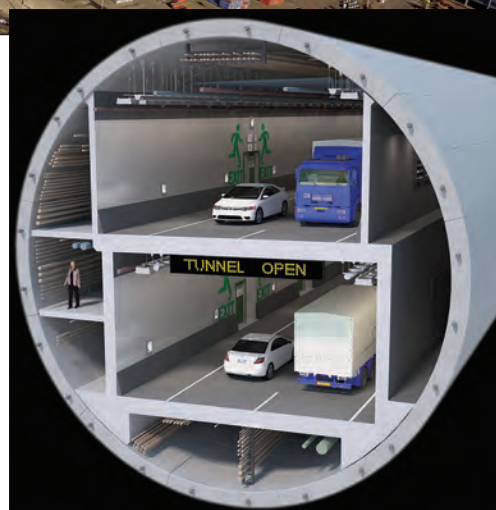
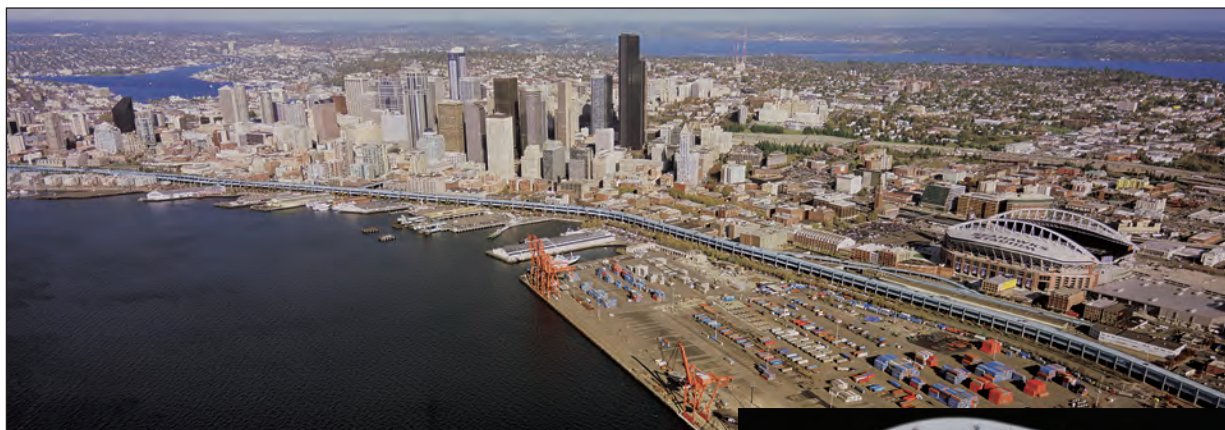
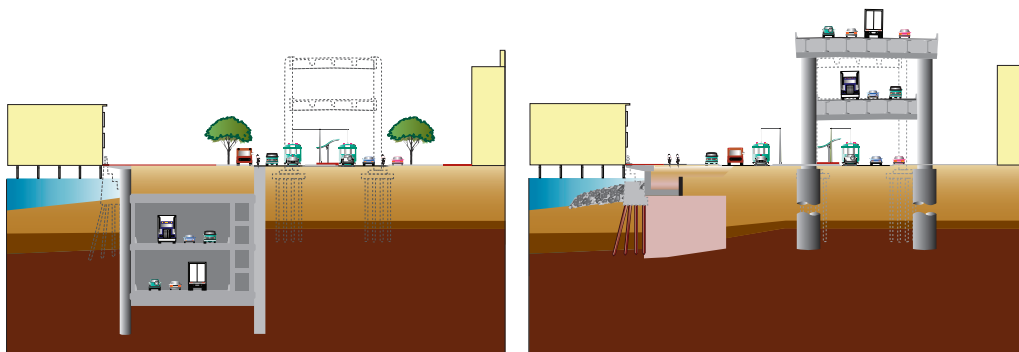


ALASKAN WAY VIADUCT REPLACEMENT PROJECT

Final Environmental Impact Statement

APPENDIX D Visual Quality Discipline Report



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JULY 2011

Alaskan Way Viaduct Replacement Project

Final EIS

Visual Quality Discipline Report

The Alaskan Way Viaduct Replacement Project is a joint effort between the Federal Highway Administration (FHWA), the Washington State Department of Transportation (WSDOT), and the City of Seattle. To conduct this project, WSDOT contracted with:

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EnviroIssues, Inc.
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ACRONYMS AND ABBREVIATIONS

| | |
|---------|---|
| City | City of Seattle |
| DRGDD | Design Review Guidelines for Downtown Development |
| DRGMC | Design Review Guidelines for Multifamily and Commercial Buildings |
| EIS | Environmental Impact Statement |
| FWHA | Federal Highway Administration |
| I-5 | Interstate 5 |
| I-90 | Interstate 90 |
| NEPA | National Environmental Policy Act |
| Program | Alaskan Way Viaduct and Seawall Replacement Program |
| project | Alaskan Way Viaduct Replacement Project |
| SEPA | State Environmental Policy Act |
| SMC | Seattle Municipal Code |
| SODO | South of Downtown |
| SR | State Route |
| WOSCA | Washington-Oregon Shippers Cooperative Association |
| WSDOT | Washington State Department of Transportation |

Chapter 1 INTRODUCTION AND SUMMARY

1.1 Introduction

This discipline report was prepared in support of the Final Environmental Impact Statement (EIS) for the Alaskan Way Viaduct Replacement Project (project). The Final EIS and all of the supporting discipline reports evaluate the Viaduct Closed (No Build Alternative) in addition to the three build alternatives: Bored Tunnel Alternative (preferred), Cut-and-Cover Tunnel Alternative, and Elevated Structure Alternative. The designs for both the Cut-and-Cover Tunnel and the Elevated Structure Alternatives have been updated since the 2006 Supplemental Draft EIS (WSDOT et al. 2006) to reflect that the section of the viaduct between S. Holgate Street and S. King Street is being replaced by a separate project, and the alignment at Washington Street is no longer in Elliott Bay. All three build alternatives are evaluated with tolls and without tolls.

The Federal Highway Administration (FHWA) is the lead federal agency for this project, primarily responsible for compliance with the National Environmental Policy Act (NEPA) and other federal regulations, as well as distributing federal funding. Per the NEPA process, FHWA was responsible for selecting the preferred alternative. FHWA has based its decision on the information evaluated during the environmental review process, including information contained in the 2010 Supplemental Draft EIS (WSDOT et al. 2010) and previous evaluations in 2004 and 2006. After issuance of the Final EIS, FHWA will issue its NEPA decision, called the Record of Decision (ROD).

The 2004 Draft EIS (WSDOT et al. 2004) evaluated five Build Alternatives and a No Build Alternative. In December 2004, the project proponents identified the Cut-and-Cover Tunnel Alternative as the preferred alternative and carried the Rebuild Alternative forward for analysis as well. The 2006 Supplemental Draft EIS (WSDOT et al. 2006) analyzed two alternatives—a refined Cut-and-Cover Tunnel Alternative and a modified rebuild alternative called the Elevated Structure Alternative. After continued public and agency debate, Governor Gregoire called for an advisory vote to be held in Seattle. The March 2007 ballot included an elevated structure alternative (differing in design from the current Elevated Structure Alternative) and a surface-tunnel hybrid alternative. The citizens voted down both alternatives.

After the 2007 election, the lead agencies committed to a collaborative process (referred to as the Partnership Process) to find a solution to replace the viaduct along Seattle's central waterfront. In January 2009, Governor Gregoire, King County Executive Sims, and Seattle Mayor Nickels announced that the agencies had reached a consensus and recommended replacing the aging viaduct with a

bored tunnel, which is being evaluated in this Final EIS as the preferred alternative.

1.2 Overview of Build Alternatives

This discipline report evaluates three build alternatives and a no build alternative under consideration for replacing the Alaskan Way Viaduct:

- Viaduct Closed (No Build Alternative)
- Bored Tunnel Alternative
- Cut-and-Cover Tunnel Alternative
- Elevated Structure Alternative

This discipline report presents the detailed technical analysis of existing conditions and the predicted effects of the alternatives.

The Cut-and-Cover Tunnel Alternative and the Elevated Structure Alternative considered in the Final EIS have been modified from the tunnel and rebuild alternatives that were analyzed in the 2006 Supplemental Draft EIS (WSDOT et al. 2006).

The Alaskan Way Viaduct Replacement Project is one of several independent projects developed to improve safety and mobility along State Route (SR) 99 and the Seattle waterfront from the South of Downtown (SODO) area to Seattle Center. Collectively, these individual projects are referred to as the Alaskan Way Viaduct and Seawall Replacement Program (the Program). See Exhibit 1-1.

Exhibit 1-1. Other Projects Included in the Alaskan Way Viaduct and Seawall Replacement Program

| Project | Bored Tunnel Alternative | Cut-and-Cover Tunnel Alternative | Elevated Structure Alternative |
|--|--------------------------|----------------------------------|--------------------------------|
| Independent Projects That Complement the Bored Tunnel Alternative | | | |
| Elliott Bay Seawall Project | X | Included in alternative | Included in alternative |
| Alaskan Way Surface Street Improvements | X | Included in alternative | Included in alternative |
| Alaskan Way Promenade/Public Space | X | Included in alternative | Included in alternative |
| First Avenue Streetcar Evaluation | X | Included in alternative | Included in alternative |
| Elliott/Western Connector | X | Function provided ¹ | Function provided ¹ |
| Transit enhancements | X | Not proposed ² | Not proposed ² |

Exhibit 1-1. Other Projects Included in the Alaskan Way Viaduct and Seawall Replacement Program (continued)

| Project | Bored Tunnel Alternative | Cut-and-Cover Tunnel Alternative | Elevated Structure Alternative |
|---|--------------------------|----------------------------------|--------------------------------|
| Projects That Complement All Build Alternatives | | | |
| S. Holgate Street to S. King Street Viaduct Replacement Project | X | X | X |
| Mercer West Project | X | X | X |
| Transportation Improvements to Minimize Traffic Effects During Construction | X | X | X |
| SR 99 Yesler Way Vicinity Foundation Stabilization | X | X | X |
| S. Massachusetts Street to Railroad Way S. Electrical Line Relocation Project | X | X | X |

¹ These specific improvements are not proposed with the Cut-and-Cover Tunnel and Elevated Structure Alternatives; however, these alternatives provide a functionally similar connection with ramps to and from SR 99 at Elliott and Western Avenues.

² Similar improvements included with the Bored Tunnel Alternative could be proposed with this alternative.

This Final EIS (chapter 7) evaluates the cumulative effects of all the build alternatives; however, direct and indirect environmental effects of these independent projects within the Program will be considered separately in independent environmental documents.

The S. Holgate Street to S. King Street Viaduct Replacement Project, currently under construction as a separate project, was designed to be compatible with any of the three viaduct replacement alternatives analyzed in this Final EIS.

1.3 Viaduct Closed (No Build Alternative)

Both federal and Washington State environmental regulations require agencies to evaluate a No Build Alternative to provide baseline information about existing conditions in the project area. For this project, the No Build Alternative is not a viable alternative because the existing viaduct is vulnerable to earthquakes and structural failure due to ongoing deterioration. Multiple studies of the viaduct’s current structural conditions, including its foundations in liquefiable soils, have determined that retrofitting or rebuilding the existing viaduct is not a reasonable alternative. At some point in the future, the roadway will need to be closed.

The Viaduct Closed (No Build Alternative) describes what would happen if the No Build Alternative is implemented. If the existing viaduct is not replaced, it will be closed, but it is unknown when that would happen. However, it is highly unlikely that the existing structure could still be in use in 2030.

The Viaduct Closed (No Build Alternative) describes the consequences of suddenly losing the function of SR 99 along the central waterfront based on one of two scenarios:

- Scenario 1 – An unplanned closure of the viaduct for some structural deficiency, weakness, or damage due to a smaller earthquake event.
- Scenario 2 – Catastrophic failure and collapse of the viaduct.

1.4 Bored Tunnel Alternative

The Bored Tunnel Alternative (preferred alternative) would replace SR 99 between S. Royal Brougham Way and Roy Street. The tunnel would have two lanes in each direction. Beginning at S. Royal Brougham Way, SR 99 would be a side-by-side surface roadway that would transition to a cut-and-cover tunnel. At approximately S. King Street, SR 99 would be conveyed in a stacked bored tunnel, with two southbound travel lanes on the top and two northbound travel lanes on the bottom. The bored tunnel would continue under Alaskan Way S. to approximately S. Washington Street, where it would curve slightly away from the waterfront and then travel under First Avenue beginning at approximately University Street. At Stewart Street, it would travel in a northerly direction under Belltown. At Denny Way, the bored tunnel would travel under Sixth Avenue N., where it would transition to a side-by-side surface roadway at about Harrison Street.

The Bored Tunnel Alternative would remove the existing viaduct and close and fill the Battery Street Tunnel after the new bored tunnel is completed.

The Bored Tunnel Alternative consists of three primary components: the south portal area, the bored tunnel, and the north portal area. Each of these areas is discussed in more detail below.

1.4.1 South Portal – Stadium Area

In the south portal area, SR 99 would travel on a side-by-side, single-level bridge with three travel lanes in each direction where it passes over S. Atlantic Street. Two of the three lanes in each direction would continue to and from the bored tunnel.

At about S. Royal Brougham Way, SR 99 would be a surface roadway. The southbound and northbound lanes of the roadway would be side-by-side, and they would extend about 15 to 25 feet below the ground surface, respectively, as SR 99 transitions to the tunnel portal just south of S. Dearborn Street.

The southbound on-ramp to and northbound off-ramp from SR 99 would be built in retained cuts and feed directly into a reconfigured Alaskan Way S. surface street. The northbound off-ramp would have a general-purpose lane and a peak-

hour transit-only lane to accommodate transit coming from south Seattle or West Seattle.

On the west side of the reconfigured Alaskan Way S. between S. Atlantic and S. King Streets, there would be a pedestrian and bicycle trail, called the Port Side Pedestrian/Bike Trail (built as an element of the separate S. Holgate Street to S. King Street Viaduct Replacement Project). This trail would be approximately 15 feet wide. On the east side of Alaskan Way S., the City Side Trail would be built over the new SR 99 roadway from S. Atlantic Street to S. King Street. This multi-use path would replace the existing 15-foot-wide Waterfront Bicycle/Pedestrian Facility currently located on the east side of Alaskan Way S. The width of the City Side Trail south of S. Royal Brougham Way is not yet determined.

The total roadway width south of S. Dearborn Street would be approximately 250 feet, including East Marginal Way S. to the west, the on-ramps, the SR 99 mainline, the off-ramps, and the East Frontage Road, as compared to a width of about 60 feet for the existing viaduct.

One new surface intersection would be constructed above the tunnel at S. Dearborn Street. At this intersection, the seven-lane surface street to the north would provide southbound lanes to the southbound on-ramp to SR 99, access to the two-lane East Marginal Way S. on the west side of SR 99, continuation of three northbound lanes from the SR 99 off-ramp, and a connection to four lanes on S. Dearborn Street connecting to First Avenue. The public street on Railroad Way S. would be replaced by an open-space corridor, emphasizing pedestrian priority. The corridor also would accommodate vehicle access and the service needs of the tunnel operations building and the adjacent building to the north. Landscaping, pavement, and other elements would be used to delineate the zones that would be shared by pedestrians, bicycles, and vehicles.

A tunnel operations building would be constructed in the block bounded by S. Dearborn Street, Alaskan Way S., and a new Railroad Way S. access road. The tunnel operations building would house electrical and mechanical equipment, including large fans and exhaust stacks to ventilate the tunnel, and equipment necessary for operations and maintenance. Part of the building would be constructed underground. The remaining portion of the building is expected to be 60 feet in height from the surface street level, with ventilation stacks extending an additional 30 feet above the roof. A one-story element for truck parking would extend about 50 feet from the main building and about 25 feet into the Railroad Way S. right-of-way.

1.4.2 Bored Tunnel

The bored tunnel would have two lanes in each direction: the southbound lanes on the top and the northbound lanes on the bottom. The travel lanes would be approximately 11 feet wide, with a 2-foot-wide shoulder on one side and an 8-foot-wide shoulder on the other side. The wider shoulder would provide access for emergency vehicles and space for disabled vehicles to safely stop.

The wider shoulder would also provide access to emergency tunnel exits, which would be provided at least every 650 feet. Signs would direct travelers to the nearest exit. In an emergency, travelers would walk along the shoulder to reach a doorway into a secure waiting area, called a refuge area, located between the tunnel levels. Emergency telephones would be available in these refuge areas.

The tunnel would be equipped with ventilation systems, a fire detection and suppression system, and drainage. Video cameras would provide real-time information to the operators at Washington State Department of Transportation's (WSDOT's) 24-hour tunnel control center and allow them to respond quickly to changing conditions and emergencies. The tunnel would have no surface features between the portals. All emergency access and ventilation facilities would be near the portals.

1.4.3 North Portal Area – Aurora Avenue

Full northbound and southbound access to and from SR 99 would be provided near Harrison and Republican Streets. The existing on- and off-ramps provided at Denny Way would be closed and replaced with downtown access ramps to and from SR 99 that drivers would access via a new surface connection between Denny Way and Harrison Street.

Northbound access from SR 99 and southbound access to SR 99 would be provided via new ramps at Republican Street. The northbound off-ramp to Republican Street would be provided on the east side of SR 99 and routed to an intersection at Dexter Avenue N. Drivers would access the southbound on-ramp via a new connection with Sixth Avenue N. at Republican Street on the west side of SR 99.

The surface streets in the north portal area would be reconfigured and improved. The street grid between Denny Way and Harrison Street would be connected by removing the median barrier between Denny Way and Harrison Street and reconfiguring (lowering) Aurora Avenue to allow crossing traffic at the intersections with John, Thomas, and Harrison Streets. The new surface Aurora Avenue would have two general-purpose lanes in each direction, a transit-only lane, and turn pockets between Denny Way and Harrison Street. Signalized

intersections would be located at Denny Way and John, Thomas, and Harrison Streets.

Mercer Street would become a two-way street and would be widened from Dexter Avenue N. to Fifth Avenue N. The rebuilt Mercer Street would have three lanes in each direction and left-hand turn pockets. Broad Street would be filled and closed between Ninth Avenue N. and Taylor Avenue N.

Sixth Avenue N. would extend in a curved alignment between Harrison and Mercer Streets. The new roadway would have a signalized intersection at the ramp that connects to the southbound on-ramp to the tunnel.

As part of the north portal, a tunnel operations building would be constructed between Thomas and Harrison Streets on the east side of Sixth Avenue N. Part of the building would be constructed underground. The remaining portion of the building is expected to be approximately 60 feet tall with ventilation stacks extending about 30 feet above the roof.

