Medina
East Approach-Evergreen Point Bridge	35	43	Medina
Evergreen Point Road	20	25	Medina
84th Avenue Northeast and 92nd Avenue Northeast	27	23	Medina Hunts Point Yarrow Point Clyde Hill
Bellevue Way and 108th Street	—	13	Kirkland Bellevue

<sup>a</sup> Construction of the different project elements may occur concurrently.

<sup>b</sup> These durations include the time for fabrication of the pontoons.



The entire Eastside project area would experience increased noise, dust, traffic, and glare from nighttime lighting. Certain areas, however, would experience greater effects than others during construction. These areas are located near the Evergreen Point Bridge and the bridges over SR 520. 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 other demolition and reconstruction of the bridges over SR 520.

### **Medina**

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.

Construction may result in temporary effects on property values of residences around and west of Evergreen Point Road within one or two blocks on either side of SR 520.

### **84th Avenue Northeast and 92nd Avenue Northeast**

Properties in Medina and Hunts Point would be affected by construction at the 84th Avenue Northwest bridge. A gas station/convenience store at the 84th Avenue Northeast interchange may be affected, and the effects on this business could be positive or negative. Positive effects could result from purchases by construction workers; localized congestion or access limitations could have a negative effect on the sales of this business.

Properties in Clyde Hill and Yarrow Point would be exposed to dust from demolition of the 92nd Avenue Northeast bridge. Properties along the haul routes would be exposed to dust and noise; these routes are described in Exhibit 37. Construction traffic is discussed in detail in Appendix R, *Transportation Discipline Report*, Chapter 9.

Construction could have temporary effects on the property values of residences along 84th Avenue Northeast and 92nd Avenue Northeast within one or two blocks of SR 520.



Exhibit 37. Construction Haul Routes—Eastside Project Area

Construction Segment	Duration (Months) <sup>a</sup>		Haul Routes	Truck Trips / Day			
	4-Lane	6-Lane		4-Lane		6-Lane	
				Avg.	Peak	Avg.	Peak
Eastbound Approach	37	50	<ul style="list-style-type: none"> <li>Westbound SR 520 to I-5 southbound/northbound</li> <li>Eastbound SR 520 to I-405 southbound/northbound</li> </ul>	46	86	42	86
Evergreen Point Road—Bridge over SR 520 (4-Lane and 6-Lane) and Lid (6-Lane)	28.5	28.5	<ul style="list-style-type: none"> <li>Westbound SR 520 to I-5 southbound/northbound</li> <li>Eastbound SR 520 to I-405 southbound/northbound</li> <li>Evergreen Point to East on 24th Street to North on 84th to westbound SR 520 to I-5 southbound/northbound</li> <li>Evergreen Point to East on 24th Street to North on 92nd to eastbound SR 520 to I-405 southbound/northbound</li> </ul>	15	20	15	20
84th Avenue Northeast— Bridge over SR 520	7	7	<ul style="list-style-type: none"> <li>Westbound SR 520 to I-5 southbound/northbound</li> <li>Eastbound SR 520 to I-405 southbound/northbound</li> <li>84th to westbound SR 520 to I-5 southbound/northbound</li> <li>84th to East on 24th Street to North on 92nd Avenue to eastbound SR 520 to I-405 southbound/northbound</li> </ul>	15	20	15	20
84th Avenue Northeast Lid	—	9.5	<ul style="list-style-type: none"> <li>Westbound SR 520 to I-5 southbound/northbound</li> <li>Eastbound SR 520 to I-405 southbound/northbound</li> </ul>	—	—	15	86
92nd Avenue Northeast—Bridge over SR 520	7	7	<ul style="list-style-type: none"> <li>Westbound SR 520 to I-5 southbound/northbound</li> <li>Eastbound SR 520 to I-405 southbound/northbound</li> <li>92nd to West on 24th Street to North on 84th to westbound SR 520 to I-5 southbound/northbound</li> <li>92nd to West on 24th Street to North on 92nd to eastbound SR 520 to I-405 southbound/northbound</li> </ul>	15	20	15	20
92nd Avenue Northeast Lid	—	9.5	<ul style="list-style-type: none"> <li>Westbound SR 520 to I-5 southbound/northbound</li> <li>Eastbound SR 520 to I-405 southbound/northbound</li> </ul>	—	—	15	86
Evergreen Point to Bellevue Way— SR 520 Mainline	24	32	<ul style="list-style-type: none"> <li>Westbound SR 520 to I-5 southbound/northbound</li> <li>Eastbound SR 520 to I-405 southbound/northbound</li> </ul>	37	92	28	92



