

This chapter compares how the No Build, 4-Lane, and 6-Lane Alternatives are expected to affect the Eastside project area. The description of effects here is more detailed than the summary version provided in Chapter 4.

Chapter 7: Detailed Comparison of Alternatives – Eastside

This chapter compares the expected effects of the No Build, 4-Lane, and 6-Lane Alternatives in the Eastside project area in the same manner as in Chapters 5 and 6 for Seattle and Lake Washington, respectively. The effects covered here are those that would differ among alternatives; effects that are similar are discussed in Chapter 4. In addition to the effects comparison, this chapter also describes measures to avoid, mitigate, or minimize negative effects on the human and natural environment.

The general store and post office in Medina. Medina is one of the Eastside communities that will be affected by the project, along with Hunts Point; Clyde Hill; Yarrow Point; the Lakeview neighborhood in Kirkland; and the North Bellevue, Bridle Trails, and Bel-Red/Northup neighborhoods in Bellevue.

What would the Eastside project area look like if the project were built?

With either the 4-Lane or 6-Lane Alternative, the two most noticeable changes in appearance on the Eastside would be loss of vegetation caused by the widening of SR 520 and the continuous sound walls on both sides of SR 520 from Evergreen Point Road to Bellevue Way. Because of its wider footprint, the 6-Lane Alternative would reduce roadside vegetation more noticeably, but would compensate for this to some degree by providing 500-foot-long landscaped lids over SR 520 at Evergreen Point Road, 84th Avenue Northeast, and 92nd Avenue Northeast. The changes in appearance are described below from west to east along the corridor.

WSDOT would build a new bridge operations facility and dock beneath the east highrise of the Evergreen Point Bridge. This facility would be partially buried in the hillside and screened with vegetation. It would be visible from some locations to boaters on the lake and residents in the immediate vicinity. *Exhibit 3-13* in Chapter 3 is a conceptual sketch of the facility.

Both build alternatives would affect the tree screen that buffers adjacent homes and parks from SR 520, especially in the western portion of the Eastside project area. Trees and shrubs north of SR 520 would be permanently removed to accommodate the northward shift of the roadway.

KEY POINT

Visual Quality

The most noticeable changes in the appearance of the Eastside would be the loss of vegetation along SR 520 and the addition of sound walls on both sides of the highway from Evergreen Point Road to Bellevue Way.

The 4-Lane Alternative would probably remove the tree screen along the south edge of both Wetherill and Hunts Point parks, though it would not encroach on the parks themselves and would not affect Fairweather Park.

The 6-Lane Alternative would remove a nearly 150-foot-wide swath of mature trees and understory on the north side of SR 520 near the bridge's east end, replacing the grassy slope between Fairweather Park and the freeway station with a landscaped lid. It also would eliminate up to 50 feet of the tree screen just south of Fairweather Bay. WSDOT would build a footpath along the edge of the park to maintain the connection between the pedestrian overpass at Bellevue Christian School/Three Points Elementary and Evergreen Point Road. The new lid at Evergreen Point Road would connect directly to Fairweather Park, creating a landscaped connection with the previously disconnected area to the south and extending the park's open space *(Exhibit 7-1)*. The lids at 84th and 92nd Avenues Northeast (the latter is visible in *Exhibit 7-2*) would also provide new open space and help to reunite neighborhoods long severed by the highway.

East of 92nd Avenue Northeast, both the 4-Lane and 6-Lane Alternatives would remove a swath of shrub and tree screen south of SR 520. The amount of vegetation removed would be much greater with the 6-Lane Alternative than the 4-Lane Alternative. At Bellevue Way, both alternatives would require demolition of a few small commercial buildings to accommodate a stormwater treatment wetland. These buildings in their current condition contrast noticeably with the new, landscaped office building across the street. The visual effect of replacing them with the stormwater facility would be noticeable, but could be positive if the landscape either were natural-appearing or complemented the existing landscaping of the facing office park.

A noticeable visual effect of the South Kirkland Park-and-Ride Transit Access – 108th Avenue Northeast option would be the permanent removal of tall street trees and shrubs at the WSDOT maintenance yard and the Yarrowood Condominiums complex. Widening 108th Avenue Northeast, Northup Way, and the westbound SR 520 off-ramp would also change this area, giving it a busier, more transportation-oriented appearance. Developing this option could also narrow the sidewalk and landscaping along the front of the daycare center at the southwest corner of 108th Avenue Northeast and Northup Way, bringing the roadway closer to the outside play area next to Northup Way.

With both build alternatives, houses that are close to the right-of-way would lose the screen of trees that now separates them from SR 520 throughout the project area. The trees would be replaced by sound walls, which would vary in height from 8 to 20 feet. This would negatively affect views from those houses toward the roadway, although trees and shrubs would be planted to help offset the effects wherever room is available. The

Before the bridges were built, the Eastside was largely agricultural; strawberry farming was a popular livelihood.

The removal of all trees and shrubs that currently shield the WSDOT maintenance yard from view would change the visual character at the 108th Avenue Northeast interchange.

Exhibit 7-1. **View from Medina Toward Clyde Hill**

Looking east along SR 520 from Points Loop Trail just east of Evergreen Point Road

Existing View

- Transit stop and Points Loop Trail

4-Lane Alternative

- Footprint slightly wider than existing
- 20 feet decreasing to 14-foot-high sound walls on north side (foreground)
- 16-foot-high sound walls on south side (background)

6-Lane Alternative

- Lid with earthen berm and landscaping on north side

Exhibit 7-2. **View of 92nd Avenue Northeast Bridge over SR 520**

Looking west along SR 520 toward 92nd Avenue Northeast bridge over SR 520

Existing View

- Slightly recessed roadway with tree screen

4-Lane Alternative

- 10-foot-high sound walls on north side (right side of image)
- 18-foot-high sound walls on south side (left side of image)
- 92nd Avenue Northeast bridge over SR 520

6-Lane Alternative

- East edge of landscaped lid about 200 feet closer to viewpoint than 92nd Avenue bridge in 4-Lane
- 18-foot-high sound walls on both sides

walls would noticeably reduce noise levels for most of these homes and would block glare at homes adjacent to the roadway.

The experience of bicyclists and pedestrians in the project area would also change with either of the build alternatives. Currently, pedestrians and bicyclists on the Points Loop Trail are separated from SR 520 by landscaped open space. With either build alternative, sound walls would separate them from the widened roadway. The new bicycle/pedestrian path that would parallel SR 520 between 92nd Avenue Northeast and Lake Washington would be separated from the highway by a sound wall or retaining wall. This would give a sense of protection and a quieter recreational experience, although some trail users might perceive the wall as confining *(Exhibit 7-3)*. Drivers would likely experience the continuous sound walls as a negative visual effect, seeing a wide, walled roadway rather than the existing vegetated corridor *(Exhibit 7-2)*.

For both of the build alternatives, WSDOT has committed to a number of actions to mitigate the project's visual effects. These include:

- Establishing design guidelines that would provide standards for visual unity and consistency throughout the corridor
- Revegetating with compatible landscaping in areas where natural habitat and vegetation or neighborhood tree screens are removed
- Constructing aesthetically pleasing sound walls that visually screen the roadway from sensitive viewers, particularly in residential areas
- Landscaping the lids for the 6-Lane Alternative in a way that ensures a unified visual appearance appropriate to the surrounding landscape

Under the No Build Alternative's Continued Operation Scenario, SR 520 would continue to look as it does today. Viewers would not experience the visual improvements created by the 6-Lane Alternative's lids. Under the Catastrophic Failure Scenario, the appearance of the roadway could change, but it is impossible to predict exactly what these changes would be. Appendix S, Visual Quality and Aesthetics Discipline Report, provides more detailed information on what the Eastside project area would look like with the project.

The South Kirkland Park-and-Ride Transit Access – 108th Avenue Northeast option would add separate on- and off-ramps for transit using the park-and-ride.

How would the project affect local streets, intersections, and parking?

How well will local streets and intersections near SR 520 operate?

Like conditions on the regional highway system, traffic conditions on local streets and intersections near SR 520 are expected to change by 2030. Under the No Build Alternative, traffic in the interchange areas of 84th, 92nd, 104th, and 108th Avenues Northeast is expected to increase between 16 and 17 percent during the morning peak hour. During the

Exhibit 7-3. **View Toward SR 520 from Points Loop Trail**

Looking east along Points Loop Trail toward SR 520 where trail descends from Hunts Point City Hall and curves east along SR 520

Existing View

- Points Loop Trail separated from west-bound lanes by landscaped open space

4-Lane Alternative

- Edge of new roadway about 2 feet from trail edge
- 12-foot-high sound wall

6-Lane Alternative

- Edge of new roadway about 5 feet from trail edge
- 12-foot-high sound wall

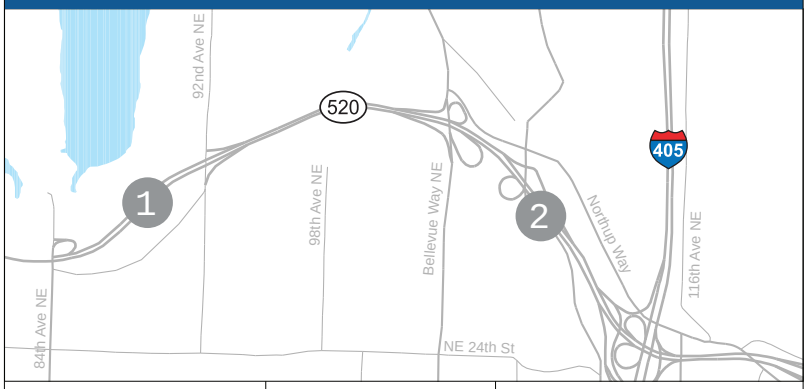
evening peak hour, traffic is expected to increase by 8 percent at the 84th and 92nd Avenue Northeast interchange areas and by 26 percent at the 104th and 108th Avenue Northeast interchange areas. *Exhibit 7-4* shows the traffic volumes in these areas during the morning and afternoon peak hours.

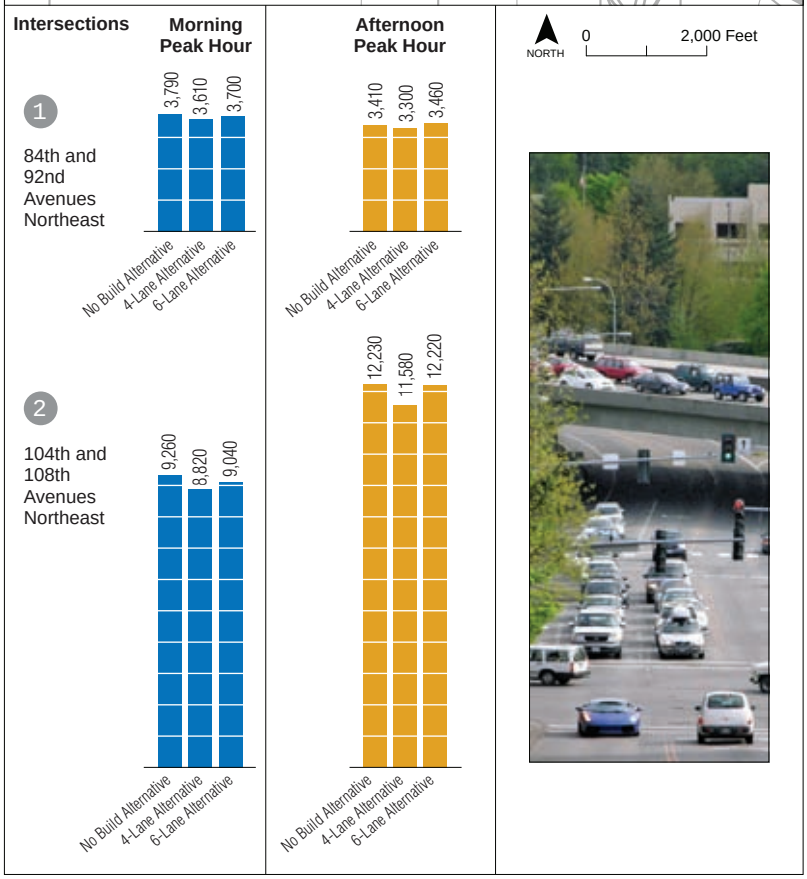
KEY POINT

Local Traffic

Overall, both build alternatives would make local traffic flow more smoothly. Compared to No Build, one intersection would operate better with the project under both build alternatives. Only one intersection (92nd Avenue Northeast at the SR 520 westbound off-ramp) would operate substantially worse.

