



SR 522 Bus Rapid Transit

APPENDIX F

Visual and Aesthetic Resources Technical Report



Bus Rapid Transit

SR 522 corridor

Visual and Aesthetic Resources Technical Report

March 2021

Summary

Purpose

This report describes what, if any, impacts to visual resources may result from the State Route (SR) 522/NE 145th Bus Rapid Transit (BRT) Project (project), and provides potential mitigation measures, if necessary, to address those impacts.

Project Setting

The project proposes several miles of BRT facility improvements through the suburban (or urbanizing, as in Bothell) landscape of the Seattle metro area. The project would extend through the communities of Seattle, Shoreline, Lake Forest Park, Kenmore and Bothell, primarily on NE 145th Street and SR 522. These are typical suburban roadway corridors with a visual character consisting of older, verdant residential neighborhoods; commercial developments; and newer, denser mixed-use developments. The existing corridor has moderate to low visual quality overall, with natural harmony gained from the consistent presence of mature trees in the middle ground and distance that is moderated by segments of visually disharmonious commercial areas. In denser central Bothell, where newer, more harmonious mixed-use areas exist, moderate visual quality is also present. Brief views of Lake Washington are present from certain portions of SR 522 in Lake Forest Park and Kenmore. Viewers of the project include travelers and neighbors, and each of these groups has different visual sensitivities and expectations.

Project Findings

The project would add or reconstruct new business access and transit (BAT) lanes, transit queue bypass lanes, and bus-only lanes; create new BRT stations; and install sidewalks, new street landscaping and retaining walls. The project would also add park-and-ride garages in three locations along the project corridor. To understand and assess the visual changes and impacts, seven key viewpoints were selected by David Evans and Associates, Inc.'s visual resources specialists and Sound Transit. Based on a comparison of project-related changes at those key viewpoints and an evaluation of the existing visual character relative to the project components, analysis shows that the overall visual impact of the project would be neutral, because most of the project would be constructed within existing right-of-way, and its components would be visually consistent and compatible with the existing visual environment. The distinctive design for the BRT station platforms would have a (relatively) uniform appearance along the project corridor and could create beneficial impacts for travelers. However, an adverse visual change could occur in Lake Forest Park between 38th Avenue NE and NE 165th Street due to the construction of proposed retaining walls and the removal of large trees.

Specific results by segment are as follows:

- **Segment 1: Seattle/Shoreline:** Visual impacts in Seattle and Shoreline would be neutral, because the project would be installed within the developed corridor of NE 145th Street. The project components would be compatible and consistent with existing development patterns. New sidewalks and landscaping would provide localized visual improvements, which would help offset specific negative effects of roadway widening and vegetation removal. No park-and-ride garage is proposed in Segment 1.

- **Segment 2: Lake Forest Park:** Overall visual impacts in Lake Forest Park would be neutral to adverse. In locations where mature tree removal is not proposed, the impacts would be similar to those in the other segments along the project corridor; project components would be compatible with the existing visual character. However, as shown in the visual simulations, the combination of mature tree removal from foreground views and the installation of extensive retaining walls along SR 522 (between 38th Avenue NE and a location north of NE 165th Street) would reduce the natural harmony of the project corridor for highly sensitive travelers and neighbors, thus resulting in a potentially adverse impact. Mitigation strategies to address this potential impact are discussed in Section 6 and include installing street trees in the proposed planter strip to help screen views into the roadway from adjacent residences, consistent with Lake Forest Park municipal code. The park-and-ride garage proposed at Lake Forest Park Town Center would be situated in an existing commercial center and would be compatible with the existing visual character.
- **Segment 3: Kenmore:** Visual impacts in Kenmore would be neutral, because project components would be compatible with the existing visual character. In addition, project elements along this segment would be located within a commercial setting along SR 522, where viewer sensitivities are relatively low. The proposed park-and-ride garage would be compatible with the visual character of the existing King County Metro Park-and-Ride. The garage would introduce a new building element at the park-and-ride, but the massing and scale would be compatible with other structures within Segment 3.
- **Segment 4: Bothell:** Visual impacts in Bothell would be neutral, because the project would be installed within or adjacent to the developed roadway corridor and would be compatible with the existing visual character, which is predominantly semi-urban mixed use with low to moderate viewer sensitivities. The proposed park-and-ride garage would be located in a semi-urban area of mid-rise, mixed-use buildings and would also be compatible with the existing visual character of downtown Bothell.

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Appendix A	Key Viewpoints: Existing and Simulated Conditions
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Acronyms and Abbreviations

ADA	Americans with Disabilities Act
BAT	bus access and transit
BEB	Battery Electric Bus
BRT	bus rapid transit
SR	State Route
SEPA	State Environmental Policy Act
ST	Sound Transit
VIA	Visual Impact Assessment
AVE	area of visual effect
I-405	Interstate 405
FHWA	Federal Highway Administration
TOD	transit oriented development
TSP	transit signal priority
TVM	ticket vending machine
CPTED	crime prevention through environmental design
VP	Viewpoint
WSDOT	Washington State Department of Transportation

1 INTRODUCTION

1.1 Overview

This report describes the visual setting of the State Route (SR) 522/NE 145th Bus Rapid Transit (BRT) Project (project) and identifies visual impacts and potential mitigation measures.

1.2 Purpose of report

In support of Sound Transit's State Environmental Policy Act (SEPA) Environmental Checklist for the project, this report describes what, if any, impacts to visual resources may result from the project and provides potential mitigation measures to address those impacts.

2 ESTABLISHMENT

2.1 Project location

The project location is just northeast of Seattle, generally along the SR 523 (NE 145th Street) and SR 522 corridors, through the suburban landscapes of the north side of Lake Washington. Within Bothell, the project extends partly through the urbanizing core of the city.

2.2 Project description

The SR 522/NE 145th BRT Project is part of a new BRT system that would provide fast, frequent, and reliable bus service along the SR 522/NE 145th project corridor, with interconnections to light rail and other bus service in the region. The project would provide BRT service (to be called "Stride") along about 9 miles of roadway between the Sound Transit Shoreline South/148th Station link light rail station¹ and the SR 522/I-405 Transit Hub. The transit hub is in the design phase and is being provided by the Washington Department of Transportation (WSDOT) I-405/SR 522 Vicinity to SR 527 Express Toll Lanes Improvement Project.

The project would include business access and transit (BAT) lanes, transit queue bypass lanes, signal upgrades and transit signal priority (TSP) for transit speed and reliability, three new park-and-ride garages (Lake Forest Park, Kenmore and Bothell), and twelve BRT stations² between the Shoreline South/148th Link light rail station and the SR 522/I-405 Transit Hub.

The project would also include constructing or reconstructing sidewalks where BAT lanes and transit queue bypass lanes are constructed and at some intersections in the immediate vicinity of BRT stations. Some transit queue bypass lanes and BAT lanes result in roadway widening. Intersection and sidewalk construction includes upgrading curb ramps to current Americans with Disabilities Act (ADA) standards.

¹ Environmental review of the Shoreline South/148th station occurred as part of the Sound Transit Lynnwood Link Extension Project State Environmental Policy Act Environmental Impact Statement.

² Each station proposed for construction as part of this project includes an eastbound platform and a westbound platform.

Right-of-way acquisitions and easements would occur to allow for construction and operation of the BRT service and related access improvements. Stormwater management would be provided as needed to comply with pertinent law and codes. Utility connections would be provided as necessary.

Most BRT station platforms (e.g., the sidewalk that the shelter sits upon) would be double-length platforms (accommodating two 60-foot coaches) to accommodate shared use by Sound Transit with King County Metro and Community Transit buses (the three transit agencies operating in the corridor). SR 522/NE 145th BRT service would be provided with 12 three-door articulated coaches with the Stride brand, including 10 Battery Electric Buses (BEBs) and 2 diesel hybrid buses. Service headways (the amount of time between bus arrivals at a stop) would be 10 minutes, which translates to 12 total BRT vehicles per hour along the project corridor. Sound Transit would prioritize use of the BEBs for this service as much as possible, and the BEBs (rather than the diesel hybrid buses) would be the bus type used for most of the service, all day. The span of service would be 19 hours on Monday through Saturday and 17 hours on Sunday. The estimated 2042 ridership forecast for the SR 522/NE 145th BRT system is approximately 8,900 riders per day.

Station shelters would have a consistent look and feel throughout the BRT system, but individual platform design would vary based on site conditions and transit integration assumptions at each location. Each station would include Stride-branded shelters and lighting, and most platforms would be elevated 9 inches to ease boarding and alighting. Platform types would be either flow-through (sidewalk passes through the platform) or pass-behind (sidewalk passes behind the platform). The project would also include intelligent transportation systems elements: off-board fare payment, electronic rider information with bus arrival times, Computer-Aided Dispatch/Automatic Vehicle Location, TSP, and enhanced safety and security at certain stations.

Figure 2-1 (SR 522/NE 145th BRT Project) shows the proposed project, including the route, station locations and park-and-ride garage locations. **Figure 2-1** also identifies the project elements by number. The SEPA Environmental Checklist document includes layouts for the three park-and-ride garages. This report reflects the project as described and as shown in the Conceptual Engineering Design Plans (see Appendix A of the SEPA Checklist).