Exhibit 37. Construction Haul Routes—Eastside Project Area

Construction Segment	Duration (Months) <sup>a</sup>		Haul Routes	Truck Trips / Day			
	4-Lane	6-Lane		4-Lane		6-Lane	
				Avg.	Peak	Avg.	Peak
Bellevue Way— SR 520 Mainline and Structure	—	8	<ul style="list-style-type: none"> <li>• Westbound SR 520 to I-5 southbound/northbound</li> <li>• Eastbound SR 520 to I-405 southbound/northbound</li> </ul>	—	—	21	86

Source: WSDOT (2004b).

<sup>a</sup> Construction of the project elements may occur concurrently.

<sup>b</sup> Peak trips anticipated to last only 2 weeks.

## **Bellevue Way Interchange**

Construction effects, such as noise and dust, would primarily affect residences or businesses on the west side of this interchange. The Bellevue Way interchange provides a main route to many businesses in downtown Bellevue and Kirkland and to the many businesses that exist along Bellevue Way, Lake Washington Boulevard, and Northrup Way. If construction at this interchange results in substantial congestion, sales of retail and some service businesses in these areas could decline temporarily.

## **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 dust. While construction would stop 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. 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.

## **What would be the construction effects in the region?**

### **How many jobs and how much income would be created during project construction?**

Highway projects can increase output, income, and employment from construction spending that would not otherwise have occurred in the region. How much a highway project affects a region depends on the source of project funding. Funds from local or regional sources are transfers that could have been spent by residents and businesses on other economic activities. Typically, only “new money” to a region has a measurable economic effect on employment and income gains resulting from project construction.

Funding sources for this project have not yet been determined. Early indications are that the project would be funded by state funding, revenues generated from the collection of tolls, and regional transportation improvement district funding. No federal funding has been earmarked for the SR 520 Bridge Replacement and HOV Project.



Project-specific effects are difficult to quantify at this time, and it may be that the majority of project funds would come from regional residents and project users, thereby resulting in limited economic effects. Any effects that do result from construction spending are likely to be greater for the 6-Lane Alternative than the 4-Lane Alternative because construction costs would be higher. No beneficial economic effects from construction effects would occur under the No Build Alternative scenarios.

Motorists in the corridor and elsewhere in the region would be likely to experience some delay during construction. This would negatively affect the productivity of personnel and business travel. This effect is likely to be greater for the 6-Lane Alternative than it would be for the 4-Lane Alternative.

## **How would construction effects differ by alternative?**

The 4-Lane Alternative would result in the temporary displacement of the Queen City Yacht Club's dock that is just north of and parallel to the Portage Bay Bridge. The 6-Lane Alternative would temporarily displace docks at a single-family residence and at the Portage Bayshore Condominiums located south of the temporary work bridge. The permanent displacement of the Queen City Yacht Club's southernmost dock and a single-family residence would also occur during the construction phase but would be permanent.

During construction of both the 4-Lane and the 6-Lane Alternatives, businesses and residences in proximity to the SR 520 corridor would experience the following:

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

The degree of these effects would be greater under the 6-Lane Alternative than the 4-Lane Alternative for a number of reasons. Under the 6-Lane Alternative construction would generally take longer in the individual construction segments. Also, construction of the 6-Lane Alternative would affect a larger area, extending farther west from before the Bellevue Way/Lake Washington Boulevard interchange to slightly west of the 108th Avenue Northeast interchange. Construction



would also occur in small area on the south side of SR 520 from approximately 116th Avenue Northeast to nearly 124th Avenue Northeast. Finally, WSDOT would need to move 2.5 times more earth for construction of the 6-Lane Alternative than would be necessary for the 4-Lane Alternative.

## Mitigation

### What has been done to avoid relocating businesses and residences?

Throughout the design process for the proposed project, care has been taken to avoid and minimize the number of relocations to homes and businesses. Generally, relocations were avoided due to the following:

- The proposed footprints of the 4-Lane and 6-Lane Alternatives were designed to occur primarily within the existing right-of-way in Seattle, thus minimizing to the maximum extent additional right-of-way acquisition requirements.
- In the Eastside project area, a system of retaining walls was designed along the corridor to minimize encroachment into private property.
- The proposed bridge operations facility was designed under the east approach so that additional new right-of-way acquisition and home and/or business relocation would not occur.