Exhibit 7-4. **Traffic Volumes on Eastside Streets, Morning and Afternoon Peak Hours**





Changes in Traffic Demand and Capacity

Local traffic volumes would generally be lower for both of the build alternatives than for the No Build Alternative because the bridge tolls would lead some drivers to find alternative routes or modes of travel. However, neither build alternative nor any of the options would change traffic demand in the Eastside project area substantially from No Build levels. Under the 4-Lane Alternative, local traffic volume would decrease by 5 percent from No Build levels in the morning peak hour and by 4 percent during the evening peak hour at all Eastside interchange areas. Under the 6-Lane Alternative and options, traffic in all Eastside interchange areas would decrease 2 percent during the morning peak hour compared to the No Build Alternative. During the evening peak hour, traffic would increase by 1 percent or less at the SR 520 interchange areas.

Changes in Level of Traffic Congestion

As would be expected from the modest changes in traffic levels at local Eastside intersections, levels of traffic congestion would change at only a few intersections with the build alternatives. Traffic operations would improve from severely congested to congested at one Eastside intersection under both alternatives. As shown in *Exhibits 7-5a, 7-5b*, and *7-6,* only one of the nine study area intersections (the 92nd Avenue Northeast/SR 520 westbound off-ramp intersection) would be negatively affected by the 4-Lane or 6-Lane Alternatives. Both build alternatives would negatively affect traffic at this intersection during the morning peak hour. (A negative effect is defined as a decline from congested under No Build conditions to severely congested under the build alternatives.) This intersection has a stop sign for off-ramp traffic only. The increased congestion would back up traffic on the ramp (resulting in a 35-second delay under No Build conditions and a 55- or 43-second delay under the 4-Lane and 6-Lane Alternatives, respectively), but would not affect traffic flow on the freeway.

WSDOT is working with the local jurisdictions to determine appropriate mitigation measures at the 92nd Avenue Northeast/SR 520 westbound off-ramp intersection and the 108th Avenue Northeast/SR 520 eastbound on-ramp intersection. A signal at both intersections would ensure that left-turning vehicles would be able to safely enter traffic on the opposing street. At the 92nd Avenue Northeast/SR 520 westbound off-ramp intersection, a signal would also help to ensure that exiting vehicles would not back up on the SR 520 mainline. At the 108th Avenue Northeast/SR 520 eastbound on-ramp intersection, a signal would help to keep left-turning vehicles from blocking through traffic on 108th Avenue Northeast.

Exhibit 7-5a. Traffic Congestion at Eastside Project Area Intersections, 2030 Morning Peak Hours

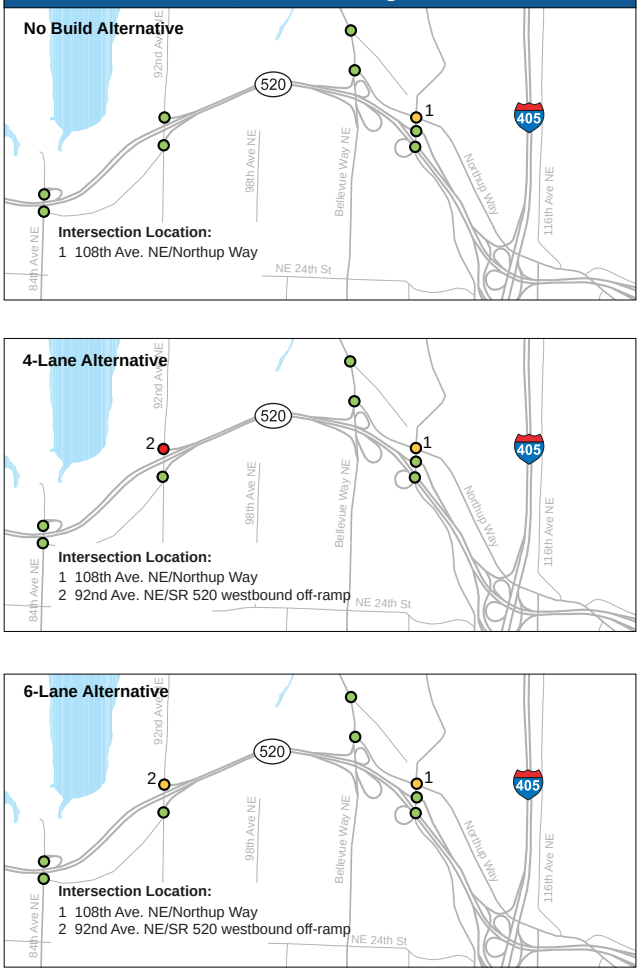
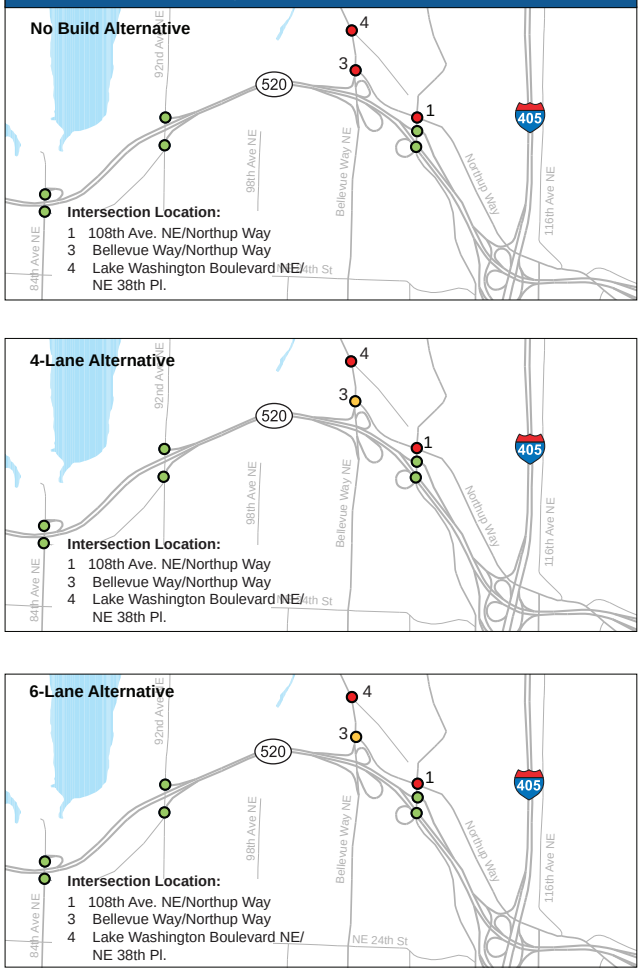


Exhibit 7-5b. Traffic Congestion at Eastside Project Area Intersections, 2030 Afternoon Peak Hours



- Low to moderate congestion (LOS A through D)
- Congested (LOS E)
- Severely congested (LOS F)

NORTH 0 2,000 Feet

Exhibit 7-6. Changes in 2030 Level of Service at Eastside Intersections

Locations	Morning Peak Hour				Afternoon Peak Hour			
Eastside	No Build Alternative	4-Lane Alternative	6-Lane Alternative	South Kirkland Park-and-Ride Transit Access - Bellevue Way and 108th Avenue Northeast Options	No Build Alternative	4-Lane Alternative	6-Lane Alternative	South Kirkland Park-and-Ride Transit Access - Bellevue Way and 108th Avenue Northeast Options
108th Ave. NE/Northup Way NE	Congested (LOS E)	Congested (LOS E)	Congested (LOS E)	Low to moderate congestion (LOS A through D)	Severely congested (LOS F)	Severely congested (LOS F)	Severely congested (LOS F)	Severely congested (LOS F)
92nd Ave. NE/SR 520 Westbound Off-Ramp	Low to moderate congestion (LOS A through D)	Severely congested (LOS F)	Congested (LOS E)	Congested (LOS E)	Low to moderate congestion (LOS A through D)	Low to moderate congestion (LOS A through D)	Low to moderate congestion (LOS A through D)	Low to moderate congestion (LOS A through D)
Bellevue Way/Northup Way NE	Low to moderate congestion (LOS A through D)	Low to moderate congestion (LOS A through D)	Low to moderate congestion (LOS A through D)	Low to moderate congestion (LOS A through D)	Severely congested (LOS F)	Congested (LOS E)	Congested (LOS E)	Congested (LOS E)
Lake Washington Boulevard NE/ NE 38th Pl.	Low to moderate congestion (LOS A through D)	Low to moderate congestion (LOS A through D)	Low to moderate congestion (LOS A through D)	Low to moderate congestion (LOS A through D)	Severely congested (LOS F)	Severely congested (LOS F)	Severely congested (LOS F)	Severely congested (LOS F)

Low to moderate congestion (LOS A through D) Congested (LOS E) Severely congested (LOS F)

How would the project affect transit?

The 6-Lane Alternative would outperform the 4-Lane Alternative in terms of transit operations, travel time, and access because it would provide continuous eastbound and westbound HOV lanes from I-5 to Bellevue Way. Since these would be inside lanes with freeway stations, transit vehicles would only need to merge with HOV traffic and not general-purpose traffic. These would improve transit operations, circulation, and travel times. New inside lane transit stops under the 6-Lane Alternative would have elevator and stairway access. The 4-Lane Alternative would include Americans with Disabilities Act (ADA)-compliant ramps for freeway stations, but no elevators.

KEY POINT

Transit

The 6-Lane Alternative would outperform the 4-Lane Alternative in terms of transit operations, travel time, and access because it would have continuous eastbound and westbound HOV lanes from I-5 to Bellevue Way.

Both build alternatives would increase the demand for transit in the project area. To meet the additional demand, the number of peak hour bus trips needed would be 30 percent higher for the 4-Lane Alternative and 31 percent higher for the 6-Lane Alternative, compared to the No Build Alternative. WSDOT will work with transit service providers to help ensure sufficient bus service to meet the demand. If the demand for transit is not met, predicted traffic volumes and travel times could change from those described in the traffic analysis. The increased level of transit service is not currently planned or funded. Although more people would use transit under the No Build Alternative in 2030 than now, its benefits would be limited because buses would experience the same delays as single-occupant vehicles.

As previously described, there are three 6-Lane Alternative options that would affect Eastside transit service: the two South Kirkland Park-and-Ride Transit Access options and the No Evergreen Point Freeway Transit Stop option. The South Kirkland Park-and-Ride Transit Access options would further enhance transit operations through more direct connections and travel time savings between SR 520 and the park-and-ride.

There are currently two freeway stations on SR 520 between 92nd Avenue Northeast (near the interchange) and Evergreen Point Road. The Evergreen Point Freeway Station serves the majority of riders, with approximately 800 weekday transit riders (based on September 2002 data from Metro Transit) using the stop. Most of the riders using this freeway station are transferring between I-405 and SR 520 bus service. The service provided at this station would need to be provided at a new location.