The following is a summary of the proposed project's major elements, by segment:

- **Segment 1: Seattle/Shoreline** (NE 145th Street): westbound transit queue bypass lane on NE 145th Street between a point east of 8th Avenue NE and 5th Avenue NE, transit queue bypass lanes on NE 145th Street at 15th Avenue NE in each direction, two stations (15th Avenue NE and 30th Avenue NE), and an additional lane eastbound on NE 145th Street approaching SR 522 to provide a shared bus left-turn/general-purpose traffic through lane.
- **Segment 2: Lake Forest Park**: northbound/eastbound BAT lane from approximately NE 145th Street to south of Brookside Boulevard NE; reconstructed BAT lane southbound/westbound between Beach Drive and 38th Avenue NE; a new 300-stall park-and-ride garage located at the Lake Forest Park Town Center; three stations (NE 153rd Street, NE 165th Street and Lake Forest Park Town Center); retaining walls in certain locations; and minor roadway, roadside and intersection improvements in certain locations where other improvements would occur.

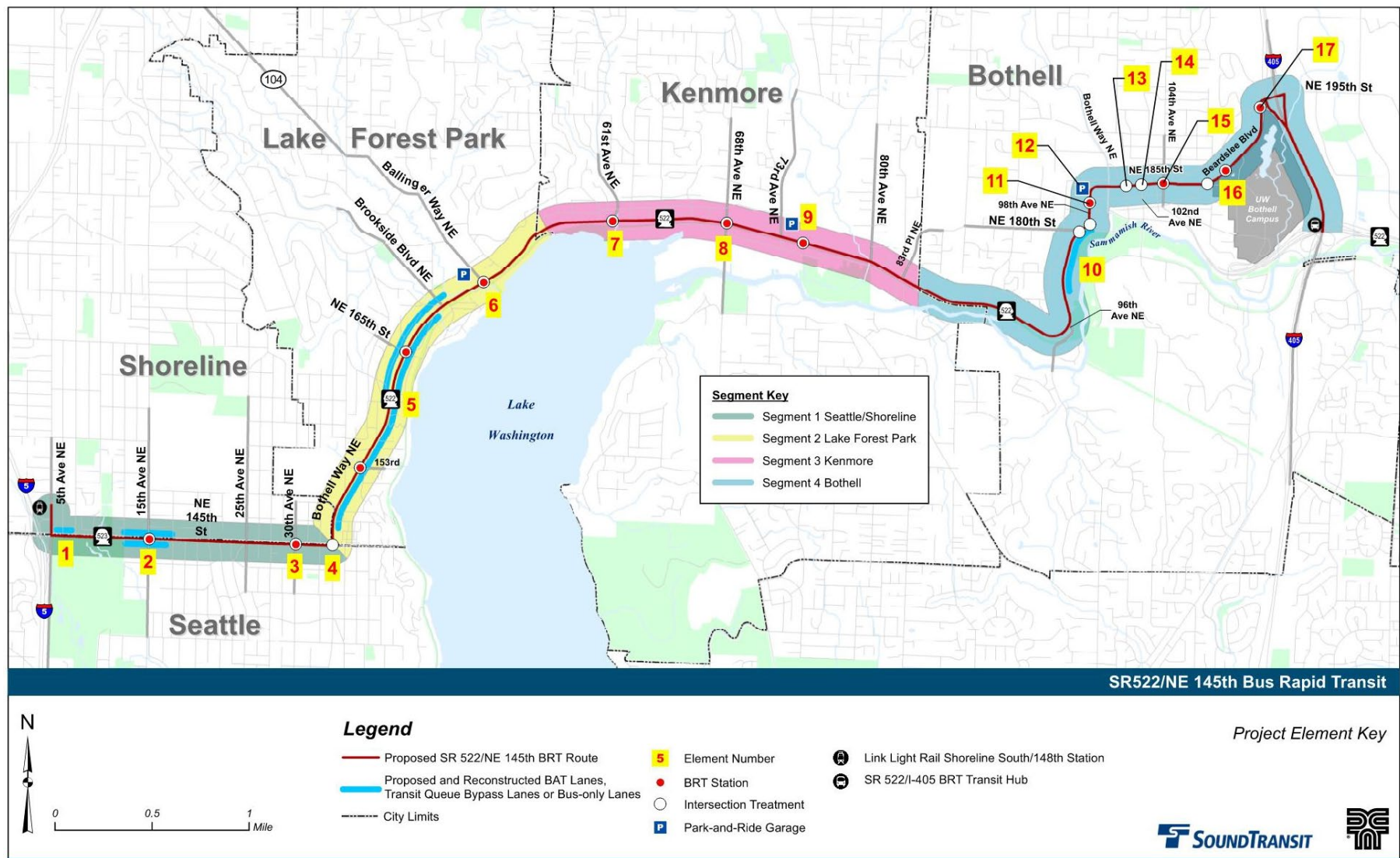
- **Segment 3: Kenmore:** three stations (61st Avenue NE, 68th Avenue NE and Kenmore Park-and-Ride) and a new park-and-ride garage providing 300 additional stalls at the Kenmore Park-and-Ride, including vehicle access modification.
- **Segment 4: Bothell:** northbound/eastbound center bus-only lane to bus-only left-turn lane along SR 522 beginning approximately 700 feet south of Hall Road (just north of the Yakima Fruit Market & Nursery) to 98th Avenue NE; four stations (98th Avenue NE at NE 182nd Street, NE 185th Street at 104th Avenue NE, Beardslee Boulevard at University of Washington Bothell/Cascadia College, and Beardslee Boulevard near NE 195th Street); a new park-and-ride garage at a site (southwest of where 98th Avenue NE meets NE 185th Street) providing 300 net additional parking spaces; new traffic signal and intersection reconstruction on NE 185th Street at 104th Avenue NE and at Beardslee Boulevard; and sidewalks, planting strips and minor intersection improvements at certain locations where other improvements would occur.

2.3 Regulatory context

The project requires compliance with SEPA to ensure environmental effects are considered, including potential impacts to aesthetics and visual quality. In addition, improvements to SR 522 (a state route) would be subject to guidelines contained in WSDOT Environmental Manual, Section 459, as well as code requirements for setbacks and landscaping for each city along the corridor (Seattle, Shoreline, Lake Forest Park, Kenmore and Bothell).

2.4 Methodology

This report represents an abbreviated Visual Impact Assessment (also referred to as a VIA) prepared using the 2015 Federal Highway Administration (FHWA) “Guidelines for Visual Impact Assessment of Highway Projects” (FHWA 2015) (hereafter referred to as the FHWA guidelines) methodology. The FHWA guidelines are a broadly accepted approach to analyzing visual impacts, particularly for transportation projects. The abbreviated FHWA methodology is typically used for projects that are expected to maintain overall physical characteristics of the project environment; projects proposed within previously developed areas; and projects that are otherwise expected to be compatible with the existing setting. The abbreviated FHWA methodology provides a process of evaluation that guides the professional’s judgment and produces an objective assessment of visual quality, using a qualitative approach to analyze existing and future views along the proposed project.



Source: DEA 2020.

Figure 2-1 SR 522/NE 145th BRT Project

The visual impact assessment process conducted by David Evans and Associates, Inc. for the project generally followed these steps:

- Determine the project elements and their extent: This involves understanding the vertical and horizontal alignment and highway cross sections. It also considers changes to existing property uses that may occur as a result of the project, such as conversion of commercial property use to use as a transit facility or park-and-ride garage.
- Determine viewer groups of the project: This involves determining who has views *toward* the project (e.g., residents or commercial tenants) and who has views *from* the project (e.g., drivers and pedestrians).
- Determine the area of visual effect (AVE), as further described below.
- Evaluate viewer sensitivity: The activity that the viewer is involved in, the duration or period of time the view is perceived by the viewer, and the frequency or how often the view is perceived by the viewer affect the viewer's sensitivity.
- Describe and evaluate existing conditions at key viewpoints for visual analysis: "Key viewpoint" is a term used to describe an identified location and position of a viewer. The following criteria were used to select the key viewpoints:
 - The viewpoint is representative of the visual effect for the identified sensitive viewer groups.
 - The viewpoint represents where the greatest effect to visual quality from the project is anticipated.
 - The viewpoint represents a typical portion of the AVE.
- Conduct field reconnaissance of the AVE, review existing aerial photographs and proposed design plans, coordinate with Sound Transit staff and exercise professional judgement to determine the number and location of key viewpoints.
- Describe and evaluate the anticipated post-construction conditions at the same key viewpoints (visual simulations are a tool that uses the project design to facilitate evaluation of post-construction views of the project).
- Analyze existing and proposed conditions for each of the selected key viewpoints. Compare proposed conditions to the sensitivities of the affected viewers.
- Determine appropriate visual mitigation techniques for offsetting negative impacts (if necessary).

2.5 Area of visual effect

The AVE is the “seen area” along which the project could be viewed. For this project, the AVE was defined to include the NE 145th Street and SR 522 corridors, as well as 98th Avenue NE, NE 185th Street and Beardslee Boulevard (collectively, the project corridor), as seen by travelers through the project area. The AVE also includes those portions of the regional Burke-Gilman Trail from which SR 522 is visible. Travelers along the corridor include drivers and passengers, cyclists, pedestrians and trail users, and transit users. In addition, adjacent residents, business employees and patrons, and area visitors would have ongoing direct or transient views of the project corridor. Travelers would have dynamic and directional views as they move through the project corridor, while residents and business tenants and patrons adjacent to it would have predominantly direct and static views. Establishing the AVE provides an understanding of who would be viewing the project and what their viewing sensitivity is likely to be. The AVE is approximately depicted by the highlighted areas shown in **Figure 3-7** (Landscape Units).