### How would relocations occur?

WSDOT would contact residences and businesses identified as potentially displaced. Mitigation for residents and businesses displaced by the project would consist of relocation assistance to enable displacees to obtain decent, safe, and sanitary housing or comparable business facilities. The acquisition and relocation for the project would be conducted in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources would be available to all residential and business relocatees without discrimination. If WSDOT determines that insufficient housing exists, it will commit to last resort housing for this project to provide such housing in a manner feasible for the individual displacement situations.



## Residential Effects

The relocation discipline team searched the Northwest Real Estate Internet site (sponsored by The Washington Information Network, an association of multiple listing services) to locate a waterfront residence with the same characteristics as the one that would be displaced in Seattle under the 6-Lane Alternative. With similar criteria selected, no houses were found in Seattle that would match the criteria of the displaced house located on waterfront property. The search did find 283 houses without waterfront property and 155 houses with a view, though not necessarily of water. Because redesign of the Portage Bay temporary construction bridge is required before Phase 2 of construction can begin within the existing WSDOT right-of-way, this could prevent the need to relocate this residence.

In the Eastside project area, we searched for similar types of houses that would be displaced under the 4-Lane and 6-Lane Alternatives. Approximately nine properties in Medina and Hunts Point and 102 properties in Bellevue were identified that generally met the replacement criteria. The single-family residence in Medina that would be displaced under the 4-Lane and 6-Lane Alternatives currently has waterfront access and a view of Lake Washington (the view is characterized as “fair” by the King County Assessor’s office). Identical replacement housing may not be available because the number of properties either currently undeveloped or available as replacement housing in this area and with similar attributes is limited. The relocation of the single-family residence required on the south side of SR 520 under the 4-Lane Alternative could be avoided if the bicycle/pedestrian path were redesigned to occur along the north side of the proposed alignment.

## Business, Civic, and Quasi-Public Effects

Under the 4-Lane and 6-Lane Alternatives, locating potential replacement land for the service station at the Montlake interchange may prove difficult in the project area. This service center is unique because it provides a service not otherwise provided in at least a 1-mile radius. The existing and future land uses around the service station (the Montlake neighborhood to the south and north and the Roanoke/Portage Bay neighborhood to the west) is generally single-family, with few to no commercial sites available. Farther outside of the project area, replacement property or replacement facilities could be found, but the service station would no longer serve the same customers.



The Queen City Yacht Club may not have room on its current property to relocate or replace the displaced moorage. Further discussions with staff of the Queen City Yacht Club are necessary to determine the feasibility of replacement moorage within the existing area of the facility or to identify other replacement options.

The NOAA Northwest Fisheries Science Center has been strategically located close to the University of Washington to provide easy access for students who use the facility and NOAA staff who teach at the university. However, it is important to note that although the research center is located on Portage Bay, none of the existing research facilities depend on receiving water from the bay. All water is received via a water main along the southern property boundary. During preliminary discussions with NOAA, its staff have expressed a concern about relocating the entire facility out of this area, for example, to NOAA's Sand Point facilities located to the northeast (a facility that mostly deals with policy, as opposed to research issues), or breaking the compound into two different geographical working areas. NOAA representatives have suggested they may reclaim use of the property on which the Seattle Yacht Club currently operates parking facilities. This property is owned by NOAA and leased to the Seattle Yacht Club. This property could potentially be used to relocate those south campus buildings displaced under the 4-Lane and 6-Lane Alternatives.

Under this scenario, the Seattle Yacht Club would lose its parking facilities. Opportunities for replacement parking would need to be addressed if this occurred. Additionally, further discussions will need to occur with NOAA staff to determine the appropriate replacement land or facilities.

The Historical Society of Seattle and King County, who owns and maintains the historical exhibits in MOHAI, is scheduled to move to its location in the Washington State Convention Center in 2009. However, the society has expressed an interest in using the facility for exhibit storage, and the Arboretum Master Plan suggests use of the building for Arboretum staff. Because of the predominantly single-family nature of the surrounding areas, potential replacement facilities may be difficult to find within or near the project area.

WSDOT will coordinate with the Seattle Parks and Recreation Department, owner of the MOHAI building, to determine whether the structure would be replaced in East Montlake Park, or the uses located elsewhere.