1.4.4 Program Elements

The Alaskan Way Viaduct Replacement Project is one of several independent projects that improve safety and mobility along SR 99 and the Seattle waterfront from the SODO area to Seattle Center. Collectively, these individual projects are often referred to as the Alaskan Way Viaduct and Seawall Replacement Program (the Program). See Exhibit 1-1. This Final EIS evaluates the cumulative effects of all projects in the Program; however, direct and indirect environmental effects of these independent projects will be considered separately in independent environmental documents.

1.5 Cut-and-Cover Tunnel Alternative

The Cut-and-Cover Tunnel Alternative would replace SR 99 between S. Royal Brougham Way and Aloha Street. Beginning at S. Royal Brougham Way, SR 99 would be a side-by-side surface roadway that would transition to a cut-and-cover tunnel. At approximately S. King Street, SR 99 would become a stacked roadway conveyed in a cut-and-cover tunnel, with three southbound travel lanes on the top and three northbound travel lanes on the bottom. The tunnel would continue under Alaskan Way S. to approximately Union Street, where it would transition to a side-by-side configuration and climb to the Battery Street Tunnel on an elevated roadway.

There are five primary components of the Cut-and-Cover Tunnel Alternative: south portal area, cut-and-cover tunnel section, elevated structure between Pine Street and the Battery Street Tunnel, Battery Street Tunnel, and Aurora Avenue. Each of these areas is discussed in more detail below.

1.5.1 South Portal – Stadium Area

The configuration of the Cut-and-Cover Tunnel Alternative provides two southbound lanes that would emerge from the cut-and-cover tunnel to be joined by a southbound on-ramp from the Alaskan Way surface street merging into the mainline near the alignment of S. Royal Brougham Way. Two of the three northbound lanes would continue into the tunnel and the third lane would become an off-ramp that continues north to the Alaskan Way surface street.

A southbound off-ramp would split within the cut-and-cover tunnel and exit onto the East Frontage Road. A northbound on-ramp would enter the tunnel portal from the East Frontage Road and merge with SR 99 traffic in the tunnel.

One new surface intersection would be built above the tunnel at S. Dearborn Street and Alaskan Way. At this intersection, the seven-lane surface street to the north would provide the southbound lanes with access to the southbound on-ramp to SR 99. This intersection would also provide access to the two-lane East Marginal Way S. on the west side of SR 99 and allow a continuation of three northbound lanes coming from the SR 99 off-ramp as well as a connection to four lanes on S. Dearborn Street connecting to First Avenue. The public street on Railroad Way S. would be replaced with a combination of pedestrian open space and vehicle access along its entire 100-foot width.

The Railroad Way S. roadway would be replaced by a public open-space area along First Avenue and an access driveway and parking lot to serve the tunnel maintenance building at S. Dearborn Street and Alaskan Way S.

A tunnel maintenance building would be constructed in the block bounded by S. Dearborn Street, Alaskan Way S., and a new Railroad Way S. access road. The building would be about 40 feet high with no ventilation stacks. This building would accommodate offices, equipment storage, and repair facilities.

1.5.2 Central – S. Dearborn Street to Pine Street

The cut-and-cover tunnel would transition from a side-by-side configuration to a stacked tunnel configuration, proceeding from just south of S. King Street. The existing Elliott Bay Seawall in this area would be reconstructed as part of the westerly wall of the cut-and-cover tunnel. The tunnel width would vary from about 77 feet to about 90 feet and would be 70 to 80 feet deep to the bottom of the slab and up to 15 feet deeper to the bottom of the diaphragm wall. The tunnel alignment would transition from a stacked, double-level configuration to a side-by-side configuration between Spring Street and Union Street and would continue to the north in a side-by-side configuration to the Battery Street Tunnel.

The cut-and-cover tunnel would extend above grade between Union and Pike Streets. At Pike Street, the northbound tunnel lanes would be about 22 feet above

the Alaskan Way surface street. Adjacent to and west of the tunnel, a triangular equipment building would extend about 400 feet along the east side of the Alaskan Way surface street, would be about 250 feet wide at Pine Street, and would feature vertical street walls fronting on Alaskan Way and Pine Street. This configuration would allow public space on top of the building on a flat or stepped walkway lid structure. At Pike Street, the lid would step down about 10 feet to the west over the southbound tunnel lanes, which would allow a two-tier stairway from the Pike Street Hillclimb on the east to the Alaskan Way surface street on the west. The top of the lid would connect to the Pike Street Hillclimb at Western Avenue on a pedestrian bridge. On the east side of the tunnel wall, there would be an access roadway and parking areas extending to the existing parking garage. This area would be bounded by the east wall of the tunnel, which would be about 20 feet high at Pike Street and nearly 35 feet high at the edge of the existing parking garage.

A walkway lid accommodating public open space is proposed above the side-by-side tunnel from where it rises above existing grade between Union and Pike Streets to Victor Steinbrueck Park. With a width of approximately 100 feet, the lid would extend over the roof of the equipment building west of the tunnel between Pike and Pine Streets. North of Pine Street, the lid would extend over the northbound lanes and a portion of the southbound lanes. It would be supported by columns between the northbound and southbound lanes and may cantilever over the southbound lanes. The lid would generally be near the level of the upper deck of the existing viaduct at Pine Street and climb to the north to the elevation of Victor Steinbrueck Park, which is about 20 feet above the existing viaduct at the north end of the park. The surface treatment of the lid may be stepped rather than sloped.

The roadway would pass over the BNSF Railway tunnel and under Elliott and Western Avenues. A new pedestrian bridge crossing over SR 99 would be provided at Lenora Street. At Elliott and Western Avenues, SR 99 would drop two lanes due to the on- and off-ramps, as in its current configuration, and two through lanes would continue into the Battery Street Tunnel. The tunnel would be extended south along a curve to the southeast to accommodate a ventilation building and would be widened to the south at First Avenue to create a wider curve to maintain the design speed. The roof of the ventilation building would be at approximately the sidewalk elevation of First Avenue above the tunnel. The shoulders provided on the new roadway section would be dropped as the road transitions to the existing tunnel dimensions. To accommodate the lower elevation necessary to allow SR 99 to cross under Elliott and Western Avenues, the floor of the existing Battery Street Tunnel would be lowered for a distance of about 450 linear feet from the existing portal. The on-ramp from Elliott Avenue would be in approximately the same location as it is today. The off-ramp to

Western Avenue would be in a similar configuration but would pass over the lowered SR 99 and match existing grade at Western Avenue south of Bell Street.

Seven emergency egress points are proposed between S. King Street and Pike Street. The aboveground portion would consist of an enclosure over the stairway and would be 16 to 20 feet long, 8 to 10 feet wide, and 10 to 12 feet tall. Four of the emergency points would serve the stacked tunnel and provide a single egress point for both the northbound and southbound lanes, with a horizontal corridor extending from the tunnel eastward to near the east side of the right-of-way.

The Alaskan Way surface street in the central waterfront area would be located above the tunnel. The 180-foot right-of-way could accommodate a wide range of transportation, pedestrian, and open-space facilities. A variety of surface street improvement concepts are being developed under the Central Waterfront Project. This project is a separate Program element that is being designed and implemented separately by the City of Seattle (City), as described in the Final EIS, Chapter 7, Cumulative Effects Analysis.

1.5.3 Battery Street Tunnel – Portal to Portal

The Cut-and-Cover Tunnel Alternative includes fire and life safety improvements in the Battery Street Tunnel, replacement of the tunnel side walls, and lowering of the tunnel floor to provide 16.5 feet of vertical clearance throughout the length of the tunnel. The southernmost section (about 450 linear feet) of the tunnel floor would be lowered to accommodate the construction of SR 99 under Elliott and Western Avenues. The tunnel also would be widened to the south at First Avenue to provide a wider turn radius and a transition between the new roadway with shoulders and the interior of the existing tunnel (with no shoulders).

The south portal of the Battery Street Tunnel would be extended south along the curve of the roadway to the southeast. A ventilation building would be located over the tunnel. Because the tunnel slopes down to accommodate the Western/Elliott Avenue underpasses, the roof of the tunnel would be close to the existing First Avenue sidewalk level and may be configured to provide an expanded public viewing area to the south, along the SR 99 route.

The north portal of the Battery Street Tunnel at Denny Way would be extended about 400 feet to accommodate a ventilation building. The building would be about 20 feet above the existing Denny Way and would cover the entire tunnel. On- and off-ramps would be located on either side of the tunnel.

Six emergency egress points are proposed along the Battery Street Tunnel, three on each side. The stairway enclosures may be free-standing structures or they may be combined into multipurpose structures such as public restrooms, information

kiosks, and public art installations or combined with adjacent buildings to the east. Free-standing aboveground structures would include an enclosure over the stairway that would be 16 to 20 feet long, 8 to 10 feet wide, and 10 to 12 feet tall.

1.5.4 North – North Portal of Battery Street Tunnel to Aloha Street

Between the north portal of the Battery Street Tunnel and the vicinity of Republican Street, Aurora Avenue would be lowered to pass under east-west cross streets at Thomas and Harrison Streets. These streets would travel over the lowered Aurora Avenue on bridges and would reconnect the street grid in the area. SR 99 would rise to the existing grade at about Republican Street and cross over Mercer Street, which would be widened. On- and off-ramps would be provided at Denny Way. The southbound off-ramps would be on the right side of the roadway, similar to the existing configuration. The northbound on-ramps would cross over the through lanes and merge on the left. A northbound off-ramp to the right would be provided at Republican Street. On- and off-ramps would be provided at Roy Street in a right-in, right-out configuration. Traffic exiting from SR 99 and destined for the other side of the highway would cross at the Mercer Street underpass. The Mercer Street underpass would be widened to accommodate three vehicle lanes in each direction, with a 12-foot-wide sidewalk on one side and a bicycle/pedestrian path on the other. SR 99 would match the existing roadway configuration of Aurora Avenue at Aloha Street.

1.6 Elevated Structure Alternative

The Elevated Structure Alternative would replace the existing viaduct mostly within the existing right-of-way. The project limits have changed somewhat from the project limits defined in the 2006 Supplemental Draft EIS as a result of refinements to this alternative and the configuration of the S. Holgate Street to S. King Street Viaduct Replacement Project. For this Final EIS analysis, the project limits for the Elevated Structure Alternative extend from S. Royal Brougham Way in the south to Aloha Street in the north and from Elliott Bay in the west to Interstate 5 (I-5) in the east. The Elliott Bay Seawall would be rebuilt from S. Jackson Street to Broad Street. At S. Royal Brougham Way, SR 99 would consist of three lanes in each direction, with wider lanes and shoulders than the existing viaduct. The elevated structure would rise and cross over S. Dearborn Street and remain an aerial structure through the downtown core.

The main features of the Elevated Structure Alternative are described below within each geographic section of the project area.

1.6.1 South – S. Royal Brougham Way to S. Jackson Street

The new elevated structure south of S. Royal Brougham Way would be a side-by-side elevated structure passing over S. Atlantic Street and descending to grade

north of S. Royal Brougham Way as part of the S. Holgate Street to S. King Street Viaduct Replacement Project. About 800 feet north of S. Royal Brougham Way, the roadway would climb and begin to transition from a side-by-side configuration to a stacked configuration between S. King Street and S. Jackson Street. S. Dearborn Street would pass beneath the side-by-side elevated structure. An off-ramp from the northbound lanes would terminate at S. Dearborn Street. An on-ramp from the East Frontage Road would merge onto the upper northbound lanes between S. Dearborn Street and S. Jackson Street. An off-ramp from the lower southbound lanes would diverge from the mainline at about S. Jackson Street and connect to the East Frontage Road. The southbound lanes of the Alaskan Way surface street would transition to an elevated East Marginal Way S. structure about 700 feet north of the S. Royal Brougham Way alignment.

At S. King Street, the width of the roadway from the southbound lanes of the Alaskan Way surface street on the west to the edge of the elevated structure (with the northbound lanes of the Alaskan Way surface street under SR 99) and the elevated ramp on the east would be about 170 feet. The existing viaduct is about 60 feet wide at this point.

Other roadway improvements would include a new Alaskan Way aerial overpass of the BNSF tail track, a S. Dearborn Street connection between First Avenue S. and Alaskan Way, and multi-use pedestrian/bicycle paths on both the east and west sides of Alaskan Way. The pedestrian trail would be about 12 feet wide.

1.6.2 Central – S. Jackson Street to Battery Street Tunnel

Elevated Structure

The transition from a single-level, side-by-side aerial structure to a stacked configuration with the northbound lanes above the southbound lanes would be completed at about S. Washington Street. The northbound on-ramp merge would be completed at about the same area. At that location, the elevated structure would be about 115 feet wide to provide a curve radius adequate for the design speed. At the Washington Street Boat Landing, the structure would be about 60 feet from the pergola, as compared to about 100 feet for the existing viaduct.

From S. Jackson Street to Pine Street, the northbound lanes of the surface street would be underneath the elevated structure, with the southbound lanes west of the structure.

North of Yesler Way, the proposed structure would narrow to a width of about 70 feet at the columns and an outer width of about 75 feet for the upper deck. The width of the existing viaduct at this location is about 52 feet. The columns of the proposed structure would be about 5 feet farther west than those of the existing viaduct, with the eastern column about 13 feet closer to the buildings to the east.

The existing ramps at Columbia and Seneca Streets would be rebuilt and connected to a fourth lane. This extra lane would improve safety for drivers accessing downtown Seattle on the midtown ramps. To accommodate the southbound on-ramp at Columbia Street, the main portion of the structure would be located about 30 feet west of the existing viaduct, with the structure supporting the on-ramp at about the same location as the existing ramp. To the north, the proposed structure would be located such that the outer face of the columns would be about 5 feet west of the existing viaduct columns. The wider upper deck would project about 10 feet west of the outer dimension of the existing viaduct columns. The deck of the new structure would be about 10 feet higher than the existing viaduct. The eastern columns would be 14 to 15 feet east of the existing viaduct. The main portion of the structure would maintain this configuration to about Pike Street. At Seneca Street, the off-ramp would be in about the same location as the existing off-ramp.

The transition from a stacked configuration to a side-by-side configuration would begin near Pike Street and be completed by Pine Street. This is farther north than the transition for the existing viaduct; therefore, at the Pike Street Hillclimb, the proposed structure would be 15 feet narrower than the existing viaduct, 70 feet wide compared to 85 feet wide. The eastern columns would be about 10 feet farther east than the existing columns. The proposed side-by-side structures between Pine Street and Virginia Street would be of a similar width as the existing side-by-side viaduct structures, but they would be somewhat closer together and therefore up to 15 feet farther from the residential structures to the west. The existing SR 99 roadway would be retrofitted, starting between Virginia and Lenora Streets up to the south portal of the Battery Street Tunnel.

At Pine Street, the northbound lanes would be about 15 feet higher than the northbound lanes of the existing viaduct. The lanes would be a few feet higher at Virginia Street, about the middle of Victor Steinbrueck Park and match the existing viaduct at the north end of the park. The new structure would be joined with a retrofitted section of SR 99. At Lenora Street, the retrofitted structure would have essentially the same dimensions as the existing viaduct, and it would feature shoulders that are narrower than standard width and 11-foot lanes rather than the 12-foot lanes to the south. The elevated structure would pass over and preserve the existing Lenora Street pedestrian bridge. The structure passing over Elliott and Western Avenues would be preserved with the same configuration as the on- and off-ramps at Elliott and Western Avenues. The Elliott and Western Avenue ramps would be rebuilt, and the existing southbound off-ramp at Battery Street and Western Avenue and the northbound on-ramp from Bell Street would be closed and used for maintenance and emergency access only.

Battery Street Tunnel

At Elliott and Western Avenues, SR 99 would be reduced to two lanes to continue into the Battery Street Tunnel. The tunnel would be extended south along a curve to the southeast to accommodate a ventilation building with a roof about 30 feet above the sidewalk elevation at First Avenue. The entry to the Battery Street Tunnel would feature a curve with a larger radius that would result in widening to the south at First Avenue. The shoulders provided on the new roadway section would be dropped as the road transitions to the existing tunnel dimensions.

The Battery Street Tunnel would be upgraded with new safety improvements, including a fire suppression system, seismic retrofitting, and access and egress structures. The vertical clearance would be increased to about 16.5 feet throughout the length of the tunnel. However, unlike the improvements to the Battery Street Tunnel provided by the Cut-and-Cover Tunnel Alternative, the roadway at the south portal would not be widened.

Alaskan Way Surface Street

The Alaskan Way surface street would be rebuilt as part of the Elevated Structure Alternative. In the central waterfront area, it would be generally configured with two northbound lanes under the elevated structure and two southbound lanes west of the elevated structure. The exception to this configuration would be south of Yesler Way, where two additional left-turn lanes would be located under the elevated structure. This would allow a widened public open-space corridor along the waterfront including a bicycle trail and a pedestrian promenade. The width of the waterfront open space would vary from about 27 feet at Washington Street to about 115 feet at Pike Street. North of Pike Street, the pedestrian area along the waterfront would narrow to about 15 feet, about the same as the current width. The pedestrian facilities on the east side of the street would consist of an 8-foot sidewalk, as compared to the current 8-foot sidewalk and 12-foot asphalt trail.

1.6.3 North – Battery Street Tunnel to Aloha Street

At the north portal of the Battery Street Tunnel, Aurora Avenue would be modified from Denny Way to Aloha Street. Aurora Avenue would be lowered in a side-by-side retained cut roadway from the north portal of the Battery Street Tunnel to about Mercer Street and would be at-grade between Mercer and Aloha Streets. Ramps to and from Denny Way would provide access to and from SR 99 similar to today. The street grid would be connected over the new lowered Aurora Avenue, with two new bridges at Thomas and Harrison Streets. Mercer Street would be widened and converted to a two-way street with three lanes in

each direction and a center turn lane. It would continue to cross under Aurora Avenue as it does today.

Bicycle and Pedestrian Facilities

The new bridges at Thomas and Harrison Streets would include approximately 10-foot-wide sidewalks on both sides. On the north side of Mercer Street, a 15-foot-wide shared-use path would accommodate both pedestrians and bicyclists. A sidewalk would also be located along the south side of Mercer Street.

Alaskan Way Surface Street

The Alaskan Way surface street would be reconstructed with two lanes in each direction and left-turn pockets provided at key intersections in the north waterfront section. Instead of following the northwest-trending curve of the waterfront as the existing surface street does, the reconstructed surface street would continue straight to the east of the public open space at the foot of the Pike Street Hillclimb and turn back toward the waterfront between Pike and Pine Streets. The new public open space on the west side of the reconfigured surface would consist of a wedge-shaped plaza adjacent to the Seattle Aquarium that would be approximately 90 feet wide at its broadest point.

1.7 Summary of Visual Effects

This report describes the character of the existing landscape and visual resources, the visual changes resulting from the project alternatives, and the extent to which the visual effects would be experienced by viewer groups within the study area. It also describes potential mitigation measures for adverse visual effects, including ways to avoid or minimize the effects on visual quality and ways to restore and enhance visual quality. The study area includes the viewshed, or visible areas, for all the alternatives, and it is based on the physical features that can be seen from the surface roadway and surrounding areas.

