

Memorandum

Visual and Aesthetic Resources – Additional Analysis

Date: 3/22/2024
Project Name: State Route (SR) 522/NE 145th Bus Rapid Transit (BRT) Project
Project No: D3458616
Company: Sound Transit

1 Introduction

This additional visual analysis addresses potential changes to visual character, viewer sensitivity, and visual quality for the State Route (SR) 522/NE 145th Bus Rapid Transit (BRT) Project. The analysis addresses changes made since the initial visual and aesthetic analysis was completed for the State Environmental Policy Act (SEPA) Checklist in March 2021 (Sound Transit 2021). The Visual and Aesthetic Resources Technical Report was included as Appendix F to the SEPA Checklist, hereafter referred to as the 2021 Visual Report.

This document describes the change in visual resource impacts expected from the 90 percent design compared to the 2021 Visual Report, which was based on 30 percent design. Based on a review of the 2021 Visual Report, one new viewpoint was added to address the 90 percent project design changes, and impacts associated with one viewpoint originally analyzed in 2021 were also updated. In addition, an overall reduction in the number of trees to be removed from the project corridor was evaluated.

2 Project Description

The 2021 SEPA Checklist described the project as follows:

Sound Transit proposes to implement the SR 522/NE 145th Bus Rapid Transit (BRT) Project, providing BRT service along 9 miles of existing public roadway between Shoreline/Seattle and Bothell, including portions of NE 145th Street, State Route (SR) 522 and local arterial streets. The proposed BRT project will increase regional mobility and improve transit speed and reliability along the corridor, with interconnections to Link light rail and to other bus services. This State Environmental Policy Act (SEPA) Environmental Checklist evaluates construction and operation of the following project components:

- *Two BRT stations in Shoreline/Seattle, three BRT stations in Lake Forest Park, three BRT stations in Kenmore, and four BRT stations in Bothell*
- *New park-and-ride garages in Lake Forest Park, Kenmore and Bothell*
- *Transit queue bypass lanes, business access and transit (BAT) lanes, and bus-only lanes*
- *Transit signal priority (TSP) improvements at certain intersections*

A variety of bicycle and pedestrian improvements were also associated with some of these project components. Other elements related to this project have been reviewed in environmental documents prepared by the Washington State Department of Transportation (WSDOT), in partnership with Sound

Transit. The SEPA environmental documentation included the whole SR 522 BRT project corridor, and the analysis was described by project segments (or jurisdiction) as follows:

- Segment 1: Seattle/Shoreline
- Segment 2: Lake Forest Park
- Segment 3: Kenmore
- Segment 4: Bothell

2.1 Design Refinements

As design progressed from 30 percent (used in the 2021 SEPA Checklist) to 90 percent, there have been design refinements to project-related property acquisitions, and changes in right-of-way needs and retaining wall design. Construction of the parking garages will be deferred per Sound Transit Resolution R2021-05 (August 2021). The Lake Forest Park garage is deferred until 2044 and the Kenmore and Bothell garages are deferred until 2034. The 2021 SEPA Checklist included discussion of the visual impacts of the parking garages. Further discussion is not included in this additional analysis because the parking garages were not advanced into the final design phase and therefore were not included in the 90 percent design plans.

The 90 percent design plans were reviewed for refinements that warrant additional visual analysis, as described below. No final design refinements in Segment 3 (Kenmore) or Segment 4 (Bothell) warrant additional analysis; therefore, these segments are not discussed further. The 90 percent design refinements with potential to affect visual and aesthetics are:

1. Segment 1: Seattle – Full acquisition and demolition of four duplex buildings identified here by the Sound Transit property identification number (BRS) and the King County parcel identification number (PIN): BRS-123 (PIN 6632300644), BRS-125 (PIN 6632300645), BRS-127 (PIN 6632300646), and BRS-129 (PIN 6632300647) along SR 523/NE 145th Street near 12th Avenue NE.
2. Segment 2: Lake Forest Park – Updated retaining wall design and additional vegetation removal along SR 522/Bothell Way NE north of NE 165th Street. The 90 percent design includes a soldier pile wall, which is thicker than the tie-back wall proposed in the 30 percent design. The thicker wall design includes WSDOT standard drainage and maintenance access features behind the wall. This requires more property and removes additional mature vegetation, and potentially more trees, for construction of a thicker wall.
3. Corridor-wide tree and vegetation removal – The 90 percent design refinement has reduced the number of trees proposed for removal compared to 30 percent design, including in Lake Forest Park.

