

3.9 Visual Quality

Highways and major transit facilities are highly visible elements of landscapes. They are noticeable to local residents, travelers using the facilities, and nearby motorists, bicyclists, pedestrians, and transit users. This section describes and evaluates changes to visual character from the alternatives and how that change in visual character would affect visual quality as perceived by viewers.

The assessment of reasonably foreseeable effects in this section is based upon the Area of Visual Effect (AVE) described in Section 3.9.2, as well as the temporal proximity parameters detailed in Chapter 3, Introduction.

The information presented in this section is based on the Visual Quality Technical Report (as listed in Appendix H), which contains greater detail and analysis.

3.9.1 Changes or New Information Since 2013

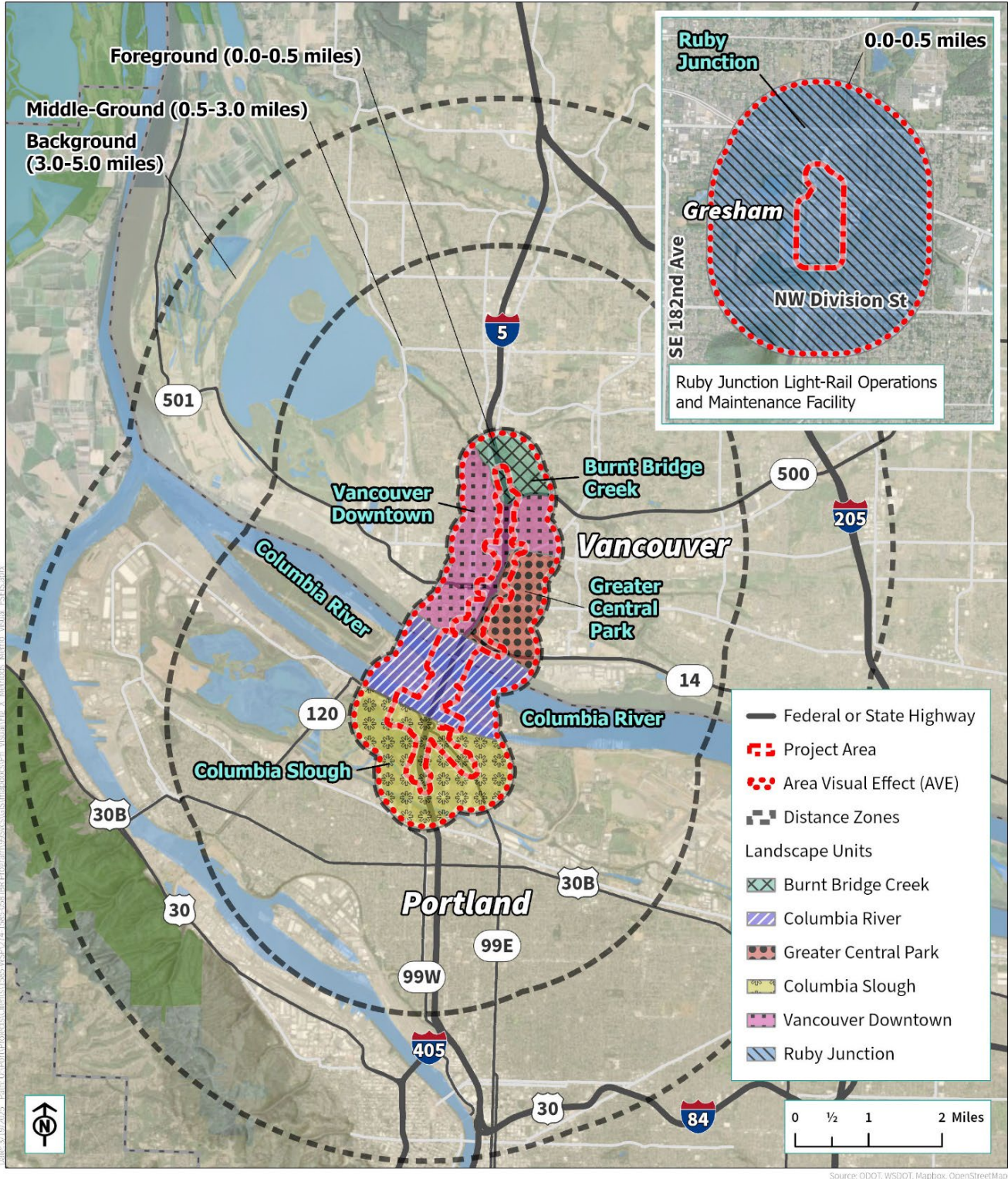
The Columbia River Crossing (CRC) Selected Alternative identified in the 2011 Record of Decision (ROD), as revised by the 2012 and 2013 re-evaluations, is referred to as the CRC Locally Preferred Alternative (LPA). Over the past 10+ years since the CRC LPA was identified, the physical environment near the Interstate Bridge, community priorities, and regulations have changed, which necessitated design revisions and resulted in the proposed IBR Program Modified LPA (see Section 2.5.2). Evaluation of potential impacts associated with visual quality has been updated in this Final SEIS to include:

- Updated FHWA methodology for evaluating visual quality in their Guidelines for the Visual Impact Assessment of Highway Projects (2015).
- Updated locations of some key viewpoints and landscape units (LUs) to reflect the Modified LPA.
- Changes in viewsheds, based on the location and extent of the Modified LPA.
- Modifications in the highway and structure form, scale, and materials.
- Changes to the project footprint necessitated by these changed conditions, including adding bridge configuration design options with varying heights and visibility.
- Updated architectural and landscape design criteria.

3.9.2 Existing Conditions

FHWA's guidelines define the study area for visual quality analysis as the Area of Visual Effect (AVE) (FHWA 2015). The AVE is the area where views of the proposed Modified LPA would be visible, determined by the physical constraints of the environment and the limits of human sight. Landforms (such as hills and mountains) and land cover (such as vegetation and buildings) limit views from large portions of the middle and background distance zones (Figure 3.9-1). Therefore, the AVE for the proposed Modified LPA, including the Ruby Junction Light-Rail Operations and Maintenance Facility (OMF), consists of areas within the foreground distance zone, which is 0 to 0.5 miles from the limits of ground disturbance. Along the I-5 corridor, background and middle ground distance zones were considered where they include scenic elements of views that could be altered or obstructed by the Modified LPA (i.e., bridges, ramps, etc.).

Figure 3.9-1. Area of Visual Effect and Landscape Units



Within the AVE, six defined LUs were identified based on the existing visual character, viewer groups present, and current visual quality. Each LU is the geographic area used to assess changes to visual environments and character, sensitivity of viewers, and impact to visual quality. The six LUs are identified in Figure 3.9-1 and their existing resources and characteristics are described in Table 3.9-1.

It is not possible to assess every view within an LU, so key viewpoints (KVPs) were identified and used to define the existing visual character and visual quality and evaluate impacts to visual quality. The KVPs used in this analysis are shown in Figure 3.9-2. KVPs were selected because they represent a common or typical view from within an LU or because they are a view of a defining feature of the LU, such as a notable natural feature or important structure.

Table 3.9-1. Visual Character of Landscape Units

Landscape Unit	Visual Character
Columbia Slough	Views of North Portland Harbor and several sloughs, riparian areas, and large wetlands; level sports fields and recreational areas; large tracts of open space interrupted by large parking lots and industrial, retail, commercial, and transit and transportation development.
Columbia River	Riverine, industrial; flat landform; defined by near-continuous development along, and use of, the Columbia River. Open views upriver toward Mt. Hood.
Vancouver Downtown	Primarily developed residential, commercial, and retail areas. Smaller-scale urban core with higher density and taller structures, including mixed-use high-rise development along the waterfront.
Greater Central Park	Park-like campus and open fields crossed by several major roadways and elevated railroad tracks. Recreation- and education-oriented development that includes historic districts. Officers Row and the West Barracks include a mix of uses and event venues.
Burnt Bridge Creek	Riparian valley between steep-sided slopes; residential development and open space.
Ruby Junction	Mix of industrial, commercial office, and retail development, including large-scale industrial uses such as sand and gravel mining and municipal transit maintenance, and fleet services uses.

For each LU the visual analysis considers the sensitivity of the different viewer groups (people who would have views of or from the AVE) to changes in views and the visual character. The activities a viewer is engaged in, the visual context, and the values, expectations, and interests all affect viewer sensitivity. Although each viewer has individual preferences and sensitivities, there are three basic perceptions of the visual environments:

1. **Natural Harmony:** When viewing the natural environment, viewers evaluate the natural harmony of the existing scene, determining whether the composition is harmonious or inharmonious.
2. **Cultural Order:** When viewing the cultural environment, viewers evaluate cultural order, determining whether the composition is orderly or disorderly.
3. **Project Coherence:** When viewing a project environment, viewers evaluate how the visual character of all the elements of a project logically fit together and how the visual character of the project integrates with the visual character of the existing environment to form a complete whole. Viewers determine whether the project's composition is coherent (forms a logical whole) or incoherent (does not form a logical whole).

Table 3.9-2 summarizes the viewer groups present in each LU, their visual sensitivity, and a qualitative rating of their perception of the existing elements of visual quality.