This report refers to Appendix E (Visual Simulations), which includes visual simulations of views that were developed for the three build alternatives to provide representative viewpoints, or to show the visual effects of an alternative that are noteworthy. The differences between the build alternatives in terms of the expected visual effects of their operations are indicated by the ratings of visual quality provided in Attachment A (Visual Analysis Matrix). In the matrix, views from selected viewpoints are rated in terms of their vividness, intactness, and unity. The matrix is useful primarily for comparing the visual quality of the same view between different alternatives. A limited number of representative views are included in the matrix.

In addition, the visual effects of a number of related Program elements were evaluated as “reasonably foreseeable” (future) projects in Chapter 7, Cumulative Effects, of the Final EIS. These elements will be subject to separate environmental review.

The largest factor in the visual effects of the alternatives is the presence or absence of an aerial structure. The existing viaduct provides the following panoramic views from the elevated roadway for northbound drivers and passengers: the area north of downtown Seattle and the area northwest of Puget Sound, the intermediate wooded hills of Bainbridge Island and the Kitsap Peninsula, and the Olympic Mountains on clear days.

1.7.1 Visual Effects Common to Both Tunnel Alternatives

Views From the Roadway

Both the Bored Tunnel Alternative and the Cut-and-Cover Tunnel Alternative would result in no views from the roadway within the tunnel. Views on the surface roadway south of S. King Street would be narrowly bounded by structures or railyards on both sides. The panoramic views of Puget Sound and the Olympic Mountains from the existing viaduct would no longer be enjoyed by drivers or passengers passing through the tunnels. However, the existing views of Elliott Bay and across Puget Sound from the Alaskan Way surface street would remain, although they would be experienced from a lower elevation than the viaduct and they would be obscured by Colman Dock and framed by Piers 54 through 59.

For the Cut-and-Cover Tunnel Alternative, the aerial structure just north of Virginia Street to the Battery Street Tunnel would be open to light and air but would afford no panoramic views because they would be blocked by the existing buildings.

Views Toward the Roadway

For views external to the roadway, the removal of the existing aerial structure would eliminate the visual barrier that separates downtown and the Pioneer Square Historic District to the east from the central waterfront to the west. In the area from the north side of Terminal 46 to Pike Street, the visual integrity of local views of pedestrians, vehicles on surface streets, and building occupants on the waterfront, in the downtown area, and in the Pioneer Square Historic District would be substantially enhanced.

The design of the Bored Tunnel Alternative and the Cut-and-Cover Tunnel Alternative differ at the north portal at Aurora Avenue and in the roadway section from Pike Street at the Alaskan Way surface street to Elliott and Western Avenues. The north portal of the bored tunnel would be located at Sixth Avenue

and Harrison Street, a block west of Aurora Avenue. This would result in a standard urban arterial street section along Aurora Avenue between Denny Way and Harrison Street, with at-grade intersections at John, Thomas, and Harrison Streets. Under the Cut-and-Cover Tunnel Alternative, SR 99 would exit the Battery Street Tunnel at the existing north portal and would be below grade to Republican Street, with Thomas and Harrison Streets passing over SR 99. Both alternatives would result in a more integrated urban streetscape in the vicinity of the tunnel for observers outside the Aurora Avenue corridor.

Light and Glare

The lighting would be typical of urban arterials and little different from other downtown arterials in terms of light and glare impacts on the surroundings.

1.7.2 Elevated Structure Alternative

The largest factor in the visual impacts is the presence of an elevated structure in the approximate location of the existing viaduct.

Views From the Roadway

The Elevated Structure Alternative would provide panoramic views from the elevated roadway similar to the views from the existing viaduct for northbound drivers. These views include the skyline of downtown Seattle and the area northwest of Puget Sound, the intermediate wooded hills of Bainbridge Island and the Kitsap Peninsula, and the Olympic Mountains on clear days.

Views Toward the Roadway

The Elevated Structure Alternative would result in the greatest visual impacts on views of the roadway from the surrounding area because of the construction of a new structure that would be wider than the existing structure as well as 7 to 20 feet higher. This alternative would continue to dominate the near views and form a visual barrier between the waterfront and downtown Seattle and the Pioneer Square Historic District. The contrast of the elevated structure with the character of the buildings and street corridors would continue to constitute a visual intrusion, block or screen views of vivid landscape features such as the Olympic Mountains, and reduce the visual coherence and compositional harmony of views. Its visual dominance would be reinforced by its noise effects. It would also create a change in environment for pedestrians moving between the waterfront and downtown by closing off the open street corridor, creating shadows, and precluding the provision of relieving vegetation or other amenities.

Light and Glare

The lighting impacts would be similar to those of the existing viaduct.

1.7.3 Viaduct Closed (No Build Alternative)

The Viaduct Closed (No Build Alternative) would have an adverse visual effect on views of the roadway from the surrounding area similar to that of the Elevated Structure Alternative because the viaduct structure would remain as a visual obstruction for an indeterminate period. This indeterminate period is assumed to be the length of time before the roadway would be closed due to structural damage from a smaller earthquake event and/or a catastrophic failure and collapse of the existing viaduct. During this time, the viaduct would continue to visually dominate the foreground and form a visual barrier between the waterfront and downtown Seattle and the Pioneer Square Historic District. The aerial structure contrasts with the character of the buildings and streets, presents a visual intrusion, blocks or screens views of vivid landscape features such as the Olympic Mountains and the downtown skyline, and reduces the visual coherence and compositional harmony of views. The visual dominance of the existing viaduct is reinforced by its noise effects, which create a constant background of engine and road noise. The viaduct also creates a change in environment for pedestrians walking between the waterfront and downtown: it closes off the open street corridor, creates shadows, and precludes the provision of visual relief such as that afforded by vegetation and other amenities.

The eventual unplanned permanent closure of the viaduct due to earthquake or other causes would result in a loss of views from the viaduct, as described for the tunnel alternatives. As with the tunnel alternatives, the removal of the existing viaduct would eliminate the visual barrier that separates downtown Seattle and the Pioneer Square Historic District to the east from the central waterfront to the west.

Chapter 2 METHODOLOGY

This report evaluates the potential changes in visual quality that would result from each of the project alternatives. The analysis includes three levels of study:

- The visual environment related to the design of the roadway alternatives: the experience of users of the facility (i.e., views from the roadway)
- The relationship of the alternatives to specific elements of the surroundings: the visual experience of persons looking at the facility (i.e., views toward the roadway)
- The relationship of the alternatives to the overall environmental context: the existing and planned character of the area based on plans and policies for future development

2.1 Visual Assessment Methodology

The methods used to assess visual quality for this project follow FHWA's *Visual Impact Assessment for Highway Projects* (FHWA 1988). The assessment also took into account the City's urban design goals and aesthetic regulations: (1) the City's environmental review criteria (which protect the views of specific features), (2) the *City of Seattle Comprehensive Plan: Toward a Sustainable Seattle* (City of Seattle 2005), (3) the City's Land Use Code (Title 23 of the Seattle Municipal Code [SMC 23]), and (4) relevant neighborhood plans. WSDOT's *Roadside Classification Plan* (WSDOT 1996) also was used to identify policies related to the design and management of the roadway.

The assessment of visual quality is concerned with both the character of the visual experience and the effect upon the viewer. For the purposes of this analysis, *visual quality* and *aesthetics* are analogous terms. The assessment of visual quality is subjective in that the person perceiving the visual environment brings personal and cultural frames of reference to the discernment and evaluation of visual information. There is, however, broad agreement in federal, state, and local regulations as well as research results that establish a general public consensus of what constitutes a desirable visual environment.

According to the FHWA guidance for visual impact assessments (FHWA 1988), the aesthetic experience includes three critical parameters:

- Visual character
- Visual quality
- Viewer response

The relationship of these parameters in the visual assessment methodology is indicated in the flowchart in Exhibit 2-1.

The Visual Environment

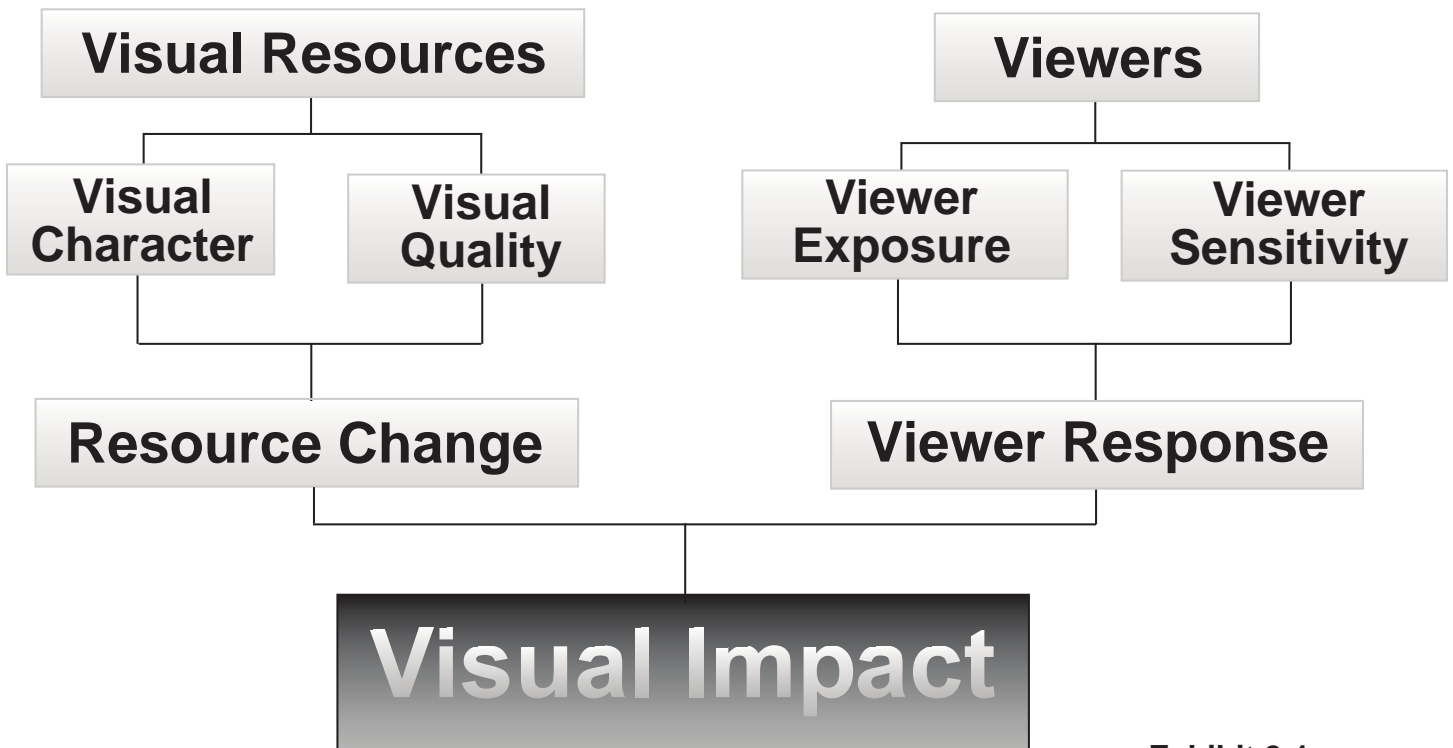


Exhibit 2-1
Visual Assessment
Methodology

2.1.1 Visual Character

Visual character refers to identifiable visual information. Visual character may be distinguished both at the level of specific elements and at the level of the relationships among elements. The first step in assessing visual effects is to describe visual attributes and environmental features using objective descriptors (such as form, line, color, and texture).

The Seattle environmental code (SMC, Section 25.05.675.P [SMC 25.05.675.P]) identifies specific significant natural and human-made features, views of which are protected from specific viewpoints, parks, scenic routes, and view corridors. These specific features include Mount Rainier; the Olympic and Cascade Mountains; the downtown skyline; and major bodies of water, including Puget Sound, Elliott Bay, Lake Washington, Lake Union, and the Lake Washington Ship Canal. These features can be generalized into broader categories of land forms, water bodies, vegetation communities, land use, and development type.

Four key features are used to identify relationships between elements of the visual environment: dominance, scale, diversity, and continuity. *Dominance* refers to the position of an individual element, or its extent or contrast among all the other elements of a view. *Scale* refers to apparent size relationships between an element and the other components of its surroundings. *Diversity* is a function of the number, variety, and intermixing of elements in a view. *Continuity* refers to the maintenance of visual relationships between connected or related landscape features. The integration of these elements results in a complete description of the character of a view.

2.1.2 Visual Quality

Visual quality refers to the value of the visual experience to the public. Studies of the American public and across cultures demonstrate strong agreement about preferred qualities of the visual experience (Jacques 1980; Kaplan 1985; Real et al. 2000). This consensus is exhibited in officially designated landscapes generally agreed to have high value, such as national parks, scenic rivers, scenic highway viewpoints, and designations such as the City's designation of significant natural and human-made features.

In this analysis, visual quality is analyzed in terms of whether features are locally designated in the Seattle environmental code (SMC 25.05.675.P) as "significant natural and human-made features" and whether the view includes visual relationships between vividness, intactness, and unity. These characteristics are consistently prominent in landscapes perceived by the general public as having high visual quality. This set of measures is similar to those of other systems that analyze human perceptions based on factors such as *complexity* (the variety or

diversity in a scene as it relates to human interest), *coherence* (the extent to which the scene “hangs together” through repetition of elements, which facilitates comprehension), and *legibility* (the features that contribute to the recognition of an environment) (Kaplan and Kaplan 1982).

Vividness refers to the way landscape components combine in distinctive and memorable visual patterns. For different landscapes, various elements may contribute to vividness. This analysis incorporates certain City-designated significant features (SMC 25.05.675.P):

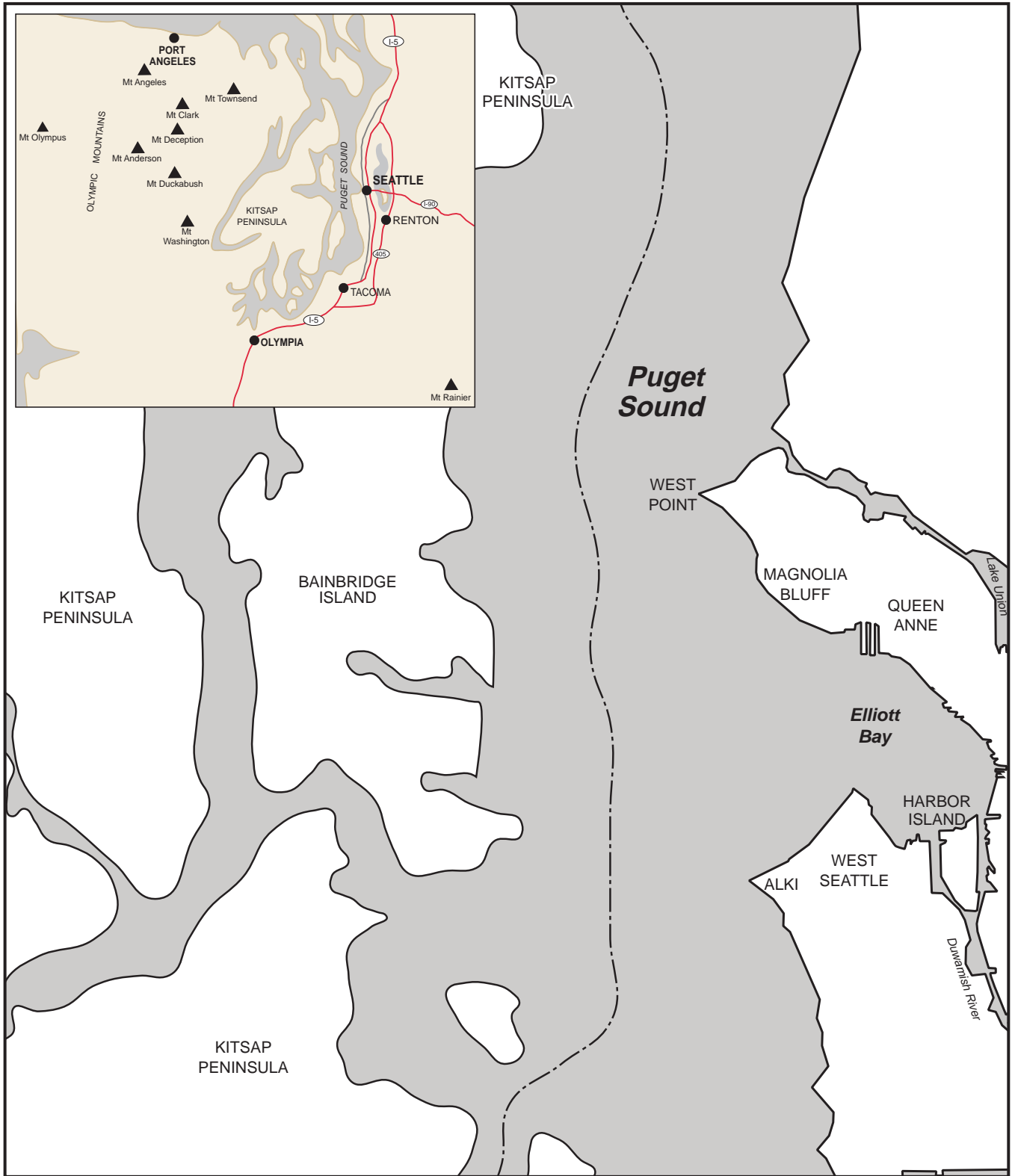
- Landforms, including Mount Rainier, the Olympic Mountains, and the Cascade Mountains
- Water forms, including Puget Sound and Elliott Bay
- Human-made forms, such as the downtown skyline, which may be vivid in a particular view, as may elements such as vegetation masses and landmarks, including individual buildings

Exhibit 2-2 shows the locations of landscape elements available in views from the project area:

- Water forms of Puget Sound and Elliott Bay
- Landforms of Queen Anne Hill and Magnolia
- Wooded hills of Bainbridge Island and the Kitsap Peninsula
- Peaks of the Olympic Mountains (shown in the inset of Exhibit 2-2)

In addition, southbound vehicles on the viaduct have views of Mount Rainier and the Cascade Mountains, largely in the area between Elliott Avenue and Pine Street. Human-made forms such as the downtown skyline are an element of all views from the roadway and views of the roadway from the surrounding area.

Intactness refers to the integrity of natural and human-built visual patterns, the extent to which the scene “hangs together.” For this project, intactness is evaluated based on the extent to which elements of the urban environment meet the City’s design guidelines. This includes patterns of urban form that result in a distinctive, attractive, and memorable “sense of place” through streetscape patterns, distinctive façade materials, and skyline elements (Design Review Guidelines for Downtown Development [DRGDD] A-1, and D-3; Design Review Guidelines for Multifamily and Commercial Buildings [DRGMC] C-1 and D-1). The evaluation of intactness also includes the extent to which the landscape is free from encroaching elements. Encroaching elements may include a single eyesore or multiple elements.