Removing the Evergreen Point Freeway Station would narrow the highway footprint; transit service would shift east to another freeway station.

Note that if high-capacity transit becomes part of the SR 520 corridor in the future, any bus transit freeway stations relocated or developed as a part of the project would not preclude or predetermine the location of potential future high-capacity transit stops. Sound Transit is in the process of developing a plan for the next phase of high-capacity investments in the region, referred to as ST2. An ST2 candidate project would evaluate high-capacity transit modes and routes in the SR 520 corridor.

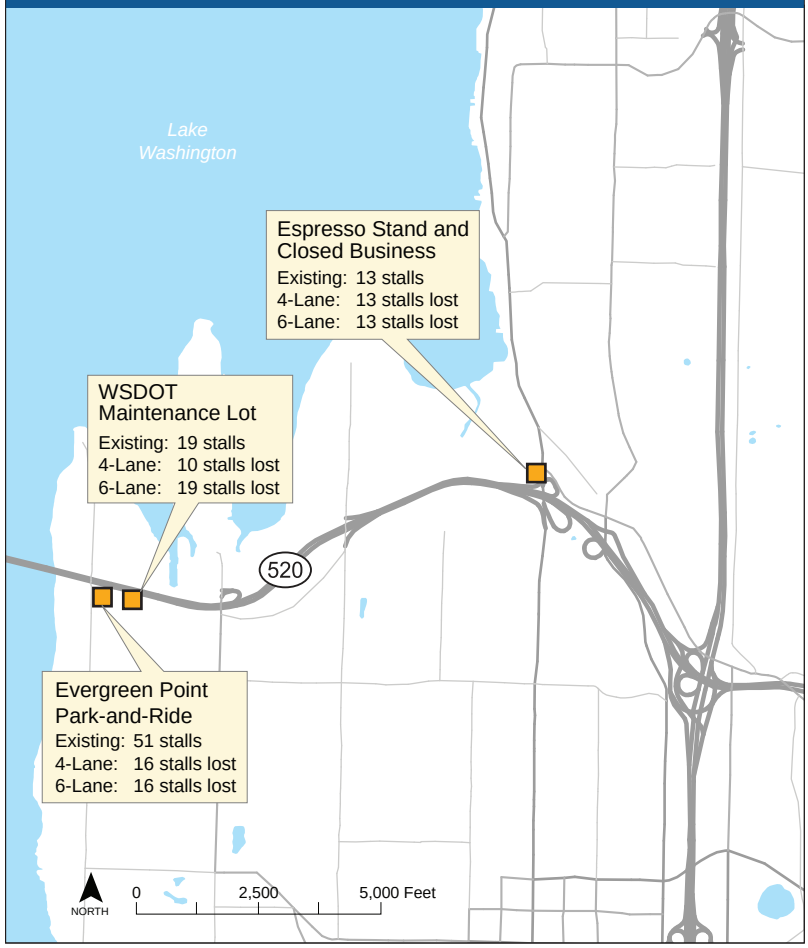
How would the project affect parking?

The No Build Alternative would not affect parking supply because SR 520 would not be expanded. However, the 4-Lane Alternative would result in an overall loss of 39 parking spaces, and the 6-Lane Alternative would cause the loss of 48 spaces on the Eastside *(Exhibit 7-7)*. WSDOT proposes to mitigate the loss of parking at the Evergreen Point Park-and-Ride in Medina by shifting the proposed bicycle/pedestrian path within the current right-of-way at this location to allow additional space for parking. Of the total parking displaced, 16 spaces would be from this lot, which has an average use rate of 88 percent. Mitigation for other Eastside parking losses will be identified as part of the Final EIS.

Further detail on the project's effects on local streets, intersections, and parking is presented in Appendix R, Transportation Discipline Report.

Two options to improve transit access to the South Kirkland Park-and-Ride would reconfigure the ramps at either Bellevue Way or 108th Avenue Northeast.

Exhibit 7-7. **Potentially Affected Parking Areas on the Eastside**



How noisy would the Eastside project area be if the project were built?

As described in Chapter 2, traffic noise is a dominant part of life in the Eastside project area for residences close to SR 520. Of the 603 residences in the Eastside project area that were assessed for noise effects, noise levels approach or exceed FHWA's noise abatement criteria at 135 residences now, and would exceed the noise abatement criteria at 154 residences in 2030. This number would decrease dramatically if the project were built. Sound walls would reduce noise levels to below the criteria at all but 24 of these residences under the 4-Lane Alternative and all but 18 under the 6-Lane Alternative. This represents an 86 percent reduction in the number of residences that now approach or exceed the noise criteria. The remaining residences' noise levels cannot be further reduced by the sound walls, either because they are affected by noise from other roads or because the surrounding topography makes it infeasible to build effective sound barriers for them.

The differences in noise levels between the alternatives are largely the result of the 6-Lane Alternative lids, which would offer more complete shielding than the 4-Lane Alternative sound walls at intersections near the bridges (where there would be breaks in the sound walls). Although the 6-Lane Alternative options would cause slight variations in noise levels at individual locations compared to the 6-Lane Alternative, they would not change the number or location of Eastside receivers that would approach or exceed the noise abatement criteria.

Exhibits 7-8 and *7-9* compare existing, No Build Alternative, 4-Lane Alternative, and 6-Lane Alternative noise levels in Eastside neighborhoods; *Exhibit 7-10* shows this information in table format. In Medina and Hunts Point north of SR 520, it would be noticeably quieter for almost all residents, except a few who would not notice any change in the noise level. In this area, noise levels at 29 residences currently approach or exceed the noise abatement criteria; under the 4-Lane Alternative, noise levels at only 4 residences would approach or exceed the criteria, and none would approach or exceed the criteria under the 6-Lane Alternative. Similarly, in Medina and Hunts Point south of SR 520, noise levels would be noticeably lower for every residence—some by as much as 13 decibels, meaning that listeners would perceive the noise level as being cut in half. (Note that when we refer to decibels in this Draft EIS, we are referring to decibels on the A-weighted scale; see Chapter 2 and Appendix M, Noise Discipline Report, for additional information.) Noise levels would approach or exceed the noise abatement criteria at only 5 residences under the 4-Lane Alternative, and none under the 6-Lane Alternative, compared to 37 that approach or exceed the criteria today. All residences with noise levels remaining at or above the criteria are affected by noise from Evergreen Point Road and 84th Avenue Northeast.

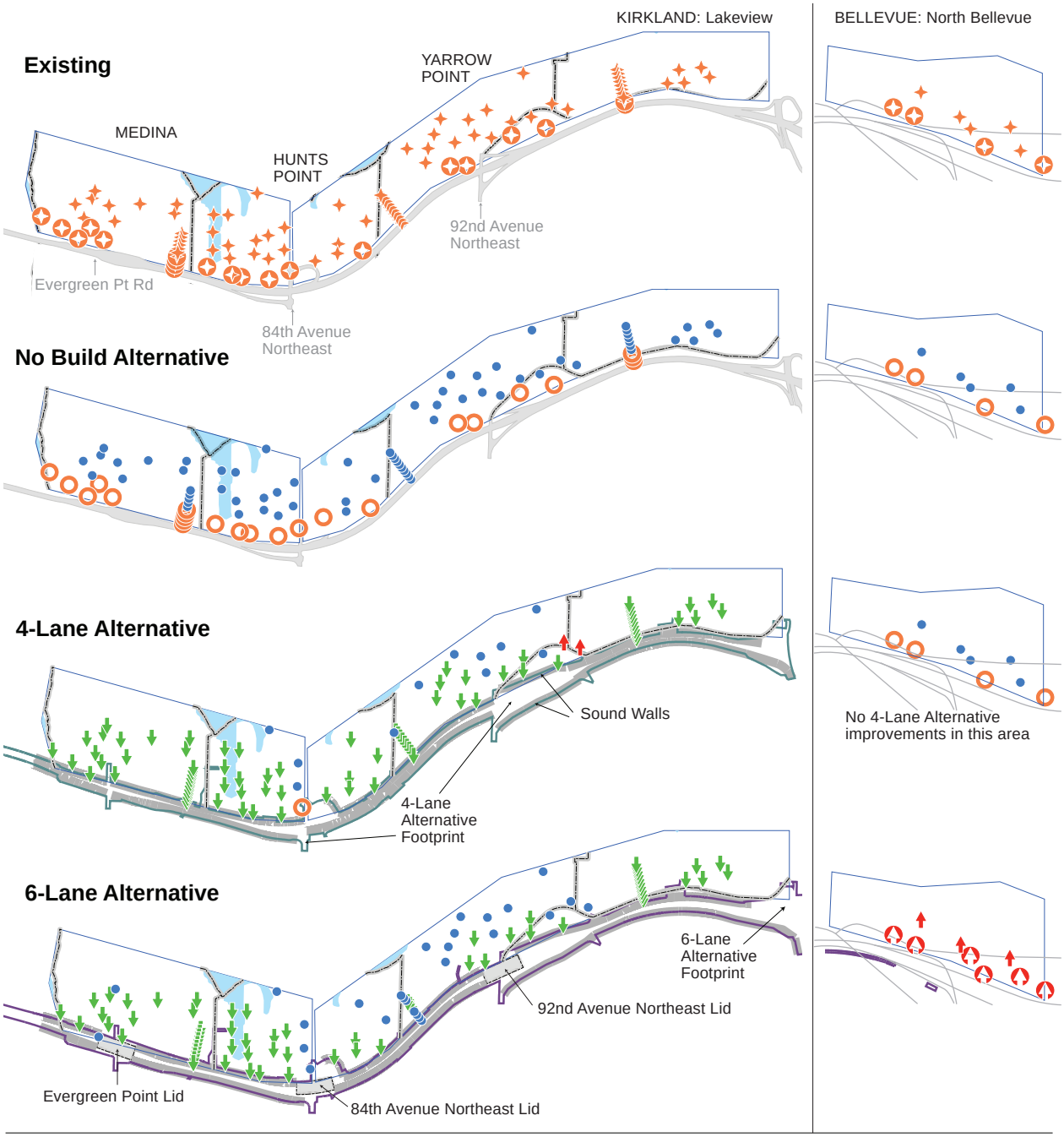
KEY POINT

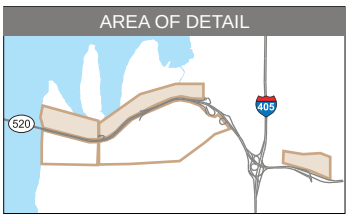
Noise

The noise situation would improve substantially in the Eastside project area if either of the alternatives were built. The construction of sound walls would result in a reduction in noise levels at 86 percent of the residences where noise currently approaches or exceeds the noise abatement criteria.

(Top) Homes next to SR 520 would benefit from sound walls; (bottom) sound walls like these would line SR 520 (as shown in this simulation of the bicycle/pedestrian path and the Points Loop Trail on the Eastside.)