Table 3.9-2. Viewer Groups, Viewer Sensitivity, and Existing Visual Quality Ratings for Landscape Units

Landscape Unit	Viewer Groups	Viewer Sensitivity	Natural Harmony	Cultural Order	Project Coherence
Columbia Slough	Recreational, Residential, Motorist	Low (motorists) to High (recreational users)	Moderate	Low	Low
Columbia River	Recreational, Residential, Retail/Commercial, Motorist, Bicycle/Pedestrian	Low (motorists) to High (residential)	Moderate to High	Low	Low
Vancouver Downtown	Recreational, Residential, Retail/Commercial, Motorist, Bicycle/Pedestrian	Low (motorists) to High (residential)	Moderate	High	Low
Greater Central Park	Recreational, Motorist, Bicycle/Pedestrian	Low (motorists) to High (recreational users)	High	High	Low
Burnt Bridge Creek	Recreational, Residential, Motorist, Bicycle/Pedestrian	Low (all viewers)	High	Low	Moderate
Ruby Junction	Industrial, Commercial, Retail, Residential, Civic	Low (all viewers)	Low	Moderate to Low	Moderate to Low

3.9.3 Long-Term Benefits and Reasonably Foreseeable Effects

“Long-term effects to visual quality” refers to how changes to visual resources have a reasonably foreseeable effect on the character of the physical, cultural, and project environments as perceived by viewers. The AVE described in Section 3.9.2 and the temporal scope described in the Chapter 3 introduction is used to assess long-term benefits and reasonably foreseeable effects to visual quality. The degree of impact to visual quality is determined by the compatibility of the visual change with the existing conditions and the sensitivity of viewers. The value of the effect to visual quality is identified as beneficial, adverse, or neutral.

Table 3.9-3 summarizes the effects of the No-Build Alternative, Modified LPA, and design options on visual quality. Detailed analysis of the effects is provided in the following sections.

No-Build Alternative

Under the No-Build Alternative, the constructed elements of the project environment within the AVE would not change. Existing bridges, ramps, interchanges, roadways, and other structures would remain. With regular maintenance, such as painting, views containing the bridge structures are not expected to decline in visual quality, except in the event of a major earthquake, which could visibly damage the structures.

The No-Build Alternative assumes that all highway, roadway, and transit projects within the AVE planned to be built by 2045 would be constructed. Even with the completion of those projects, traffic congestion and delays are forecasted to increase within the AVE. Additionally, periodic bridge lifts to allow Columbia River traffic to pass under the existing Interstate Bridge would continue to cause stopped traffic and congestion on I-5. Additional congestion reduces the coherence of the project environment, particularly as viewed by motorists, which could reduce visual quality. Visual changes from traffic congestion may adversely affect visual quality for some viewers in all LUs except for the Ruby Junction LU. However, these conditions would likely develop over time, allowing viewers to become accustomed to the changing visual environment. The overall long-term impact on visual quality would be neutral.

Table 3.9-3. Long-Term Reasonably Foreseeable Visual Quality Benefits and Effects

0	1	2: IBR Program Recommended Design Options	3	4	5	6	7
Effect	No-Build Alternative	Modified LPA with Single-Level Fixed-Span Bridge Configuration, One Auxiliary Lane, with C Street Ramps, Centered I-5 and All Five Park and Rides	Modified LPA with <u>Double-Deck Fixed-Span Bridge Configuration</u> , One Auxiliary Lane, with C Street Ramps, Centered I-5, and All Five Park and Rides	Modified LPA with Single-Level Fixed-Span Bridge Configuration, <u>Two Auxiliary Lanes</u> , with C Street Ramps, Centered I-5, and All Five Park and Rides	Modified LPA with Single-Level Fixed-Span Bridge Configuration, One Auxiliary Lane, with C Street Ramps, <u>I-5 Westward Shift</u> , and All Five Park and Rides	Modified LPA with <u>Single-Level Movable-Span Bridge Configuration</u> , One Auxiliary Lane, with C Street Ramps, Centered I-5, and All Five Park and Rides	Modified LPA with Single-Level Fixed-Span Bridge Configuration, One Auxiliary Lane, <u>without C Street Ramps</u> , Centered I-5, and All Five Park and Rides
<ul style="list-style-type: none"> Changes in visual environment 	<ul style="list-style-type: none"> Constructed elements within the Area of Visual Effect (AVE) would not change. Project environment coherence would be negatively affected by increased traffic and congestion, however, natural and cultural elements are expected to be compatible with the existing visual environment. 	<ul style="list-style-type: none"> Changes to visual elements could alter the visual character and quality in the AVE (e.g., new bridges across the Columbia River). Landscape Units (LUs) where the effects to visual quality are beneficial or neutral would have a natural, cultural, and project environment that is compatible with existing visual conditions. Adverse effects to visual quality would result from blocking views of the natural environment and changes in visual 	<ul style="list-style-type: none"> The double-deck fixed-span bridge configuration design option would have visual quality impacts similar to those described in Column 2 for the single-level fixed-span bridge configuration design option, except: The deck of the double-deck fixed-span bridge configuration design option would be slightly narrower than the single-level bridge configuration design option, somewhat farther from nearby viewers, and cast a narrow shadow. 	<ul style="list-style-type: none"> The two auxiliary lane design option would have visual quality impacts similar to those described in Column 2 for the one auxiliary lane design option, except: Additional bridge width from the additional auxiliary lane would contribute to a slightly increased visual mass for viewers in close proximity or beneath the structures in the Columbia River LU. 	<ul style="list-style-type: none"> The I-5 westward shift design option would have visual quality impacts similar to those described in Column 2 for the centered I-5 design options, except: The I-5 westward shift would improve the visual quality from sensitive viewers at Kanaka Village and other views from the Fort Vancouver National Historic Site in the Greater Central Park LU by shifting project elements slightly farther away. 	<ul style="list-style-type: none"> The single-level movables-pan bridge configuration design option would have visual quality impacts similar to those described in Column 2 for the single-level fixed-span bridge configuration design option, except: With the single-level movable-span bridge configuration design option in the closed position the bridge decks would be similar in height and visibility to the existing Interstate Bridge. However, the movable-span towers, and when in an open position, 	<ul style="list-style-type: none"> The without C Street ramps design option would have visual quality impacts similar to those described in Column 2 for the with C Street ramps design option, except: The design option to eliminate the C Street ramps would increase visual quality for sensitive recreational viewers in the Greater Central Park LU with the elimination of project environment elements that would be visible.

0	1	2: IBR Program Recommended Design Options	3	4	5	6	7
Effect	No-Build Alternative	Modified LPA with Single-Level Fixed-Span Bridge Configuration, One Auxiliary Lane, with C Street Ramps, Centered I-5 and All Five Park and Rides	Modified LPA with <u>Double-Deck Fixed-Span Bridge Configuration</u> , One Auxiliary Lane, with C Street Ramps, Centered I-5, and All Five Park and Rides	Modified LPA with Single-Level Fixed-Span Bridge Configuration, <u>Two Auxiliary Lanes</u> , with C Street Ramps, Centered I-5, and All Five Park and Rides	Modified LPA with Single-Level Fixed-Span Bridge Configuration, One Auxiliary Lane, with C Street Ramps, <u>I-5 Westward Shift</u> , and All Five Park and Rides	Modified LPA with <u>Single-Level Movable-Span Bridge Configuration</u> , One Auxiliary Lane, with C Street Ramps, Centered I-5, and All Five Park and Rides	Modified LPA with Single-Level Fixed-Span Bridge Configuration, One Auxiliary Lane, <u>without C Street Ramps</u> , Centered I-5, and All Five Park and Rides
		experience from elevated bridge structures, such as to viewers in the floating homes at the Jantzen Beach Moorage. <ul style="list-style-type: none"> The five proposed park and rides would add to the urban elements and structures in downtown Vancouver, which would change some existing views but would be compatible with the existing visual character. 	However, with the double-deck fixed-span bridge configuration design option users of light-rail and the shared-use path would have the visual weight of the overhead bridge deck, the profile would be thicker from views such as the Vancouver Waterfront, and there would be fewer options for bridge architecture reflective of community preference.			would protrude higher into the skyline than a fixed-span bridge configuration design option. The movable-span towers would be more visible from Vancouver, Fort Vancouver, and Hayden Island, potentially obstruct additional views, and intensify visual impacts especially for sensitive recreational viewers. The towers would be permanent and the movable-span would be lifted intermittently.	

Note:
 The underlined design options shown in columns 3 through 7 identify the specific effects on visual quality for that particular design option compared to the Modified LPA with Recommended Design Options (column 2). For example, the effects of two auxiliary lanes (column 4) would occur with any other combination of the C Street ramps, I-5 alignment, bridge configuration, and park and ride design options.
 AVE = area of visual effect; I-5 = Interstate 5; LPA = Locally Preferred Alternative; LU = landscape unit

Modified LPA

The primary elements of the Modified LPA (with any of the design options) that could alter visual character and quality are the new bridges across the Columbia River and North Portland Harbor; reconfiguration of roadways and interchanges; and construction of new light-rail transit and park and rides. Within the AVE, the Modified LPA, with any of the design options, would have perceptible changes in scale, form, and materials from:

- The greater heights and widths of the new Columbia River bridges.
- Reconfiguration or modification of interchanges at N Marine Drive, Hayden Island, SR 14, Mill Plain Boulevard, Fourth Plain Boulevard, and SR 500.
- The introduction of light-rail transit guideway and stations.
- Removal of the existing Interstate Bridge.