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NOT TO SCALE

**Exhibit 2-2
Landscape Elements in Views**

Unity refers to the visual coherence and compositional harmony of the landscape considered as a whole. It refers to the fit between elements of the landscape but does not connote uniformity in design or character. In some cases, landscapes also have unity due to a common design milieu or association with historical events.

This is the case with historic districts, such as Pioneer Square and Pike Place Market, in which the quality of the view also is related to its historic context and the value placed on that quality by the public. That value is also reflected in the designation of an area as a local or federal historic district.

2.1.3 Viewer Response

Viewer response is analyzed in terms of viewer exposure and viewer sensitivity. *Viewer exposure* refers to the physical location of viewer groups, the number of people exposed to a view, and the duration of their view. This includes both highway users and persons in the surrounding area. *Viewer sensitivity* refers to factors that affect the degree to which a viewer perceives elements of the environment and the extent to which those elements are important to the viewer. Viewer sensitivity is affected by factors such as the activities a viewer is engaged in; the visual context; and the values, expectations, and interests of a group of persons or a person involved in a particular activity or context.

Viewer exposure and viewer sensitivity work together for persons viewing the road from the context of other activities. Generally, persons engaged in elective activities are most sensitive to the visual environment. People who have chosen an activity for enjoyment, such as a tourist or someone engaged in a recreational activity, are often attracted to an area because of its visual features. They have ample time to stop and look at a scene in a leisurely fashion. Other elective activities, such as shopping, dining, or attending a cultural or sports event, involve varying degrees of sensitivity to visual elements, depending on the location, visible elements, available time, and mode of travel to the site.

Residents in their homes show a similar attraction to the visual amenities of an area. Residents typically are among the most sensitive groups because they have a high personal investment in the environment as well as regular exposure. They may, however, become habituated to elements of a view that might be intrusive or objectionable to those who are not exposed to it on a regular basis.

Employees at work tend to be less sensitive to the visual environment outside the work place when they are focused on work tasks. However, the surrounding environment is likely to be a factor if they have time to take a visual break and have window access to the outside environment. The visual environment may also be important during their trip to and from work and during periods when they leave the work environment such as breaks or lunch. In general, office

workers are more likely to be able to access the visual environment in their work activities than industrial workers.

Persons involved in automobile travel, especially drivers, are likely to be less sensitive to the surrounding visual environment because of the demands of driving and the short period during which they are exposed to visual elements. Transit users do not have the demands of driving and may be somewhat more sensitive to views of their surroundings, although their view from bus or train windows may be limited. Bicyclists and pedestrians are likely to be more sensitive to their surroundings as they move more slowly than vehicles and have more time to integrate all elements of the view. In the case of regular commuters using a familiar route, the daily repetition of a relatively short-duration event may, however, lead to a great deal of familiarity, and they may place high value on a scene that is experienced only in a snapshot. They also may become habituated to negative elements and focus more on positive elements.

2.2 Views From the Roadway

The physical character of the road is important to both driver function and driver satisfaction. The driver uses visual information from the roadside environment to assist in controlling, guiding, and navigating the vehicle. Highway alignment, roadway geometrics, landform configurations, vegetation, and structures all guide the driver. Excessive visual stimulation and complexity can distract the driver and decrease his or her control of the vehicle. Conversely, monotony from lack of visual interest can decrease driver attention and thus diminish his or her control. Difficulties related to driver perception, attention, and distraction constitute a primary cause of more than 40 percent of traffic accidents (WSDOT 2003).

The parameters of visual character, visual quality, and visual exposure are used to assess views available to drivers and passengers. Drivers and passengers also form impressions and memories from what is seen along the roadside; therefore, roadsides are important in establishing community and state identity. Americans have repeatedly ranked pleasure driving on scenic roads as one of their favorite pastimes. Both national and state environmental policies mandate the provision of safe, healthful, productive, and aesthetically pleasing surroundings.

2.3 Views Toward the Roadway

2.3.1 Visual Character Units

For this assessment, key views were selected to represent the range of views in the study area. The view selection process included field reconnaissance of the study area and an evaluation of potential visual character units from which the existing highway and the project area are visible. A *visual character unit* is a geographic

area in which views of the subject have a similar context as defined by features of the setting (such as topography), the location of the viewer in relation to the object being viewed, the character of the landscape (such as vegetation cover or the urban environment), and the role of the subject viewed in the landscape.

The lead agencies approved the selection of visual character units and views. Visual character units were evaluated after a review of photographs of various viewpoints and extensive consultation with WSDOT and City staff.

The selected visual character units are identified below and shown in Exhibit 2-3:

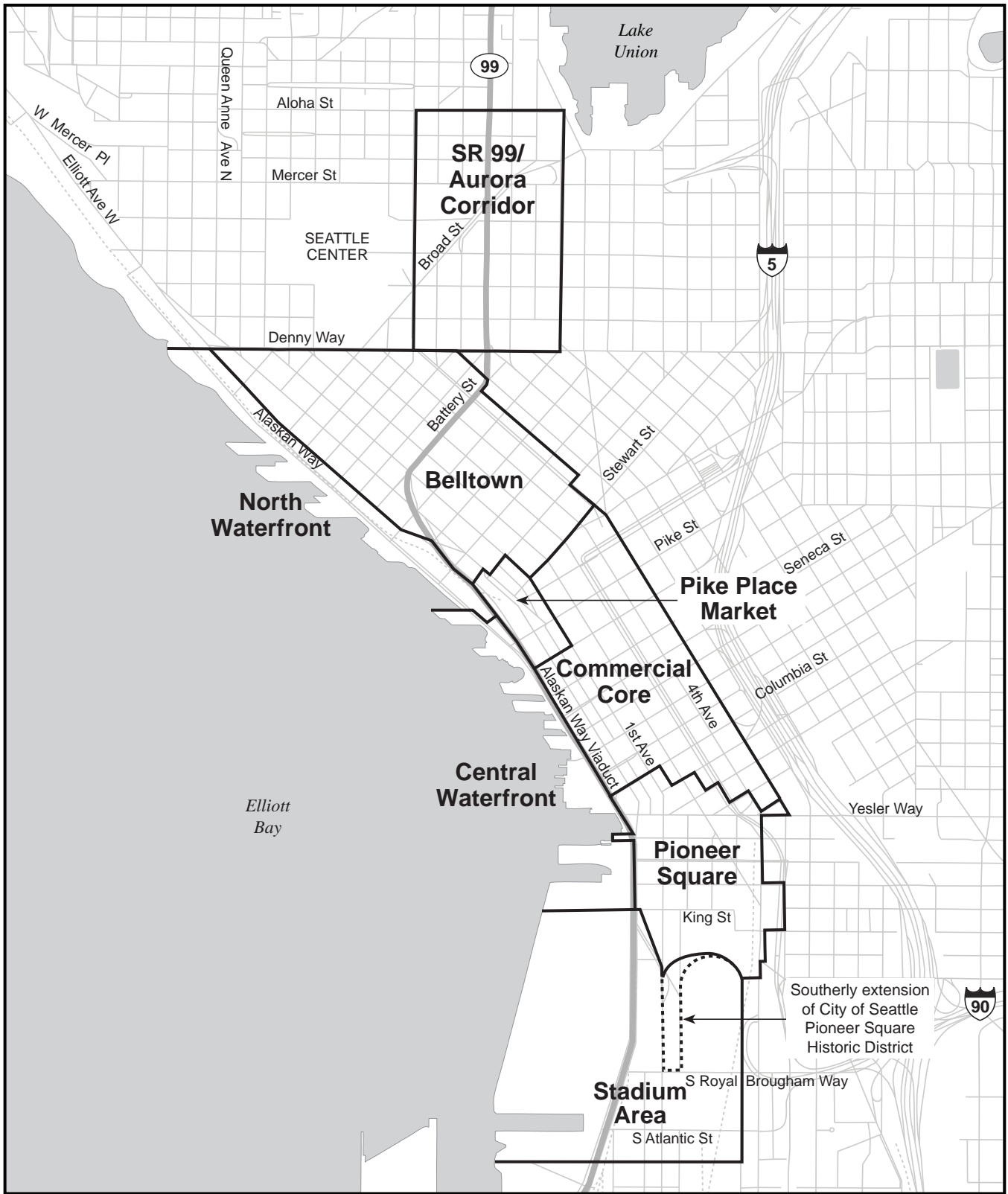
- Stadium Area: the area around the stadiums from S. Massachusetts Street to S. King Street and Terminal 46. (This includes a small portion of the City-designated historic district between First Avenue S. and Occidental Avenue S.; this area is considered part of this visual character unit because of visual rather than land use and regulatory criteria.) Views from the roadway in this area are represented by photos of existing conditions and visual simulations Exhibits A-1, A-2, and A-3 in Appendix E (Visual Simulations). Views toward the roadway are represented by photos and simulations A-4 through A-15.
- Pioneer Square Historic District: the area encompassing most of the historic district from approximately S. Dearborn Street to Columbia Street. Views toward the roadway are represented by photos and simulations Exhibits A-4 through A-29.
- Central Waterfront: the waterfront area west of the existing SR 99 from S. King Street to Pine Street, plus Pier 62/63. Views toward the roadway are represented by photos and simulations Exhibits A-12 through A-44.
- Commercial Core: the downtown commercial core, the area east of the central waterfront and the existing SR 99 from approximately Columbia Street (or a bit south) to the Pike Place Market area at Union Street. Views toward the roadway are represented by photos and simulations Exhibits A-27 through A-33.
- Pike Place Market: the area east of the existing SR 99 between approximately Union Street and Virginia Street. Views toward the roadway are represented by photos and simulations Exhibits A-37 through A-44.
- Belltown: the area east of the waterfront between approximately Stewart Street and Denny Way. Views toward the roadway are represented by photos and simulations Exhibits A-45 through A-50.
- North Waterfront: the area along the Alaskan Way surface street extending from Pine Street to Broad Street with the Olympic Sculpture

Park and Myrtle Edwards Park to the north. Views toward the roadway are represented by photos and simulations Exhibits A-45 and A-50.

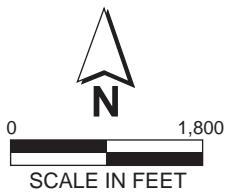
- SR 99/Aurora Corridor: the area extending several blocks on either side of the existing SR 99 from just north of the Battery Street Tunnel portal at Denny Way to Aloha Street. Views toward the roadway are represented by photos and simulations Exhibits A-53 through A-60.

During the initial screening process, the following visual character units were eliminated from consideration because the existing viaduct is not a prominent element of the views from these areas:

- Beacon Hill, the area generally south of Interstate 90 (I-90), including I-5 and the area east of I-5, was eliminated because views of the viaduct are largely screened by intervening buildings. Where the viaduct is visible for short stretches near the stadiums, it is a very minor element of the view and is largely indistinguishable from the surrounding development.
- The SODO Industrial Area, which is generally west of I-90 and extends to the Duwamish River, was eliminated because views of the viaduct replacement options are largely screened by intervening buildings or are outside the viewing area.
- First Hill, the area east of I-5 and generally between I-90 and Union Street, was eliminated because views of the viaduct are largely screened by intervening buildings. Where the viaduct is visible from southeast-facing slopes, only short stretches are visible, and it is a very minor element of views.
- Queen Anne Hill, the area north of Valley Street and west of SR 99, was eliminated because views of the viaduct are largely blocked by topography.
- The views from Washington State Ferries were excluded because the view of the existing viaduct from a distance beyond the Seattle Ferry Terminal is of little visual prominence compared to the vivid impression of the downtown skyline and the complexity of the waterfront piers in the foreground. The views from the ferries close to the dock are similar to the views from the ends of the piers.



3/2/11



**Exhibit 2-3
Visual Character Units**

2.3.2 Viewpoints

Viewpoints within each visual character unit were selected on the basis of the following factors:

- A substantial number of viewers
- Views with features that are representative of the existing conditions
- Views with high visual quality

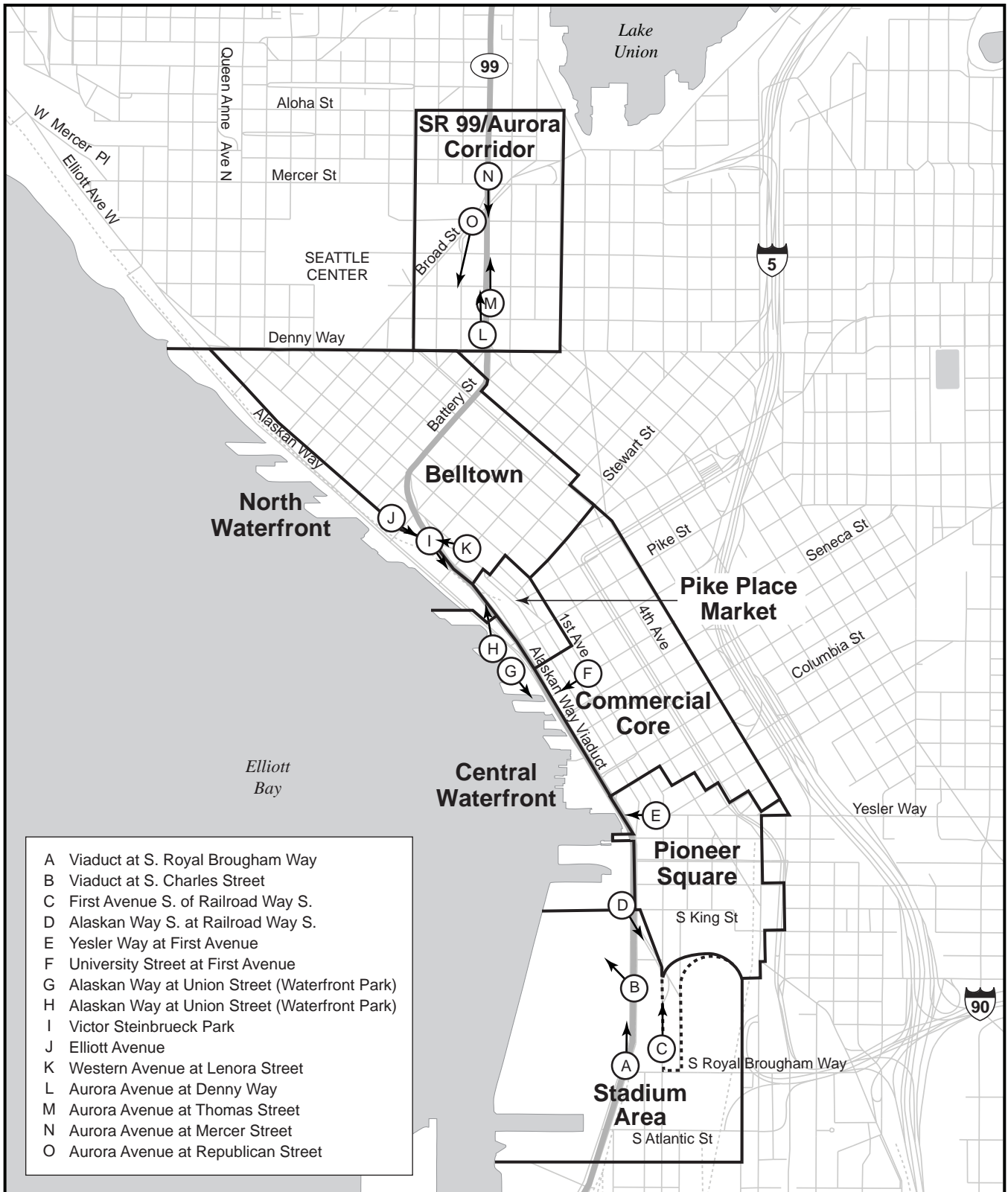
The selected viewpoints are shown in Exhibit 2-4.

2.3.3 Visual Simulations

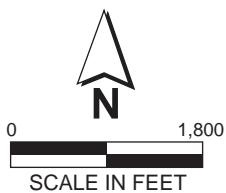
Photographs were taken to reproduce the normal static field of view of humans at the scale of a standard 8.5-by-11-inch sheet of paper at normal reading distance. A photograph provides an accurate representation of the scale of a structure in relation to other objects seen from the viewpoint. It does not, however, reproduce the entire field of view perceived by a human observer. Rather than the instantaneous fixed view provided by a camera image, the human process of viewing includes rapid eye movement in a scanning motion. This scanning process establishes the context for a scene, and during repeated rescanning of the most informative parts of an image, certain elements of a scene become the focus of the visual content (Yarbus 1967). In most cases, movement of the head and the body also increase the field of vision. The lens of the human eye also has the capability of changing its optical power and focusing on a much smaller field of vision (Sekuler and Blake 1994). The process of scanning for content and the focusing mechanisms of the eye account for the common observation that photographs often do not show scenic features, such as a prominent mountain peak, as prominently as they are recalled by an observer.

To indicate the probable visual effects of the alternatives, computer-aided visual simulations were prepared. Visual simulations are used for key views that are broadly representative of views from a number of viewpoints or of prominent visual characteristics of an alternative that may be particularly noteworthy. These visual simulations remove elements of the existing conditions and add the features of the alternatives.

The purpose of the visual simulations is to provide a comparison of visual changes. Not all potential views are reproduced or simulated. In many cases, a verbal description of existing and future views is provided. In some cases, existing and future views are represented by a single photograph of an existing scene, and probable changes in the view are described rather than shown graphically.



5/26/11



(A) → Location and Direction of Viewpoint

**Exhibit 2-4
Viewpoints**

The visual simulations and photographs of existing conditions are included in Appendix E (Visual Simulations). The photos and simulations prepared for each visual character units are identified below:

- Stadium Area: Views from the roadway in this area are represented by photos of existing conditions and visual simulations Exhibits A-1, A-2, and A-3. Views toward the roadway are represented by photos and simulations A-4 through A-15.
- Pioneer Square Historic District: Views toward the roadway are represented by photos and simulations Exhibits A-4 through A-29.
- Central Waterfront: Views toward the roadway are represented by photos and simulations Exhibits A-12 through A-44.
- Commercial Core: Views toward the roadway are represented by photos and simulations Exhibits A-27 through A-33.
- Pike Place Market: Views toward the roadway are represented by photos and simulations Exhibits A-37 through A-44.
- Belltown: Views toward the roadway are represented by photos and simulations Exhibits A-45 through A-50.
- North Waterfront: Views toward the roadway are represented by photos and simulations Exhibits A-45 and A-50.
- SR 99/Aurora Corridor: Views toward the roadway are represented by photos and simulations Exhibits A-53 through A-60.