Exhibit 7-8. **Noise Levels on the Eastside North of SR 520**





- Noise modeling location
- Modeled noise level above noise abatement criteria (>66 dB)

NORTH 0 1,000 2,000 Feet

Change in Noise Level vs. Existing

- Noticeable decrease (≥3 dB)
- No noticeable change (+2 dB)
- Noticeable increase (≥3 dB)
- Noticeable decrease and noise level above noise abatement criteria
- No noticeable change and noise level above noise abatement criteria
- Noticeable increase and noise level above noise abatement criteria

Exhibit 7-9. **Noise Levels on the Eastside South of SR 520**

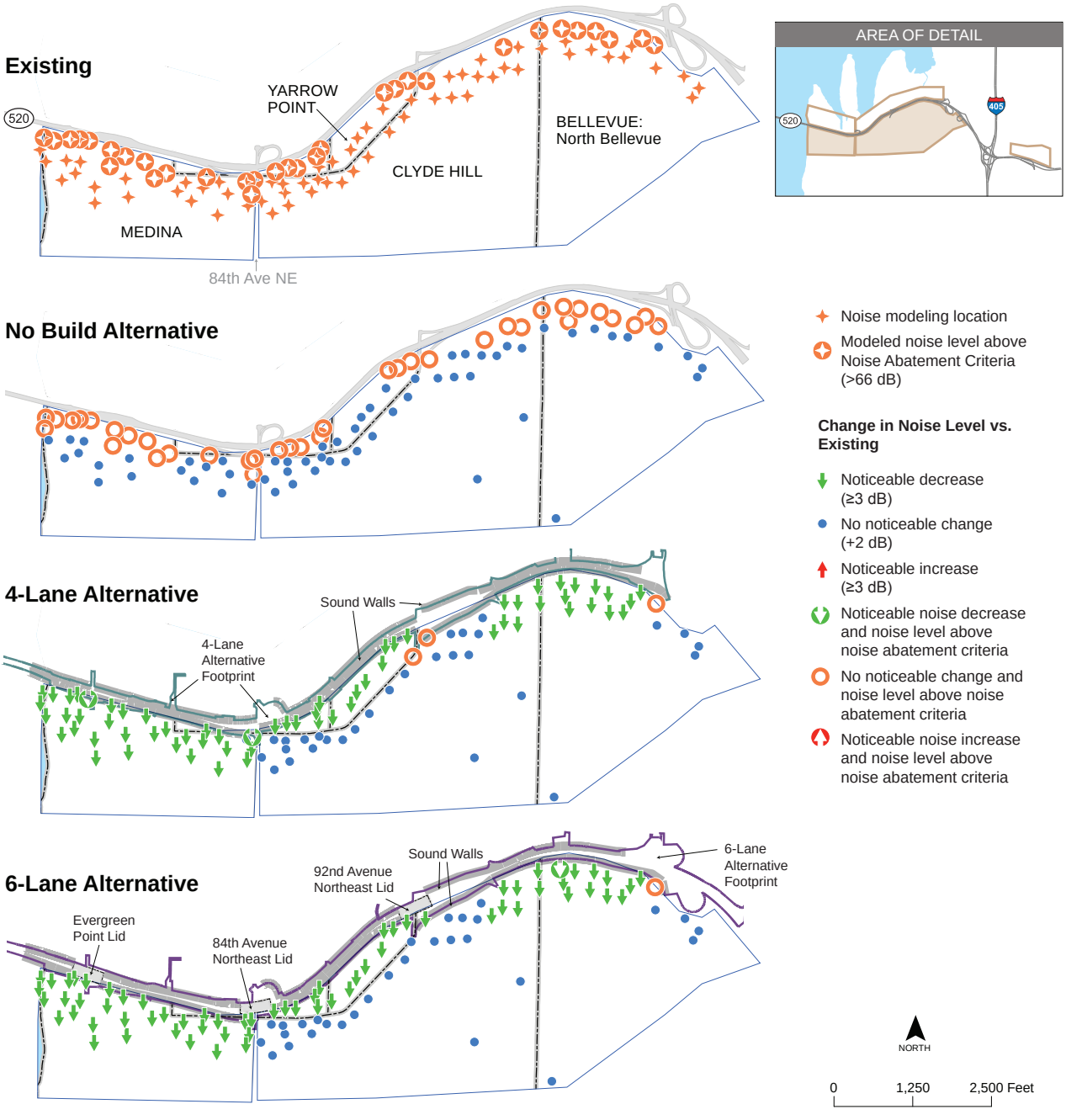


Exhibit 7-10. **Number of Residences Approaching or Exceeding FHWA Noise Abatement Criteria in the Eastside Project Area**

Neighborhood	Existing Conditions	No Build Alternative	4-Lane Alternative	6-Lane Alternative
North of SR 520				
Medina/Hunts Point	29	29	4	0
Hunts Point/Yarrow Point/Kirkland	16	18	0	0
South of SR 520				
Medina/Hunts Point	37	41	5	0
Hunts Point/Clyde Hill/ Yarrow Point/North Bellevue	47	60	9	6
East I-405 - North Bellevue	6	6	6	12
Total	135	154	24	18

In Hunts Point, Clyde Hill, Yarrow Point, and Kirkland north of SR 520, 16 residences now approach or exceed the noise abatement criteria; no residences would approach or exceed the criteria if either alternative were built. For most residents, it would be noticeably quieter. South of SR 520 in Hunts Point, Clyde Hill, Yarrow Point, and north Bellevue, the 47 residences currently at or exceeding the noise criteria would decrease to 9 under the 4-Lane Alternative and 6 under the 6-Lane Alternative. Noise would be reduced by as much as half for some of the residences. The residences where noise levels would still approach or exceed the noise abatement criteria either experience traffic noise from 92nd Avenue Northeast and Bellevue Way Northeast or are located uphill from the highway, where the sound walls would be less effective.

The only location where noise levels would not improve is in Bellevue, north of SR 520 and east of I-405. In this area, the number of residences at or exceeding the noise abatement criteria would increase from 6 to 12 under the 6-Lane Alternative because of traffic in the eastbound auxiliary lane proposed for the south side of SR 520. Sound walls would not be effective here because the residences sit on a hill overlooking the roadway, and they are also affected by traffic noise from Northeast 24th Street. The 4-Lane Alternative proposes no improvements in this location; however, a slight increase in noise of one to three decibels over existing levels would occur as traffic volumes increased on local streets in the immediate vicinity of the residences.

Many of the noise reductions described above would be greater compared to the No Build Alternative because noise levels would increase somewhat over time. With the No Build Alternative, Continued Operation Scenario people in the project area would continue to hear high levels of noise from SR 520, and more residences would approach or exceed the noise abate-

ment criteria. The Catastrophic Failure Scenario would change traffic patterns, and therefore the distribution of traffic noise in the study area. Some areas that are now predominantly affected by SR 520 noise would be much quieter, while other parts of the study area would become noisier. The specific effects would depend upon where the failure occurred. Noise effects from the project are described in greater detail in Appendix M, Noise Discipline Report.

What communities may be affected, and how could their characteristics change?

The project could affect communities on the Eastside in the same ways as described (in more detail) in Chapter 5 for Seattle. These include:

- Community cohesion
- Recreation
- Land use
- Regional and community growth
- Public services
- Bicyclist, pedestrian, and transit facilities
- Environmental justice

The following sections describe how the alternatives would affect each of these characteristics for neighborhoods in the Eastside project area. Except where noted, the effects of the 6-Lane Alternative options would not differ from those of the 6-Lane Alternative. More detailed discussions of these topics are provided in Appendix G, Air Quality Discipline Report; Appendix K, Land Use, Relocations, and Economics Discipline Report; Appendix N, Public Services and Utilities Discipline Report; Appendix O, Recreation Discipline Report; and Appendix Q, Social Discipline Report.

Community Cohesion

As described in Chapter 2, the construction of SR 520 in the 1960s divided communities in the Eastside project area. Medina, Hunts Point, Yarrow Point, and Clyde Hill were split into northern and southern portions by the highway. The build alternatives would not further isolate or physically separate the project area's neighborhoods, and the 6-Lane Alternative would partially reconnect some of the neighborhoods severed over 40 years ago by the SR 520 construction. By providing lids where bridges now exist at Evergreen Point Road, 84th Avenue Northeast, and 92nd Avenue Northeast, the project would enhance connections across the highway, especially for bicyclists and pedestrians. In addition to carrying local streets over SR 520, the lids would provide landscaped, open space areas that would provide paths across the highway and places for people to sit and enjoy the view (particularly at the Evergreen Point lid). *Exhibit 3-7* in Chapter 3 shows some concepts that the affected communities have

Lids would replace the bridges over SR 520 at Evergreen Point Road, 84th Avenue Northeast and 92nd Avenue Northeast, reconnecting communities severed by construction of SR 520 in the early 1960s.

KEY POINT

Community Cohesion

The 6-Lane Alternative would partially reconnect the neighborhoods severed over 40 years ago by SR 520's construction. By providing lids where bridges over SR 520 now exist at Evergreen Point Road, 84th Avenue Northeast and 92nd Avenue Northeast, the project would enhance links across the highway, especially for bicyclists and pedestrians.

developed for these lids. Although the communities have not all reached consensus on these concepts, they illustrate some of the types of amenities the lids could provide.

The build alternatives would not displace affordable housing or community facilities on the Eastside, nor would they create physical impediments that would make it more difficult for people to reach community facilities or affordable housing. These alternatives also would not directly affect population distribution. On the Eastside, the 4-Lane Alternative would displace two residences and the 6-Lane Alternative would displace one residence. Both alternatives would improve air quality, noise levels, and traffic congestion in adjacent communities. Such improvements would not provide an impetus for residents to move elsewhere. Over time, the project could slightly affect regional population distribution by changing large-scale patterns of travel within the project area, but it would not create additional growth.

The No Build Alternative would maintain the physical separation of the northern and southern portions of Medina, Hunts Point, Yarrow Point, and Clyde Hill. Over time, increased traffic congestion on and around SR 520, along with the resulting noise and air pollution, would lower the quality of life in these neighborhoods. With the Catastrophic Failure Scenario, it is possible that damage to SR 520 could hinder access within or between project area neighborhoods, or access to community facilities.

KEY POINT

Recreation

Both the 4-Lane and the 6-Lane Alternatives and all options would necessitate the relocation and reconstruction of the Points Loop Trail in certain locations. The 4-Lane Alternative would not result in the acquisition of any park property on the Eastside. The 6-Lane Alternative would temporarily occupy approximately 0.2 acre of Fairweather Park and approximately 0.11 acre of Wetherill Park during construction.