Locating potential replacement property or facilities for two of the three displaced commercial structures at the SR 520/Bellevue Way interchange will depend on the desired future use of the facilities. Due to the unknown current use of the facilities (identified only as service and generalized industrial by the King County Assessor), potential replacement facilities could be located farther east along SR 520 in Bellevue where a larger concentration of commercial and industrial properties are located, specifically east of I-405 and south along SR 520.

Relocating the espresso stand on the Eastside would be the preferred option due to the transient nature and ease of relocation of such facilities. It is assumed that the espresso stand currently leases the space from the property on which it is located and that similar replacement properties could be identified in the vicinity because this area north of the interchange is predominantly commercial. If an appropriate site can be found in the predominantly commercial area, the espresso stand could be moved to that new location.

Several parklands in Seattle and on the Eastside would be affected by the project alternatives. In Seattle, some parklands would need to be relocated in their entirety to accommodate the proposed project. Appendix O, *Recreation Discipline Report*, discusses the effects on these facilities, as well as measures to reduce and mitigate those effects.

## **How would temporary effects on home and business owners be reduced or mitigated?**

Appendix R, *Transportation Discipline Report*, discusses temporary traffic control measures that would be implemented to minimize traffic congestion during construction. Appendix M, *Noise Discipline Report*, and Appendix C, *Air Quality Discipline Report*, discuss the actions that would be taken to reduce noise and dust.



## References

- Bureau of Labor Statistics. 2004. *Local Area Unemployment Statistics*. Available at: <http://www.bls.gov/data/home.htm>. Accessed on July 24, 2004.
- City of Bellevue. 1993. *City of Bellevue Comprehensive Plan*. Bellevue, Washington.
- City of Clyde Hill. 2002. *City of Clyde Hill Comprehensive Plan*. Clyde Hill, Washington.
- City of Kirkland. 2002. *City of Kirkland Comprehensive Plan: Charting a Future Course*. Kirkland, Washington.
- City of Medina. 1999. *City of Medina Comprehensive Plan*. Medina, Washington. May.
- City of Seattle. 2002. *Seattle's Comprehensive Plan: Toward a Sustainable Seattle*. Department of Design, Construction and Land Use, Seattle, Washington. December.
- Eberts, Randall W. 1999. *How Levels of Investment in Transportation Affect Economic Health*. W.E. Upjohn Institute for Employment Research. July.
- FHWA. 1996. *Community Impact Assessment, A Quick Reference for Transportation*. U.S. Department of Transportation, Federal Highway Administration. September.
- King County Assessor. 2004. *Real Property System*. Available at: <http://www.metrokc.gov/assessor>. Accessed on July 7, 2004. King County Department of Assessments, Seattle, Washington.
- King County. 2003. *King County Countywide Planning Policies*. King County, Washington. December.
- PSBJ. 2002. Top 20 Employers in Central Puget Sound Region. In *Book of Lists, 2002*. Puget Sound Business Journal.
- PSRC. 1995. *Vision 2020*. Puget Sound Regional Council. May 25.
- PSRC. 2001. *Destination 2030*. Puget Sound Regional Council. May 24, 2001.
- PSRC. 2003a. *2002 Small Area Forecasts of Population and Employment, Central Puget Sound Region*. Puget Sound Regional Council. Available at: [http://www.psrc.org/datapubs/pubs/forecasts\\_2002.htm](http://www.psrc.org/datapubs/pubs/forecasts_2002.htm). Accessed on March 9, 2004.
- PSRC. 2003b. *Central Puget Sound Regional Economic Trends - 2003*. Puget Sound Regional Council. Available at: <http://www.psrc.org>. Accessed on March 9, 2004.



PSRC. 2003c. *Destination 2030, Appendix 9. Puget Sound Regional Council*. May 28, 2003.

Sound Transit. 1996a. *Sound Move – Launching a Rapid Transit System for the Puget Sound Region – The Ten-Year Regional Transit System Plan*. Central Puget Sound Regional Transit Authority, Seattle, Washington. May.

Sound Transit. 1996b. *The Regional Transit Long-Range Vision*. Central Puget Sound Regional Transit Authority. Seattle, Washington. May.

Town of Hunts Point. 2004. *Town of Hunts Point Comprehensive Plan*. Hunts Point, Washington.