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Chapter 3 STUDIES AND COORDINATION

The context for the visual quality analysis was established by consulting a number of existing policy documents and studies that establish the land use policies and intended character of the project area. The following plans, regulations, and studies were used in the evaluation of visual quality:

- *City of Seattle Comprehensive Plan: Toward a Sustainable Seattle* (City of Seattle 2005)
- *Mayor's Recommendations: Seattle's Central Waterfront Concept Plan* (City of Seattle 2006a)
- *Shoreline Master Program Update and Supporting Studies* (City of Seattle 2009)
- *Seattle's Parks and Recreation 2006 Development Plan* (City of Seattle 2006b)
- *Seattle Bicycling Guide Map* (SDOT 2009)
- *Greater Duwamish Manufacturing and Industrial Center Neighborhood Plan* (City of Seattle 2000)
- *Downtown Urban Center Neighborhood Plan* (City of Seattle 1999)
- *Pioneer Square Neighborhood Plan* (City of Seattle 1998a)
- *Denny Triangle Neighborhood Plan* (City of Seattle 1998b)
- *Belltown Neighborhood Plan, Denny Regrade Urban Center Village, Draft Neighborhood Plan* (City of Seattle 1998c)
- *Queen Anne Neighborhood Plan* (City of Seattle 1998d)
- *South Lake Union Neighborhood Plan* (City of Seattle 1998e)
- *Seattle Land Use Code* (SMC 23)
- *Design Review: Guidelines for Downtown Development* (Seattle DCLU 2005)
- *Design Review: Guidelines for Multifamily and Commercial Buildings* (Seattle DPD 2007)
- *Uptown Neighborhood Design Guidelines* (Seattle DPD 2009a)
- *Livable South Downtown Planning Study, Executive Recommendations* (Seattle DPD 2009b)
- *Seattle Department of Design, Construction and Land Use, Director's Rule 11-93, Design Guidelines/Implementation Process for Designated Green Streets* (Seattle DCLU 1993)
- *Roadside Classification Plan* (WSDOT 1996)

- Washington Highway Beautification Act (Revised Code of Washington, Section 47.40.010)
- Washington Transportation Commission, Policy 6.3.6
- Federal Highway Beautification Act of 1965 (Code of Federal Regulations, Title 23, Part 750)
- Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Transportation Enhancement Program (United States Code, Title 23, Section 101[g] 133[b])

The following local plans and policies were important in the selection of visual character units and viewpoints:

- Designation of specific significant natural and human-made features for which public views from designated viewpoint are protected in the Seattle environmental policies (SMC 25.05.675.P). These features include landforms such as Mount Rainier; the Olympic and Cascade Mountains; major bodies of water, including Puget Sound, Elliott Bay, Lake Washington, Lake Union, and the Lake Washington Ship Canal; as well as important constructed features such as the downtown skyline. The Space Needle is also a protected public view from specifically designated locations.
- City-designated view corridors, as shown in Exhibit 3-1.
- City-designated scenic view routes, as shown in Exhibit 3-2.
- Of the park and recreation facilities shown in Exhibits 3-3 and 3-4, those from which views are protected include Waterfront Park and Victor Steinbrueck Park.
- Other viewpoints and public places that are protected include Pier 57, which is adjacent to Waterfront Park and Virginia Street and Western Avenue.

City-designated Green Streets, as shown in Exhibit 3-5, are also considered an important visual resource, although they are not designated as locations from which views are protected.

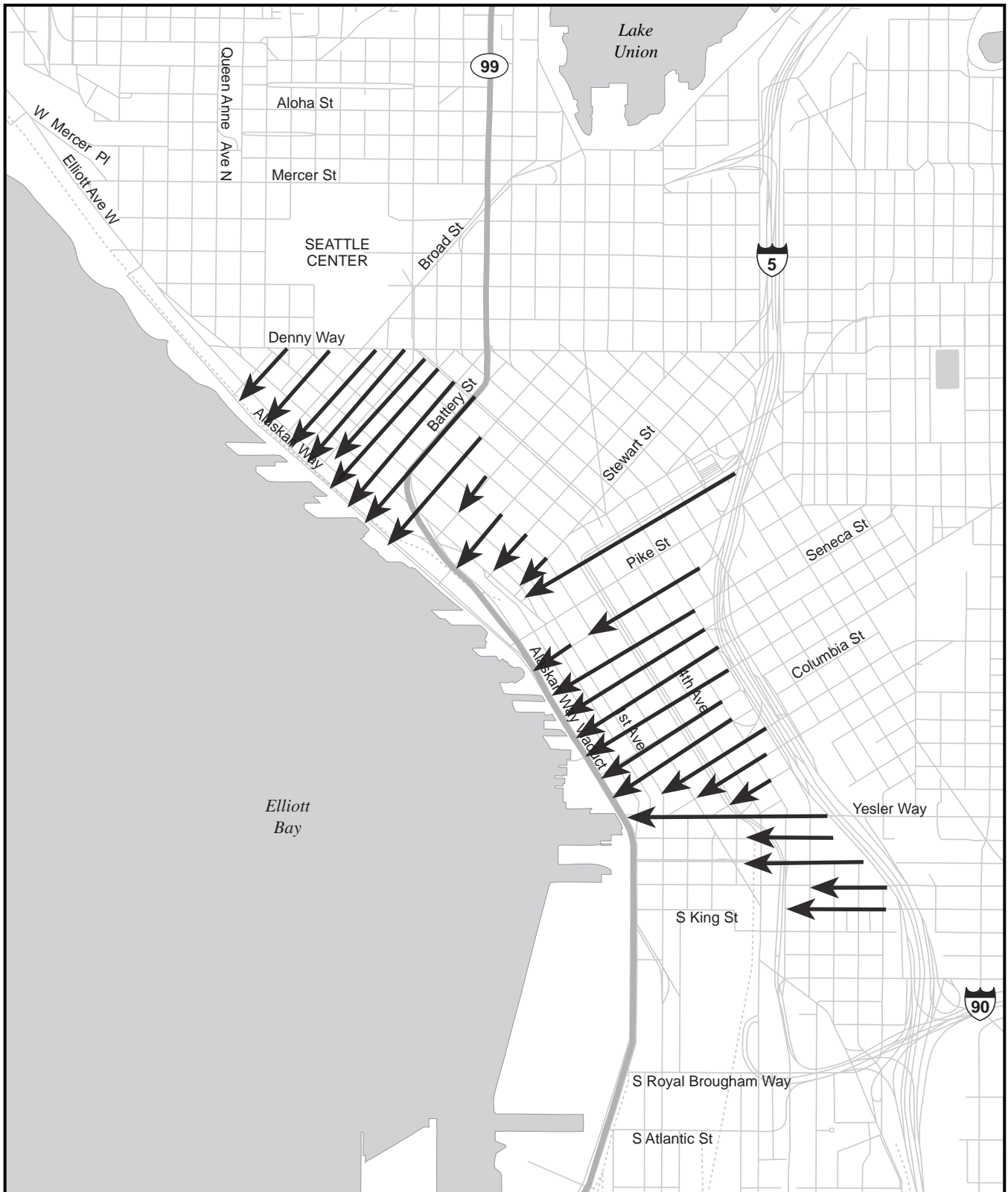
Coordination with the City and WSDOT initially focused on the selection of visual character units and viewpoints. The selection was completed according to a three-phase process. Phase I included the following activities:

- Identification of visual character units consisting of areas from which the project area can be viewed
- Identification of potential viewpoints

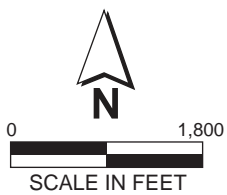
Phase II consisted of an evaluation of potential viewpoints with similar characteristics to determine the ones that were most representative. Phase III consisted of a review by the technical personnel preparing the visual simulations to determine which, among similar views, presented the fewest technical issues and most effective use of resources.

Throughout the three-phase process of selecting visual character units and viewpoints, meetings and correspondence with representatives of WSDOT and the City took place to ensure that the interests of all participants were served and that their particular expertise was available in this critical decision-making process.

The visual analysis described in this discipline report, which follows the FHWA guidance for visual impact assessments (FHWA 1988) including the parameters of visual character, visual quality and viewer response, is broader and more inclusive of visual impacts than the specific visual resources and limited number of specified viewpoints, parks, scenic routes, and view corridors identified in Seattle's State Environmental Policy Act (SEPA) code. Impacts on specific City-designated visual resources and viewpoints are described in the impact analysis in addition to the broader analysis.

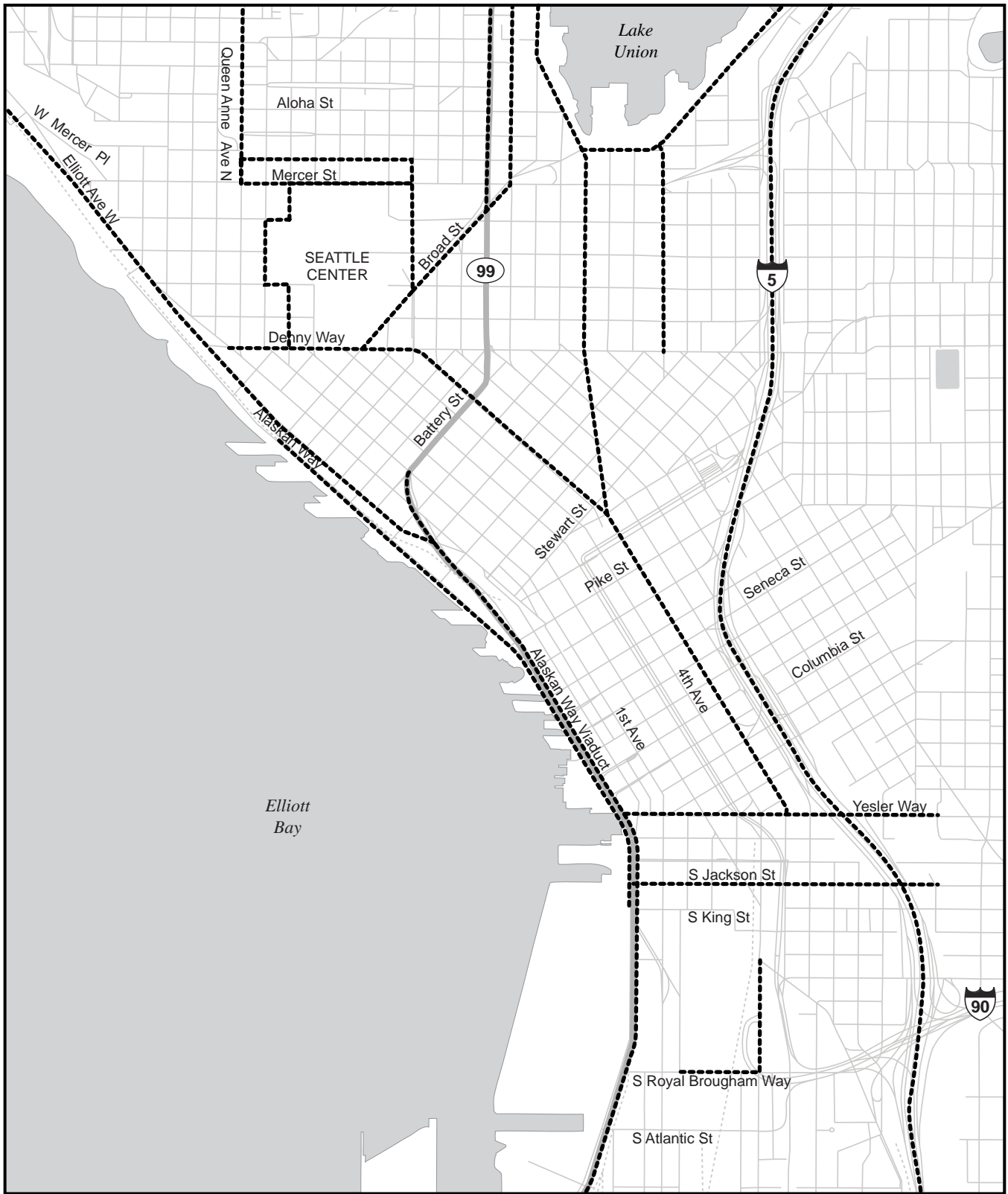


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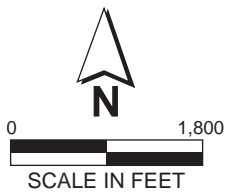


- Extent of View Corridor
- ← Direction of View

**Exhibit 3-1
City of Seattle
View Corridors**



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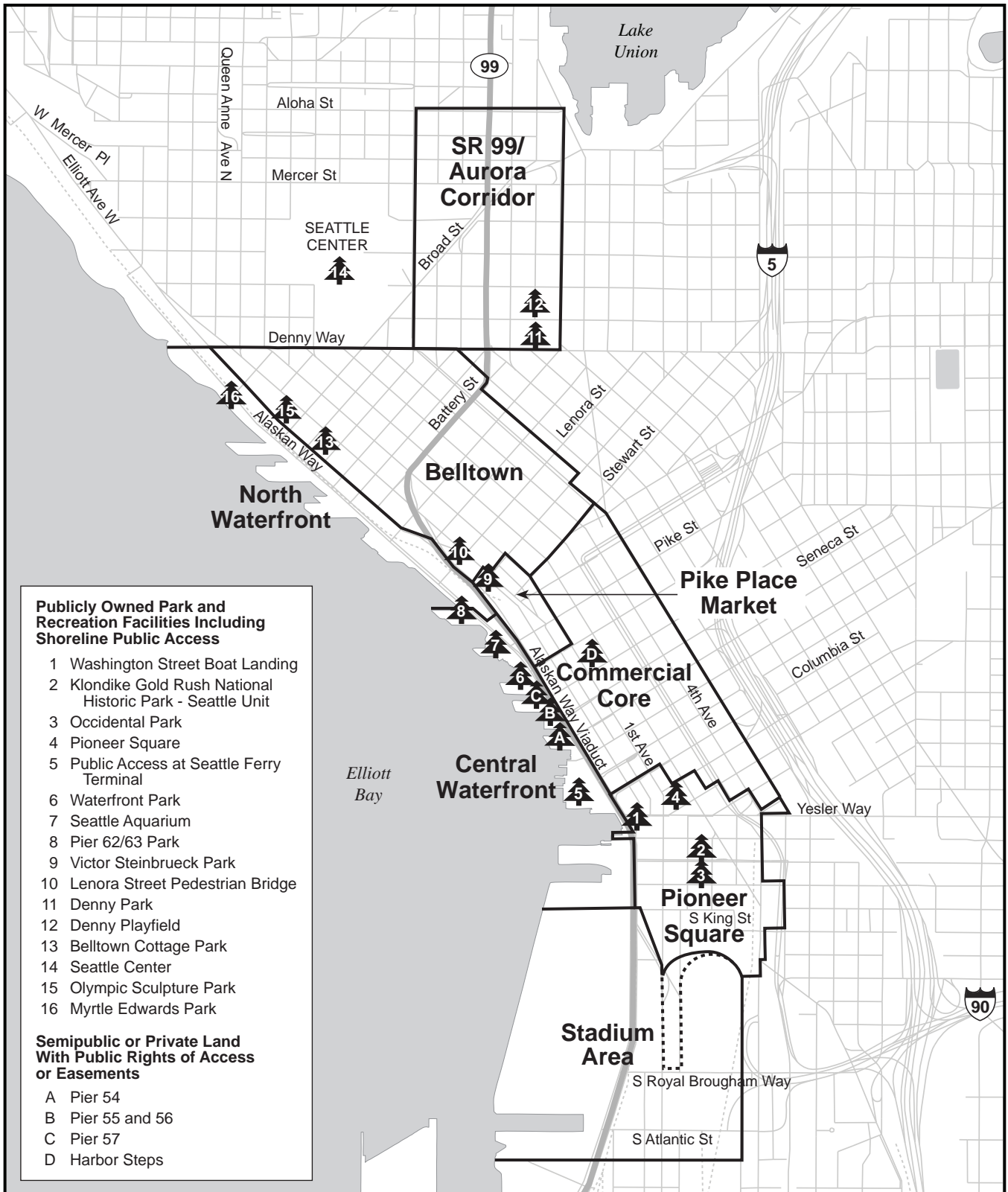
----- Scenic View Routes

**Exhibit 3-2
City of Seattle
Scenic View Routes**

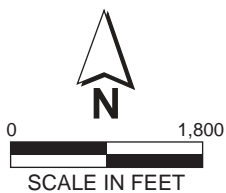
Exhibit 3-3. List of Parks and Recreation Facilities

| Publicly Owned Park and Recreation Facilities, Including Shoreline Public Access | Semipublic or Private Land With Public Rights of Access or Easements |
|---|---|
| <ol style="list-style-type: none"> 1. Washington Street Boat Landing 2. Klondike Gold Rush National Historic Park – Seattle Unit 3. Occidental Park 4. Pioneer Square 5. Public Access at Seattle Ferry Terminal 6. Waterfront Park (Pier 58)¹ 7. Seattle Aquarium (Pier 59) 8. Pier 62/63 Park 9. Victor Steinbrueck Park¹ 10. Lenora Street pedestrian bridge 11. Denny Park 12. Denny Playfield 13. Belltown Cottage Park 14. Seattle Center | <ol style="list-style-type: none"> A. Pier 54 B. Piers 55 and 56 C. Pier 57¹ D. Harbor Steps |

Note: ¹ Site from which views are protected by Seattle’s State Environmental Policy Act policies (SMC 25.05.675.P).