The Modified LPA, with any of the design options, would replace existing roadways and bridges, including the open steel truss system of the existing Interstate Bridge. While the scales, forms, and locations of visual elements may differ, the human-made elements, such as concrete and steel, would remain similar. The material, color, and textures of the components of the proposed Modified LPA will be determined during the final design phases. A consistent design character would be applied throughout the entire Modified LPA, covering elements such as railings, retaining walls/barriers, light posts, benches, signs, and landscaping. The final design would also integrate safety lighting for motorists, bicyclists, and pedestrians on the shared-use path. New lighting would use new cut-off light fixtures that would minimize ambient light spillover into adjacent waterways and toward the surrounding landscapes.

Buildings, infrastructure, structures, artifacts, and art determine the cultural environment of the visual quality assessment. Some cultural elements in the existing environment include art, such as the Boat of Discovery in Vancouver, would be relocated. The IBR Program, City of Vancouver, and the Port of Vancouver would develop a relocation plan in alignment with the City of Vancouver's Public Art Plan, including coordination with the original artists and/or donors. See below and Section 4.2.3.3 of the Visual Quality Technical Report (as listed in Appendix H) for additional discussion of public art relocation. Other cultural elements would include new infrastructure introduced as part of the Modified LPA. Sensitive recreational viewers would be exposed to new retaining walls, bridge columns and overhead structures, transit stations, shared-use paths, and roadways. Visual cues from these new infrastructure elements can increase or decrease the viewer experience. For example, well lit spaces would tend to increase a sense of safety and security compared to darker spaces that are shaded or unlit during nighttime hours. In addition, the presence of graffiti is another visual cue that contributes to viewer sensitivity.

For each LU, the following provides an assessment of the visual compatibility of, and viewer sensitivity to, the proposed Modified LPA, including an assessment of the design options in the applicable LU, and its overall degree of impact on visual quality.

While it is impossible to represent all viewers and their preferences, the report assesses 43 different viewpoints to identify as many visual impacts as possible. Efforts were made to portray unbiased visual impacts, neither for nor against any particular design option, including leaving the existing bridge. The latest and most advanced modeling techniques were used to produce realistic visual simulations of key viewpoints, given the current level of design. Visual simulations are provided from both sides of the river to fully depict impacts on the visual environment from both locations. As such, the SEIS accurately discloses the visual impacts of the proposed Modified LPA.

Columbia Slough Landscape Unit

Within the Columbia Slough LU, the Modified LPA includes changes to the Marine Drive and Victory Boulevard interchanges, the extension of light-rail transit from the existing terminus at the Expo Center, and a facility on the Expo Center property that would provide a small number of storage tracks, one small maintenance building for light maintenance, an operator break facility, and a parking lot for operators. This facility would necessitate reconstruction of the Expo Road entrance to the Expo Center and the parking lot gates and booths, but it would not alter the existing Expo Center buildings. As an example of changes to the visual environment within the Columbia Slough LU, Figure 3.9-3 shows the existing conditions from KVP 2 (along Marine Drive looking northwest toward pedestrian trails) and a photographic simulation of the Marine Drive Interchange with the Modified LPA.

While the Modified LPA would remove some existing trees and vegetation, the natural environment would continue to include views of distant shorelines, rolling hills, and mountain profiles from both northbound and southbound I-5. The cultural environment would generally remain unchanged, and the project environment of roadways and bridges would be compatible with the existing visual conditions.

The compatibility of the Modified LPA with the project environment would be the same with either the one or two auxiliary lane design option; there is no change in the assessment of visual quality. In the Columbia Slough LU, because of the distance to the Columbia River bridges there would be no change in the assessment of visual quality of the Modified LPA with the different bridge configuration design options (double-deck fixed-span, single-level fixed-span, or single-level movable-span).

Four KVPs were identified to assess the visual quality in the Columbia Slough LU. For each KVP within the Columbia Slough LU, Table 3.9-4 provides a quantitative assessment of the existing visual quality, the visual quality with the Modified LPA, and the overall visual quality score for the LU. Natural harmony, cultural order, and project coherence were rated on a scale of 1 to 7, with 1 being very low, 4 being moderate, and 7 being very high. The three scores for each visual quality element were averaged to arrive at an overall visual quality score for the existing conditions and conditions under the proposed Modified LPA. If the change to the overall visual quality score was positive, the assessment of the degree of visual quality impact was determined to be beneficial. If the change was negative or there was no change, the degree of visual quality impact was determined to be adverse or neutral, respectively. To determine an overall degree of impact for the LU, the change in the overall visual quality score for each viewpoint was added together. A positive score was determined to have a beneficial impact to the LU's visual quality, a negative score was determined to have an adverse impact, and no change was determined to be a neutral degree of impact. As shown in Table 3.9-4, the proposed Modified LPA was found to have a neutral degree of impact on one KVP (KVP 3), an adverse degree of impact on one KVP (KVP 1), and a beneficial degree of impact on two KVPs (KVP 2 and 4). For the Columbia Slough LU overall, the change in visual quality from the Modified LPA would be expected to be beneficial. See Section 4.2 of the Visual Quality Technical Report (as listed in Appendix H) for additional information.

Columbia River Landscape Unit

Within the Columbia River LU, the Modified LPA, with any of the design options, would include two new parallel Columbia River bridges North Portland Harbor bridges, the extension of LRT, including transit facilities on the Columbia River bridges, a new interchange on Hayden Island, a modified SR 14 interchange, shared-use paths along the new bridge structures providing an active transportation connection across the Columbia River, and the removal of the existing Interstate Bridge.

Within the Columbia River LU, trees, vegetation, shorelines (both on the Columbia River and North Portland Harbor), and other natural elements would be relatively unchanged. The bridge decks for all the Modified LPA's Columbia River bridge configuration design options would be higher than the existing bridge decks, which may increase a visual sense of openness along the Columbia River shoreline and increase natural harmony. The cultural environment would be altered with elevated lanes, ramps, and retaining walls, but land

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cover would block most direct views, and the cultural environment overall would be orderly. The project environment would experience updated highway and active transportation facilities that meet current design standards and would improve movements and speeds, which would be beneficial to project coherence.

North Portland Harbor Bridges

With the Modified LPA, the location and layout of the North Portland Harbor bridges and transit structure would involve relocating some of the floating homes in the Jantzen Beach Moorage, resulting in the North Portland Harbor bridges and transit structures being closer to the floating homes that remain. The change in scale of the North Portland Harbor bridge structures, ramps, and roadways would increase the existing footprint, modifying the visual environment from the floating home community. While the existing bridge over the North Portland Harbor provides a visual precedent, the expanded footprint of the North Portland Harbor bridge and new transit bridge under the Modified LPA would change for adjacent residential viewers. These residential viewers would experience a high degree of visual change, and the new North Portland Harbor bridges would not be compatible with the existing visual conditions.

Figure 3.9-3. KVP 2: Existing Conditions Photograph and Conceptual Photographic Simulation (N Marine Drive Looking Northwest at Pedestrian Trails)



Existing Conditions



Photographic simulation of Modified LPA

Note: The simulation illustrates the general layout and massing. Visual elements of the Modified LPA may change as the design progresses. Roadways, intersections, signage, markings, and other simulated elements reflect early conceptual design and are shown for illustration purposes only.

Table 3.9-4. Columbia Slough Landscape Unit Degree of Impact on Visual Quality

KVP	Visual Quality – Existing ^a				Visual Quality – with Modified LPA ^b				Change	Degree of Impact on Visual Quality
	Natural Harmony	Cultural Order	Project Coherence	Overall	Natural Harmony	Cultural Order	Project Coherence	Overall		
1	5	3	3	3.7	3	3	3	3	-0.7	Adverse
2	3	2	2	2.3	3	2	3	2.7	0.4	Beneficial
3	5	3	3	3.7	5	3	3	3.7	0	Neutral
4	2	1	2	1.7	2	2	3	2.3	0.6	Beneficial
Overall Landscape Unit Change									0.3	Beneficial

Note: Visual quality score definitions: 1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high

a The visual quality ratings for the No-Build Alternative are the same as the existing conditions.

b The visual quality ratings for the Modified LPA are the same for each design option.

KVP = key viewpoint; LPA = Locally Preferred Alternative

Columbia River Bridges

The new Columbia River bridge decks and ramps would be higher in elevation than the existing Interstate Bridge, but would not be as high as the existing lift towers. These higher structures would be much more visible and would likely change the views of neighbors in surrounding areas.

As currently conceptualized, the Modified LPA with the double-deck fixed-span bridge configuration design option would not have substantial structural elements extending above the bridge deck, which would maximize views of the surrounding landscape from the top bridge deck and improve views of the surrounding landscape from the Columbia River bridges for travelers. For viewers at the water level or from the shorelines of the Columbia River, the transit, pedestrian, and utility facilities on the lower decks would contribute to the visual height and mass of the Modified LPA’s Columbia River bridges, but fewer piers and the higher deck height would allow greater view of the corridors between piers and under the bridge. Therefore, the scale and magnitude for on-water viewers and viewers at lower elevations would be similar to those of the existing Interstate Bridge.

Visual mass refers to the perceived weight or prominence of an object or element. Visual mass is not directly related to the actual physical weight of an object, but rather its visual appearance. It is determined by various factors such as size, shape, color, texture, contrast, and placement. Objects or elements that are larger, darker, more detailed, or placed in a prominent position tend to have more visual mass and attract greater attention from the viewer.