The 2021 Visual Report analyzed the project effects from seven key viewpoints (Sound Transit 2021). One viewpoint (VP 03) was found to have a potential adverse visual quality impact. The remaining viewpoints were found to have a potential neutral visual quality impact.

3 Methodology

The methodology for this visual analysis is the same used in the 2021 Visual Report and is based on the Federal Highway Administration's (FHWA) *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA 2015). As a part of this analysis, the FHWA 2015 Visual Impact Assessment (VIA) Scoping Questionnaire was completed to determine the appropriate level of effort for assessing the impacts on visual quality resulting from 90 percent design. The results of the questionnaire recommended an abbreviated VIA for this analysis, which is consistent with the 2021 SEPA analysis.

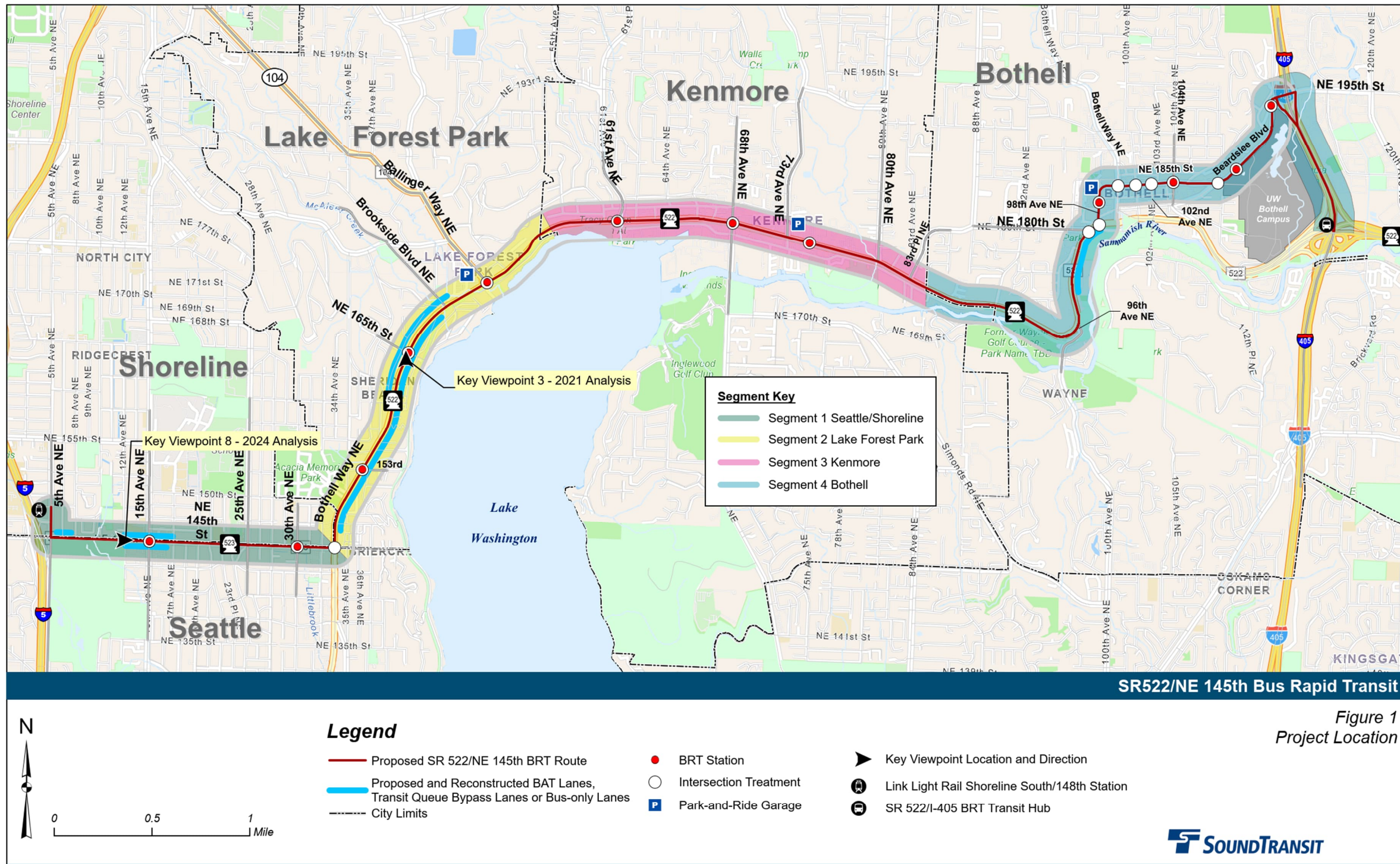
This analysis considers (1) visual compatibility of the project changes with the existing environment at the new viewpoint and (2) viewer sensitivities to the resulting visual contrast at the new viewpoints. The combination of these two considerations determines the degree of impact to visual quality (beneficial, neutral, or adverse) due to the design refinements contained in the 90 percent design.