3 AFFECTED ENVIRONMENT

This section provides an understanding of the existing visual character and quality along the project corridor. It includes a description of the natural and cultural environments present and defines the affected population (i.e., types of viewers who would view the project).

(The affected visual environment does not include 5th Avenue NE, because BRT bus traffic on 5th Avenue NE is addressed in the Lynnwood Link Extension Environmental Impact Statement.)

3.1 Existing visual character

The visual character of the project corridor is typical of its location—generally a range between suburban and semi-urban landscape of the greater Seattle metropolitan area. The project corridor would traverse developed suburban arterial highways and streets through multiple communities, and its visual character is described and pictured in **Figure 3-1** (Typical view looking east along NE 145th Street) to **Figure 3-6** (Typical view looking west along NE 185th Street through the urbanizing central city of Bothell, showing newer mid-rise developments with an urban aesthetic along the north side of NE 185th Street) below, by segment.

3.1.1 Segment 1: Seattle/Shoreline (NE 145th Street)

The visual character along this segment consists of the four-lane roadway itself, sidewalks immediately adjacent to the roadway, a variety of residential buildings and other small format development, overhead utility lines and mature mixed vegetation (refer to **Figure 3-1** (Typical view looking east along NE 145th Street)). Tall evergreen conifer trees are common along this portion of the project corridor and create a screen that frames views, while also preventing views looking out from it. The land uses are predominantly residential: a mixture of single-family homes and small format multifamily buildings. The Jackson Park Golf Course offers vegetated views to the south between 5th Avenue NE and 12th Avenue NE. A small commercial center is located at the intersection with 15th Avenue NE. Various residential fences and wall types are common along the roadway.



Figure 3-1 Typical view looking east along NE 145th Street

3.1.2 Segment 2: Lake Forest Park

Moving east along the project corridor to SR 522 (Bothell Way NE) the highway enters Lake Forest Park. In this project segment, SR 522 becomes five lanes, and views broaden somewhat, encompassing more middle ground. A commercial corridor is centered on the intersection of SR 522 and NE 145th Street, and for several blocks the visual character comprises various auto-centric commercial or retail developments and small parking areas. Curb-tight sidewalks, utility poles and overhead wires, and commercial buildings and signage are all seen. Vegetation is also present, although limited to small perimeter landscape beds and areas behind commercial parcels. Moving north out of the commercial development, the project corridor returns to being predominantly residential, although more multifamily developments are visible from the highway through Lake Forest Park. This portion lacks sidewalks but includes paved shoulders. Intermittent BAT lanes widen the roadway to five or six lanes where they are present. Gently varied topography exists along SR 522 within this segment, and low retaining walls of various materials are present. The project corridor in this segment continues through well vegetated, predominantly single-family residential neighborhoods dotted with pockets of commercial establishments. Despite the proximity to Lake Washington, views of the water from SR 522 through Lake Forest Park are limited to brief glimpses (primarily provided by intersecting streets oriented toward the water) until north of the intersection with Ballinger Way, where SR 522 comes closest to the lake. From there, intermittent, elevated views to the east and south toward the water are present for about one-half mile over residence rooftops or between vegetation. Many residences—both west and east of SR 522—also have views of the lake. Opportunities to view Lake Washington continue for a short distance into Kenmore.



Figure 3-2 Typical view looking south along SR 522 (Bothell Way NE) through a commercial/retail area in Lake Forest Park



Figure 3-3 Typical view looking south along SR 522 (Bothell Way NE) through a residential area in Lake Forest Park



Figure 3-4 Views from SR 522 (Bothell Way NE), looking northeast, including brief glimpses of Lake Washington in Lake Forest Park

3.1.3 Segment 3: Kenmore

Passing into Kenmore, the project corridor transitions again to being dominated by small-format commercial development. In contrast to project segments to the southwest, views from the roadway include little mature vegetation. Streetscapes through Kenmore appear newer, with consistent and well-maintained (although immature) roadside landscaping and some public art. Visible overhead utility lines are minimal (eliminating the visual clutter they can cause). Varied topography is still present, and both rockery and concrete retaining walls are present in foreground views from SR 522.



Figure 3-5 Typical view looking west along SR 522 through a commercial zone in Kenmore

3.1.4 Segment 4: Bothell

Compared to the other segments following SR 522 and NE 145th Street, the route through Segment 4 follows a series of two-lane streets, reducing the overall scale of views. At 98th Avenue NE in Bothell, the project diverts to the north from SR 522 and transitions to a denser, more urbanized neighborhood of newer, moderately scaled mixed-use developments and narrower streets that frequently include young street trees. Along 98th Avenue NE, views include the Bothell Library, three single-family residences and newer mid-rise buildings. Transitioning to NE 185th Street, mid-rise mixed-use residential buildings (three to six stories) are present, limiting views to the foreground. Continuing east on NE 185th Street, the urbanizing aesthetic of mid-rise buildings transitions to a mix of older single-family residential buildings with yards and mature vegetation (primarily on the north side) with low-rise commercial development and smaller scale multifamily housing on both sides of the street, allowing broader views into the middle ground. Parking lots, mixed building styles, and mature trees and landscaping dominate these views. Transitioning north onto Beardslee Boulevard, views remain similar; mature trees in the foreground visually dominate the streetscape, with low-rise multifamily residential buildings and some large-lot residential present. Where Beardslee Boulevard intersects with 110th Avenue NE, the urbanizing aesthetic returns; newer high-density mid-rise buildings (University of Washington Bothell) are seen to the west, and undeveloped vegetation (wetlands surrounding North Creek) frames the view to the east.

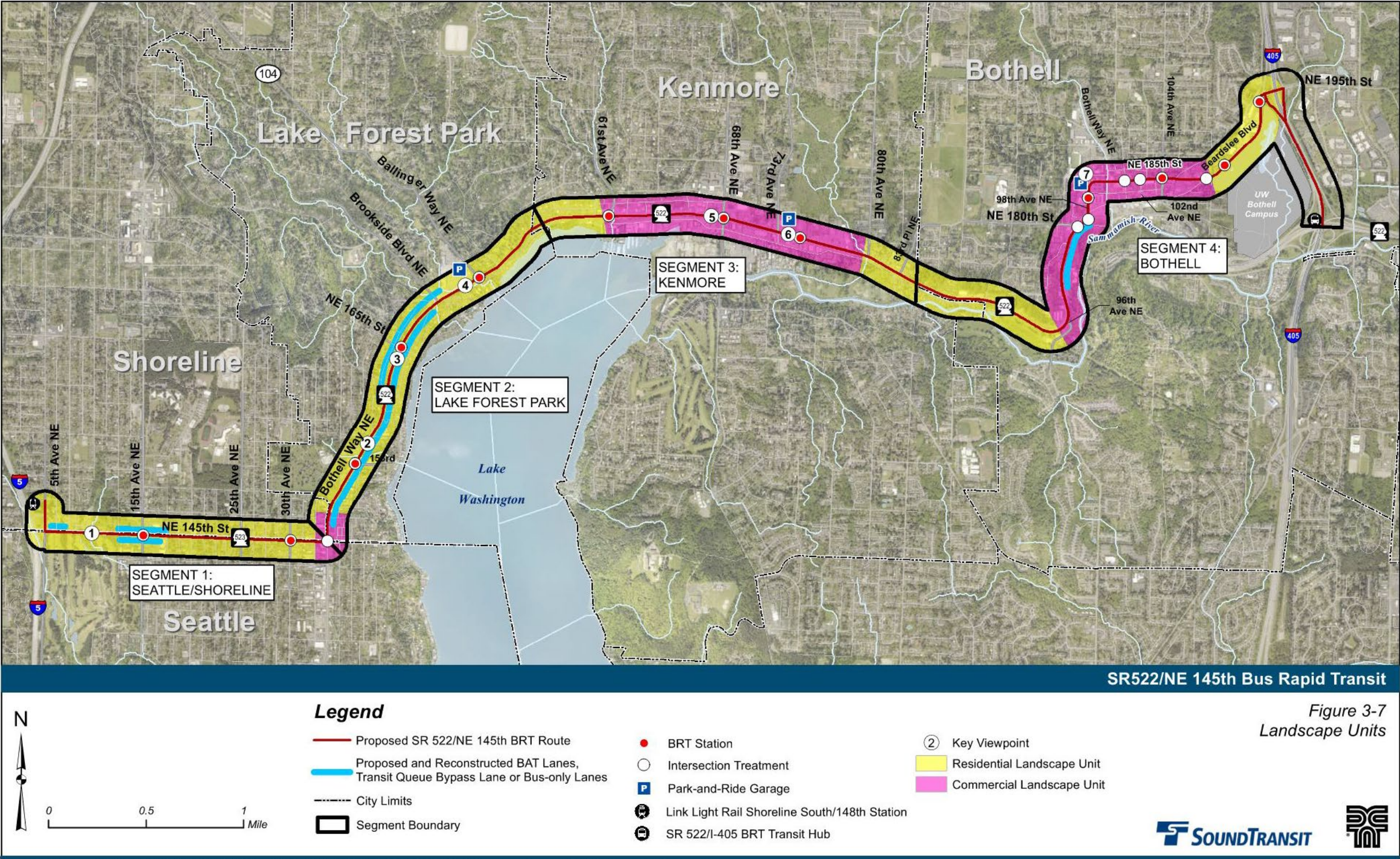


Figure 3-6 Typical view looking west along NE 185th Street through the urbanizing central city of Bothell, showing newer mid-rise developments with an urban aesthetic along the south side of NE 185th Street