Compared to the existing shared-use path on the existing Interstate Bridge, the shared-use path associated with the Modified LPA with the double-deck fixed-span bridge configuration design option would be moved to the lower-level bridge deck. Views for pedestrians and bicyclists would be nearly enclosed and exposed to the underside of the bridge deck above. However, the new bicycle and pedestrian facilities would replace the existing narrow pedestrian path adjacent to vehicular traffic, and views to the east would be improved as viewers would be higher than the existing bridge. Features such as safety railing and bicycle lane striping would improve project coherence for bicyclists and pedestrians. Safe facilities would allow more focus and

attention on beneficial elements in the cultural and natural visual environment. The overall experience would be beneficial for bicyclists and pedestrians.

In comparison to the Modified LPA with the double-deck fixed-span bridge configuration design option, the Modified LPA with the single-level fixed-span bridge configuration design option would be slightly wider and somewhat closer to nearby viewers. However, the single-level fixed-span bridge configuration design option would have a slimmer vertical profile and would grant viewers in proximity or beneath the Columbia River bridges along the Vancouver waterfront with more expansive and unobstructed views below bridge decks and between piers. In addition, the Modified LPA with the single-level fixed-span bridge configuration design option would provide more options for bridge architecture, such as the potential to use an extradosed design. While those architectural designs would have additional associated visual mass and height above the bridge deck, they would also provide greater opportunity for a bridge design that meets the community's design goals and could become a beneficial feature from nearby views.

The Modified LPA with the single-level movable-span bridge configuration design option would have bridge decks somewhat higher than the existing Interstate Bridge, which would slightly open up views from underneath. With the single-level movable-span bridge configuration design option, the overall visual character and massing would be similar to the existing conditions or No-Build Alternative, as there would be lift towers that would protrude higher into the skyline for areas in Vancouver, Fort Vancouver, and toward and from Hayden Island.

In the Columbia River LU the I-5 westward shift design option would have the same visual compatibility as the design option where the I-5 mainline remains centered. In addition, the design option at the SR 14 interchange to have or not have C Street Ramps would not change the visual environment for viewers within the Columbia River LU, and the park and rides would either be not visible or barely visible from viewpoints east of the bridges.

The Modified LPA with the design option of two auxiliary lanes would expand the roadway width of I-5 by an additional 16 feet, which would be slightly closer to nearby viewers, such as along the Vancouver Waterfront, and would contribute to a slightly increased visual mass. Motorists inside enclosed vehicles (including light-rail cars on the lower deck) would likely not discern the slight expansion associated with the second auxiliary lane. Similarly, the additional 16-foot width would likely have minimal visual change to viewers somewhat farther from the bridge.

Overall, at the current level of design used in this analysis, the bridge configuration design options would have a similar effect on visual quality. Figure 3.9-4 provides an existing condition photograph of the Interstate Bridge, a photographic simulation of the Modified LPA with the double-deck fixed-span bridge configuration design option, and the Modified LPA with the single-level movable-span bridge configuration design option. Figure 3.9-5 shows KVP 15 with an existing condition photograph of the Interstate Bridge, a photographic simulation of the Modified LPA with the double-deck fixed-span bridge configuration design option, and a photographic simulation of the Modified LPA with the single-level movable-span bridge configuration design option, both from the top deck looking north toward downtown Vancouver. The IBR Program would continue to coordinate with the City of Vancouver regarding their desired outcomes for the Modified LPA (see Appendix C of the Visual Quality Technical Report, as listed in Appendix H), which includes items related to urban design.

Figure 3.9-4. KVP 8: Existing Conditions Photograph and Conceptual Photographic Simulations (Columbia River Bridges)



Existing Condition



Photographic simulation of Modified LPA Columbia River bridges with a double-deck fixed-span configuration



Photographic simulation of Modified LPA with single-level movable-span configuration

Note: The simulations illustrate the general layout and massing of the Modified LPA double-deck fixed-span and single-level movable-span bridge configuration design options. The movable-span bridge configuration design option is shown in the closed position only because the open position would be intermittent and limited. Visual elements of the Modified LPA may change as the design progresses. Roadways, intersections, signage, markings, and other simulated elements reflect early conceptual design and are shown for illustration purposes only.

Note: The single-level fixed-span bridge configuration design option would be similar to what is shown for the double-deck fixed span bridge configuration design option with less depth/thickness of the bridge deck.

Figure 3.9-5. KVP 15: Existing Conditions Photograph and Conceptual Photographic Simulation (Columbia River Bridge northbound lane looking north to Vancouver)



Existing I-5 Bridge northbound looking north toward Vancouver

Existing Conditions



I-5 Northbound looking to Vancouver from Modified LPA Columbia River bridge with double-deck fixed-span configuration

Photographic Simulation of the Modified LPA with double-deck fixed-span bridge configuration



I-5 Northbound looking to Vancouver from Modified LPA Columbia River bridge with single-level movable-span (closed position)

Photographic simulation of Modified LPA Columbia River bridge with single-level movable-span configuration

Note: The simulation illustrates the general layout and massing of the Modified LPA double-deck fixed-span and single-level movable-span bridge configuration design options. Visual elements may change as the design progresses. Conceptual photographic simulations are intended to illustrate the general layout and massing of the Modified LPA. Roadways, intersections, signage, markings, and other simulated elements are conceptual and shown for illustration only. The early conceptual design may change as the design progresses. Note: The single-level fixed-span bridge configuration design option would be similar to what is shown for the double-deck fixed span bridge configuration design option.

Sixteen KVPs were identified to assess the visual quality in the Columbia River LU. For each KVP within the Columbia River LU, Table 3.9-5 provides a quantitative assessment of the existing visual quality and the visual quality with the Modified LPA. As shown in Table 3.9-5, six KVPs could have an adverse degree of impact to visual quality, four would have a neutral impact, and the remaining six would have a beneficial degree of impact. The overall LU change is a numeric average of the change of all KVPs combined. Based on this assessment, the Modified LPA would be expected to have a combined positive numeric change in the visual quality of KVPs and, therefore, an overall beneficial degree of impact to the visual quality of the Columbia River LU. See Section 4.2 of the Visual Quality Technical Report (as listed in Appendix H) for additional information.

Table 3.9-5. Columbia River Landscape Unit Degree of Impact on Visual Quality

KVP	Visual Quality – Existing ^a				Visual Quality – with Modified LPA ^b				Change	Degree of Impact on Visual Quality
	Natural Harmony	Cultural Order	Project Coherence	Overall	Natural Harmony	Cultural Order	Project Coherence	Overall		
5	6	4	4	4.7	6	4	4	4.7	0.0	Neutral
6	6	3	2	3.7	4	2	1	2.3	-1.4	Adverse
7	2	2	2	2.0	2	4	4	3.3	+1.3	Beneficial
8	6	4	4	4.7	6	4	4	4.7	0.0	Neutral
9	2	2	3	2.3	2	2	3	2.3	0.0	Neutral
10	2	2	3	2.3	2	2	2	2.0	-0.3	Adverse
11	5	4	3	4.0	5	4	2	3.7	-0.3	Adverse
12	2	1	2	1.7	3	2	4	3.0	+1.3	Beneficial
13	4	2	1	2.3	4	3	3	3.3	+1.0	Beneficial
14	4	2	1	2.3	1	3	3	3.3	+1.0	Beneficial
15	2	1	2	1.7	3	2	4	3.0	+1.3	Beneficial
16	2	1	2	1.7	3	2	4	3.0	+1.3	Beneficial
17	6	4	4	4.7	6	4	3	4.3	-0.4	Adverse
18	4	4	2	3.3	4	4	2	3.3	0.0	Neutral
19	4	4	2	3.3	3	3	2	2.3	-1.0	Adverse
20	6	5	3	4.7	6	5	2	4.3	-0.4	Adverse
Overall Landscape Unit Change									+3.4	Beneficial

Note: Visual quality score definitions: 1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high
a The visual quality ratings for the No-Build Alternative are the same as the existing conditions.
b The visual quality ratings for the Modified LPA are the same for each design option.
KVP = key viewpoint; LPA = Locally Preferred Alternative

Vancouver Downtown Landscape Unit

In the Vancouver Downtown LU, views in the south include those toward the new Columbia River bridges. The proposed Modified LPA also includes changes to the I-5 mainline, such as the design option for one or two auxiliary lanes, updates to interchanges, and the Evergreen Community Connector. Components of the Modified LPA in the Vancouver Downtown LU also include the Waterfront and Evergreen transit stations, the LRT guideway, and the five options for park and rides.

In the Vancouver Downtown LU, the Modified LPA with either one or two auxiliary lanes would have similar visual changes as described in the Columbia River LU. In addition, the changes to views toward the Columbia River with the different bridge configuration design options would be the same as described in the Columbia River LU. Figure 3.9-6 provides an existing conditions photograph, a photographic simulation of the Modified LPA with the double-deck fixed-span bridge configuration design option, and a photographic simulation of the Modified LPA with the single-level movable-span bridge configuration design option, as seen from KVP 28 in downtown Vancouver. While the changes to the I-5 mainline, interchanges, and the addition of the LRT guideway and Evergreen transit station alongside I-5 may remove some vegetation that would change the natural environment, the Community Connector would provide opportunities to add natural elements and enhance natural harmony. During final design, the IBR Program would continue to coordinate with the City of Vancouver to develop a site plan for the Community Connector, based on previous and ongoing City/public engagement. The IBR Program has reviewed the desired outcomes and guiding principles developed from early community input (Appendix D of the Visual Quality Technical Report, as listed in Appendix H), and will apply this information where feasible, as design advances for the Community Connector and Evergreen Station.