4 Existing Conditions

The 2021 Visual Report described the existing visual character of the area of visual effect, the landscape units identified within the area of visual effect, the natural and cultural environments present, and the affected population (i.e., types of viewers who would view the project). The discussion of these elements remains valid for this analysis.

5 Changes in Impacts

This section summarizes how the 90 percent design refinements would affect visual and aesthetics resources in Segments 1 and 2 of the corridor compared to the 2021 Visual Report. The viewpoints discussed in this section are shown on Figure 1.



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Figure 1: Viewpoints in this Analysis

5.1 Acquisition and Demolition of Four Duplex Buildings (VP 08)

VP 08 is a new viewpoint from SR 523 (NE 145th Street) looking east near the 12th Avenue NE intersection in Shoreline (Figure 2). This viewpoint was added to analyze impacts from removing four duplex buildings. As noted in the 2021 Visual Report, criteria for selecting viewpoints includes representing areas where “the greatest effect to visual quality” is anticipated.



Figure 2: VP 08 — SR 523 (NE 145th Street) Looking East near 12th Avenue NE



Figure 3: VP 08 — SR 523 (NE 145th Street) Looking East near 12th Avenue NE, with Project in Place

The simulation created for VP 08 shows removal of four earth-tone, one-story, multi-family residences (duplexes) and associated shrubs on the south side of the road (Figure 3). Removal of the residences, while noticeable, opens the view to existing vegetation behind these buildings. New trees, shrubs, and groundcover are planted in the right-of-way beside the sidewalk. Although initially much smaller, the new vegetation shares similar characteristics (form, color, texture) of the surrounding area. The newly vacant parcels would be seeded with low-growing grass and herbaceous plants, which would remain until the parcels are redeveloped. The addition of new trees adjacent to the sidewalk would, over time, help obscure views of new development and create an unbroken and visually unified corridor of vegetation as the trees mature, enhancing the naturalness of this view.

On the north side, the widened sidewalk visually blends into the existing four-lane roadway, as it shares similar color and texture. As on the south side, new deciduous trees are added beside the sidewalk, complementing the existing vegetation and visually balancing each side of the road. This new landscaped section slightly obscures the road and vehicles in the distance, also increasing the naturalness of this view.

VP 08 demonstrates a moderate to high level of visual compatibility compared with the 30 percent design because the new trees share consistent form, line, color, and texture as the surrounding vegetation. Viewer sensitivity associated with VP 08 regarding exposure is considered moderate because viewers (neighbors and travelers) would be close to the change and many viewers would be affected. The duration of the view would be long for adjacent residents but fleeting for travelers. Viewer awareness would also be high for residents and low for travelers, although attention and focus on the change would diminish with time as the vegetation matures. For these reasons, the resulting degree of visual quality impact is neutral.

5.2 Updated Retaining Wall Type (VP 03)

Compared to the 30 percent design, 90 percent design would increase the thickness of the retaining wall for soldier piles, drainage, and maintenance access features. This requires more property behind the retaining wall and the removal of additional mature vegetation on the hillside. This retaining wall is in the same location and is the same size as it was in the 30 percent design; therefore, the level of visual contrast would be the same as presented in the 2021 Visual Report at this location. The gray walls topped by a light gray-brown fence would continue to echo the color of the road but would remove more views of existing vegetation and increase views of human-made elements (the retaining wall) that contrast against the naturalness of the trees. Because this change would be slight, the results of the analysis for VP 03 in the 2021 Visual Report would remain unchanged, with a high level of visual change and adverse visual quality impact. Because no change to existing conditions is expected, there would be no change to viewer sensitivity, which was determined to be moderate in the 2021 Visual Report.