3.2 Landscape Units

Landscape Units are geographic areas with similar visual conditions and are a tool for understanding and evaluating changes to a visual environment, and how viewers are likely to respond to changes. **Figure 3-7** (Landscape Units) identifies the Landscape Units for this project. Note that the Landscape Units identified for this project do not align (and do not need to align) with the project segments or elements described in Section 1. Following the FHWA guidelines, two Landscape Units were identified for this analysis:

- Residential Landscape Unit:** The Residential Landscape Unit is composed of mainly low- to medium-density, well vegetated neighborhoods bordering the project corridor. Most of NE 145th Street is residential, as is much of SR 522 through Lake Forest Park and portions of Kenmore. The Residential Landscape Unit extends into Bothell along a portion SR 522, and again along Beardslee Boulevard. Mild topography is visible within the Residential Landscape Unit, and Lake Washington is a brief but dominant natural feature for a portion of SR 522 in the vicinity of 47th Avenue NE. Viewers (especially residents) are assumed to have higher visual sensitivity within the Residential Landscape Unit.
- Commercial Landscape Unit:** The Commercial Landscape Unit encompasses the intersection of NE 145th Street and SR 522, and includes portions of Kenmore and Bothell. The Commercial Landscape Unit varies in character but is dominated by mixed suburban commercial developments, such as small- and medium-format retail and some office buildings set near the road. Parking areas, commercial signage and perimeter landscaping are commonly seen. Viewers (i.e., neighbors, travelers, and business tenants and patrons) are assumed to have lower visual sensitivity within the Commercial Landscape Unit.



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Figure 3-7 Landscape Units

3.3 Natural and cultural visual resources

Existing natural and cultural environmental features visible along the corridor can contribute to (or reduce) visual quality. Natural features present to some degree in all segments include mature vegetation, most notably the presence of mature evergreen trees seen in the foreground and middle ground views along much of the corridor. Tall trees, both deciduous and coniferous, provide screening and framing of views for travelers along the corridor, and help screen views toward the project corridor from neighboring properties. Although inconsistent, additional vegetation seen throughout the project corridor, including landscaped yards, commercial perimeter landscaping and roadside streetscaping (i.e., street trees or landscaped medians) also contribute to the visual character of the project corridor.

Another notable natural landscape feature seen from the project corridor is Lake Washington. As discussed in Section 3.1, the lake is intermittently visible to drivers and passengers along a half-mile segment of SR 522 starting just north of the SR 104 intersection in Lake Forest Park and continuing into Kenmore. The most naturally harmonious and memorable views along the project corridor are where the water of Lake Washington is visible from SR 522 in the vicinity of 47th Avenue NE in Lake Forest Park.

Bothell and Kenmore include views of other wooded waterways: views of the Samammish River greenway can be seen to the south and east from SR 522, and the wetlands surrounding North Creek in Bothell are visible east of Beardslee Boulevard.

Notable cultural resources in the project area include the Burke-Gilman Trail, which is a multiuse off-street pathway that traces the western edge of Lake Washington and then follows the Samammish River greenway, where the trail is adjacent to SR 522. The project corridor also offers views of community civic services, including the city halls of Lake Forest Park, Kenmore and Bothell.

Table 3-1 (Visual characteristics of the natural and cultural environment) describes the most prominent visual characteristics, both natural and cultural, that exist along the project corridor, by segment.

Table 3-1 Visual characteristics of the natural and cultural environment

	Segment 1: Seattle/Shoreline	Segment 2: Lake Forest Park	Segment 3: Kenmore	Segment 4: Bothell
Existing natural visual characteristics	Foreground evergreen conifer trees provide consistent framing of roadway views and visual backdrop to development. Residential yards contain mature vegetation.	Consistent mature vegetation is found throughout developed areas. Topography is more varied through Lake Forest Park than other portions of the corridor. Brief and intermittent views of Lake Washington along a one-half-mile segment of SR 522 in the vicinity of 47th Avenue NE.	Consistent public domain “streetscaping” is present along SR 522 (i.e., street trees, median plantings). Generally, less mature vegetation in the immediate corridor allows views out toward conifer-covered hillsides in the background with periodic views of Lake Washington from SR 522.	Views of densely vegetated Sammamish River greenway are present to the south of SR 522. At Beardslee Boulevard, views to the east of dense vegetation at North Creek wetlands exist. Well-maintained “streetscaping” is commonly present in newer developments. Views out toward conifer-covered hillsides create a backdrop to foreground views.
Existing cultural characteristics	This is a lengthy, straight roadway corridor. Residential buildings are of similar scale and form and use similar cladding materials. Overhead utility lines are present along NE 145th Street.	Roadway contains a few broad curves in its alignment. Although there is a mix of land uses, buildings are similarly scaled and patterned. Overhead utility lines are present along SR 522.	Small format commercial development dominates views. Multiple commercial signs are frequently present in views. Artistic, lighted pylons along the streetscape are noticeable after dark.	Four- to six-story residential and mixed-use buildings create a relatively urban aesthetic in the central city. A denser development pattern is more noticeable than in other segments.

3.4 Affected population

The population that would be affected by visual changes associated with the project includes travelers moving along the project corridor and neighbors of the alignment. Travelers include drivers, passengers, bicyclists, pedestrians and transit users. Neighbors include residential dwellers (owning or renting) and commercial workers and patrons. Neighbors and business patrons have relatively static views *into the project corridor*, whereas travelers have dynamic views *from the project corridor*. By understanding the different viewer groups and their relationship to the project, inferences can be made about each group’s expected visual preferences. Neighbors and travelers of the corridor, and their sense about the visual character of the AVE, determine the existing visual quality assessment presented in Section 3.4.3.

3.4.1 Types of neighbors (views of the road)

Neighbor viewers are those who view the project from an adjacent point, outside the project corridor itself. For this project, neighboring viewers include residents with foreground static views of the roadway from home and also motorists approaching the corridor as they drive to and from their residences, commercial and retail neighbors with views of the corridor from where they work or shop, and recreational neighbors.

3.4.2 Types of travelers (views from the road)

Travelers have views from the roadway. These viewers include commuters, touring motorists and commercial drivers. Nonmotorized travelers include pedestrians using the sidewalks—including transit users—and bicyclists (both commuters and recreational touring bicyclists, such as those using the Burke-Gilman Trail). Travelers' views are dynamic; that is, they are oriented differently depending on their direction of travel and as they are in motion. For this project, travelers' views will predominantly be eastbound or westbound on NE 145th Street, and generally northeast or southwest on SR 522.

3.4.3 Viewer preferences and existing visual quality

Because this is an abbreviated VIA, the establishment of viewer preferences and expectations was based on the Professional Observational Approach. Using this approach, assumptions were made about the visual preferences of viewers (neighbors) based on why people have chosen to occupy a certain location (note that travelers are discussed below.) If neighbors have chosen to live within the AVE, they may not automatically be assumed to like the visual character of the AVE. NE 145th Street and SR 522 are both wide, multi-lane, busy roadways having low to moderate visual coherence, the disorderly sensation of moving traffic, and light at night from vehicle headlights and street lamps. For these reasons, most neighbors with adjacent, static views from their residences would express a desire to be visually separated from the roadway corridor. Residential neighbors with direct visual access to the roadway may perceive it as negative, while neighbors with barriers that block their visual access would perceive it as neutral. Commercial and retail neighbors, who have relatively less sensitivity than residents (they would not be as concerned with property value, for instance), would be assumed to perceive the corridor as neutral to positive (retail neighbors' perceptions would be positive especially where they desire strong visual connection from the roadway to their businesses).

Travelers using the project corridor are generally commuters (i.e., people who live in the area traveling to get somewhere); they are not those traveling for pleasure or scenic views, but they may live within the area and are still sensitive to visual change. Using the Professional Observational Approach (FHWA 2015), one can still assume that commuters and other corridor users in this context have visual preferences based on safety and ease of use. That is, they expect and prefer a roadway that is orderly and predictable, with clear and consistent lighting, signage and striping, and preferably free from visual clutter and distractions. Based on these assumptions, most travelers would perceive the existing AVE as positive to neutral.

4 ENVIRONMENTAL IMPACTS

This section describes how the project would change the visual character, viewing experience and visual quality of the project corridor. It includes descriptions of the long-term project impacts and changes to the visual character, as well as short-term impacts and potential mitigation measures. Changes are described in terms of the degree of impact and whether they are *beneficial*, *adverse* or *neutral*.

4.1 Long-term impacts of the project

Visual impacts occur from changes to the environment in areas where viewers would be sensitive to visual and aesthetic conditions. Areas such as parks, places with scenic views or natural features, and residential areas tend to have higher levels of visual sensitivity. Industrial and commercial areas, and developed corridors dominated by transportation facilities typically have lower levels of visual sensitivity.

Following FHWA guidelines in defining the levels of visual change, the following physical factors were considered: topography, vegetation, water, structures, visual pattern and blocked/altered views. **Table 4-1** (Sources of visual change) describes how potential changes to these factors would be ranked for this project.

Table 4-1 Sources of visual change

	Low	Moderate	High
Topography	New features are at grade or below grade	Grade separation	Fully elevated structures, above grade
Vegetation	No removal of/full replacement of vegetation	Removal of some vegetation (trees or other)	Removal of all or substantial amount of vegetation
Water	No change to water/small number of new features	Slight change to water course or additional features	Removal or undergrounding (piping) of waterbody
Structures	No new structures; small changes to existing structures	Minor new structures; minor displacement of structures	Major new structures; multiple building removals
Visual Pattern	No change to street; full screening of neighborhood from project corridor and project features	Changes to existing streets; partial screening of neighborhood from alignments and project features	New streets; no screening of neighborhood from alignments and project features
Altered Views	Minor changes to existing scenic views	Disruption of scenic views	Full blocking of scenic views

Source: FHWA 2015.