The Modified LPA, with any of the design options, would change the cultural environment of the Vancouver Downtown LU. Changes to views from the Vancouver Downtown LU would be similar with the design option of with or without the I-5 C Street ramps. The I-5 westward shift design option would result in changes to existing buildings between C Street and the I-5 mainline within the Vancouver Downtown LU. Building renovation or reconstruction as a result of the I-5 westward shift design option would be expected to be compatible with the existing visual character.

The Captain George Vancouver (CGV) Monument Plaza, featuring the Boat of Discovery public art installation, is a tribute to Vancouver's maritime history and the region's early European exploration. It is located within the Vancouver Downtown LU in the street right of way at Columbia Street and SE Columbia Way, near the Columbia River waterfront. The Boat of Discovery, a sculptural piece crafted from metal, concrete, granite, and brick, was designed by artist Jay Rood and installed in 1992 to commemorate the bicentennial of the exploration and naming of the Columbia River in 1792 by Captain George Vancouver and his crew.

As part of the proposed IBR Program, the Boat of Discovery and other elements within the CGV Monument Plaza will need to be removed to facilitate construction of the new bridge approach. The IBR Program, in partnership with the City of Vancouver, is committed to ensuring the careful removal and, if feasible, relocation of the plaza elements. The IBR Program and the City of Vancouver will develop a relocation plan in collaboration with the City of Vancouver Culture, Arts & Heritage Commission and the original artist and/or donor, to accommodate the necessary infrastructure improvements. In accordance with the City's Public Art Plan, every effort will be made to move the artwork to a new location that is consistent with the original intent of the art. Additionally, effort will be made so that the artwork has the same level of public visibility or better. Since the artwork is within the City's collection, the Culture, Arts & Heritage Commission would oversee its relocation.

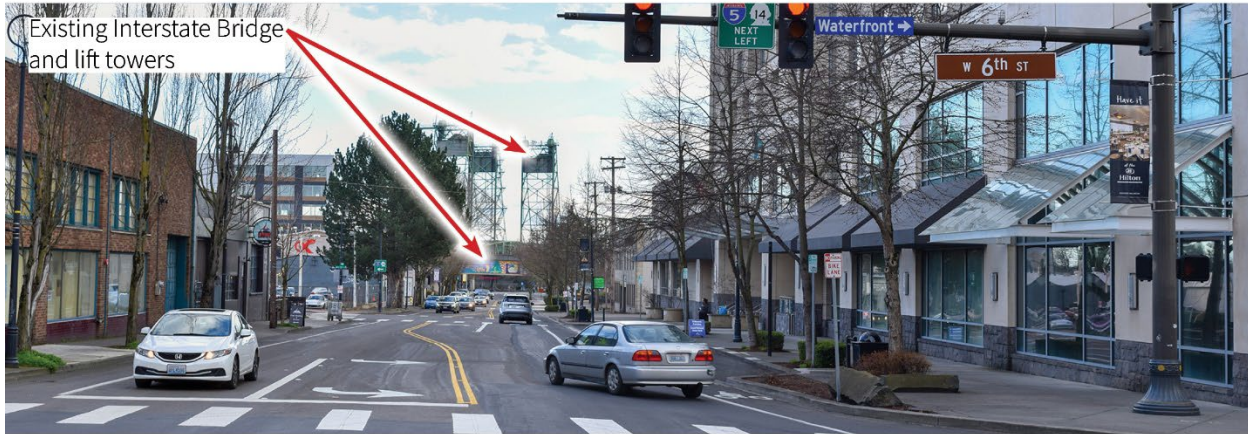
The South Main Landmark, positioned at the southernmost end of Main Street, is another central feature of Vancouver's urban landscape. It consists of three distinctive brick arches, installed in 1984 to create a recognizable gateway to downtown Vancouver. These arches are strategically placed to be visible from Main

Street as well as the southbound I-5 on-ramp, serving as an anchoring gateway for both residents and visitors traveling through the area. Because of its brick construction, relocation and/or salvage of the South Main Landmark is not feasible. It is not considered public art within the City's collection and is, therefore, not subject to the City's Public Art Plan (City of Vancouver 2020).

Within the Vancouver Downtown LU, the proposed Modified LPA includes the Waterfront and Evergreen transit stations and the design options for the park and rides. While the architectural style and specific features of the transit stations and park and rides will be determined as design progresses, both will be developed through public workshops and meetings with interested parties, ensuring that their massing, materials, and landscaping remain compatible with the surrounding area. Further, at any of the site options, the park and rides would be developed in compliance with Vancouver regulations and guidelines, including building design and materials, lighting and signage, art elements, landscaping, and street trees, which would confirm compatibility with the existing visual character. Other urban design elements, such as plazas and light-rail stations, may be considered enhancements to the visual environment. Therefore, all of the design options for park and rides would have similar changes to the cultural visual environment.

Twelve KVPs were identified to assess visual quality in the Vancouver Downtown LU. For each KVP within the Vancouver Downtown LU, Table 3.9-6 provides a quantitative assessment of the existing visual quality and the visual quality with the Modified LPA. As shown in Table 3.9-6, six of the KVPs would have a neutral degree of impact to visual quality, two would have a beneficial degree of impact, and four would have an adverse degree of impact. Based on this assessment, the Modified LPA would be expected to have a combined positive numeric change in the visual quality of KVPs and, therefore, an overall slightly beneficial degree of impact on the visual quality of the Vancouver Downtown LU. See Section 4.2 of the Visual Quality Technical Report (as listed in Appendix H) for additional information.

Figure 3.9-6. Existing Conditions Photograph and Conceptual Photographic Simulation (6th Street)



Existing Conditions



Photographic simulation of Modified LPA Columbia River bridges with a double-deck fixed-span configuration



Photographic simulation of Modified LPA Columbia River bridges with single-level movable-span configuration

Note: The simulation illustrates the general layout and massing of the Modified LPA double-deck fixed-span and single-level movable-span bridge configuration design options. Visual elements may change as the design progresses. Roadways, intersections, signage, markings, and other simulated elements reflect early conceptual design and are shown for illustration purposes only.

Note: The single-level fixed-span bridge configuration design option would be similar to what is shown for the double-deck fixed span bridge configuration design option with less depth/thickness of the bridge deck.

Table 3.9-6. Vancouver Downtown Landscape Unit Degree of Impact on Visual Quality

KVP	Visual Quality – Existing ^a				Visual Quality – with Modified LPA ^b				Change	Degree of Impact on Visual Quality
	Natural Harmony	Cultural Order	Project Coherence	Overall	Natural Harmony	Cultural Order	Project Coherence	Overall		
26	3	3	3	3.0	3	3	2	2.7	-0.3	Adverse
27	3	3	3	3.0	3	3	3	3.0	0.0	Neutral
28	4	4	4	4.0	4	4	3	3.7	-0.3	Adverse
29	4	2	2	2.7	2	2	2	2.0	-0.7	Adverse
30	3	2	2	2.3	2	2	2	2.0	-0.3	Adverse
31	3	2	2	2.3	4	4	4	4.0	1.7	Beneficial
32	2	3	2	2.3	2	3	2	2.3	0.0	Neutral
35	5	4	4	4.3	5	4	4	4.3	0.0	Neutral
36	4	3	3	3.3	4	4	3	3.6	0.3	Beneficial
37	4	4	4	4.0	4	4	4	4.0	0.0	Neutral
38	4	4	4	4.0	4	4	4	4.0	0.0	Neutral
39	4	4	4	4.0	4	4	4	4.0	0.0	Neutral
Overall Landscape Unit Change									0.4	Beneficial

Note: Visual quality score definitions: 1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high.

a The visual quality ratings for the No-Build Alternative are the same as the existing conditions.

b The visual quality ratings for the Modified LPA are the same for each design option.

KVP = key viewpoint; LPA = Locally Preferred Alternative

Greater Central Park Landscape Unit

In the Greater Central Park LU, most views south and west toward the Modified LPA would be blocked by existing vegetation and land cover. However, views in the southern part of the Greater Central Park LU would include the new Columbia River bridges and the modified SR 14 interchange. Other elements of the Modified LPA include changes to the I-5 mainline, such as design options for one or two auxiliary lanes, with or without the C Street ramps, the I-5 westward shift or centered mainline, updates to interchanges, and the Evergreen Community Connector. In the Greater Central Park LU, the Modified LPA with the design options for one auxiliary lane or two auxiliary lanes would have similar visual changes as described in the Columbia River LU.

South and west views from the Greater Central Park LU could also include the LRT guideway, the Waterfront and Evergreen stations, and the park and rides; particularly the proposed park-and-ride structure at the Waterfront Station site 1b, which could be up to 6 stories high. Similarly, other park-and-ride structures could be visible but would be located behind existing or proposed structures or would be located underground. Views of these components, where available, would be behind existing vegetation and land cover and the components would be similar in scale to other structures in the view, including existing buildings that will be removed and would likely not cause adverse visual quality impacts in the Greater Central Park LU.