Recreation

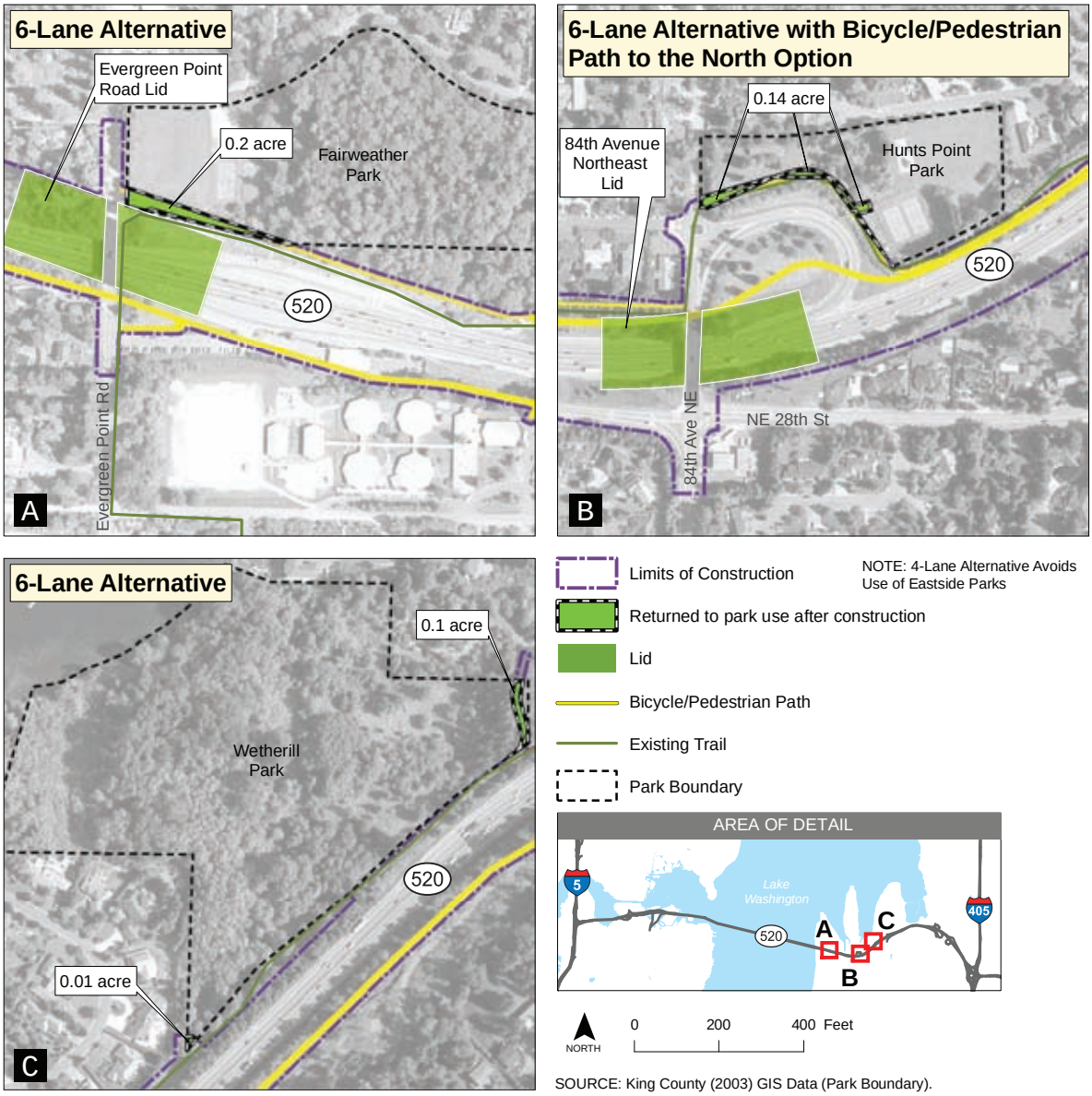
Neither build alternative would result in the permanent acquisition of any park property on the Eastside. The 6-Lane Alternative would require temporary use of small portions of Fairweather and Wetherill Parks during construction. *Exhibit 7-11* shows the effects of the alternatives and options on Eastside parks.

Under the 6-Lane Alternative, reconstruction of the Points Loop Trail would result in the temporary fencing and closure of the southwest corner of Fairweather Park, as well as any additional area required to accommodate construction activities. However, because the park entrance is at the north boundary, access and use of the park could continue during construction. Similarly, under the 6-Lane Alternative, construction of the Points Loop Trail would result in the temporary fencing and closure of the eastern edge of Wetherill Park. The entrance to the park is located west of the affected area, so access and use of the park could continue.

During construction of the 6-Lane Alternative, roughly 400 square feet at the southwest tip of Wetherill Park (approximately 0.01 acre) would be used to construct a stormwater flow spreader required for the proposed water quality detention vaults. The area that would contain the flow spreader, however, is not used for active recreational purposes and would be restored after construction.

Construction will affect a small portion of the southwest tip of Wetherill Park; all of this land will be returned to park use at the end of construction.

Exhibit 7-11. **Project Effects on Eastside Parks**



SOURCE: King County (2003) GIS Data (Park Boundary).

Because the Points Loop Trail lies within the WSDOT right-of-way, in places the trail would be within the limits of construction and thus would be closed and relocated under both the 4-Lane and 6-Lane Alternatives. During construction, detour routes using local streets would be provided, thus ensuring the continued use and continuity of the trail. The reconstructed trail would enhance safety and reduce noise because it would be located behind the SR 520 sound walls.

With the Bicycle/Pedestrian Path to the North option, the Points Loop Trail would run parallel to but be separated by a barrier from the SR 520 bicycle/pedestrian path. The trail location would be the same as for the 6-Lane Alternative. This option would offer the benefit of a more

A new bicycle/pedestrian path would run parallel to the Points Loop Trail but would be separate from it.

direct regional bicycle/pedestrian path connection between the Eastside and Seattle. The build alternatives and options would not make it more difficult to reach recreational facilities in the project area.

Noise levels, air quality, and water quality would improve under the 4-Lane and 6-Lane Alternatives at the Eastside project area parks; the No Build Alternative would avoid the use of park lands, but would not have these beneficial effects.

WSDOT would work with the affected jurisdictions (Medina, Hunts Point, and/or Yarrow Point, depending on the alternative) to determine the appropriate mitigation for temporary effects on the Points Loop Trail, Fairweather Park, and Wetherill Park. Vegetation removed in recreational areas during construction would be replanted wherever possible. For more detailed information of the project's effects on Eastside recreation, see Appendix O, Recreation Discipline Report.

KEY POINT

Recreation

The bicycle/pedestrian path would add a key element to the regional transportation system by providing another link across Lake Washington. The 6-Lane Alternative would provide additional bicycle/pedestrian facilities by creating new access across the lids, which would cover the roadway with open space and vegetation.

Land Use

Some land now used for other purposes in the Eastside project area would be converted to right-of-way for the widened SR 520. As indicated in *Exhibit 7-12*, the 4-Lane Alternative would use approximately 2.6 acres of land, encompassing some or all of 43 different parcels for right-of-way; it would also displace two residences in Medina and two businesses in Bellevue near the SR 520/Bellevue Way interchange (one business operates in one building, while the other business operates in two buildings). The 6-Lane Alternative would use about 4.78 acres for right-of-way, including some or all of 61 parcels; it would displace one residence in Medina and the same two businesses as the 4-Lane Alternative. For both build alternatives, most of the land would come from slivers of single-family parcels, usually from the backyards.

KEY POINT

Land Use

Under the 4-Lane and the 6-Lane Alternatives, most of the land acquisitions would come from slivers of single-family parcels. The 6-Lane Alternative options would acquire more land but avoid one of the two residences displaced by the 4-Lane Alternative. Property owners would receive compensation for their properties at fair market value, and relocation resources would be available to all displaced residents and business owners.

Exhibit 7-12. **Land Use Effects in Eastside Project Area**

Alternative / Option	Acres and Parcels Affected	Residential Structures Displaced	Non-Residential Structures Displaced
4-Lane Alternative	2.6 acres 43 parcels	2	3
6-Lane Alternative	4.78 acres 61 parcels	1	3
Bicycle/Pedestrian Path to the North Option	3.98 acres 48 parcels	2	3
No Evergreen Point Freeway Transit Stop Option	4.43 acres 63 parcels	1	3
South Kirkland Park and Ride Transit Access – 108th Avenue Northeast Option	4.8 acre 67 parcels	1	3
South Kirkland Park and Ride Transit Access – Bellevue Way Option	4.64 acres 63 parcels	1	3

Exhibit 7-13 shows the areas in each of the Eastside communities where new right-of-way would be acquired as well as the structures that would be displaced.

Some of the 6-Lane Alternative options would have different land use effects than the 6-Lane Alternative *(Exhibit 7-12)*. The Bicycle/Pedestrian Path to the North option would require acquisition of approximately 0.8 fewer acre, but would displace one additional residence in Medina. The No Evergreen Point Freeway Transit Stop option would reduce land use effects, using 0.32 acre less right-of-way.

The South Kirkland Park-and-Ride Transit Access – 108th Avenue Northeast option would affect six more parcels than the 6-Lane Alternative, but would not displace any additional structures. The total amount of land acquired for this option would be only slightly more than for the 6-Lane Alternative (4.8 acres).

The South Kirkland Park-and-Ride Freeway Transit Access – Bellevue Way option would affect two more parcels than the 6-Lane Alternative, but the total amount of land acquired would be slightly less.

Both the 4-Lane and the 6-Lane Alternatives support the Puget Sound Regional Council's Vision 2020 and King County's Countywide Planning Policies regarding transportation system continuity, the use of alternative transportation modes, and the concentration of growth in urban centers. The 6-Lane Alternative would go farther toward meeting these goals because it would provide a continuous HOV system from I-5 to I-405 and because it would be more effective in improving traffic circulation between the urban centers in the study area.

Both build alternatives and the 6-Lane Alternative options are also generally consistent with the comprehensive plans of Medina, Hunts Point, Yarrow Point, Clyde Hill, Kirkland, and Bellevue. The 6-Lane Alternative would provide greater support for the policies of the local plans. It would add an HOV lane, which would promote carpooling and transit use (as recommended in the comprehensive plans of Medina, Yarrow Point, Clyde Hill, Kirkland, and Bellevue), and the three lids would mitigate the existing noise and visual effects of SR 520 (as recommended in the Medina and Hunts Point comprehensive plans). The 6-Lane Alternative would also help to reconnect the Clyde Hill and Yarrow Point communities, as recommended in the Yarrow Point Comprehensive Plan.

The project build alternatives and options were developed to be generally consistent with the comprehensive plans of Medina, Hunts Point, Clyde Hill, Yarrow Point, Kirkland, and Bellevue.

WSDOT would mitigate property acquisition and relocations in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies of 1970, as amended. Property owners would receive compensation for their properties at fair market value. WSDOT would make relocation resources available to all displaced residents and business owners without discrimination. Based on project analysts' current understanding of the Eastside properties, no major difficulties are anticipated

Exhibit 7-13. **Effects on Properties and Structures in the Eastside Project Area**

in finding replacement properties. WSDOT would work closely with all displaced residents and businesses to find suitable properties to accommodate their needs.

The No Build Alternative would not use any additional land or displace any buildings. However, it would not support local and regional land use plans because the portion of SR 520 in the project area would remain a nonstandard roadway that limits the use of alternative transportation modes. It also would not be consistent with the policies of Medina, Yarrow Point, Clyde Hill, and Kirkland that encourage mitigation of SR 520's noise and visual effects. Eastside project area land use effects are detailed in Appendix K, Land Use, Economics, and Relocations Discipline Report.

Regional and Community Growth

The build alternatives and options would not cause any noticeable change, as compared to the No Build Alternative, in the number or the type of people living in the Eastside project area neighborhoods. The minor displacements that the project would cause are not enough to change the community populations. In addition, the build alternatives would not negatively affect the quality of life in Eastside communities and would improve noise levels, air quality, and traffic conditions over existing conditions. Overall, the project area contains owner-occupied, high-value housing, as evidenced by the high median home values. Given the few displacements and the improvements in quality of life, the composition of the project area's communities and neighborhoods would not change.

The project's indirect effects on regional growth would also likely be minor. Forecasts for 2030 indicate that population and employment in the Eastside project area would fluctuate only marginally from the No Build Alternative to the build alternatives.

Public Services

The 4-Lane and 6-Lane Alternatives would not change the delivery of public services within the project area. The project would not displace any services and would not create any barriers to reaching those services. The No Build Alternative could impede service delivery over time as congestion in the project area increases, with the Catastrophic Failure Scenario potentially interrupting access for users and providers of public services. Appendix N, Public Services and Utilities Discipline Report, provides a more indepth discussion of the project's effect on public services in the Eastside project area.

Bicyclist, Pedestrian, and Transit Facilities

Both the 4-Lane and 6-Lane Alternatives would construct a continuous bicycle/pedestrian path from west of the Montlake Boulevard interchange to Northeast Points Drive in Kirkland. This path would improve capacity, circulation, and travel times for bicyclists and pedestrians. It would also add a key element to the regional transportation system by providing another link across Lake Washington. Bicyclists in the SR 520 corridor would be able to cross the lake without having to wait for a bus. The 6-Lane Alternative would provide several more bicyclist/pedestrian facilities by creating new paths across the lids at Evergreen Point, 84th Avenue Northeast, and 92nd Avenue Northeast. The Bicycle/Pedestrian Path to the North option would provide the benefit of a more direct regional bicycle/pedestrian path connection between the Eastside and Seattle.