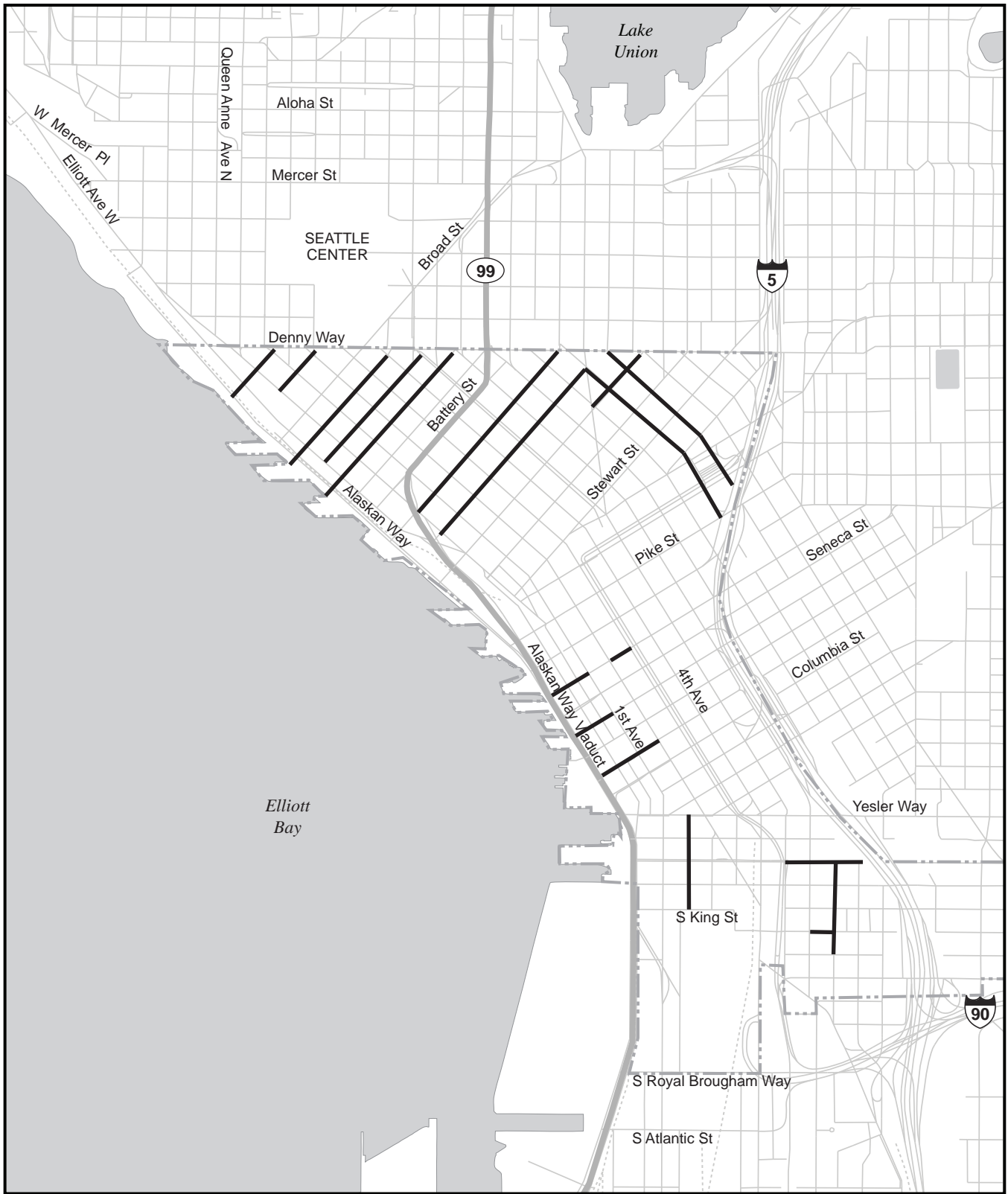


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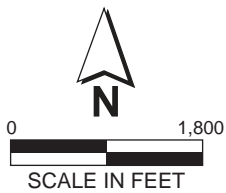


— Visual Character Units
 Park/Recreation

**Exhibit 3-4
 Map of Parks and
 Recreation Facilities**



5/26/11



- Downtown Boundary
- Green Streets

**Exhibit 3-5
City of Seattle
Green Streets**

Chapter 4 AFFECTED ENVIRONMENT

The entire SR 99 corridor is classified “urban” in the *Roadside Classification Plan* (WSDOT 1996). A roadside classified as urban is characterized by elements that mirror the character of the adjacent land use. The urban landscape is a predominantly built environment. Vegetation is mostly non-native (ornamental) trees, shrubs, and groundcover, with remnants of native vegetation. The policies for design and management of these roadways include the following:

- Design structures to provide visual continuity and enhance the urban environment; give special attention to architectural detail.
- Structural screens/fences may be used to screen views where right-of-way is limited.
- Consider scenic views when locating signs.
- Use vegetation to enhance architectural elements.

Opportunities to apply these elements to the existing viaduct are limited because of the character of the structure, which was built in the early 1950s.

The SR 99 corridor is also a City-designated scenic view route, as is the adjacent Alaskan Way surface street from S. King Street to Broad Street (see Exhibit 3-2).

The following analysis of visual quality proceeds up the corridor from south to north and is organized by the visual character units identified in Exhibit 2-3.

4.1 Stadium Area

The Stadium Area visual character unit includes the area around the stadiums from S. Massachusetts Street to S. King Street, as shown in Exhibit 2-3. The existing Alaskan Way Viaduct aerial structure begins south of Safeco Field, the Seattle Mariners baseball park. Safeco Field extends between S. Atlantic Street and S. Royal Brougham Way from First Avenue S. to the rail lines west of Fourth Avenue S. North of S. Royal Brougham Way and extending to about S. King Street is Qwest Field and the Qwest Field Event Center. These structures visually dominate the area.

4.1.1 Views From the Roadway

Occupants of vehicles heading northbound on the existing viaduct are likely to experience primarily views of the downtown skyline, as shown in Appendix E, Exhibit A-1. The orientation of the roadway south of S. Royal Brougham Way places the Bank of America Building in the center of the field of vision. The downtown skyline is a City-designated significant visual feature (SMC 25.05.675.P).

Between S. Royal Brougham Way and Yesler Way, the existing viaduct is oriented north-south. Views to the northwest and west across the container terminals are centered on the West Point/Magnolia area and include Elliott Bay in the middle ground (a City-designated significant visual feature), as shown in Appendix E, Exhibit A-3. Constructed forms, such as the downtown skyline, may be vivid in a particular view, as would elements such as vegetation masses and landmarks, such as individual buildings.

On clear days, the peaks of the northern Olympic Mountains are visible in the background (Mount Angeles and Mount Townsend are oriented about 30 degrees to the north of west; Mount Anderson and Mount Olympus are almost due west). The Olympic Mountains are a City-designated significant visual feature.

Although these views are readily available to vehicle occupants during the entire drive over the existing viaduct, they require the viewer to look away from the orientation of the roadway. Most vehicles using the viaduct are occupied by only the driver, and drivers are less likely than passengers to turn their gaze from the orientation of the roadway, except for brief glimpses. However, this portion of the roadway is likely to allow most drivers an opportunity to momentarily divert their attention to the westerly views.

The S. Holgate Street to S. King Street Viaduct Replacement Project, which is being built independently of the project, will replace the existing double-level structure with a single-level structure with side-by-side northbound and southbound lanes. The new structure will maintain the same general orientation toward downtown for northbound traffic, as shown in Appendix E, Exhibit A-2. The overcrossing at the approximate alignment of S. Royal Brougham Way, however, will obscure some views of the downtown skyline. Views to the northwest and west across the container terminals (see Appendix E, Exhibit A-3) will no longer include Elliott Bay because the elevation of the cars on the structure will be lower than the stacked shipping containers at Terminal 46, which will block most views.

The visual quality of the downtown skyline view is high, as shown in Appendix E, Exhibit A-1. The downtown skyline is a City-designated significant human-made feature. The tallest buildings provide a vivid focus, while other buildings are similar in visual character and provide a balanced and coherent composition. Smith Tower is visible along the eastern margin of the view to the north. The Space Needle is also visible in the distance to the northeast. These two City-designated landmarks are moderate in scale compared to the downtown high-rise towers that dominate the view to the north. Other designated landmarks, such as the Exchange Building, are visible but nestled among taller buildings and form part of the general background of downtown buildings.

Views to the northwest from the northbound lanes of the existing viaduct can provide a vivid focus when the Olympic Mountains are visible. Without the distant view of the mountains, the view still encompasses the water areas of Elliott Bay and Puget Sound, which have great compositional coherence. These are City-designated significant landforms and water bodies. The significance of the water and mountain views for persons who regularly travel this route may be related to how the view is imprinted on the memory as a landmark. It likely takes very little time or distraction from driving to glance at the view and derive aesthetic pleasure from its elements. As the vehicle moves to the north, additional elements come to the viewers' attention, likely adding to their positive aesthetic experience. The entire process of driving the elevated structure from S. Holgate Street to the Battery Street Tunnel takes about 2½ to 3 minutes at 50 miles per hour. There are numerous opportunities to look at various orientations of the view during that period. Views to the north are of buildings that constitute a portion of the downtown skyline.

The views from the northbound lanes have a high level of visual quality due to the presence of elements designated by the City as significant features that are vivid and memorable, including views of the downtown skyline, the Olympic Mountains, Puget Sound, and Elliott Bay. Encroaching elements are largely below the field of view from the upper deck of the viaduct. The views of the human environment have a lower level of intactness due to the truncation of lower building levels from the view.

The views from the southbound lanes on the lower deck are more oriented to the roadway or the view to the southwest. The southwest views in this area include port and industrial facilities at Terminals 37 and 46, as well as Terminal 18 on Harbor Island across the Duwamish East Waterway. The Port of Seattle cranes are the most vivid element of these views. Views to the side require orientation away from the direction of movement and are interrupted by vertical support elements. The vertical range of views is constricted by the upper deck of the viaduct and the height of the railings on the lower deck. The view to the southeast includes industrial and loft buildings along First Avenue S. and the sports complexes to the east.

The views from the southbound lanes have a moderate to low level of visual quality due to the lack of vivid features, the encroachment of the viaduct itself on the view, and the truncation of natural and human-made features by the viaduct.

4.1.2 Views Toward the Roadway

The viewing population of the exterior of the existing viaduct is primarily composed of attendees at sports events and persons passing through the area on First Avenue S. and S. Royal Brougham Way, each of which convey about

13,000 average daily trips. Views of the viaduct from First Avenue S. were formerly blocked by a row of buildings; however, recent demolition for the S. Holgate Street to S. King Street portion of the corridor has fully exposed the structure between S. Royal Brougham Way and Railroad Way S. Where the viaduct is visible, it is an extended horizontal element. It is also visible between existing buildings where S. Atlantic Street and S. Royal Brougham Way cross under the viaduct.

In all views from the east, the background features the Port of Seattle's Terminal 46, where multicolored stacks of shipping containers are visible under the viaduct, and bright orange Port of Seattle cranes tower above it. Terminal 46 provides the visually dominant element of the views and has great visual prominence due to the variety of colors and shapes. The view to the east has a high level of diversity of elements and relatively low continuity between elements. This view has low intactness and unity because of the wide variety of elements and relatively low compositional harmony.

The existing viaduct is a minor element of the view to the west down S. Royal Brougham Way between Fourth Avenue S. and Occidental Avenue S., where it is a City-designated scenic view route. This street section east of Occidental Avenue S. is dominated by the bulk of Safeco Field and the Qwest Field Event Center, which tower over the street on each side. The viaduct is a visible but minor element of the view to the west because of the lack of a memorable visual focus and the lack of unity in the view of stacked shipping containers. The railroad overpass currently under construction on S. Royal Brougham Way adds structures in the middle of the street and elements that decrease intactness and unity. Pedestrian-level views to the west from this area generally have a moderate to low level of visual quality due to the lack of vivid features.

Both Safeco Field and Qwest Field have views toward the west that include the existing viaduct as a substantial element. Safeco Field is located between S. Royal Brougham Way and S. Atlantic Street (Edgar Martinez Drive S.) and fronts on First Avenue S. Pedestrian views of the viaduct from the street level are largely blocked by buildings on the west side of First Avenue S. Views from the stadium are largely limited to the open deck on the 300 level, which provides views to the west and northwest over the tops of nearby buildings. Elliott Bay and the Olympic Mountains are the primary focus of middle-ground and background views. The viaduct is a prominent element of foreground views. It is below the line-of-sight to the land-water interface at Terminal 46 to the west. The viaduct tends to obscure features on the waterfront in views to the northwest, including Colman Dock and Piers 54 through 59.

The Qwest Field complex consists of two parts: the Event Center, with an entrance on S. Royal Brougham Way, and Qwest Field about a block to the north.

The Event Center and Qwest Field front on Occidental Avenue S. to the west, which is a block east of First Avenue S. Except for a few gaps currently occupied by surface parking lots, views of the existing viaduct from the street level are blocked by a row of loft buildings that front on First Avenue S. and are part of the Pioneer Square Historic District. Most of these buildings have service entrances on Occidental Avenue S., facing Qwest Field. The First Avenue S. on- and off-ramps occupy the majority of the Railroad Way S. right-of-way between the viaduct and First Avenue S. These ramps are the dominant feature of the view to the northwest from the western stadium entrance and tend to obscure or visually overpower the surrounding buildings. The area north of the field is a large parking lot. These features contribute to an environment with relatively low intactness due to the limited extent to which these elements result in a distinctive, attractive, and memorable sense of place.

The view to the north up First Avenue S. from south of Railroad Way S. is shown in Appendix E, Exhibit A-4. Views of the Flatiron Building at the northwest corner of First Avenue S. and Railroad Way S. are obscured by the First Avenue ramps. This building is a City landmark (Seattle Ordinance 106141) and is listed on the National Register of Historic Places (National Park Service 2009). The visual continuity of First Avenue S. as a street corridor is interrupted. The continuity of the corridor is not visible because the ramps obscure or truncate views of the buildings and other elements that frame it. The downtown skyline is a vivid element of the view, which is designated as a significant feature by the City. However, the overall view has a moderate to low level of visual quality due to the low level of intactness and unity created by the First Avenue ramps, which truncate the views of the First Avenue streetscape to the north.

Views to the east of the existing viaduct from the Alaskan Way surface street are experienced primarily by pedestrians on the sidewalk on the west side of the street. The viaduct functions as a visual barrier between the waterfront and buildings to the east. Because of the height of the viaduct and its proximity, most views of the buildings along First Avenue S. as well as Safeco Field and Qwest Field are obscured by the structure. The view from Alaskan Way down Railroad Way S. to the east is dominated by the on- and off-ramps, as shown in Appendix E, Exhibit A-8. This view has very low visual quality as viewed from the west because the presence of the viaduct obscures vivid features in the background and results in very low levels of intactness and unity due to the truncation of views of the buildings and other elements that frame the streetscape.

The portion of the viewing population that consists of attendees of sports events has a large pedestrian component. The seating capacity of Safeco Field is 47,000. The majority of Safeco Field attendees can be expected to enter and exit along First Avenue S., at the S. Royal Brougham Way and S. Atlantic Street entrances

(Washington State Major League Ballpark Public Facilities District 1997). Qwest Field is designed to seat 67,000 to 73,500 people, depending on the type of event (Seattle Seahawks 2009). Both pedestrians and vehicle occupants are likely to be sensitive to the surrounding visual environment because they are involved in elective activities and have chosen the destination because of specific amenities they plan to enjoy. Persons in some of the seats in the sports complex enjoy views of downtown, Elliott Bay, and the Olympic Mountains. The existing viaduct, however, is well below the view from these seats.

Views available to the public from the upper levels of Safeco Field and Qwest Field have a generally high level of visual quality due to the presence of vivid elements designated by the City as significant features, including views of the downtown skyline, the Olympic Mountains, Puget Sound, and Elliott Bay. The viaduct is below the line-of-sight to these features and has little effect on the quality of the view.

4.1.3 Light and Glare

The lighting for the upper deck of the existing viaduct is similar to normal arterial street lighting but elevated. For most viewers in this area, light and glare are blocked by the adjacent buildings. The elevated light source is an additional source of intrusive glare for the upper windows of buildings that would not be directly affected by the lighting for surface streets.

4.2 Pioneer Square Historic District

The Pioneer Square Historic District visual character unit encompasses most of the historic district from approximately S. Dearborn Street to Columbia Street, as shown in Exhibit 2-3. This area consists predominantly of old brick buildings with a consistent style. Views of the existing viaduct are available from east-west streets that are perpendicular to the viaduct and from the area adjacent to the viaduct, where a number of buildings directly access the surface street and parking beneath the aerial structure. The topography is generally flat, although there is a gentle rise to the east along Yesler Way starting at Third Avenue.

When the viaduct was constructed in the early 1950s, the Pioneer Square area consisted predominantly of storage and warehouse uses adjacent to Alaskan Way. The area had been in economic decline for several decades as new development downtown moved farther north. Through the 1950s and early 1960s, many buildings in the area deteriorated, the upper floors were largely vacant, and the exodus of businesses continued. Businesses along Alaskan Way used the street for access to loading docks for both truck and rail traffic. Pioneer Square became a honky-tonk district of taverns, entertainment houses, and bawdy hotels. This relatively seedy atmosphere characterized Pioneer Square until the 1970s.

Faced with virtually no pressure for redevelopment, the district's remarkable stand of buildings from the late nineteenth and early twentieth centuries remained. In 1970, through the efforts of a solid grass-roots movement, Pioneer Square was designated a national historic district and Seattle's first preservation district. A special review board, the Pioneer Square Preservation Board, was created, and guidelines were developed to preserve the area's architectural and historic character and to ensure sensitive restoration of buildings for economically viable purposes.

The visual context of the area has changed substantially since the viaduct was constructed. Alaskan Way itself has transitioned from a roadway shared primarily by railroad tracks and truck traffic related to the port and light industrial use to a corridor that carries pedestrians along the waterfront, with sidewalks, street trees, and a multipurpose trail. The Pioneer Square area has transitioned to a balanced mix of tourist, office, and residential uses and is one of the liveliest pedestrian-oriented neighborhoods in Seattle. The *Pioneer Square Neighborhood Plan* (City of Seattle 1998a) includes policies for weaving the east-west streets to the waterfront into the fabric of the community by improving pedestrian connections, emphasizing view connections to the waterfront, and restoring the Washington Street Boat Landing as the centerpiece of the south waterfront.

4.2.1 Views From the Roadway

Views for vehicle occupants traveling northbound on the existing viaduct are similar to those described in Section 4.1 for the segment south of Yesler Way. For those traveling on the roadway, views of the downtown building skyline, Elliott Bay, and the Olympic Mountains are highlights.

Views from S. King Street to the west of the roadway are no longer dominated by the modern container port in the foreground, but include the Seattle Ferry Terminal's ferry loading operations and the Colman Dock building. Also to the northwest are views of Puget Sound with the Olympic Mountains in the background. Foreground views of the waterfront are available from the far left lane. From the right lanes, the plane of the roadway cuts off most of the foreground view of the waterfront, with only a few elements visible, such as the peaks of the roofs of transit sheds. In this area, on-ramps from First Avenue S. merge at S. King Street and require more driver attention than the section of roadway to the south.

Views to the east include the buildings in the historic district, most of which are characterized by brick construction. The view, however, includes only the upper floors of the buildings. This truncated view provides little opportunity to see the unity of the historic buildings as a whole or the milieu of the district as a whole.

The context of the northbound view from the existing viaduct changes at Yesler Way, where the roadway curves to the west about 30 degrees. The roadway orientation places views to the west more within the visual field. The view includes both the urban skyline of Seattle and the natural water and landforms of the region. The docking area of the Seattle Ferry Terminal is visible in the foreground; Elliott Bay and Puget Sound are in the middle ground, with background views to the west of the wooded hills of Bainbridge Island, the Kitsap Peninsula, and the peaks of the Olympic Mountains. The urban skyline of the Belltown area provides a distinctive view of human-made features. Overall, the scene has very high visual quality as a coherent view of the city in its natural setting.

A similar view continues for about 1,200 feet, or about half a minute of driving time at 50 miles per hour, until about Pike Street where the alignment veers to the northeast and begins to climb toward the Battery Street Tunnel, eliminating the line-of-sight views to the west.