Following FHWA guidelines, different physical and perceptual factors must be considered to define the level of viewer sensitivity. Physical factors (concerned with viewer *exposure*) include proximity, extent and duration. Perceptual factors (concerned with viewer *awareness*) include attention, focus and protection. **Table 4-2** (Viewer sensitivity levels) describes the degree of viewer sensitivity as it relates to these six factors.

Table 4-2 Viewer sensitivity levels

		Low	Moderate	High
Exposure	Proximity	Not in project area	In adjacent neighborhood	Directly adjacent to project
	Extent	Seen by few people	Seen by some people	Seen by a very large number of people
	Duration	Barely glimpsed for a short time	Partly seen for a limited duration	Continually seen for a long time
Awareness	Attention	Unengaged, inattentive viewers	Moderately engaged, attentive viewers	Fully engaged, very attentive viewers
	Focus	No, or highly dispersed, focal objects, drawing no focus	Some focal objects, drawing moderate focus	Singular focal object, drawing intense focus
	Protection	No protection or interest in protection	Some social interest in protecting views, but no legal protection	Legal, or socially agreed-upon, protected views or vistas

Source: FHWA 2015.

4.1.1 Visual changes throughout the project corridor

Some visual change would occur wherever the project improvements would be present and visible along the project corridor. Refer to **Figure 2-1** (SR 522/NE 145th BRT Project) in Section 2 of this report, and Tables A-1, A-2, A-3 and A-4 of the SEPA Checklist for descriptions of each project element, by segment. Some visual changes would occur in both the Residential and Commercial Landscape Units. The anticipated viewer sensitivity to these changes would vary between the two types of Landscape Units; viewer sensitivity is assumed to be slightly higher in the Residential Landscape Unit and lower in the Commercial Landscape Unit, due to the differing preferences and expectations viewers have in a residential setting compared to a suburban or commercial setting. Where mixed land uses are present, such as in central Bothell, residents of those areas would be expected to have higher viewer sensitivities.

The following discusses project component types and their related visual changes:

- **Transit stations:** New stations are proposed throughout the corridor, each with an eastbound platform and a westbound platform to serve transit riders in each direction. The project would result in changes to foreground views of areas where station platforms are proposed, due to the presence of the concrete platform and related proposed amenities, including overhead shelter, signage, seating, receptacles, decorative pylon (proposed to be internally illuminated), ticket vending machines (TVMs) and security cameras. Foreground views at night would include the platform lighting, both under the shelter and at the pylon.
- **BAT lanes, transit queue bypass lanes and bus-only lanes:** Where they are proposed, new lanes would mean a visibly wider roadway between curbs, new striping, and some new planter strips and landscaping. New outside lanes would taper into and out of the existing roadway configuration and would affect foreground views more than middle ground or background views.
- **Walls:** Retaining walls to accommodate roadway widening are proposed in each project segment except Kenmore, with heights varying from about 3 to 16 feet. Typical wall heights would be about 8 to 12 feet. All walls would be finished with an architectural texture, pattern and potentially natural color to increase their compatibility with the existing environment and create visual continuity along the corridor. Where required for safety, 4-foot-high chain link fencing would be installed at the top of walls (refer to proposed conditions shown for viewpoint (VP) 01, VP 02 and VP 03 in **Appendix A** (Key Viewpoints: Existing and Simulated Conditions)). Retaining walls would primarily affect foreground views, but also middle ground views where walls would continue for hundreds of feet adjacent to the road (as with VP 03; see **Appendix A**, Figure A-03).

At some locations on the east side of SR 522 and potentially at limited locations on NE 145th Street, sections of low concrete walls (about 2 feet high or less) would also be needed on the downhill side of proposed sidewalks. Where these low “fill walls” would be installed, they would potentially be seen only by viewers looking toward the road from the adjoining property. They would not be visible to motorists on SR 522 or NE 145th Street.

- **Park-and-ride garages:** Park-and-ride garages are proposed at Lake Forest Park Town Center, at Kenmore Transit Center, and in Bothell off of NE 185th Street. The intent for their design is that they will be consistent and compatible with the existing conditions and blend visually with the existing natural, cultural and project environments, as conceptual design now shows. Proposed garages would be three-story structures, constructed of concrete with architectural finishes and aesthetically designed façades, vertical elements and glass where ground-floor commercial space is proposed. Park-and-ride garages would include vehicle access and nonmotorized pedestrian access, pedestrian plaza spaces, site and interior lighting as required for safety, and security cameras. The sites surrounding each garage would also be designed with landscaping as required by city code and Sound Transit standards, including trees and structure foundation and perimeter landscaping.
- **Vegetation:** Trees and vegetation along the project corridor would be removed or trimmed to accommodate new lanes, stations or pedestrian ways. This removal or trimming would mainly affect foreground and middle ground views but could also reveal views outward into the background landscape. For instance, new views of Lake Washington from SR 522 (and in some cases, from residential properties) in Lake Forest Park or Kenmore may be created by vegetation removal.

- **Pedestrian connectivity improvements:** Segments of shared-use path and new sidewalks are proposed to support transit station connections in multiple locations along the project corridor. Improvements would include new driveway connections where required, new accessibility ramps at intersections, and in many locations, a planter strip for roadside landscaping. In some cases, these improvements would impact existing vegetation or walls, and/or proposed new walls. These elements would affect foreground and middle ground views from within the corridor, as well as certain views from neighboring properties where no screening exists.

In addition to the capital improvements (physical footprint) proposed by the project, it is estimated that the total program changes from the project would result in approximately 220 new bus trips through the project corridor. These new bus trips would have negligible impacts to visual quality, because transit buses are already commonly seen throughout the corridor.

4.1.2 Visual design features

The project would include design and operational features to ensure compliance with local codes, enhance visual quality and aesthetics, and promote safety and security. Design features for this project would include the following:

- Planting of suitable vegetation where appropriate at each project element and in adjoining rights-of-way, in accordance with local landscape codes, to provide visual screening between neighbors and travelers and the project element.
- Incorporation of crime prevention through environmental design (CPTED) strategies, through work with Sound Transit's security team, during subsequent design phases to confirm that security and visual quality are complementary to one another.
- Use of shielding in exterior lighting to ensure that light sources (such as bulbs) do not shine excessively outward toward residential, recreational or sensitive natural areas.
- Installation of aesthetic treatments. The aesthetic treatments and visual character of project components have not been determined and are not intended to be represented by photo simulations in **Appendix A** (Key Viewpoints: Existing and Simulated Conditions). However, project components would be designed to be compatible with the existing cultural order of adjacent commercial/retail/residential areas within the visual environments and would comply with the applicable local design standards. Aesthetic treatments for project elements would be designed to enhance the overall visual coherence for neighbors and travelers.

For stations, aesthetic treatments would include use of consistent and identifiable colors and architectural elements, lighting, railings and paving design.

For retaining walls, sidewalks and other project engineering elements, aesthetic treatments could include use of consistent scoring, textures or patterns (such as vertical surface form-liners or shotcrete faux stone treatments), and natural coloration.

For park-and-ride garages, aesthetic treatments could include façade treatments, pedestrian plazas, public art, screening, TVM integration, retail space, and the use of colors and finishes such as stainless steel, concrete, brick or stone, and glass, which would provide long-lasting, low-maintenance visual elements. Each feature would be designed to reflect site-specific situations. Concept and final aesthetic treatment design for the park-and-ride garages would be presented to the public and local agencies for design review, before construction.