Visual changes associated with the different bridge configuration design options would be the same as described in the Columbia River LU. The Modified LPA with the single-level movable-span bridge configuration

design option would have bridge decks somewhat higher than the existing Interstate Bridge. However, compared to the double-deck fixed-span and single-level fixed-span bridge configuration design options, the deck height would be lower, resulting in less visibility from the Greater Central Park LU. The single-level movable-span bridge configuration design option would have a slimmer profile than the double-deck fixed-span bridge configuration design option, but the increased height of the lift towers would add to its visual weight, meaning the size, color, and shape would draw more attention to this bridge configuration design option. In the normal (closed) condition, the lower bridge deck and higher towers would likely balance the visual effects compared to the double-deck fixed-span bridge configuration design option; however, impacts would change when the bridge is open. The bridge deck between the lift towers would be higher and more visible when open.

Compared to the existing Interstate Bridge, the Modified LPA and all of the bridge configuration design options could block natural environment views of distant hills to the southwest from adjacent ground-level viewpoints to a slightly greater degree, but would not interfere with views from a greater distance or elevation, such as Grand Boulevard to the east (KVP 25). Compared to the existing Interstate Bridge, the Modified LPA and all of the bridge configuration design options would open views from the Greater Central Park LU under the bridge as a result of the increased bridge height and the wider spacing between piers. The majority of natural visual elements would remain.

For the cultural environment, while the bridge architecture type is yet to be determined, a new bridge structure and the revised SR 14 interchange would noticeably change the visual experience as elevated structures such as piers, bridge decks, railings, and barriers would shift slightly closer to viewers. This increased visibility of the bridge deck may obstruct additional views and skylines, and likely intensify visual impacts, especially for sensitive recreational viewers. Because bridge lifts would not be lengthy or frequent, the exposure of these visual effects to sensitive and non-sensitive viewers would be limited.

Within the Greater Central Park LU, views from the Kanaka Village area (KVP 23) would be altered by the Modified LPA's different bridge configuration design options and the design of the SR 14 interchange. In addition, the Modified LPA with the design option that would eliminate the C Street ramps would eliminate project environment elements that would be visible for sensitive recreational viewers at Kanaka Village (KVP 23) and other views from the Fort Vancouver National Historic Site (see Figure 3.9-7). Figure 3.9-7 provides an existing condition photograph of KVP 23, a photographic simulation of the Modified LPA with double-deck fixed-span bridge configuration design option and the without C Street ramp design option, a photographic simulation of the Modified LPA with single-level movable-span bridge configuration design option without the C Street ramp, and a photographic simulation of the Modified LPA with single-level movable-span bridge configuration design option in the open position with C Street Ramp. The Modified LPA with the I-5 westward shift design option would move project environment elements slightly farther from sensitive recreational viewers, which would be perceived as enhancing visual quality (see and Figure 3.9-8). With these options, I-5 and the Columbia River bridges would likely still be at least partially visible beyond existing vegetation. Figure 3.9-8 shows the existing conditions photograph and the same photographic simulations of the Modified LPA with the with C Street ramp included.

Potential changes in the visual setting of historic properties are discussed in Section 3.8, Historic and Archaeological Resources.

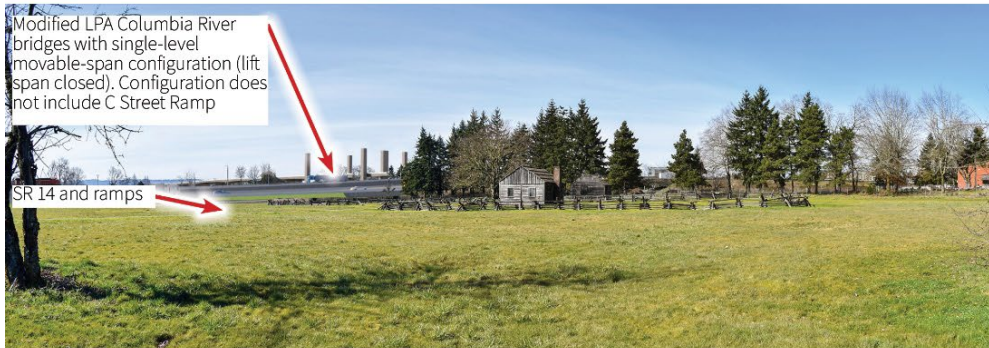
Figure 3.9-7. KVP 23: Existing Conditions Photograph and Conceptual Photographic Simulation – SR 14 without I-5 C Street Ramps (Fort Vancouver National Historic Site)



Existing Conditions



Photographic simulation of Modified LPA with double-deck fixed-span configuration without C Street Ramp



Photographic simulation of Modified LPA with single-level movable-span configuration without C Street ramp

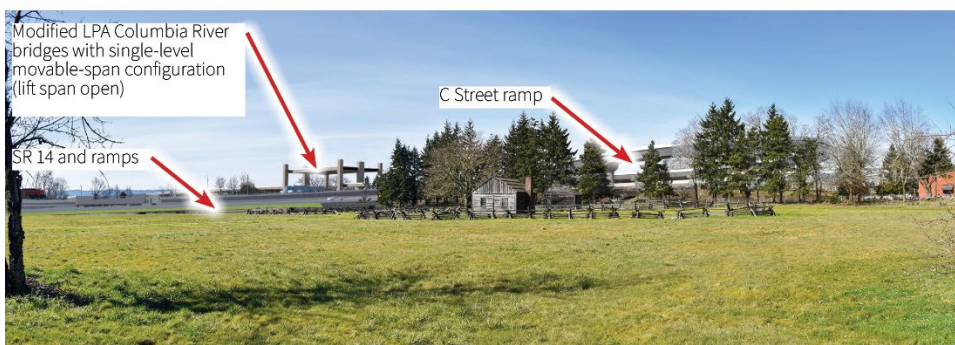


Photographic simulation of Modified LPA with single-level movable-span open configuration with C Street ramp

Note: The simulation illustrates the general layout and massing of the Modified LPA double-deck fixed-span and single-level movable-span bridge configuration design options. Visual elements may change as the design progresses. Roadways, intersections, signage, markings, and other simulated elements are conceptual and shown for illustration purposes only. The early conceptual design may change as the design progresses.

Note: The single-level fixed-span bridge configuration design option would be similar to what is shown for the double-deck fixed span bridge configuration design option with less depth/thickness of the bridge deck.

Figure 3.9-8. KVP 23: Existing Conditions Photograph and Conceptual Photographic Simulations (Fort Vancouver National Historic Site, Southwest Corner)

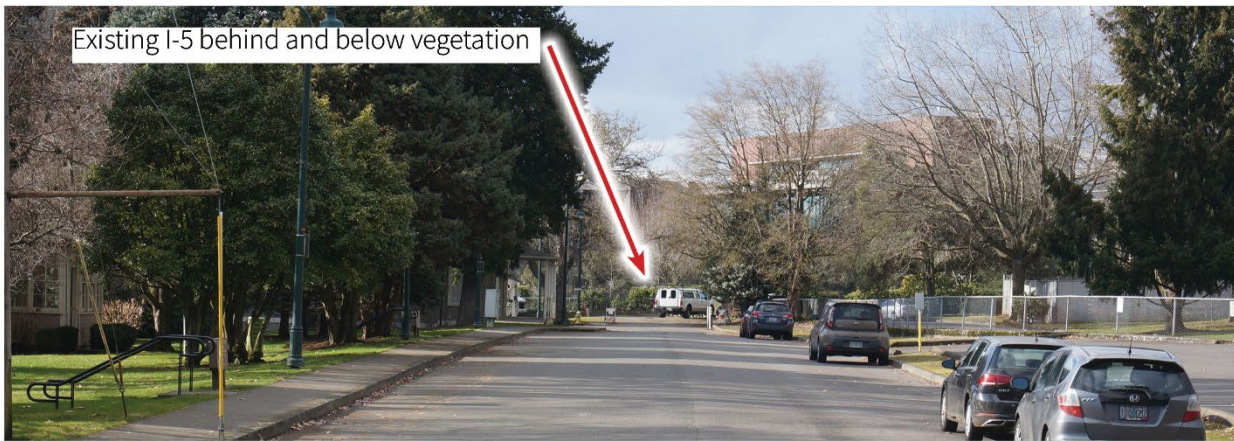


Note: The simulation illustrates the general layout and massing of the Modified LPA double-deck fixed-span and single-level movable-span configuration design options. Visual elements may change as the design progresses. Roadways, intersections, signage, markings, and other simulated elements reflect early conceptual design and are shown for illustration purposes only.

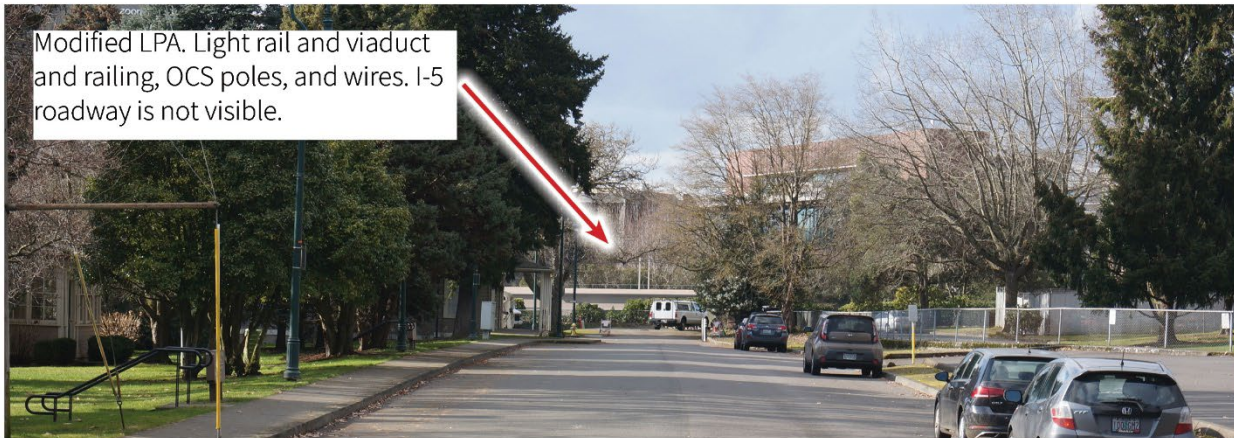
Note: The single-level fixed-span bridge configuration design option would be similar to what is shown for the double-deck fixed span, with less depth/thickness of the bridge deck.