The No Build Alternative would not provide any improvements for pedestrians and bicyclists, who would face the same challenges in crossing Lake Washington and navigating the Eastside project area as they do today.

The No Build and 4-Lane Alternatives include a partial HOV lane (westbound on the Eastside). Because the lanes would not extend continuously through the corridor, transit vehicles would operate in the general-purpose lanes with other vehicles. The 6-Lane Alternative would allow transit vehicles to bypass traffic congestion through much of the corridor. As a result, the 6-Lane Alternative would move people more efficiently than either the No Build or 4-Lane Alternatives. In addition, the benefits of an HOV lane could potentially change community life in adjacent neighborhoods by providing incentives to use transit and increase pedestrian activity.

A new bicycle/pedestrian path would cross the Evergreen Point Bridge, ending in Kirkland at Northeast Points Drive.

Would the SR 520 bicycle/pedestrian path extend beyond the project limits?

The regional bicycle/pedestrian path proposed for the SR 520 build alternatives would end in Kirkland at Northeast Points Drive. Ultimately, the trail could be extended east to connect with the Sammamish River Trail in Redmond and with a potential future trail along the Burlington Northern-Santa Fe Railroad right-of-way that crosses SR 520 just east of I-405. However, an eastward extension would have to wait until WSDOT and FHWA develop plans for the SR 520/I-405 Interchange. This planning process will begin in the near future, and WSDOT will seek input from interested members of the public at that time.

Environmental Justice

As in the Seattle project area, the project team used data from the 2000 U.S. Census to see how the project area's concentrations of minority, limited English proficiency, and low-income residents compare to the region as a whole. On the Eastside, the Crossroads neighborhood in Bellevue was the only area with relatively high percentages of minority populations as compared to other neighborhoods in the Eastside project area. The analysis did not identify any disproportionate effects on these minority residents. Chapter 4 summarizes the results of the environmental justice analysis on a regional basis. Appendix G, Environmental Justice Analysis, explains how we conducted this analysis.

How would effects on cultural and/or historic resources compare between the alternatives?

As explained in Chapter 5, development of new projects can affect cultural and historic resources if a known resource must be physically altered or removed because of the project, or if project development changes the setting of the resource by removing parts of its historic context. Historians and archaeologists also consider a setting changed if the proximity of the new development intrudes upon it visually or through other means, such as by increasing noise. Conversely, a project can benefit the historic setting by reducing existing effects that detract from it. Section 106 of the National Historic Preservation Act provides a framework for evaluating and mitigating effects on historic properties, as described in Chapter 4, and Section 4(f) of the Department of Transportation Act also protects NRHP-eligible properties.

KEY POINT

Historic Resources

The build alternatives would have both positive and negative indirect effects on Eastside historic resources eligible for listing on the NRHP and/or the WSHR. Both build alternatives would affect an NRHP-eligible residence. The 4-Lane Alternative would have a negative effect with its displacement and the 6-Lane Alternative would have a positive effect with no displacement and the construction of the landscaped lid. The 4-Lane and 6-Lane Alternatives would negatively affect the setting of two NRHP-eligible properties and a WSHR-eligible property by increasing visual intrusion, and would positively affect these properties by reducing noise levels.

How would the build alternatives affect historic properties?

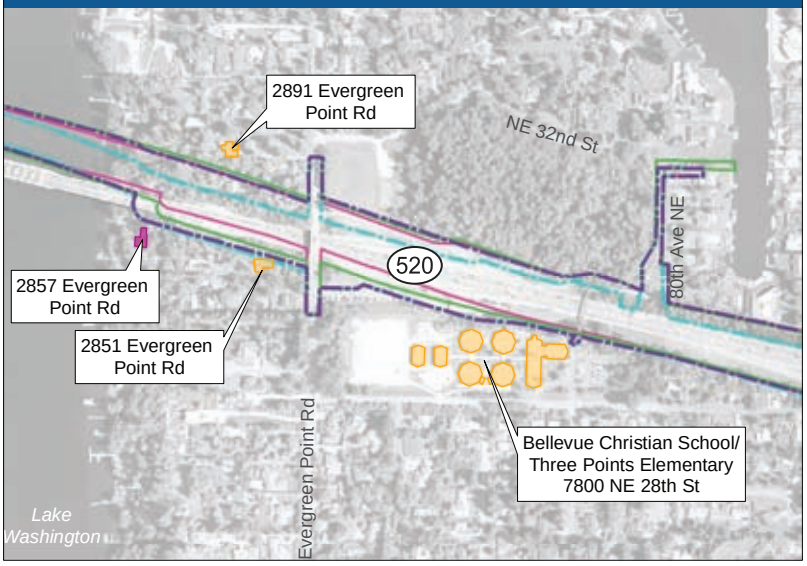
Exhibit 7-14 shows potential effects of the build alternatives on Eastside historic resources. (Note that determinations of eligibility for the NRHP must be concurred with by the SHPO.) Both build alternatives would affect the NRHP-eligible residence at 2851 Evergreen Point Road. The 4-Lane Alternative would displace the residence; the 6-Lane Alternative would not displace it because the roadway alignment would shift slightly northward with the different lane configuration. Construction of the 6-Lane Alternative's landscaped lid at Evergreen Point Road would have a positive effect on the property by increasing the adjacent green space and reducing the visibility of SR 520. These changes, along with the proposed sound walls, would partially restore the home's original setting and also would reduce noise levels by 11 decibels. The Bicycle/Pedestrian Path to the North option would further reduce effects on the property.

The 4-Lane and 6-Lane Alternatives would affect two other NRHP-eligible properties and one Washington State Historic Register (WSHR)-eligible property. The NRHP-eligible residence at 2891 Evergreen Point Road would experience increased visual intrusion because of the Evergreen Point Bridge's northward shift. This would be compounded by the removal of vegetation and structures that now screen the property from the roadway and by the installation of sound walls. However, the presence of the sound walls would have the beneficial effect of reducing noise levels at this location by up to 6 decibels.

The Bellevue Christian School/Three Points Elementary School is eligible for the National Register of Historic Places.

Another NRHP-eligible property, the Bellevue Christian School/Three Points Elementary, would lose a small piece of its property to accommodate the new bicycle/pedestrian path. (This effect would occur with either build alternative but would not occur with the Bicycle/Pedestrian Path to the North option.) The presence of the sound walls would reduce noise levels at the school substantially, by up to 8 decibels. Landscaping could be installed to help mitigate for the acquisition of land for the path.

Exhibit 7-14. **Effects on Historic Resources in the Eastside Project Area**



4-Lane Alternative Footprint
6-Lane Alternative Footprint
Bike Path to the North Footprint
No Evergreen Point Transit Stop Footprint
Washington State Historic Register - Eligible Resource
National Register of Historic Places - Eligible Resource

NOTE: Concurrence not yet received from SHPO on eligibility determinations.

NORTH

0 150 300 Feet

A new bridge operations facility would be constructed next to the WSHR-eligible residence at 2857 Evergreen Point. The presence of this facility would increase visual intrusion at the residence and could slightly increase noise in the area when the facility is in use. The higher elevation of the Evergreen Point Bridge would have a visual effect on the residence, and the new bicycle/pedestrian path would open up public access to its currently secluded setting. It would benefit, however, from the northward shift of the bridge (placing the bridge farther from the residence) and a substantial 11- to 13-decibel reduction in noise levels.

WSDOT will coordinate with SHPO on measures to reduce or mitigate effects on historic Eastside properties. Measures currently identified include landscaping between historic properties and SR 520 to reduce visual effects. Designing sound walls to enhance their aesthetic appeal would also help minimize visual effects.

How would the build alternatives affect cultural resources?

Neither the 4-Lane nor the 6-Lane Alternative would permanently affect any known archaeological or ethnographic sites. Because Native Americans are known to have used the shoreline of Lake Washington and the creek

mouths, WSDOT is currently conducting subsurface testing in archaeological high-probability areas to determine whether buried archaeological resources are present and, if so, whether they are historically significant. Also, it is possible that previously undiscovered sites could be discovered during construction. WSDOT will develop an inadvertent discovery plan to address any late discovery of cultural resources during construction. In accordance with the provisions of this plan, WSDOT would work with the affected tribes and the SHPO to mitigate the project's effects if it is not possible to avoid cultural resources that are discovered. These measures could include data recovery programs to collect and document materials found at the site and, potentially, other offsite mitigation measures that would be negotiated between FHWA, the Tribes, the SHPO, and WSDOT.

With the No Build Alternative, historic and cultural resources would remain more or less in their current condition. Appendix D, Cultural Resources Discipline Report, discusses in depth how the project would affect historic properties and cultural resources in the Eastside project area.

How would the project affect Section 4(f) resources?

The Eastside project area includes up to seven properties potentially protected under Section 4(f) regulations. These include four parks and recreational facilities (Fairweather Park, Hunts Point Park, the Points Loop Trail, and Wetherill Park) and three NRHP-eligible historic properties in Medina. As described in the preceding sections, the 4-Lane and 6-Lane Alternatives would affect some of these resources, either as a result of land acquisition or as a result of changes in noise levels or views. Permanent property acquisition is referred to as a "use" under Section 4(f) regulations.

Of the two build alternatives, only the 6-Lane Alternative would affect park land, but the effects would be temporary and would be relatively small. The 4-Lane Alternative would have more effects on historic resources, including demolition of the historic structure at 2851 Evergreen Point Road. For both build alternatives, effects on Bellevue Christian School/Three Points Elementary are likely to fall under the Section 4(f) de minimis provision (described in Chapter 5) because of their minor nature. Both alternatives would provide substantial noise level reductions over No Build conditions at most Section 4(f) properties in the Eastside study area. The Bicycle/Pedestrian Path to the North option would affect a small area of Hunts Point Park for construction of the bicycle/pedestrian path. FHWA will determine whether the project would create negative effects great enough to substantially impair the properties' attributes, features, use, or enjoyment. *Exhibit 7-15* summarizes the project's effects in the Eastside project area. Effects of the 6-Lane Alternative options would not differ greatly from the 6-Lane Alternative effects.

KEY POINT

Section 4 (f)

The 4-Lane Alternative would have more effects than the 6-Lane Alternative on Section 4(f) historic resources on the Eastside, including demolition of the historic structure at 2851 Evergreen Point Road.

Exhibit 7-15. **Section 4(f) Effects of Build Alternatives in Eastside Project Area**

4(f) Resource	4-Lane Alternative	6-Lane Alternative and Options
Points Loop Trail	No acquisition	No acquisition
Fairweather Park	No acquisition	Temporary effect on 0.2 acre of park land
Wetherill Park	No acquisition	Temporary effect on 0.11 acre of park land
2851 Evergreen Point Road	Property acquisition and demolition of historic structure	No acquisition Positive effect (increased adjacent green space, reduced visibility of SR 520 and noise reduction)
2891 Evergreen Point Road	No acquisition Negative effect (increased visual intrusion) Positive effect (noise reduction)	No acquisition Negative effect (increased visual intrusion) Positive effect (noise reduction)
Bellevue Christian School/Three Points Elementary	Positive effect (noise reduction) Acquisition of 3,436 square feet of property	Positive effect (noise reduction) Acquisition of 4,884 square feet of property[a]

[a] No acquisition under Bicycle/Pedestrian Path to the North option.