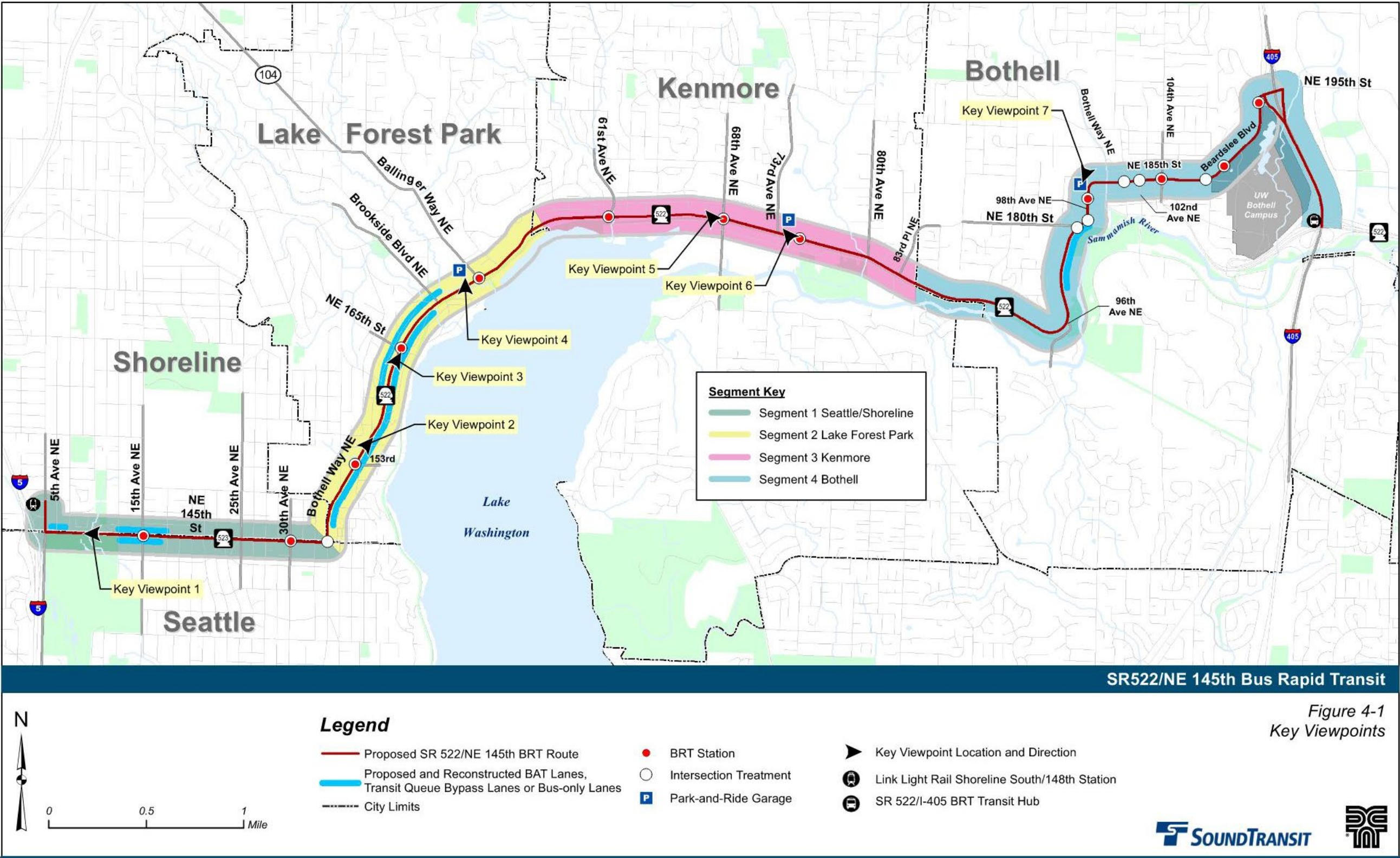
4.1.3 Key viewpoints

Seven key viewpoints were selected to represent important views into and from the corridor, in order to capture visual changes resulting from the proposed project and to help inform the analysis process. These key viewpoints were determined through fieldwork by visual resource specialists with input from Sound Transit and coordinated with city staff at an Interagency Group meeting. Key viewpoint locations and view direction are shown on **Figure 4-1** (Key viewpoints). The key viewpoints, referred to by “VP” (for “viewpoint”) and a numeral, are as follows:

- VP 01 – SR 523 (NE 145th Street) looking westbound near 8th Avenue NE in Shoreline
- VP 02 – SR 522 (Bothell Way NE) looking northeast near NE 155th Place in Lake Forest Park
- VP 03 – SR 522 (Bothell Way NE) looking north toward NE 165th Street intersection in Lake Forest Park
- VP 04 – Looking north from within Lake Forest Town Center showing proposed park-and-ride garage
- VP 05 – Looking northwest from SR 522 showing proposed station at NE 68th Street in Kenmore
- VP 06 – Looking northwest from Burke-Gilman Trail toward Kenmore Park-and-Ride lot
- VP 07 – Looking southwest from Thorsk Street toward Pop Keeney Way in Bothell, showing proposed park-and-ride garage among new development

Existing conditions, proposed changes, levels of visual change and viewer sensitivity, as well as the overall anticipated visual impacts, are listed in **Table 4-3** (Summary of visual impacts to key viewpoints).

Refer to Appendix A for photos showing existing conditions and visual simulations at each of the key viewpoints.



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Figure 4-1 Key viewpoints

Table 4-3 Summary of visual impacts at key viewpoints

VIEW POINT	Location	Existing Condition	Project Element Visible	Proposed Changes	Primary Viewers	Level of Visual Change	Level of Viewer Sensitivity	Visual Quality Impact
01	NE 145th Street looking westbound near 8th Avenue NE in Shoreline	View is dominated by roadway corridor visible into the distance. Dense, mature, mixed vegetation contributes high visual harmony, because it balances the roadway width and provides consistent screening from adjacent development.	Element 1 (see SEPA Checklist Table A-1)	New transit queue bypass lane, concrete retaining wall and streetscaping would be prominently visible. Removal of existing vegetation would make existing overhead utility wires more visible, because they would be now seen against the sky. New wall would introduce a strong engineered element that would replace an existing rockery wall. Proposed street trees would provide effective screening of wall, however. Existing balance and natural harmony would be slightly disrupted.	Drivers and passengers, cyclists	Moderate	Moderate	Neutral
02	SR 522 looking northeast near NE 155th Place in Lake Forest Park	View is dominated by five-lane highway. Despite presence of existing mature vegetation, utility wires, signage and inconsistent development patterns combine to create a slightly disharmonious view.	Element 5 (see SEPA Checklist Table A-2)	New BAT lane on the east side of SR 522. Removal of mature vegetation would open up view of adjacent building, which would diminish the coherence of the overall view. New landscaping would, in time, provide screening. Retaining walls would be present on the west side of SR 522.	Drivers and passengers	Low	Low to moderate	Neutral
03	SR 522 looking north toward NE 165th Street intersection in Lake Forest Park	The broad roadway and mature evergreen trees in the corridor dominate this view. View exhibits moderate natural harmony, because roadway width is balanced by consistent and tall vegetation, which also screens adjacent development and roadway appurtenances.	Element 5 (see SEPA Checklist Table A-2)	Widening of SR 522 (for proposed BAT lane and station on the west side) would result in removal of several mature conifers and other vegetation. Introduction of moderately high walls (with safety fencing) on the west side would reduce the former harmony, would be visually dominant and would shift vegetation to a background element. Roadway lighting and appurtenances would be more visible. New landscaping would be included on the east side.	Drivers and passengers, cyclists, pedestrians	High	Moderate	Adverse

VIEW POINT	Location	Existing Condition	Project Element Visible	Proposed Changes	Primary Viewers	Level of Visual Change	Level of Viewer Sensitivity	Visual Quality Impact
04	North view from within Lake Forest Park Town Center showing proposed park-and-ride garage	View is dominated by the parking lot and buildings in the background. Some visual harmony is present from site landscaping and overall balance of background structures.	Element 6 (see SEPA Checklist Table A-2)	New park-and-ride garage would displace existing building and some landscaping; it also would become the dominant visual feature. However, the garage would be consistent with the existing land use and visual character of the Lake Forest Park commercial center.	Commercial center visitors, drivers and passengers, pedestrians	Moderate	Low	Neutral
05	Northwest view from SR 522 showing proposed 68th Avenue NE Westbound Platform	View is dominated by the large intersection, highway appurtenances and commercial development in the background. View is disharmonious due to irregular building patterns and disproportion between highway width and adjacent development.	Element 8 (see SEPA Checklist Table A-3)	View would be largely unchanged; a new transit station (bus shelter and signage) is proposed on the far side of the street, but it would blend into existing development.	Pedestrians	Low	Low	Neutral
06	Northwest view from Burke-Gilman Trail toward Kenmore Park-and-Ride	View is dominated by six-lane highway and parking lot across the road. Moderate visual harmony exists from mature evergreen trees (part of Swamp Creek Natural Area) visible across the background of the scene.	Element 9 (see SEPA Checklist Table A-3)	Proposed park-and-ride garage would dominate the view but would be consistent with the existing land use of the King County Metro Kenmore Park-and-Ride parking and station area. Existing visual harmony would be disrupted, because garage would block the effect from mature evergreen trees. Massing of the new structure would bring some beneficial proportion to the streetscape.	Trail users, drivers and passengers	Moderate	Low	Neutral
07	Southwest view from Thorsk Street toward Pop Keeney Way in Bothell, showing proposed park-and-ride garage among new development	View demonstrates good proportioning between buildings and streetscape. Cultural order is high, and attractive streetscaping is present. Note: Due to the rapid development in this area, the simulation does not include the new office building south of the proposed park-and-ride garage.	Element 12 (see SEPA Checklist Table A-4)	Proposed park-and-ride garage would lack visual interest compared with existing residential architectural patterns, but the massing and scale of the building would be consistent. Garage would block view of background vegetation to the southeast. Because the garage would be seen in the middle ground, its presence would not visually dominate. Cultural order would be neither improved nor reduced.	Pedestrians	Moderate	Moderate	Neutral

4.2 Visual quality analysis

Following the FHWA Guidelines, this section considers the *compatibility* of the project changes with the existing environment, and *viewer sensitivities* to the likely visual changes. The combination of these two considerations determines the *degree* of impact to visual quality (beneficial, neutral or adverse).

4.2.1 Compatibility of the project changes

Roadway corridors

The project proposes new bus queue bypass lanes on NE 145th Street and new or reconstructed BAT lanes on SR 522, new BRT station platforms, new sidewalks and planter strips, and three park-and-ride garages. Partial property acquisition will occur throughout the corridor to construct these elements, with full acquisitions occurring for the 15th Avenue NE Station in Shoreline and the Bothell Park-and-Ride garage on Pop Keeney Way. Road widening would necessitate retaining wall construction along the project corridor. Improvements would also include new center medians (some would include planting), and reconstruction of driveways, some intersections and ADA ramps. For Shoreline, Seattle, Kenmore and Bothell (Segments 1, 3 and 4), the changes would be visually compatible with the existing project corridor, because these elements are already part of the overall visual character. The affected roadways along the proposed corridor have variable widths in terms of number of lanes, vertical roadside walls, and/or existing transit facilities. Refer to VPs 01, 02 and 05 in **Appendix A** (Key Viewpoints: Existing and Simulated Conditions) for examples of views from NE 145th Street and SR 522 that include project elements and demonstrate compatibility.