Commercial and retail viewers are primarily located along Officers Row on Evergreen Boulevard and in the historic area between I-5 and Fort Vancouver Way. Existing vegetation and land cover, such as historic buildings, would continue to block most views of elements of the Modified LPA; however, some viewers (KVP 33) would have views of some elements, including movement, lights, and elements associated with the light-rail line (see Figure 3.9-9). These viewers may be exposed to and be aware of new elements and may see a slightly reduced level of natural harmony.

Figure 3.9-9. KVP 33: Existing Conditions Photograph and Conceptual Photographic Simulation – Corner of Fort Vancouver Way and McClellan Road.



Existing Conditions



Photographic simulation of Modified LPA

Note: The simulation illustrates the general layout and massing of the Modified LPA double-deck fixed-span and single-level movable-span configuration design options. Visual elements of the bridge configuration design options may change as the design progresses. Roadways, intersections, signage, markings, and other simulated elements are conceptual and shown for illustration purposes only. The early conceptual design may change as the design progresses.

Note: The single-level fixed-span bridge configuration design option would be similar to what is shown for the double-deck fixed span with less depth/thickness of the bridge deck.

Seven KVPs were identified to assess visual quality in the Greater Central Park LU. For each KVP within the Greater Central Park LU, Table 3.9-7 provides a quantitative assessment of the existing visual quality and the visual quality with the Modified LPA. As shown in Table 3.9-7, four of the KVPs would have a neutral degree of impact to visual quality, and three would have an adverse degree of impact. Based on this assessment, the overall degree of impact of the Modified LPA on the visual quality of the Greater Central Park LU would be expected to be adverse. See Section 4.2 of the Visual Quality Technical Report (as listed in Appendix H) for additional information.

Table 3.9-7. Greater Central Park Landscape Unit Degree of Impact on Visual Quality

KVP	Visual Quality – Existing ^a				Visual Quality – with Modified LPA ^b				Change	Degree of Impact to Visual Quality
	Natural Harmony	Cultural Order	Project Coherence	Overall	Natural Harmony	Cultural Order	Project Coherence	Overall		
21	4	3	4	3.7	4	3	4	3.7	0.0	Neutral
22	5	5	3	4.3	5	5	3	4.3	0.0	Neutral
23	6	6	2	4.7	3	6	2	3.7	-1.0	Adverse
24	6	6	2	4.7	6	6	2	4.7	0.0	Neutral
25	4	3	3	3.3	4	3	3	3.3	0.0	Neutral
33	4	4	4	4.0	2	4	4	3.3	-0.7	Adverse
34	6	4	4	4.7	5	4	4	4.3	-0.4	Adverse
Overall Landscape Unit Change									-2.1	Adverse

Note: Visual quality score definitions: 1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high; 7 = very high.

¹ The visual quality ratings for the No-Build Alternative are the same as the existing conditions.

² The visual quality ratings for the Modified LPA are the same for each design option.

KVP = key viewpoint; LPA = Locally Preferred Alternative

Burnt Bridge Creek Landscape Unit

In the Burnt Bridge Creek LU, the elements of the Modified LPA would be similar to and compatible with the existing visual character. Figure 3.9-10 shows a photograph of the existing conditions from KVP 41 and a photographic simulation of the Modified LPA. There would be no change in visual character from the Modified LPA with one auxiliary lane or two auxiliary lanes. In addition, the Columbia River bridges would not be visible from most locations in the Burnt Bridge Creek LU; therefore, the different bridge configuration design options do not result in changes in visual character or quality.

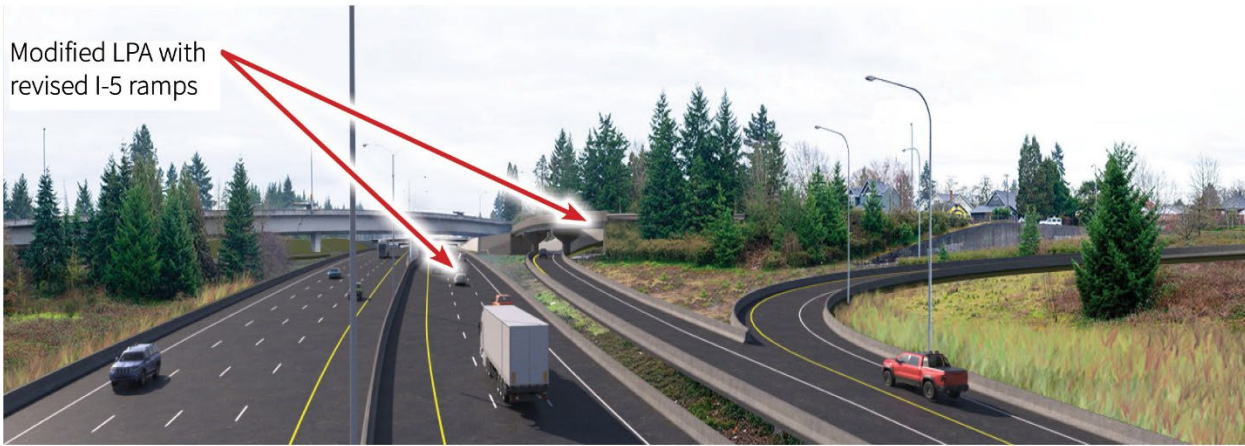
While the Modified LPA may result in the removal of some trees and vegetation, it is not expected to change the character of the natural environment, which is that of a suburban greenway. The overall cultural environment would be orderly and compatible with the existing environment and would be a neutral visual impact. Minor changes, cohesive with the existing environment, would be made to the project environment.

Figure 3.9-10. KVP 41: Existing Conditions and Conceptual Photographic Simulation (39th Street Overpass Looking South)

Existing I-5 from the 39th Street overpass



Existing Conditions



Photographic simulation of Modified LPA

Note: The simulation illustrates the general layout and massing of the Modified LPA. Visual elements of the Modified LPA may change as the design progresses. Roadways, intersections, signage, markings, and other simulated elements reflect early conceptual design and are shown for illustration purposes only.

Three KVPs were identified to assess the degree of impact on viewers and the overall visual quality in the Burnt Bridge Creek LU. For each KVP within the Burnt Bridge Creek LU, Table 3.9-8 provides a quantitative assessment of the existing visual quality of the Burnt Bridge Creek LU and the visual quality with the Modified LPA. The overall visual quality score would remain the same under the Modified LPA; therefore, the degree of visual quality impact for the Burnt Bridge Creek LU would be neutral. See Section 4.2 of the Visual Quality Technical Report (as listed in Appendix H) for additional information.

Table 3.9-8. Burnt Bridge Creek Landscape Unit Degree of Impact on Visual Quality

KVP	Visual Quality – Existing ^a				Visual Quality – with Modified LPA ^b				Change	Degree of Impact on Visual Quality
	Natural Harmony	Cultural Order	Project Coherence	Overall	Natural Harmony	Cultural Order	Project Coherence	Overall		
40	5	4	4	4.3	5	4	4	4.3	0.0	Neutral
41	4	3	4	3.7	3	3	5	3.7	0.0	Neutral
42	6	5	3	4.7	6	5	3	4.7	0.0	Neutral
Overall Landscape Unit Change									0.0	Neutral

Note: Visual quality score definitions: 1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high. Scores are based on the visual simulations prepared for the project.

a The visual quality ratings for the No-Build Alternative are the same as the existing conditions.

b The visual quality ratings for the Modified LPA are the same for each design option.

LPA = Locally Preferred Alternative; KVP = key viewpoint

Ruby Junction Landscape Unit

The Ruby Junction Light-Rail OMF would be expanded to accommodate the additional light-rail vehicles associated with the extension of light-rail with the Modified LPA. The expansion would include several parcels and existing buildings, structures, vegetation, and other elements on the purchased properties would be removed. However, the expansion of the Ruby Junction Light-Rail OMF would be visually compatible with the existing facility and would not change the natural, cultural, and project visual character in the Ruby Junction LU.

Table 3.9-9 provides a quantitative assessment of the existing visual quality and the visual quality with the Modified LPA from KVP 43 in the Ruby Junction LU. As shown in Table 3.9-9, the Modified LPA would have a neutral degree of impact to the visual quality at KVP 43. Based on this assessment, the overall impact of the Modified LPA on the visual quality of the Ruby Junction LU would be expected to be neutral.