WSDOT has included measures to minimize harm to Section 4(f) resources in the build alternatives and options. Mitigation measures would be as described in the preceding sections on park effects and cultural and historic resource effects. Appendix P, Draft Section 4(f) Evaluation, provides a more detailed discussion of the project's effects on Section 4(f) resources in the Eastside project area.

How would the project affect ecosystems on the Eastside?

The 4-Lane Alternative and the 6-Lane Alternative and its options would affect Eastside ecosystems in different ways, both beneficial and negative. A beneficial effect would be providing stormwater treatment facilities where none now exist and adding sound walls that would make habitat quieter. A negative effect would be filling of wetlands and loss of vegetation that provides wildlife habitat. Compared to the 4-Lane Alternative, the 6-Lane Alternative would have a somewhat greater effect because of its larger footprint. The adverse effects would be fully mitigated to comply with applicable laws and with WSDOT's policy of causing no net loss in wetland functions and values.

Widening SR 520 would add new impervious surface to the basins in the Eastside project area. The amount of new impervious surface would be less than a 1 percent increase over the amount of existing impervious surface area within the affected basins combined. New facilities to treat and detain stormwater would be an improvement over current conditions, where water carries pollutants from the roadway surface directly into streams and

KEY POINTS

Ecosystems

The project's effects on Eastside ecosystems include:

- Better water quality resulting from new stormwater facilities
- Enhanced fish passage through removal or improvement of culverts
- Adding 9.5 to 14.7 acres of impervious surface in affected Eastside basins (a 0.38 percent increase over basin-wide existing conditions)
- Filling of 3.2 (4-Lane) to 7.8 (6-Lane) acres of wetland and 5.5 (4-Lane) to 12.9 (6-Lane with options) acres of wetland buffer
- Removal of 24.8 acres (4-Lane) to 39.9 acres (6-Lane with options) of wildlife habitat

wetlands with no treatment. The new stormwater system would release treated water into streams and wetlands at a controlled rate; this would allow sustained flows that would minimize erosion.

Exhibits 7-16 and 7-17 show the project's effects on Eastside wetlands. The project would fill 3.2 to 6.5 acres of wetland and 5.5 to 11.6 acres

Exhibit 7-16. **Effects on Wetlands in the Eastside Project Area**

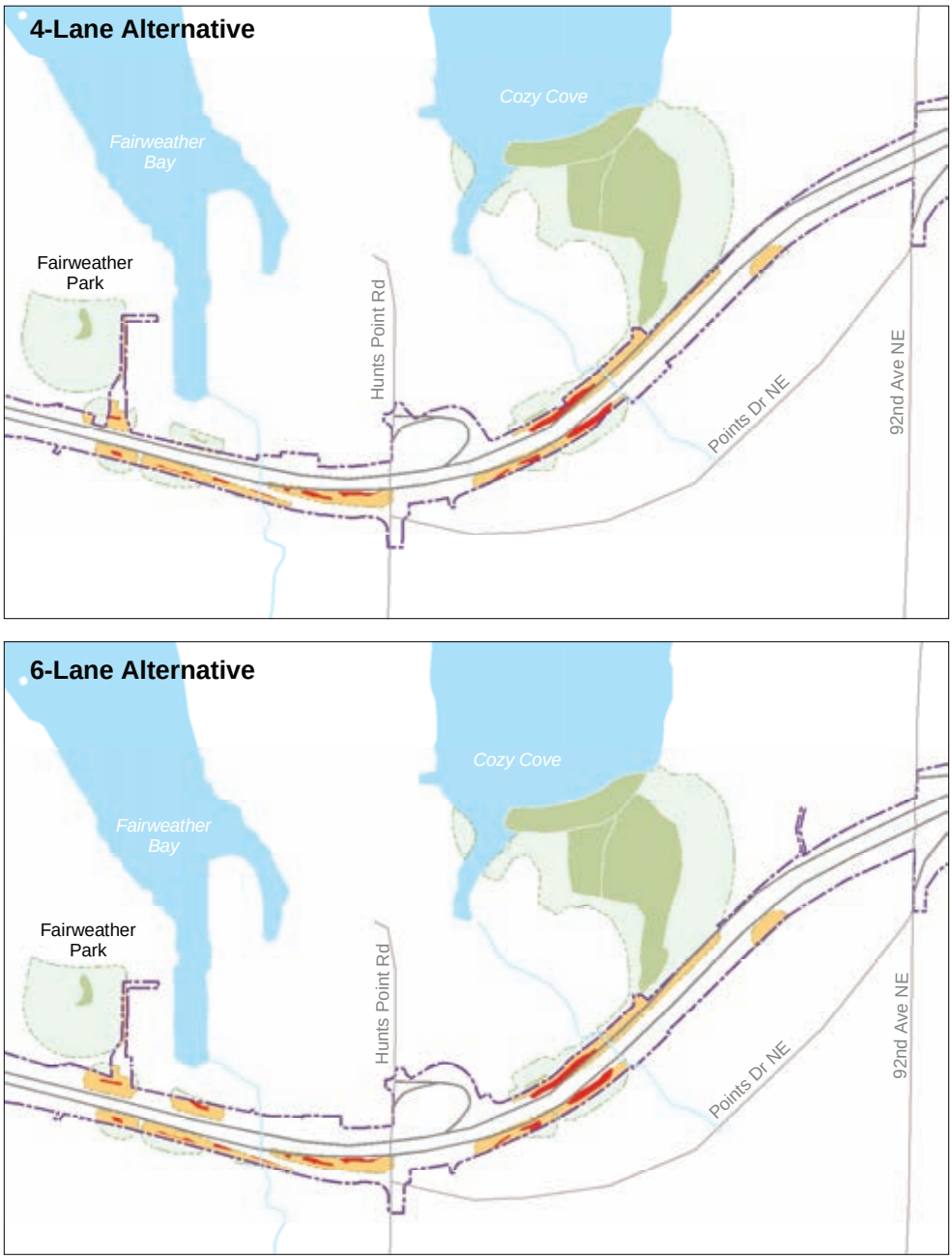
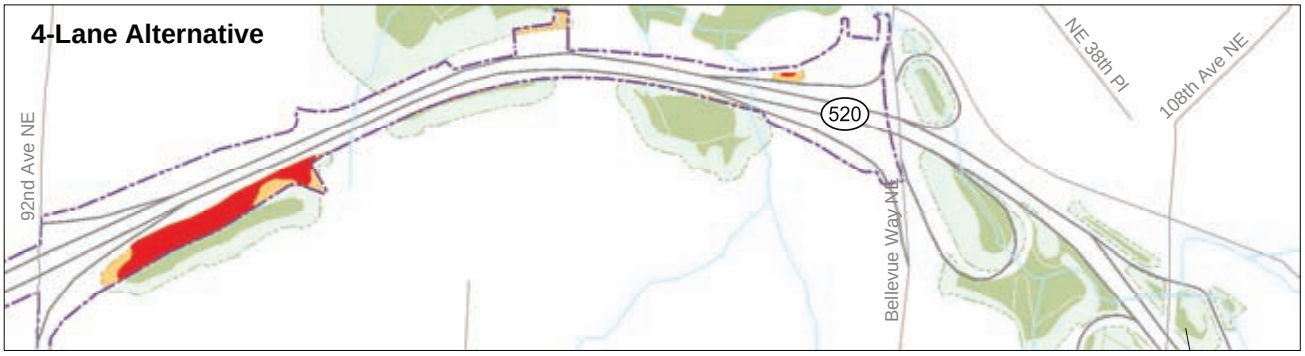


Exhibit 7-16. **Effects on Wetlands in the Eastside Project Area** (continued)



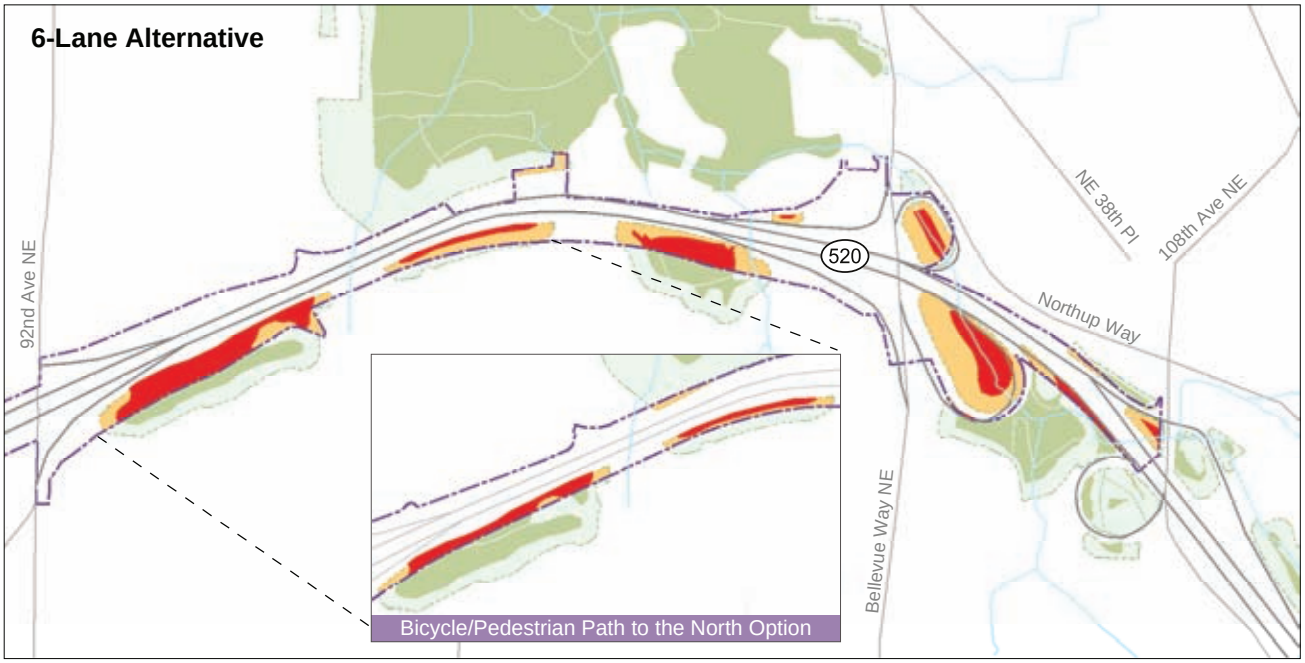


Exhibit 7-17. **Project Effects on Eastside Wetlands by Basin (in acres)**

	4-Lane Alternative		6-Lane Alternative		Bicycle/ Pedestrian Path to the North Option		South Kirkland Park-and-Ride Transit access – 108th Ave NE Option	
Basin	**Wetland**	**Buffer**	**Wetland**	**Buffer**	**Wetland**	**Buffer**	**Wetland**	**Buffer**
Cozy Cove Basin	0.5	2.3	0.5	2.5	0.5	2.3	0.5	2.5
Fairweather Creek Basin	0.3	2.1	0.3	2.5	0.3	2.3	0.3	2.6
Yarrow Bay Wetland Basin	2.4	1.1	3.7	3	2.2	2.0	3.8	2.6
Yarrow Creek Basin	0	0	2.0	3.6	1.8	3.4	3.2	5.2
Total Acreage	3.2	5.5	6.5	11.6	4.8	10.0	7.8	12.9

of wetland buffer (for the 4-Lane and 6-Lane Alternatives, respectively). The South Kirkland Park-and-Ride Transit Access – 108th Avenue Northeast option would increase the 6-Lane Alternative totals to 7.8 acres of wetland fill and 12.9 acres of buffer fill. The Bicycle/Pedestrian Path to the North option would decrease the 6-Lane Alternative total to filling 4.8 acres of wetland and 10 acres of buffer. Many of the affected wetlands are small and isolated with fairly low functions and values, and most have already been disturbed. Nevertheless, these wetlands would lose some of their capacity to provide flood storage, remove pollutants, or provide habitat. The 6-Lane Alternative would affect wetland functions more than the 4-Lane Alternative because of its additional width, especially east of 92nd Avenue Northeast. In addition to wetland effects, construction of the build alternatives would remove existing upland habitat—a total of 24.8 acres for the 4-Lane Alternative and 37.6 acres for the 6-Lane Alternative. (The 6-Lane Alternative total would increase to 39.9 acres if the South Kirkland Park-and-Ride Transit Access – 108th Avenue Northeast option were chosen). The affected area would consist primarily of Urban Matrix habitat, consisting of commercial and residential areas with buildings, asphalt, ornamental gardens, lawns, and scattered trees, along with a smaller amount of parks and Other Protected Areas habitat, consisting of mostly deciduous forests, riparian forests, and wetlands. The quality of the affected habitat is generally low. Some positive effects of the project on habitat would be decreased noise and generally improved water quality.