For some segments of SR 522 in Lake Forest Park, however, proposed retaining walls on the west side of SR 522 would be extensive (i.e., visible to motorists for moderate durations) and at some locations, would be up to 16 feet high (and thus would result in a high level of visual change, especially for residents on the east side of SR 522 having static views of the walls to the west). As described in **Table 4-3** (Summary of visual impacts at key viewpoints) above and depicted in VP 03 in **Appendix A** (Key Viewpoints: Existing and Simulated Conditions), the scale, form and materials of the concrete retaining walls would alter the existing visual character, especially where the walls would require the removal of mature conifer trees. Because mature conifers present in the foreground contribute to the existing visual character of SR 522 through Lake Forest Park, visual harmony would be reduced with their removal. When combined with the proposed retaining walls, the effect would be less compatible with the existing visual character of SR 522 in Lake Forest Park between 38th Avenue NE and a location north of NE 165th Street.

Park-and-ride garages

The proposed park-and-ride garage at Bothell would be similar to existing neighboring buildings in terms of its scale, form, massing and materials (refer to the visual simulation for VP 07 in **Appendix A** (Key Viewpoints: Existing and Simulated Conditions)). The inclusion of ground-floor commercial or residential in the garage building would further support its compatibility with the existing mixed-use visual character in Bothell. Views toward the existing vacant lot from private developments to the west and south would change as a result of the new park-and-ride garage; however, for these reasons (similarity of the garage to existing neighboring buildings

and its compatibility with the existing mixed-use visual character), the park-and-ride garage would remain compatible with the visual character of urban development in the area.

The proposed park-and-ride garages in Lake Forest Park and Kenmore, however, would be slightly larger in scale than the buildings currently surrounding them. Refer to the descriptions in **Table 4-3** (Summary of visual impacts at key viewpoints) and to the visual simulations for VP 04 and VP 06 in **Appendix A** (Key Viewpoints: Existing and Simulated Conditions). Both park-and-ride garages would be situated in developed commercial areas where large format, low-rise, commercial buildings are already present (and viewer sensitivities are relatively low). In Kenmore, potential mixed-use transit-oriented development (TOD) may be constructed on a neighboring parcel, which, if constructed, would give the Kenmore Park-and-Ride garage location an increasingly urbanizing aesthetic. In general (and solely considering present conditions), the proposed park-and-ride garages at Lake Forest Park and Kenmore would be visually compatible with existing environmental, cultural and project environments.

4.2.2 Viewer sensitivity to the project changes

As discussed in Section 3.4 (Affected population), the viewing experience must be considered relative to the different viewer groups, each of which brings different expectations and sensitivities to their visual experience. **Table 4-4** (Viewer sensitivity for travelers and neighbors) summarizes the conclusions about viewer sensitivities—those of neighbors and travelers—for this project. (Refer to **Table 4-2** (Viewer sensitivity levels) above for a description of viewer sensitivity terms and considerations.)

Table 4-4 Viewer sensitivity for travelers and neighbors

		Travelers	Neighbors
Exposure	Proximity	High	High
	Extent	High	Low to moderate
	Duration	Low to moderate	Low to high
Awareness	Attention	Low	Low
	Focus	Low	Low
	Protection	Low to moderate	Low to moderate

Travelers

Most viewers would be local travelers (broadly including motorists, cyclists and pedestrians) moving through the project corridor who have low to moderate viewing sensitivities, as shown in **Table 4-4** (Viewer sensitivity for travelers and neighbors). Exposure would be moderate to high; travelers using the project corridor would view the changes in the foreground. Traveler numbers are high (average annual daily traffic along the route is 40,000 to 53,000). Awareness would be low; travelers are accustomed to the appearance of these suburban and urbanizing roadway corridors (i.e., traveling this corridor is routine, so their attention is low). In the aggregate, most travelers would have low to moderate sensitivity.

Refer to visual simulations at VP 01 through VP 06 in **Appendix A** (Key Viewpoints: Existing and Simulated Conditions) for depictions of typical views travelers would experience with the project changes.

In Lake Forest Park, however, the most sensitive viewers (both travelers and neighbors) would likely perceive some of the changes to SR 522 as negative: primarily the loss of mature trees, which contribute to the existing visual character. This information on perceptions is based on communication received by Sound Transit as feedback from Lake Forest Park.

Neighbors

The majority of neighbors (residents and commercial neighbors and patrons), whose views toward the roadway are screened to some degree, have low sensitivity. Conversely, it is reasonable to assume that a small number of individual, highly sensitive homeowners with close-up, direct, static views of the project's prominent features (for example, a new station or retaining wall, or where vegetation removal would open up views toward the roadway that had previously been screened) would qualify as more sensitive viewers and therefore could perceive the changes negatively.

Refer to visual simulations for VPs 01, 02 and 03 in **Appendix A** (Key Viewpoints: Existing and Simulated Conditions) for typical views of the project changes affecting residential segments (i.e., VPs located within the Residential Landscape Unit).

4.2.3 Degree of visual impact

While visual changes to the existing roadways would vary depending on the specific location of a viewer and that viewer's sensitivity, overall conclusions can be reached about what effects the project would have on the visual character of the corridor. As described above, the predominant existing visual character is typical of a suburban highway landscape or, in the Bothell segment, a semi-urban character. The visual character is dominated by multi-lane roadways, streets and related appurtenances, and adjacent developments—both residential and commercial. Because changes to the existing corridor would occur primarily within developed areas, and with the important exception of certain locations in Lake Forest Park (Segment 2), those changes would be compatible with existing development patterns. For these reasons, the overall impact to the existing visual character would be neutral.

Impacts to Landscape Units

For most of the Residential Landscape Unit, visual quality impacts would be neutral. The project components would be compatible with the existing visual character of the corridor, and although relatively more sensitive to visual changes than travelers, most viewers in the Residential Landscape Unit would still have low to moderate sensitivity and would not experience adverse effects from the project.

However, as described in Sections 4.2.1 and 4.2.2 above, in Lake Forest Park, specifically in the vicinity of NE 165th Street, the combination of tall retaining walls and the removal of characteristic tall trees in the foreground could be perceived as less compatible with the existing visual character, and residents of Lake Forest Park have expressed high sensitivity to tree removal. Therefore, on SR 522 in Lake Forest Park, adverse visual impacts would result at locations where both large retaining walls would be installed and tall conifer trees would be removed. Refer to VP 03, which is looking toward NE 165th Street along SR 522, in

Appendix A (Key Viewpoints: Existing and Simulated Conditions) for a depiction of this condition.

In the Commercial Landscape Unit, visual quality impacts would be neutral. The project components would be compatible with the existing visual character, and both neighbors' and travelers' sensitivities would be low, reflecting no adverse visual impacts from the project.

Moreover, it is possible that many viewers in both Landscape Units (and in all segments) would perceive the consistent and interesting appearance of the BRT station components as a unifying feature, resulting in beneficial visual impacts along the corridor as a whole.

Table 4-5 (Visual impacts by project segment) summarizes the findings of this report for each segment.

Table 4-5 Visual impacts by project segment

	Project Segment			
	1: Shoreline/Seattle	2: Lake Forest Park	3: Kenmore	4: Bothell
Visual Impacts	Neutral	Neutral to Adverse	Neutral	Neutral

4.3 Light and glare

Proposed sources of light would come from new (or relocated) street lights where required in conjunction with new or reconstructed lanes, pedestrian lighting and internally illuminated pylons at new station platforms, and building and site lighting at the park-and-ride garages (located in Lake Forest Park, Kenmore and Bothell). These lights would be seen at night from adjacent roadways (though park-and-ride garage lights may operate 24 hours a day for safety). All proposed light fixtures would include cut-off shields or hoods, so lighting is directed downward to prevent spillover into neighboring properties. Proposed lighting would be selected to be compatible with, or potentially match, the types of lighting fixtures currently present in the corridor. In addition, all new lighting associated with the project would occur in fully developed roadway corridors with existing street lighting and commercial and residential site lights.

Reflective glare is not expected as a result of the project improvements, because building materials would be nonreflective and/or matte-finished. Specifically, for moderate to tall concrete retaining walls adjacent to roadways, incorporating texture and/or architectural relief into vertical surfaces will eliminate the potential for reflective glare from vehicle headlights at night.

4.4 Short-term impacts to visual quality

Short-term impacts are those that result from construction activities over the approximately 24 months needed to construct the project. Although vegetation removal would be minimized to the extent possible, existing vegetation would be removed first, potentially creating areas that would present a barren visual aesthetic for a time. Staging and construction sites would add temporary visual clutter. Short-term impacts would affect a larger area than the finished project, because

more area would be needed to stage construction, divert traffic and construct the project than would be needed for the completed result.

It is possible that during construction, lights would be used for night work, which would be undertaken to avoid daytime traffic lane closures. If the contractor uses night lighting, the lighting would be directed toward the roadway work area and away from residential areas. Construction lights would be needed only for a very short period, if they were elected for use.

5 AVOIDANCE AND MINIMIZATION

5.1 Avoidance and minimization measures during construction

During the construction phase of the project, Sound Transit would implement the following actions to avoid and minimize short-term effects on visual quality from construction activities.