The views from the southbound lanes on the lower deck are constricted by the upper deck and the height of the railings on the lower deck, and they are interrupted by columns. The southwest views in this area include stacked containers and docked ships at Terminal 46. The Port of Seattle cranes are the most vivid element in the middle ground of these views, with some views of the West Seattle Bridge in the background.

Northbound views from the viaduct have a high level of visual quality due to the presence of elements designated by the City as significant features that are vivid and memorable, including views of the downtown skyline, the Olympic Mountains, Puget Sound, and Elliott Bay. Encroaching elements are largely below the field of view from the upper deck of the viaduct. The views of the elements of the human environment have a lower level of unity due to the truncation of lower building levels from the view. Southbound views have a moderate to low level of visual quality due to the lack of vivid features, the encroachment of the viaduct itself on the view, and truncation of natural and human-made features by the viaduct.

4.2.2 Views Toward the Roadway

The existing viaduct is the most prominent feature in street-level views of the Pioneer Square Historic District looking east, as shown in Appendix E, Exhibits A-12, A-16, and A-20. The viaduct dominates the foreground and obstructs views of other historic structures. From viewpoints in the south, there are some distant views of high-rise buildings in the downtown area farther north; however, they are minor elements compared to the scale of the viaduct. The visual dominance of the structure is reinforced by the visual distraction of

vehicles flashing by and the associated noise of vehicles, especially the thumping sound as they cross the expansion joints.

Views of the existing viaduct looking west from the Pioneer Square Historic District are most prominent from the five perpendicular streets extending from S. King Street to Yesler Way, as shown in Appendix E, Exhibit A-27. The visual context of these streets is similar. All are tightly framed by three- to eight-story brick buildings. The complexity of the framing tends to increase on the northerly streets because the building scale tends to be smaller and more complex. All the streets have buildings at the sidewalk line, street trees, and no overhead utilities. The streets provide a unified and consistent corridor of urban development of a historic character.

The unity of architectural style, the inherent interest of the buildings, the unity of composition, and complementary elements such as street trees provide high visual quality throughout the historic district. The main focus of activity in the historic district is Pioneer Square and the area along First Avenue S. to the south, which has a landscaped median and a large concentration of shops and restaurants. The northern portions of the corridor have generally higher visual quality with greater diversity due to the mixed scale of the buildings, greater variations between the buildings and the streetscape, and the compositional harmony of the elements. The buildings to the south are generally larger and have fewer storefronts, resulting in a less diverse streetscape and less visual interest over a block face. To the south are more direct views of the viaduct, with less buffer provided by intervening buildings.

Yesler Way and S. Jackson Street are City-designated scenic view routes (see Exhibit 3-2). Both streets are oriented east-west. From the higher elevation east of the Pioneer Square area, these streets provide panoramic views to the west. The westerly views down S. Jackson Street east of Fifth Avenue are framed somewhat more closely by buildings than the westerly views down Yesler Way. Both streets have a moderate slope down to about Third Avenue, where the topography is almost flat. The existing viaduct is visible from east of Third Avenue in westerly views down both streets as a horizontal band that contrasts with the water of Elliott Bay. The viaduct also provides a contrast to the linear nature of the street corridor. It is not a dominant element of the views because of the vivid focus provided by the water and mountain views. Near Third or Fourth Avenue, the position of the viaduct relative to an observer moves above the line of sight and is silhouetted against the sky. As one moves closer, the viaduct increases in relative scale and blocks elements of the views.

The existing view to the west on Yesler Way at First Avenue S. is shown in Appendix E, Exhibit A-27. This view is generally representative of the views from the five streets perpendicular to Alaskan Way. The distance to the existing

viaduct from First Avenue S. is somewhat greater at Yesler Way because the waterfront bends to the west and the viaduct is about half a block farther away.

The existing viaduct contrasts in line, materials, scale, and character with the context of this historic area. The horizontal character of the viaduct contrasts with the generally vertical character of the historic brick buildings, which are composed of pierced vertical windows with narrow piers between. The concrete structure contrasts in materials and color with the red brick that is the predominant building material in the Pioneer Square area. The horizontal levels of the viaduct bear no relation to the scale of the horizontal divisions of the buildings into floors at about 12- to 16-foot increments. The greatest contrast in character is the presence of automobiles above grade level in an environment in which all the activities are geared to the street level. Traffic on the viaduct is both a visual and an auditory intrusion. To people on the street, vehicles appear and disappear as a stream of irregular flashes. Noise from the viaduct reinforces the visual effects, with an irregular pulse as tires cross the expansion joints.

The visual effect of the viaduct differs somewhat among the perpendicular streets according to the view at the end of the street. At S. King Street, the view includes stacked shipping containers and a portion of an office building. At S. Jackson Street, the ivy-covered wall of a building presents a softer view of the same terminal. The presence of a continuous row of street trees along the Alaskan Way surface street also softens the view in the summer when the leaves in the tree canopy screen the container facility. S. Main Street terminates with Elliott Bay in the background (with the recent demolition of the Pier 48 transit shed). S. Washington Street terminates with the historic pergola of the Washington Street Boat Landing centered in the view. This is the view in which the existing viaduct most contrasts with the historic character of the area. Views of Elliott Bay, Puget Sound, and the Olympic Mountains are also available through and above the pergola. Yesler Way terminates at the Seattle Ferry Terminal. From the end of Yesler Way, the view is extensively blocked by the viaduct's vertical supports near the centerline of the street right-of-way and the viaduct's horizontal concrete decks. Between these vertical and horizontal structural elements are fragmented views of the entrance to the passenger ferry walkway, periodic views of car ferries pulling into the dock, the wooded ridges of the Kitsap Peninsula hills, and the Olympic Mountains in the distance.

The effects of the existing viaduct generally become greater as one moves closer. The visual effects are of an increasingly dominating scale that contrasts with the linear rhythm of the street corridor. The viaduct cuts across the street corridor with its framing elements of building fronts, sidewalks, street trees, and the roadway itself. The effects of traffic noise also contribute to the sense of domination by the viaduct. As one moves closer, the visual barrier of the viaduct

is reduced somewhat by the ability to see more clearly under the viaduct to the scene beyond. However, looking toward the waterfront, the scene is truncated horizontally by the traffic decks and interrupted by the vertical supports. From this distance, the visual effects of the viaduct are less imposing than the effects of the traffic noise.

Close to and underneath the existing viaduct, the change in character is even more pronounced. The viaduct is as close as 10 feet to some buildings. The open sky above the street is cut off, the influence of weather and sun is greatly reduced, street trees and other vegetation are absent, and the temperature in the shadows under the viaduct is often lower. The visual effect of the viaduct is reinforced by the change in character of the traffic noise that not only is at higher decibel levels, but also comes from above and reverberates in the space beneath. The character of the sound includes the irregular thumping of tires passing over the expansion joints, which is notably different in character from the traffic noise on surface streets.

The visual effects and the reinforcing noise effects of the existing viaduct decrease at a distance. The effects are greatest for the block between the Alaskan Way surface street and First Avenue S. By Fourth Avenue, the relative size of the viaduct in relation to other elements of the streets and the attenuation of the noise effects render the viaduct only marginally intrusive, although it remains clearly visible.

Views to the east from the Alaskan Way surface street are dominated by the viaduct, which is the most prominent feature in the foreground. The existing viaduct is generally about 85 to 100 feet from the edge of the sidewalk on the west side of the street. The viaduct is about 60 feet high. A structure of such height in relation to horizontal distance dominates the views to the west. Street trees adjacent to the structure and ivy growing on the viaduct tend to soften the structural elements somewhat, but they do not change its visual dominance. The viaduct is predominantly aligned horizontally and provides a uniformity of line and color that contrasts with the variety and complexity of buildings to the east in the Pioneer Square Historic District. It interrupts the continuity of views up streets into the historic district and truncates the views of buildings such that an uninterrupted view of the full building elevation is impossible. In many cases, the height of the viaduct is sufficient to block the line of sight of pedestrians to the top of the buildings behind. The visual dominance of the viaduct is reinforced by its traffic noise.

The viewer population in the Pioneer Square Historic District is large and is likely to be among the most sensitive to visual quality. The area has a concentration of small shops, restaurants, and entertainment. The visual qualities of the historic area are one of the primary attractions. The Pioneer Square area is estimated to

receive about 2.5 million tourist visitors per year. It also attracts shoppers and restaurant patrons. A high proportion of viewers are likely to be involved in elective activities, which makes them highly sensitive to the features of the environment. The viewing population is typically largest at Pioneer Square, which is the focus of activity in the area. Current summer pedestrian volumes at Pioneer Square are about 4,000 per day, with midday volumes during the week of about 1,900 pedestrians. Spring volumes are about 3,000 pedestrians per day (DSA 2009).

To the south, pedestrian volumes decrease, except on days when events are scheduled in the sports complexes. There is also a large pedestrian component of commuters, who depart the passenger ferry and walk up Yesler Way or over the Marion Street pedestrian bridge to First Avenue on their way to places of employment and bus stops. Pedestrian counts taken in late Summer 2010 indicated pedestrian volumes of 4,900 per day at Alaskan Way and Yesler.

Views from private property include those available to employees and residents in buildings that face the existing viaduct and from buildings along perpendicular street corridors. The buildings east of First Avenue are unlikely to have views of the viaduct, except down street corridors. Some buildings fronting the west side of First Avenue have views of the viaduct from rear windows facing west where the intervening buildings facing the Alaskan Way surface street are lower than the viaduct. Views from buildings that are not adjacent to the viaduct are likely to be similar to views from the street corridor shown in Appendix E, Exhibit A-27, except that second- to fourth-floor offices and residences are likely to look directly at the traffic decks of the viaduct and experience greater view blockage.

For the buildings adjacent to the existing viaduct, the views from the ground floor are likely to be similar to the street-level views shown in Appendix E, Exhibit A-27, except that structural features such as columns will be much closer and a substantial presence. The second to fourth floors adjacent to the viaduct are likely to look out on the traffic decks. The view blockage is likely to be substantial. In addition, the presence of high-speed traffic flashing past windows can be quite visually intrusive. Several buildings adjacent to the viaduct have floors above the viaduct level. For these buildings, there are views of the waterfront, Elliott Bay, Puget Sound, West Seattle, and the Olympic Mountains that are not blocked or intruded upon by the viaduct.

Views within the Pioneer Square Historic District may be considered to generally have high visual quality at a distance from the viaduct because all the elements that contribute to the integrity and unity of the historic features are present. The lack of vivid elements such as mountains or water does not reduce the visual quality because the historic character is the visual focus. In areas generally west of First Avenue, the visual quality declines to a moderate to low level because of

the dominance of the viaduct as an encroaching element. The viaduct is also at variance with the historic elements that contribute to the historic character of the area, and it reduces the integrity and unity of the views.

Easterly views from the Alaskan Way surface street looking toward the historic district have a low level of visual quality because the viaduct dominates the view as an encroaching element, interrupts the unity of the view by obscuring the rhythm of the historic street pattern, and truncates views of the buildings fronting the corridor.

4.2.3 Light and Glare

The lighting for the upper deck of the existing viaduct is similar to normal arterial street lighting. The presence of a lighted structure above grade level emphasizes the extent to which the structure cuts across the orientation of surface streets for nighttime views and the degree to which the viaduct is an intrusive element in this historic district. The elevated light source is an additional source of intrusive glare for the upper windows of buildings that would not be directly affected by the lighting for surface streets.

4.3 Central Waterfront

The Central Waterfront visual character unit extends along the waterfront west of the existing SR 99 from S. King Street to approximately Pine Street, as shown in Exhibit 2-3.

4.3.1 Views From the Roadway

The view northbound from the existing viaduct from Yesler Way to Pine Street includes a panorama, with the urban skyline of Seattle on the right (east) and the natural water and landforms in the distance on the left (west) viewed over the rooflines of the transit sheds on Piers 54 through 59. Views of buildings adjacent to the viaduct to the east tend to be of the roof or a few upper floors. This truncated view lacks compositional harmony and often includes distracting elements such as unscreened mechanical equipment. Overall, however, the scene has a vivid focus to the west and moderate compositional harmony that includes a contrast between elements of the human and natural environment.

The views from the southbound lanes on the lower deck are constricted by the upper deck and the height of the railings on the lower deck, and they are interrupted by columns. To the southwest, the foreground views include the Seattle Ferry Terminal parking area and terminal building, the ferry loading headworks, and a truncated view of the upper and roof levels of the transit sheds on Piers 54 through 59. In the middle ground, the views include the stacked

containers and the Port of Seattle cranes on Harbor Island as the most vivid elements. Some views of the West Seattle Bridge in the background are visible.

4.3.2 Views Toward the Roadway

The existing viaduct can be readily seen from S. King Street to Pine Street. At about Union Street, the viaduct begins to separate from the Alaskan Way surface street and continues to the east on a separate right-of-way that leads away from the central waterfront to connect with the Battery Street Tunnel. An existing five-story multifamily development north of Pine Street on Alaskan Way blocks the views of the viaduct from the waterfront.

The character of the central waterfront is currently defined to a great extent by the existing viaduct, which delineates its easterly boundary. Street trees, ivy growing on the viaduct structure, and the Waterfront Bicycle/Pedestrian Facility adjacent to the viaduct soften the structure somewhat and add some complexity to it, but they do not change its overall visual dominance.

The waterfront side of the Alaskan Way surface street is characterized by water-oriented structures. The Seattle Ferry Terminal at Colman Dock between Yesler Way and Madison Street includes a modern passenger terminal in a pier-like configuration surrounded by large deck areas for car and truck queuing. From Marion to Pike Streets, Piers 54, 55, 56, 57, and 59 evoke the maritime legacy of the waterfront when it was the working waterfront of Seattle, pre-dating the current container shipping technology. These piers include long, low transit sheds with waterways between providing berths for ships. The transit sheds are currently occupied primarily by retail shops and restaurants. The waterways between the piers generally provide relatively unobstructed westerly views of Elliott Bay and Puget Sound, the wooded ridges of the Kitsap Peninsula, and the Olympic Mountains in the distance. The Seattle Aquarium is located at the foot of Pike Street, on Piers 59 and 60, with the Seattle Parks Department Pier 62/63 immediately to the north. The existing viaduct is visible from the waterfront to about Pine Street, where it passes behind a condominium project that blocks the views from the west.

The existing viaduct contrasts in uniformity of line and color with the variety and complexity of uses and human activities on the waterfront to the west. The view south from Waterfront Park, as shown in Appendix E, Exhibit A-33, is characterized primarily by the viaduct's two horizontal traffic decks, which continue into the distance until they curve and disappear among the rooflines of buildings. The viaduct structure bears little relationship to the downtown buildings east of the structure. The downtown area is defined by streets that divide the area into blocks. The streets have no particular signature among the

uniform rhythm of the viaduct's horizontal elements and vertical supports. The streets are marked only by the presence of traffic signals and queued cars.

The greatest visual effects of the existing viaduct are experienced by pedestrians on the waterfront promenade on the west side of the Alaskan Way surface street. The viaduct functions as a semipermeable visual barrier between the waterfront and downtown. From under the viaduct, the shadows cast by the viaduct and the overlap of vertical supports obscure the view of the ground floors of buildings directly behind it. From a distance near the ends of the piers and from ferries and other vessels in Elliott Bay, the towers of downtown loom above the homogenous horizontal base of the viaduct. Views from the water and the ends of the piers do not emphasize the viaduct as a prominent feature; it is a neutral base in the foreground. The office towers are the largest scale and most vivid features of the view from the water and the ends of the piers.

For closer views, especially views from the Alaskan Way surface street, the viaduct is the prominent feature. It interrupts the continuity of views up streets into downtown and blocks views of the lower portions of buildings fronting Alaskan Way. In many cases, as shown by the views to the east in Appendix E, Exhibit A-33, the height of the viaduct is enough to block the line of sight of pedestrians to the top of buildings behind the viaduct. From a shorter distance, the view becomes that of the viaduct itself and the parking areas beneath. The encroachment of the viaduct structure on views from the west is softened somewhat by the line of street trees located just west of the viaduct.

The visual dominance of the existing viaduct is reinforced by its traffic noise. Viaduct traffic produces a constant background of engine and exhaust noise, with the irregular thumping sound of tires crossing the expansion joints and the occasional noise peaks from heavy trucks moving at high speeds. A pedestrian walking between the waterfront and downtown along any of the perpendicular streets is presented with a radical change in the visual environment when the viaduct is encountered; this change is reinforced by the intrusive noise levels. The area beneath the viaduct is shadowed by the viaduct and is devoid of any visually relieving vegetation or other amenities. This area provides a view of parked cars. As one passes under the viaduct, the visual environment opens, the overhead space is uncovered, street trees frame one side of the sidewalk, and buildings frame the other. The intrusion of traffic noise recedes gradually.

An observer looking north from approximately Union Street sees the lower deck of the existing viaduct beginning a transition to a side-by-side configuration. At this point, it begins to move off the Alaskan Way surface street right-of-way to a separate alignment to the east, which climbs the hill to the Battery Street Tunnel. Where the transition to a side-by-side configuration occurs, the vertical and horizontal supports are not in the same plane, but jut out from the roadway

levels. This more complex design is illustrated in Appendix E, Exhibit A-37, which shows the view north from Waterfront Park. The location farther to the east reduces the scale somewhat for pedestrians on the waterfront promenade. The transition to a side-by-side configuration increases the width of the viaduct at the Pike Street Hillclimb pedestrian corridor. The movement to a separate corridor reduces the noise intrusion north of Pike Street. The visual effects from the waterfront are predominantly blocked by existing development north of Pine Street.

Viewer populations on the waterfront vary considerably. The waterfront is listed by the Seattle-King County Convention and Visitors Bureau as the second most visited attraction in the Seattle area, with approximately 4.2 million visits in 1999 (Seattle-King County Convention and Visitors Bureau 1999). Near Yesler Way, Columbia Street, and Marion Street, a large component of pedestrian viewers are likely to be ferry commuters. There is likely to be a component of tourists as well as other individuals walking between the waterfront and Pioneer Square. The area between Piers 54 and 63 is likely to have the highest pedestrian volumes of elective and tourist viewers along the waterfront. These piers include retail stores and restaurants; Waterfront Park; the Seattle Aquarium; and views, activities, and other amenities. They are also connected with Pike Place Market via the Pike Street Hillclimb and with the Seattle Art Museum and Benaroya Hall along University Street and the Harbor Steps.

The pedestrian volumes are highest during the summer. Pedestrian counts in 2008 at Alaskan Way and Seneca Street near Pier 56 varied from about 2,000 people per day in the spring to about 5,500 per day in the summer (DSA 2009). These numbers are consistent with past trends, including counts in late May 1997 at Pier 56 of about 5,000 people in a 4-hour midday period (Seattle DCLU 1999). In September 2001, lunch-hour volumes were about 1,580 people, and daily volumes were about 3,750 people (SDOT 2001). Pedestrian counts taken in late Summer 2010 indicated pedestrian volumes of about 16,500 per day between Piers 55 and 56 on Alaskan Way and pedestrian volumes of about 16,500 per day south of Pier 57 at University Street.