Town of Yarrow Point. 1994. *Town of Yarrow Point Comprehensive Plan*. Yarrow Point, Washington.

Transportation Research Board. 2001. *Guidebook for Assessing the Social and Economic Effects of Transportation Projects*. National Cooperative Highway Research Report 456.

UCLA EPPPASS. 1997. Summary of proceedings from *Transportation and the Economy*. University of California at Los Angeles, Extension Public Policy Program Annual Symposium Series. December 79. UCLA Conference Center. Lake Arrowhead, California.

Washington State Auditor. 2003. *Local Government Finance Reporting System*. Available at: <http://lgfrs.sao.wa.gov/lgfrs/>. Accessed on July 24, 2004.

WSDOT. 2004a. *Environmental Procedures Manual*. Washington State Department of Transportation. March.

WSDOT. 2004b. *Predraft SR 520 Construction Staging and Techniques Memorandum*. Prepared for Washington State Department of Transportation by Parametrix et al. May.



# **Attachment 1**

## **Pertinent Land Use Policies**



# Attachment 1

## Pertinent Land Use Policies

### King County's Countywide Planning Policies

- LU-28 – Within the urban growth area, growth should be directed in the following order: (1) to centers and urbanized areas with existing infrastructure capacity; (2) to areas that are already urbanized such that infrastructure improvements can be easily extended; and (3) to areas requiring major infrastructure improvements.
- LU-46 – The system of urban centers shall form the land use foundation for a regional HCT system. Urban Centers should receive very high priority for the location of HCT stations and/or transit centers.
- FW-18 – The land use pattern shall be supported by a balanced transportation system that provides a variety of mobility options. This system shall be cooperatively planned, financed, and constructed. Mobility options shall include an HCT system that links the urban centers and is supported by an extensive HOV system, local community transit system for circulation within the centers and to the noncenter urban areas, and nonmotorized travel options.
- T-1 – The countywide transportation system shall promote the mobility of people and goods and shall be a multimodal system based on regional priorities consistent with adopted land use plans. The transportation system shall include the following:
  - an aggressive transit system, including HCT;
  - HOV facilities;
  - freight railroad networks;
  - marine transportation facilities and navigable waterways;
  - airports;
  - transportation demand management actions;
  - nonmotorized facilities; and
  - freeways, highways, and arterials.



## Seattle's Comprehensive Plan: Toward a Sustainable Seattle (2002)

- T3—Work to establish and promote a transit and ridesharing system that provides viable alternatives to the single-occupancy vehicle (p. T-3).
- T12—Design and build transportation facilities to reflect the character of the surrounding neighborhood; reinforce the activities desired in the surrounding area; address community development goals; and be convenient, comfortable, and safe. Make the scale of transportation facilities consistent with surrounding land uses (p. T-7).
- T17—Coordinate with WSDOT and adjacent jurisdictions to discourage diversion of traffic from regional roadways and principal arterials onto lesser arterials and local streets (p. T-8).
- T20 (partial)—Do not attempt to provide street space to meet latent demand for travel by car. Do not pursue freeway expansion for the sole purpose of increasing general traffic capacity (p. T-9).
- T32—Designate the transit priority network as shown. (SR 520 is shown in a map as a transit priority network.) Monitor bus speed and operations along the transit priority network and, where needed, pursue measures to increase bus speeds and reliability (p. T-15).
- T35—Pursue the HCT service (rail and/or bus) linking urban centers with appropriate densities within the city and the region (p. T-17).
- L83—Relocate transportation facilities that are functionally and aesthetically disruptive to the shoreline (p. LU-35).

## City of Medina Comprehensive Plan (1999)

- Medina supports development of a bike path along SR 520 and across the Evergreen Point Bridge (p. 21).
- The overall efficiency of the SR 520 corridor should be increased by emphasizing its use for public transportation and by providing incentives for multiple-occupancy in private vehicles (p. 18).
- Improved access to transit and pedestrian facilities within the corridor should be provided (p. 18).



- The objective of Medina is to preserve property values, to mitigate, to the extent feasible, the adverse impacts which currently exist and to prevent further degradation of the environment. The impact of the SR 520 corridor must be minimized based on input from and discussion with the City of Medina’s officials and residents. Mitigation shall include a combination of methods, including but not limited to, sound-absorbing barriers, landscaping, landscape screening, landscaped lids, and other mitigation as appropriate (p. 18).