- Screen views of construction equipment and materials from pedestrians and residential areas, as practical.
- Restore landscaping disturbed by construction-related activities after completion of work.
- Limit construction to daylight hours if possible. Direct lights toward work areas and away from residential areas if nighttime construction is necessary.

With these measures, no adverse short-term impacts are anticipated, and no mitigation during construction is anticipated to be needed.

5.2 Avoidance and minimization measures for long-term visual change

Overall, impacts to visual quality would be neutral. In Segments 1, 3 and 4, (i.e., Seattle/Shoreline, Kenmore and Bothell) project elements would be compatible with the existing visual character of the AVE and reasonably foreseeable future development (for example, the potential TOD in Kenmore). Viewers would have low to moderate sensitivity to the types of changes proposed along the corridor. In conclusion, visual impacts to Segments 1, 3 and 4 would be neutral.

In specific locations in Segment 2 where residential neighbors and travelers would have direct, line-of-sight views toward large project changes, such as wall construction in conjunction with mature tree removal, Sound Transit would implement the following measures to reduce effects on neighboring residences:

- Preserve mature trees to the maximum extent practicable between the proposed sidewalk and existing residences along SR 522 between 38th Avenue NE and NE 165th Street in conjunction with local municipal codes.
- For all proposed retaining walls, provide architectural finishes on the vertical faces, in conjunction with WSDOT and stakeholder coordination. Options for concrete wall treatments include variations to texture, color and/or pattern.

- Where feasible, include planter strips in front of concrete retaining walls.
- In conjunction with local tree preservation municipal codes, provide tree replacement with large stature street trees in the planter strips along SR 522 where road widening would introduce new views from residential properties toward the roadway.

Sound Transit conducted Interagency Group coordination with stakeholders and public open houses to provide project updates and receive input. This early coordination during project planning and design has helped to avoid and minimize the project's overall effects on visual quality. Also, **Appendix B** (Parking Structure Potential Aesthetic and Visual Treatments) illustrates aesthetic features associated with existing Sound Transit facilities that could be used for this project. Concept and final aesthetic treatment design for the park-and-ride garages would be presented to the public and local agencies for design review before construction.

6 MITIGATION

In addition to the avoidance and minimization measures described above, for potential adverse visual impacts to the visual character of SR 522 in Lake Forest Park, where large retaining walls are proposed in conjunction with the removal of mature trees, the following strategies for mitigation would be implemented, if authorities with jurisdiction in this segment of the corridor approve:

- Install climbing vine plant species either above, or at the base of, retaining walls using small "cut-out" planting pockets in the sidewalk for soil. With time, climbing vines would soften the potentially stark appearance of tall retaining walls by providing a "green over gray" effect.
- Where space allows within temporary easements, install conifer trees for additional screening behind retaining walls. Coordination with individual residential property owners adjacent to SR 522 could extend these plantings into private property if desired. With time, some trees would grow to be seen in the foreground and middle ground from the SR 522 corridor.

7 REFERENCES

Federal Highway Administration (FHWA). 2015. *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA-HEP-15-029).

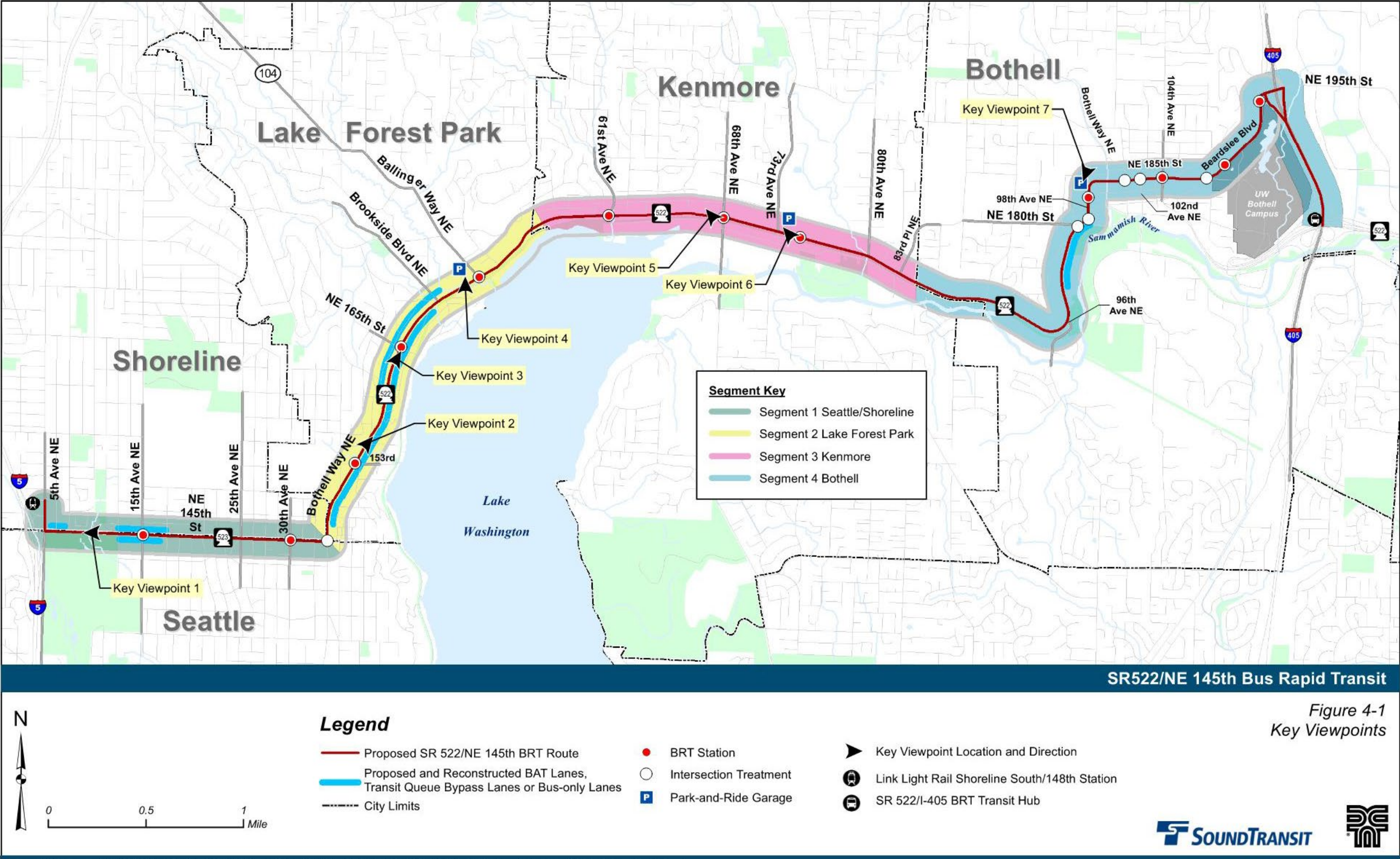
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SR 522 Bus Rapid Transit

APPENDIX A

Key Viewpoints: Existing and Simulated Conditions



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Figure A-01. VP 01 – Existing condition and proposed visual simulation
SR 523 (NE 145th Street) looking westbound near 8th Avenue NE in Shoreline



Existing



Proposed

Figure A-02. VP 02 – Existing condition and proposed visual simulation
SR 522 (Bothell Way NE) looking northeast near NE 155th Place in Lake Forest Park



Figure A-03. VP 03 – Existing condition and proposed visual simulation
SR 522 (Bothell Way NE) looking north toward NE 165th Street intersection in Lake Forest Park



Existing



Proposed

Figure A-04. VP 04 – Existing condition and proposed visual simulation
Looking north from within Lake Forest Park Town Center showing proposed park-and-ride garage



Existing



Proposed

Figure A-05. VP 05 – Existing condition and proposed visual simulation
Looking northwest from SR 522 showing proposed station at NE 68th Street in Kenmore



Existing



Proposed

Figure A-06. VP 06 – Existing condition and proposed visual simulation
Looking northwest from Burke-Gilman Trail toward Kenmore Park-and-Ride garage



Existing



Proposed

Figure A-07. VP 07 – Existing condition and proposed visual simulation
Looking southwest from Thorsk Street toward Pop Keeney Way in Bothell; showing proposed park-and-ride garage among new development



SR 522 Bus Rapid Transit

APPENDIX B

Parking Structure Potential Aesthetic and Visual Treatments

Parking Structure Aesthetic and Visual treatments



Star Lake Park & Ride

- Visual screening
- Vertical elements
- Landscaping
- Pedestrian facilities
- Stormwater features



Source: www.Hewittseattle.com

Redmond Technology Station

- Pedestrian plaza
- Warm colors
- Landscaping
- Glazing
- Retail spaces



Auburn Parking Structure

- Vertical elements
- Brick finishes / Warm colors
- TVM Integration



Source: www.ckcps.com.com

Kent Parking Structure

- Visual screening
- Vertical elements
- Glazing
- Landscaping



Angle Lake Park & Ride

- Off-plane facades
- Visual screening
- Vertical elements
- Pedestrian facilities



Source: www.Hewittseattle.com

Mercer Island Station

- Visual screening
- TVM Integration
- Vertical elements
- Pedestrian facilities
- Permeable Pavements



Issaquah Station

- Visual screening
- Transit structures
- Vertical elements
- Glazing



Source: www.Hewittseattle.com

Lakewood Station

- Visual screening
- Public art
- Pedestrian plaza
- Vertical elements
- Landscaping

Figure 6-1 Typical aesthetic treatment options for Sound Transit facilities



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