The project would extend the length of some culverts under SR 520 and remove riparian vegetation in certain areas. WSDOT would remove and/or enhance culverts that now form barriers to fish passage in the Eastside project area. This action has the potential to open new areas of upstream habitat for salmon and other fish. WSDOT would also construct retaining walls to minimize the footprint and its effect on streams and buffers.

The No Build Alternative would not fill any wetlands or affect wildlife habitat, but it would also not include the control and treatment of stormwater runoff from the highway. In addition to improving water quality, stormwater control and treatment would enhance habitat for fish and other aquatic life. This benefit would not occur with the No Build Alternative, which also would not provide the opportunity to open up new fish habitat by repairing or replacing blocked culverts that keep fish from reaching upstream areas.

As described in Chapter 5, WSDOT would compensate for adverse effects using methods approved by the regulatory agencies that have jurisdiction over wetlands, wildlife, and fisheries in the project area, including the towns and cities along the SR 520 Eastside corridor. Preliminary approaches to mitigation are described below.

- *Wetlands*: The 6-Lane Alternative would require 14.2 acres of wetland mitigation on the Eastside, plus buffers to protect the mitigation area *(see Exhibit 7-18)*. Wetland mitigation opportunities are extremely limited in the Eastside project area because the WSDOT right-of-way would be essentially built out. Therefore, mitigation may need to occur offsite. The project team assessed potential wetland mitigation opportunities in the individual basins and determined that there is no undeveloped area of suitable size for mitigation available in any of the individual project area basins, nor are there enough suitable areas across the basins to achieve the total acreage needed. Therefore, WSDOT is currently using a watershed characterization study to identify other potential mitigation sites in the larger Lake Washington/Cedar River Water Resource Inventory Area (WRIA 8).
- *Fisheries:* For both build alternatives, WSDOT would provide mitigation by replacing or retrofitting culverts that are currently not passable to fish. This would open up habitat upstream of SR 520 that is currently inaccessible. In particular, removing barrier culverts would allow fish to take full advantage of the relatively high-quality habitat in Yarrow Creek.

Exhibit 7-18. **Ratio of Fill Mitigation in Eastside Project Area Wetlands**

	Fill (Mitigation Ratio) (acres)			
Wetland Class (Mitigation Ratio)	**4-Lane Alternative**	**6-Lane Alternative**	**South Kirkland Park- and- Ride Transit Access – 108th Ave NE Option**	**Bicycle/ Pedestrian Path to North Option**
I (4:1)	0	0	0	0
II (3:1)	0.01 (0.03)	1.5 (4.5)	2.5 (7.5)	0.8 (2.4)
III (2:1)	2.6 (5.2)	4.4 (8.8)	4.4 (8.8)	3.4 (6.8)
IV (1.5:1)	0.6 (0.9)	0.6 (0.9)	0.9 (1.35)	0.6 (0.9)
Total Acreage	3.2 (6.13)	6.5 (14.2)	7.8 (17.7)	4.8 (10.1)

The following sections summarize specific effects of the project on the basins described in Chapter 2.

Fairweather Creek Basin

The 4-Lane Alternative would completely (or nearly completely) fill three small wetlands south of SR 520 within the Fairweather Creek basin *(Exhibit 7-16)*. It would also fill more than half of a fourth wetland north of SR 520 and south of Fairweather Park. The 6-Lane Alternative would completely fill two wetlands north of the highway and three wetlands on the south side of SR 520. Neither build alternative would affect the wetland in Fairweather Park. Most or all of the buffers of these wetlands would also be filled; the fill would affect a small section of the buffer of the Fairweather Park wetland. All of the affected wetlands are less than 0.2 acre in size, and all have relatively low functions and values because of their small area and limited vegetation types. WSDOT would mitigate the loss of these wetlands and buffers in accordance with applicable federal, state, and local regulations.

A new or retrofitted culvert would carry Fairweather Creek under SR 520; the new culvert would improve fish passage and could open upstream areas of the creek for use by fish.

The 4-Lane and 6-Lane Alternatives would construct a new or retrofitted culvert to carry Fairweather Creek beneath the widened SR 520 roadway. The culvert would remove approximately 27 linear feet of open-water habitat under the 4-Lane Alternative and 41 linear feet under the 6-Lane Alternative. The loss of open channel and riparian vegetation would normally have a negative effect on fish habitat, but in this case, the culvert is already a partial barrier to fish passage. The new culvert would be fully fish passable in accordance with Washington Department of Fish and Wildlife guidelines. As a result, it would improve overall fish passage conditions at the crossing and could open upstream areas to use. The preferred option for the culvert design would be an arch or box culvert with natural streambed material to maintain some of the habitat conditions present in the open-water reaches of the stream.

Cozy Cove Basin

The 4-Lane and 6-Lane Alternatives would have similar effects on wetlands in the Cozy Cove basin. The widened SR 520 would fill most or all of four small wetlands and their buffers, one north of the highway and three to the south *(Exhibit 7-16)*. All are depressional or slope wetlands that are less than 0.3 acre in size and have limited functions and values (like the affected wetlands in the Fairweather Creek basin). Both alternatives would fill a very small amount (.002 acre) of the large, high-quality wetland at the south end of Cozy Cove and a little less than an acre of that wetland's buffer. In addition, they would fill much of the buffer of a small wetland located south of SR 520. WSDOT would mitigate the loss of these wetlands and buffers in accordance with applicable federal, state, and local regulations.

The build alternatives would fill several low-quality wetlands and 0.002 acre of a large, high-quality wetland at the south end of Cozy Cove. A new culvert on Cozy Cove Creek would restore access to fish habitat that is now blocked by an impassable culvert.

As described in Chapter 2, the existing culvert that carries Cozy Cove Creek beneath SR 520 is a potential barrier to the passage of fish. The 4-Lane Alternative would extend the length of this culvert by 20 feet and the 6-Lane Alternative by 40 feet, resulting in a loss of riparian vegetation. The new or retrofitted culvert, however, would be designed for full fish passage and would restore access to fish habitat blocked by the culvert, as described above for Fairweather Creek. The enhanced fish passage would help offset the loss of vegetation and open water habitat.

Yarrow Bay Wetland Basin

The 6-Lane Alternative's wider footprint between 92nd Avenue Northeast and Bellevue Way Northeast would cause greater wetland effects in this basin than the 4-Lane Alternative. The 4-Lane Alternative would completely fill one small emergent wetland in the northwest quadrant of the Bellevue Way interchange, and over half of a larger emergent and forested wetland southeast of the 92nd Avenue Northeast interchange *(Exhibit 7-16)*. The 4-Lane Alternative would also have a small effect on the large, high-quality Yarrow Bay wetland complex, filling 0.01 acre of the wetland and 0.27 acre of its buffer.

The build alternatives would affect the Yarrow Bay wetland and Yarrow Creek basins differently. Because salmon use the Yarrow Creek basin, WSDOT will work with resource agencies and local jurisdictions to mitigate the effects of the project.

The 6-Lane Alternative would also affect these wetlands and two other wetlands south of SR 520. This alternative would completely fill the westernmost of these wetlands, as well as nearly half of the 2.1-acre wetland along the east tributary of Yarrow Creek. Both of these affected wetlands have forested plant communities whose functions are low to moderate. As with other affected wetlands, mitigation would result in no net loss of wetland area or functions.

The tributary to Yarrow Bay is now completely blocked to fish passage at the long culvert beneath SR 520 and Northeast Points Drive. The blockage is caused by the length and steepness of the culvert. Erosion is occurring at the culvert's outlet, which has left a large vertical gap between the outlet and the stream channel. While neither build alternative would adversely affect the tributary to Yarrow Bay, WSDOT would undertake a mitigation project to eliminate the barrier and the erosion problem, with the goal of reducing downstream sedimentation and improving fish habitat conditions.

Yarrow Creek Basin

The effects of the 4-Lane and 6-Lane Alternatives on wetlands in this basin would differ considerably. The 4-Lane Alternative would not affect any wetlands in the Yarrow Creek basin because the widened footprint would end at Bellevue Way. The 6-Lane Alternative, however, would fill portions of four riparian wetlands along Yarrow Creek that are located east of the Bellevue Way interchange. The affected wetlands north of the freeway are fairly small and have non-native vegetation, but the 1.2-acre wetland in the southeast quadrant of the interchange has several vegetation communi-

ties and provides higher functions. Expanding and reconfiguring ramps for the South Kirkland Park-and-Ride Transit Access – 108th Avenue Northeast option would place additional fill in two riparian wetlands associated with Yarrow Creek, eliminating one of these wetlands. The number of culverts requiring lengthening and the magnitude of lengthening for the option would be greater than the 6-Lane Alternative because of differences in the configuration of the SR 520/108th Avenue Northeast interchange. About 388 linear feet of open-channel habitat would be lost due to culvert extensions in this area.

The 6-Lane Alternative would affect streams more than the 4-Lane Alternative. It would eliminate 80 linear feet of open water habitat in the east tributary to Yarrow Creek and 144 linear feet in the Yarrow Creek mainstem by extending the culverts that carry these streams beneath SR 520. The South Kirkland Park-and-Ride Transit Access – 108th Avenue Northeast option would create 14 fewer linear feet of culvert extensions in the east tributary and 14 more linear feet of extensions in the mainstem. The 4-Lane Alternative would not extend any of the culverts in this area. However, the 6-Lane Alternative would provide opportunities for shortening or removing culverts in the Yarrow Creek basin. Up to 90 linear feet of culvert could be converted to open stream channel with the 6-Lane Alternative, while the South Kirkland Park-and-Ride Transit Access – 108th Avenue Northeast option would allow the potential to create up to 228 feet of additional open channel. This would result in a net loss of only 50 feet of open channel for the option, compared to a net loss of 134 feet with the 6-Lane Alternative.

Because the Yarrow Creek basin is used by salmon and includes stream reaches with documented habitat problems, it could become a focus on the Eastside for mitigating effects on stream buffers and riparian vegetation. Large-scale revegetation along Yarrow Creek within and/or outside the project area could provide substantial benefits that may exceed those of revegetating isolated areas along each affected stream. Maintaining and monitoring the improvements would also be more efficient on one or two large parcels than on many small parcels. WSDOT is committed to working with resource agencies and local jurisdictions to identify the best approach for mitigation.

Kelsey Creek Basin

The 4-Lane and 6-Lane Alternatives would not affect any wetlands, wetland buffers, habitat, or water quality in the Kelsey Creek basin.