### **Town of Hunts Point Comprehensive Plan (2004)**

Hunts Point will also actively pursue the installation of noise baffles along the roadway or construction of a lid over SR 520 as a long-term means of controlling the impacts of SR 520 on Hunts Point residents. The town will actively seek every opportunity to mitigate noise originating from SR 520 (p. 15).

### **Town of Yarrow Point Comprehensive Plan (1994)**

Provide a matrix of transportation capabilities including private cars, carpools, and short- and long-haul public transportation so that the efficiency of the system minimizes the demand for new streets and highways.

- E1 – Increase use of public transportation.
- E2 – Encourage the use of carpools and vanpools.
- E3 – Encourage the pedestrian mode and the use of bicycles for local travel. (p. 54)

### **Town of Clyde Hill Washington Comprehensive Plan (2002)**

- Develop strategies and work with adjacent communities and WSDOT to minimize through traffic on Clyde Hill’s streets.
- Encourage and support the development of a fully accessible transportation system that will accommodate the present and future travel demands of the community.
- Support development of a pedestrian/bicycle facility along SR 520 that connects communities on either side of Lake Washington.
- Encourage residents to use alternative modes of travel.



## City of Kirkland Comprehensive Plan: Charting a Future Course (2002)

- T-2.1 – Promote pedestrian and bicycle networks that safely access commercial areas, schools, transit routes, parks, and other destinations within Kirkland and connect to adjacent communities, regional destinations, and routes (p. IX-11).
- T-3.1 – Design transit facilities (stations, centers, park and rides, shelters, etc.) to be easily accessible to those with disabilities, and appealing to pedestrians (p. IX-12).
- T-3.3 – Base the alignment and location of stations for the future regional HCT system on Kirkland’s transportation and land use plan (p. IX-12).
- T-3.4 – Work cooperatively with Metro to provide local transit service which provides linkages between Kirkland neighborhoods, business districts, other important local destinations, and the regional transit system (p. IX-13).

The 2012 Transportation Project List Map (p. IX-33) showed only one improvement within the SR 520 corridor:

- Bicycle System: Priority One System Routes – Potential Class 2 – Lake Washington Boulevard along SR 520.

## City of Bellevue Comprehensive Plan (1993)

- TR68d – Work with state and regional agencies to ensure adequate capacity for both general purpose and HOV on state highways (p. VII-13).
- TR46 – Ensure that roadway improvements do not create a bypass for I-90, I-405, or SR 520 that would adversely affect an adjacent residential neighborhood (p. VII-9).
- TR3 – Ensure that downtown Bellevue, the major urban center on the Eastside, includes the following: intensity/density of land uses sufficient to support rapid transit, mixed uses for both day and night activities, pedestrian emphasis, and alternatives to single-occupant vehicles (p. VII-4).
- TR48 – Work with transit providers to establish a hierarchy of transit services focused on three major elements: neighborhood



services, local urban services, and intercommunity and regional services (p. VII-10).

- TR68h—Support the HCT facilities on I-90 and SR 520, with service to downtown Bellevue included as an integral part of each option (p. VII-13).
- TR69—Participate actively in Sound Transit Phase 1 efforts to develop and implement the regional transit system. Work to ensure that Eastside services and facilities are high priorities for system implementation, including direct HOV access to downtown Bellevue and the Eastgate park-and-ride lot, and expansion of the Bellevue Transit Center (p. VII-14).
- TR76b—Work with Sound Transit to ensure that any HCT service to and within the Eastside serves downtown Bellevue as the major hub of the Eastside (p. VII-15).

## References

City of Bellevue. 1993. *City of Bellevue Comprehensive Plan*. Bellevue, Washington.

City of Clyde Hill. 2002. *City of Clyde Hill Comprehensive Plan*. Clyde Hill, Washington.

City of Kirkland. 2002. *City of Kirkland Comprehensive Plan: Charting a Future Course*. Kirkland, Washington.

City of Medina. July 1999. *City of Medina Comprehensive Plan*. Medina, Washington.

City of Seattle. December 2002. *Seattle's Comprehensive Plan: Toward a Sustainable Seattle*. Department of Design, Construction & Land Use, Seattle Washington.

Town of Hunts Point. 2004. *Town of Hunts Point Comprehensive Plan*. Hunts Point, Washington.

Town of Yarrow Point. 1994. *Town of Yarrow Point Comprehensive Plan*. Yarrow Point, Washington.