5.3 Vegetation Removal and Impacts to Landscape Units

The 2021 Visual Report identified impacts to landscape units (Section 4.2.3) resulting from removal of “characteristic tall trees” in the foreground, specifically in Lake Forest Park. That report noted that such removal would be “less compatible with the existing visual character,” resulting in “adverse visual impacts.” The 2021 Visual Report refers to VP 03 for a depiction of removal of tall conifer trees and installation of large retaining walls along the SR 522 corridor. Tree removal along the corridor would still occur under 90 percent design and continue to be “less compatible with the existing visual character,” but to a lesser extent, as shown in Table 1.

Table 1: Tree Removal — 30 Percent Design vs 90 Percent Design

Area	30% Total Removals	90% Total Removals	Difference	% Change
Seattle	60	58	-2	3.3% decrease
Shoreline	52	58	+6	11.5% increase
Lake Forest Park	439	399	-40	9.1% decrease
Kenmore	35	11	-24	68.6% decrease
Bothell	141	77	-64	45.4% decrease

Under this analysis, the retaining wall shown in VP 03 would be thicker to accommodate soldier piles, drainage and maintenance access features, potentially resulting in some additional tree loss and mature vegetation loss at that location compared to the 2021 Visual Report. However, the number of trees removed in Lake Forest Park would decrease overall by 9 percent. Overall, removing fewer trees would reduce the impact anticipated in the 2021 Visual Report throughout the project corridor, except Shoreline, where another six trees would be removed.

6 Mitigation Measures

Sound Transit remains committed to the avoidance and minimization measures during construction and for long-term visual change as described in Section 5 of the 2021 Visual Report, specifically:

- 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 the proposed retaining wall on the west side of SR 522 north of NE 165th Street in Lake Forest Park, Sound Transit will provide architectural finishes on the vertical face, in conjunction with WSDOT and stakeholder coordination. Options for concrete wall treatments include variations to texture, color, and/or pattern.

In addition to the avoidance and minimization measures, Sound Transit continues to coordinate approval with WSDOT and Lake Forest Park for a feasible mitigation strategy to soften the adverse visual effects of large retaining walls in Segment 2, as described in Section 6 of the 2021 Visual Report:

- Install climbing vine plant species either above, or at the base of, retaining walls using small “cut-out” planting pockets with soil in the wall, or at the base of the wall where there is landscaping. 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 Conclusions

Compared to 30 percent design analyzed in the 2021 Visual Report, refinements proposed under 90 percent design would result in:

1. Segment 1: Moderate to high level of visual compatibility and a neutral impact at new VP 08, where four duplexes would be removed and new trees planted in the right-of-way would help obscure any future development, enhancing a sense of naturalness at this location.
2. Segment 2: No change to the degree of impact for VP 03 compared to the 2021 Visual Report; VP 03 would continue to experience a high level of visual change, moderate visual sensitivity, and adverse visual quality impact at this location.
3. Removal of fewer trees throughout the corridor would reduce the impact anticipated in the 2021 Report, except Segment 1 (Shoreline), where six more trees would be removed. Sound Transit’s commitment to prioritize the preservation of mature trees along the corridor resulted in this reduction in tree removals. Sound Transit will continue to preserve mature trees to the maximum extent practicable.

This additional analysis concludes that the 90 percent design refinements would not change the visual impacts presented in the 2021 Visual Report, as summarized in Table 4-5 of that report: Segments 1, 3, and 4 would have neutral visual impacts and Segment 2 would have neutral to adverse visual impacts.

8 References

Federal Highway Administration (FHWA). 2015. Guidelines for the Visual Impact Assessment of Highway Projects. January. Accessed July 2023.

https://www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.aspx.

Sound Transit. 2021. SR 522 Corridor Bus Rapid Transit (BRT) SEPA Environmental Checklist. March.