Table 3.9-9. Ruby Junction Landscape Unit Degree of Impact on Visual Quality

KVP	Visual Quality – Existing ^a				Visual Quality - with Modified LPA ^b				Change	Degree of Impact on Visual Quality
	Natural Harmony	Cultural Order	Project Coherence	Overall	Natural Harmony	Cultural Order	Project Coherence	Overall		
43	3	2	3	2.7	3	2	3	2.7	0.0	Neutral
Overall Landscape Unit Change									0.0	Neutral

Note: Visual quality score definitions: 1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high.

a The visual quality ratings for the No-Build Alternative are the same as the existing conditions.

b The visual quality ratings for the Modified LPA are the same for each design option.

KVP = key viewpoint; LPA = Locally Preferred Alternative

3.9.4 Temporary Reasonably Foreseeable Effects

The AVE described in Section 3.9.2 and the temporal scope described in the Chapter 3 introduction is used to assess temporary reasonably foreseeable effects to visual quality. Temporary effects on visual quality would not differ among the Modified LPA design options, unless otherwise noted below. Temporary visual effects would be related to the construction of the Modified LPA, which includes the construction of the new bridges and the removal of the existing bridge. Visible construction elements would be removed upon completion of construction work.

No-Build Alternative

The No-Build Alternative includes planned transportation projects in the AVE through 2045. Construction of these projects, as well as ongoing repair and maintenance activities for I-5 in the AVE (e.g., painting, repaving, and repairing pavement), would take place under the No-Build Alternative. Ongoing maintenance, repair, and construction would result in repeated temporary visual impacts, introducing visual clutter that would have a slight adverse degree of impact to visual quality.

Although difficult to predict, if a future seismic event were to occur under the No-Build Alternative, it could result in cracks, damaged surfaces and finishes, structural deformations, or collapses of structures and the Interstate Bridge, depending on severity. Bridge closures could affect regional vehicular and river traffic for extended periods of time. Viewers may be exposed to heavy traffic on detour routes for long durations and visual clutter from construction activities to repair or replace bridge and roadway elements. The degree of impact to visual quality would be major and adverse.

Modified LPA

During construction of the Modified LPA, the quality of views to and from the construction area would be temporarily altered. Construction-related signage and heavy equipment would be visible in the vicinity of construction sites. Vegetation may be removed from some areas to accommodate construction of the bridges, new ramps, and the light-rail transit guideway. This would degrade or partially obstruct views or vistas. Nighttime construction would be necessary to minimize disruption to daytime traffic. Temporary lighting may be necessary for nighttime construction of certain project elements. This temporary lighting would affect residential areas by exposing residents to glare from unshielded light sources and by increasing ambient nighttime light levels.

Staging of equipment and materials would occur in areas of the AVE throughout the construction period, generally within existing or newly purchased right of way or on nearby vacant parcels. At least one large site would be required for construction offices, to stage the larger equipment such as cranes, and to store materials such as rebar and aggregate. Work in staging areas would entail vegetation removal, construction vehicle movement, fencing, material storage, bright colors, flashing lights, nighttime lighting, dust, and other visual elements.

Construction activities would be visible to both neighbors and travelers in the AVE, primarily within the visual context of the existing roadway. Lighting, human-made structures and materials, bright colors, and vehicle movement would be visible within the AVE. While these visual changes are typical of construction activities, they would contribute to a perception of a disorderly cultural environment and an incoherent project environment. Therefore, during construction, both neighbors and travelers would perceive a temporary degradation and an adverse degree of impact to visual quality. In particular, residential neighbors (who prefer maintaining natural harmony and cultural order) adjacent to construction activities would perceive construction activities as degrading the existing visual quality.

While the Modified LPA design options would have slight differences in the location of specific construction activities, the overall area within which construction would occur is anticipated to be the same and temporary effects to visual quality would be similar to those described above. Construction of movable span lift towers would require taller cranes and the temporary visual effects could last longer as construction would take up to two additional years.

Visual impacts due to temporary construction activities are, by nature, temporary, and visible detractions related to construction would be removed upon completion. Therefore, the construction of the Modified LPA would have a high degree of adverse impact on the visual quality of the AVE but would be limited by the duration of the construction of each item.

3.9.5 Intentionally Left Blank

3.9.6 Avoidance, Minimization, and Mitigation Measures

Mitigation measures are meant to balance tensions between local standards and efforts to establish a uniform theme for the proposed Modified LPA. The final design will seek to balance the goals for context-sensitivity and a consistent, unifying theme that reflects regional collaboration. Table 3.9-10 lists long-term avoidance and minimization measures. Table 3.9-11 lists long-term mitigation measures. No temporary avoidance and minimization measures or temporary mitigation measures within control of the IBR Program were identified.

Avoidance, minimization, and mitigation measures for parks and recreation and ecosystem impacts that could potentially affect visual quality are described in Section 3.7 Section 3.16 and are not included in the tables below.

Table 3.9-10. Avoidance and Minimization Measures

Temporary or Long-Term	Impact Type	Avoidance and Minimization Measure
Long-Term	Changes in visual character due to new transportation infrastructure elements	<p>ODOT and WSDOT will develop guidance for architectural elements for the program area in consultation with local agencies, Tribes, and IBR’s advisory groups, including:</p> <ul style="list-style-type: none"> • Design architectural features to be both aesthetically pleasing and blend with the surrounding community, to the extent feasible. • Consider minimization of structural bulk, to the extent feasible. • Consider natural light permeability with structure design, to the extent feasible. • Coordinate lighting under structures with local jurisdiction and I-5 lighting. • As applicable, design gateways in coordination with local plans, including designs for landscaping, wall treatments, and other IBR Program improvements. • Explore the incorporation of preserved bridgehead visual character elements into the final design. • Coordinate with the City of Vancouver and consider the Urban Design Desired Outcomes. • Coordinate with the City of Vancouver to integrate the design of the Evergreen Station, Community Connector, Library Square site, and the interface with the Historic Reserve, with the surrounding street network by applying the City of Vancouver’s Draft Desired Outcomes and Guiding Principles for the Community Connector and Evergreen Station Area (COV 2024) to the extent feasible. • Coordinate with the City of Vancouver on the use and design of publicly accessible spaces in the waterfront area, including beneath the bridge approach and ramps, considering previous and ongoing community input.
Long-Term	Disruption to the visual character from graffiti	<p>In partnership with the City of Vancouver, at applicable design gateways, the IBR Program will develop designs and construct project elements with anti-graffiti elements, to the extent feasible and constructable</p> <hr/> <p>In partnership with the City of Portland, the IBR Program will develop designs and construct project elements at Delta Park with anti-graffiti elements, to the extent feasible and constructable</p>

ODOT = Oregon Department of Transportation; WSDOT = Washington State Department of Transportation

Table 3.9-11. Mitigation Measures

Temporary or Long-Term	Impact Type	Mitigation Measure
Long-Term	Visual quality changes to public gathering places, open spaces and urban environments	<p>ODOT and WSDOT will coordinate with the City of Vancouver, Port of Vancouver, and City of Portland to create or enhance public gathering places, open spaces and urban environments, to the extent feasible, including:</p> <ul style="list-style-type: none"> • Design the active transportation facility on the Columbia River bridges for a low-stress environment that prioritizes safety and offers designated refuge areas for pedestrians, cyclists, and other transportation users, where feasible. • Use “Crime Prevention Through Environmental Design” principles in the design of publicly accessible spaces to promote security (e.g., lighting in low-visibility areas such as under new bridge structures) and apply other related best management practices. • Coordinate with local agencies to encourage creating or enhancing spaces, events, or initiatives that activate open spaces and urban environments, including the Main Street extension to the river. • The final design should emphasize the visual quality of high foot traffic areas and community gathering places, including Terminal 1 and the Vancouver Waterfront, to the extent feasible. • Consider application of treatments to minimize unauthorized use of public rights of way, to the extent possible.
Long-Term	Introduction of new visual transit structural and architectural elements	<p>ODOT and WSDOT will design transit structural and architectural elements to be context sensitive, in coordination with C-TRAN and TriMet, including:</p> <ul style="list-style-type: none"> • Design system-related signage and transit patron cues to be consistent with other transit system elements within respective systems. • Design the signal pole color, location, and style in accordance with the lighting district standards of the jurisdiction where the poles would be located. • Provide landscaping, public art, or other façade treatments for the walls of light-rail guideway structures, as feasible in accordance with program architectural guidance. • Design the park and rides to complement the surrounding development, to the extent feasible, in compliance with local regulations and in coordination with the City of Vancouver.
Long-Term	Relocation of the Boat of Discovery art	<p>ODOT and WSDOT will coordinate the relocation of the Boat of Discovery art installation with the City of Vancouver, Port of Vancouver staff, the original artists and/or donors.</p>

Temporary or Long-Term	Impact Type	Mitigation Measure
Long-Term	Removal and disturbance of existing vegetation and landscaping during construction	<p>ODOT and WSDOT will coordinate with the contractor to comply with the following applicable vegetation and tree mitigation requirements:</p> <ul style="list-style-type: none"> • Install new vegetation, as soon as feasible. • Provide landscapes to integrate the facilities into the community to the extent feasible. • Within the ODOT and WSDOT right of way, maintain existing vegetation wherever possible, particularly between the Kanaka Village and SR 14 ramps. • Include plantings as visual screens in landscape plans, as feasible. • Consider matching Vancouver Land Bridge landscaping in new, adjacent landscaped areas as feasible and appropriate.

ODOT = Oregon Department of Transportation; SR = State Route; WSDOT = Washington State Department of Transportation