The pedestrian volumes at Alaskan Way and Union Street at Waterfront Park in Summer 2008 were about 14,400 people per day on weekdays and 22,800 per day on weekends, with winter volumes of 2,856 people per day (GEHL 2008).

Pedestrian counts taken in Summer 2008 indicated weekday pedestrian volumes at Pike Street at Alaskan Way of 5,820 per day and weekend volumes of 11,094 (GEHL 2008). Pedestrian counts taken in late Summer 2010 indicated weekday pedestrian volumes of 12,200 per day at Alaskan Way and Pike Street. Pedestrian volumes north of Pier 59 are lower because there are fewer pedestrian attractions.

At Pier 66, Summer 2008 pedestrian volumes on Alaskan Way between Bell and Battery Streets on weekdays were about 8,000 per day, with weekend volumes of 10,585 and winter volumes of 2,680 people (GEHL 2008). Pier 66 experiences very large pedestrian volumes when cruise ships dock. Pedestrian volumes at Alaskan Way and Broad Street in Summer 2008 were 5,090 people per day on weekdays and 6,500 per day on weekends, with winter volumes of 1,290 people per day (GEHL 2008).

Viewer sensitivity is likely to be relatively low for commuters using the Seattle Ferry Terminal and highest among tourists and others at Piers 54 through 59 and the Seattle Aquarium.

Views to the west from the central waterfront have a high level of visual quality due to the presence of elements designated by the City as significant features that are vivid and memorable, including views of the Olympic Mountains, Puget Sound, and Elliott Bay. The viaduct does not encroach on views to the west, but noise from the viaduct is an encroaching element on the overall enjoyment of the pedestrian environment. Views to the east of downtown have a moderate to low level of visual quality. Although the downtown skyline is visible as a vivid element designated by the City as a significant feature, the viaduct dominates the view as an encroaching element, interrupts the unity of the view by obscuring the rhythm of the street pattern, and truncates views of the row of buildings along Alaskan Way, which are an important component of the urban landscape. For the buildings along the viaduct, the elevated structure and associated noise and shadow effects reinforce the visual encroachment of the highway.

4.3.3 Light and Glare

The lighting for the upper deck of the existing viaduct is similar to normal arterial street lighting. The presence of a lighted structure above grade level emphasizes the extent to which the structure cuts across the orientation of surface streets for nighttime views and the degree to which the viaduct is an intrusive element. The elevated light source is an additional source of intrusive glare for the upper windows of buildings, which would not be directly affected by the lighting for surface streets.

4.4 Commercial Core

The Commercial Core visual character unit includes the area east of the existing viaduct from approximately Columbia Street (or a bit south) to the Pike Place Market area at Union Street and the Belltown area at Stewart Street, as shown in Exhibit 2-3. The neighborhood is set apart from the adjacent neighborhoods by a change in the orientation of the street network, and it is characterized by many high-rise office buildings. The neighborhood includes the city's financial district

and retail core. First-class hotels, restaurants, museums, theaters, and the symphony hall are concentrated between First and Fifth Avenues. Tens of thousands of workers commute to the Commercial Core each day.

4.4.1 Views From the Roadway

The views from the roadway in the Commercial Core are the same as those discussed in Section 4.3 for the Central Waterfront visual character unit, because the viaduct passes between the two visual character units, serving as their boundary.

4.4.2 Views Toward the Roadway

Views of the existing viaduct from the Commercial Core are influenced by the distance to the viaduct, the topography, the character of existing development, and the features of the viaduct. The topography of the Commercial Core is often steep along the east-west-oriented streets. Streets oriented north-south generally slope gently upward to the north. The area north of Union Street is fairly flat between First Avenue and Sixth Avenue. From Union Street north, there are no views of the viaduct east of First Avenue because the line of sight is above the aerial structure.

The area between Western Avenue and the waterfront is generally flat. Between Columbia Street and Spring Street, the slope between Western and First Avenues is gentle enough to allow through vehicle traffic. North of Spring Street, the slope from First Avenue to Alaskan Way is sufficiently steep to prevent a surface connection for vehicles. The grade change between First Avenue and the waterfront varies from about three stories at Seneca Street to more than eight stories at Pike Street.

View corridors are designed to preserve the westerly views of the waterfront and natural amenities such as Elliott Bay and landforms to the west. All the perpendicular streets that intersect with Alaskan Way in the Commercial Core are designated view corridors (see Exhibit 3-1), per the Seattle Comprehensive Plan, Policies DT-UDP 8 and 9, BP-19, and LG 92 and 93 (City of Seattle 2005); land use regulations (SMC 23.49.024); and street vacation policies (Seattle City Council Resolution 30297). Upper-level setbacks are required on Marion, Madison, Spring, and Seneca Streets west of Third Avenue to limit the encroachment of building towers on the view corridors (SMC 23.49.024). The City's shoreline policies (LG 92 and 93) provide visual access to shorelines while preserving and enhancing the views from upland areas (SMC 23.60) (City of Seattle 2005).

Green Streets are rights-of-way that are designated for a variety of treatments, such as sidewalk widening, landscaping, traffic calming, and pedestrian-oriented features that enhance pedestrian circulation and the use of open space

(SMC 23.12.110). Designated Green Streets include Marion Street from Second Avenue to Alaskan Way, Spring Street from First Avenue to Alaskan Way, and University Street from Western Avenue to Alaskan Way (see Exhibit 3-3). Green Street development has been implemented on the private extension of University Street through the Harbor Steps and on Spring Street with sidewalk widening and landscaping.

The visual context of the existing viaduct and adjacent private development is similar in the one-block area between the Alaskan Way surface street and Western Avenue. Most of the buildings are four- to eight-story brick buildings constructed before 1930 in a loft style consistent with the area's earlier status as a manufacturing and warehousing district. Since the 1960s, use of most of these buildings has changed to office and retail. The exception is a 12-story building built in the 1980s that occupies the block between Madison and Spring Streets. In addition, parking lots are located on the north side of Columbia Street, between Spring and Seneca Streets, and on the north side of University Street.

The westerly views down Marion, Madison, Spring, and Seneca Streets include a variety of buildings that are City-designated landmarks. Marion Street includes the Colman Building at First Avenue and the Commuter Building at Western Avenue. Madison Street includes the Globe Building at First Avenue. Spring Street features the Hotel Cecil at First Avenue and the National Building between Post Alley and Western Avenue. On Seneca Street, the Grand Pacific Hotel at First Avenue and the Olympic Cold Storage Building are obscured by the overhead ramp to Alaskan Way. The other buildings along these streets are generally consistent in scale and streetscape with the historic character of these buildings. The existing viaduct generally does not fit into the compositional coherence of the streetscapes, as discussed below in reference to specific views.

The scale and character of the existing viaduct as viewed from the perpendicular streets east of Western Avenue are similar to that shown in Appendix E, Exhibit A-30, which is the view to the west on University Street at First Avenue. The character of existing buildings on Marion and Madison Streets is similar to this example, except that University Street does not have building street-walls fronting the north side of the block between Western Avenue and Alaskan Way. Because these streets are more closely framed, they have a slightly less extensive view of the viaduct. Spring Street is similar on the south side of the block, but the entire north side of the block is currently a parking lot. In the case of Columbia and Seneca Streets, an on-ramp to and off-ramp from the viaduct add support structures within the right-of-way; these structures further obstruct views.

In all cases, views down the perpendicular streets contain elements of waterfront piers and other structures; the ridge line of West Seattle across Elliott Bay, which includes both housing and wooded greenbelts; and Duwamish Head projecting

into Puget Sound. For the most part, the water areas of Elliott Bay are not visible because the angle of the view in this flat area is above the water. Distant views of the Olympic Mountains are not available from any of these perpendicular streets because of their southwest orientation. The view from Columbia Street to the Seattle Ferry Terminal is partially obstructed by the tollbooths serving that facility. The view from Marion Street includes the Colman Dock structure, ferries loading at the terminal, and West Seattle. The view from Madison Street includes Fire Station No. 5 centered in the view, with West Seattle in the distance. From Spring Street, the view down the right-of-way includes part of the Pier 54 transit shed. From Seneca Street, the view includes the tour boat dock between Piers 55 and 56, with West Seattle beyond. At University Street, as shown in Appendix E, Exhibit A-30, parts of the Pier 56 transit shed and part of the front of Pier 57 are visible beneath the traffic decks of the viaduct.

Regardless of the differences between views along various streets under and through the existing viaduct, the viaduct structure is visually dominant and displaces potential visual connections to the waterfront piers, other elements of the urban fabric, and the natural setting. It cuts across the linear orientation of the street and substantially reduces the visual coherence and visual harmony of the street corridors. It introduces a substantial area of shadowed parking lots lacking the visual relief provided by vegetation buffers or other visual amenities. The encroachment on the fabric of the street corridor is even greater where ramps are present at Columbia and Seneca Streets. At these locations, the roofing over the corridor, the interruption of the sense of framing by adjacent buildings, and the displacement of street trees is more apparent, and the noise from traffic on the ramps encroaches farther into the street corridor.

The visual effects of the existing viaduct become greater as one moves closer. The visual effects are reinforced by the traffic noise. For pedestrians walking beneath the viaduct and ground-floor occupants of buildings facing the viaduct, the environment is a substantial visual contrast because of the absence of street trees, landscaping, and streetscape amenities; the presence of shadows created by the viaduct; the character of the parking lot beneath the viaduct; and the high noise levels. The viaduct is set back about 20 feet from the eastern edge of the right-of-way. This area is currently used for loading and parking. There is no continuous sidewalk along the eastern side of the Alaskan Way surface street, except between Marion and Spring Streets.

The existing viaduct is prominent in views from First Avenue and Western Avenue. These views change in character as one moves north from Columbia Street because of the rising topography. At University Street, the top of the viaduct is about 16 feet below the elevation of First Avenue, as shown in Appendix E, Exhibit A-30. This allows views over the viaduct to West Seattle and

framed views of Elliott Bay between the viaduct decks. The linear nature of the University Street corridor is still interrupted by the viaduct, which remains the dominant feature cutting across the view. Visibility of the waterfront piers is limited because the viaduct decks block more of the view to the west, reducing visual coherence and vividness.

The viewer populations in the Commercial Core are large due to its status as an employment center. In Summer 2008, the number of pedestrians at University Street and Second Avenue was about 4,000 people per day. Pedestrian counts in 2008 between Union and Pike Streets were about 14,000 people per day in summer, with winter counts of about 5,600 people per day (GEHL 2008).

Viewer sensitivity for downtown employees engaged in elective activities when using open spaces is likely to be high and is likely to be similar to that of tourists or shoppers. However, the less homogenous and distinct visual quality of buildings in the Commercial Core, as well as their larger scale relative to the buildings in Pioneer Square, is likely to result in lower viewer sensitivity to the existing viaduct compared to the sensitivity of viewers in the Pioneer Square area.

Sensitivity is likely to be higher on designated Green Streets: Marion Street from Second Avenue to Alaskan Way, Spring Street from First Avenue to Alaskan Way, and University Street from Western Avenue to Alaskan Way. Green Streets are designed to serve as gathering places or corridors that connect activity areas and open spaces in an attractive urban setting (Seattle DCLU 1993). Elements of Green Street design include enhancing the separation of pedestrian and vehicle areas by means of street trees, landscaping, street furniture, bollards, and parking; providing weather protection for pedestrians; maximizing the amount of light and air reaching public spaces; and providing arcades, landscaping, and outdoor cafes to create a harmonious relationship and graceful transition between private and public spaces.

The largest pedestrian populations are likely along Marion Street, where a grade-separated pedestrian bridge to the Seattle Ferry Terminal is located. It is likely that a substantial portion of the 20,000 average walk-on passengers per day use this route (SDOT 2008). Large pedestrian volumes are also likely on University Street, where the Seattle Art Museum and Benaroya Hall attract visitors. These two attractions are also adjacent to the Harbor Steps pedestrian connection between First and Western Avenues. This corridor is likely to carry substantial pedestrian volumes between the Commercial Core and the waterfront. Viewer sensitivity is likely to be highest for persons attracted to the cultural resources of the museum and the pedestrian and open spaces along University Street.

Views from private property include those available to employees and residents in buildings that face the existing viaduct and from buildings along the

perpendicular street corridors. Many high-rise buildings east of First Avenue look down upon the viaduct through gaps between other buildings. From lower floors at the level of the viaduct or higher, the viaduct is a substantial element of the visual environment. The viaduct becomes an increasingly smaller element of the view from higher floors. The character of the viaduct as viewed from a substantial distance above is not much different from that of typical urban streets when viewed from above.

Views of the existing viaduct from buildings east of Western Avenue are generally blocked by intervening buildings, except down street corridors or where parking lots are located. For the buildings east of Western Avenue, the visual effects on ground-floor views are likely to be similar to the effects on street-level pedestrian views. The second through fourth floors at the level of the viaduct decks would experience blocked views down the street corridor, and the upper floors would enjoy views down street corridors that look over the viaduct, allowing unobstructed distant views. Most of the buildings adjacent to the viaduct are roughly the same height as the viaduct, with views from the ground floor similar to those shown in Appendix E, Exhibit A-27. Most top floor views are at least somewhat obstructed by the viaduct, with the intrusion of nearby cars flashing by.

Views to the west have some vivid and memorable elements, including those designated by the City as significant features, such as views of Puget Sound and Elliott Bay. The visual quality of these views is largely reduced to moderate to low visual quality west of First Avenue by the viaduct, which dominates the views down east-west streets as an encroaching element that interrupts and obscures distant features with its horizontal levels. The viaduct also greatly reduces the integrity and unity of elements of the built environment, including the continuity of the streetscape and views of the historic piers along the waterfront.

4.4.3 Light and Glare

The lighting for the upper deck of the existing viaduct is similar to normal arterial street lighting. The presence of a lighted structure above grade level emphasizes the extent to which the structure cuts across the orientation of surface streets for nighttime views and the degree to which the viaduct is an intrusive element. The elevated light source is an additional source of intrusive glare for the upper windows of adjacent buildings that would not be directly affected by the lighting for surface streets.

4.5 Pike Place Market and Belltown

For this analysis, the Pike Place Market visual character unit extends from Union Street to Virginia Street and is bounded on the west by the Alaskan Way corridor, as shown in Exhibit 2-3. This area is larger than the area encompassed by the Pike

Place Market national and local historic districts. This larger area was established for this analysis to include related development of a similar character, including the privately owned south arcade that connects to Pike Place Market and the retail shops and restaurants north of Pike Place Market on Western Avenue, which adds to the retail character of the area. The Belltown visual character unit wraps around the northeast corner of the Pike Place Market visual character unit and extends from approximately Stewart Street to Denny Way (Exhibit 2-3).

The existing viaduct leaves the alignment of Alaskan Way near Union Street and continues on a separate alignment that climbs the hill west of Pike Place Market and connects to the Battery Street Tunnel. The viaduct transitions from a stacked configuration to a side-by-side configuration in this area. From approximately Pike Street north, the northbound and southbound lanes are at the same level.

4.5.1 Views From the Roadway

Views for occupants of northbound vehicles on the existing viaduct include the parking structure beneath Victor Steinbrueck Park in the center of the view, with the park above and office buildings and residential towers as the skyline. Views to the east include the top of several residential buildings. Views to the west include the waterfront, Elliott Bay, and the Olympic Mountains.

The alignment of the existing viaduct shifts slightly at Victor Steinbrueck Park and the grade increases slightly, such that views to the west are largely obscured except for the tops of buildings. Where the viaduct curves near Elliott Avenue, the views include a mix of buildings in the foreground, including the Empire Laundry (the corner of which abuts the viaduct) and the Hull Building (which is briefly centered in the view as the viaduct curves to enter the Battery Street Tunnel). These buildings are City-designated landmarks. For vehicle occupants, views of the buildings are present for a short time (about 10 seconds) as the vehicles move through the area. The overall view lacks the vivid elements of the westerly views of water and mountains farther to the south. These views of buildings also lack a high degree of unity of composition. Because of the short duration and the lack of vivid elements, this portion of the view has relatively low visual quality.

Views for occupants of southbound vehicles on the existing viaduct are similar to those from Victor Steinbrueck Park shown in Appendix E, Exhibit A-41, with the exception that the views from the roadway are directly along the alignment of the highway. The view from the southbound viaduct includes the downtown skyline and the arched trusses of Safeco Field and Qwest Field to the south. On clear days, Mount Rainier is visible in the distance for about one-third of a mile, from the curve south of the Battery Street Tunnel to the point where the southbound lanes begin the transition to the lower deck of the stacked structure. Travel time

over this section is 20 to 30 seconds. Farther south at about Pike Street, the scene down the roadway is dominated by Safeco Field and Qwest Field to the south, with Mount Rainier visible behind them on clear days. The views of Elliott Bay to the southwest from both viewpoints include the port facilities and cranes of Harbor Island, with ferry and boat activity in the water. Mount Rainier, Elliott Bay, and the downtown skyline are vivid City-designated significant features that result in high visual quality.

After the southbound lanes transition to the lower deck of the structure, the views primarily feature the rooflines of the transit sheds on the piers at the waterfront. Overall, the southbound views from the short roadway section from Elliott Avenue to Pine Street have high visual quality due to vivid elements such as Mount Rainier that fit into a coherent pattern framed by the downtown skyline on one side and Elliott Bay on the other. After entering the lower level of the viaduct, the constrained views lack the vivid elements and a unity of composition, resulting in low visual quality.

4.5.2 Views Toward the Roadway

Pike Place Market is a substantial center for shopping, restaurants, and other uses. Because Pike Place Market is on top of the hill above the existing viaduct, the roadway is visible only from west-facing windows of its buildings, from public streets such as the Pike Street Hillclimb, and from open space such as Victor Steinbrueck Park at Western Avenue and Virginia Street. The viaduct is below the grade of Victor Steinbrueck Park but is visible as a long corridor to the south, as shown in Appendix E, Exhibit A-41. Persons looking west at the edge of the park railing also can look down on the viaduct roadway and across the roofs of buildings to the west to views of Puget Sound, West Seattle, and the Olympic Mountains. The view to the south is centered on distant views of Mount Rainier, with visual interest provided by the arched trusses of Safeco Field and Qwest Field. The view to the south is framed on the east side by the downtown skyline and on the west side by Elliott Bay. The complex of waterfront piers and activities is clearly visible. The viaduct as seen from above is a linear feature aligned with the shoreline. The viaduct in the foreground presents the viewer with fast-moving vehicles and noise that emphasize its character as a high-speed traffic arterial. In the background and middle ground, the viaduct is a linear feature that becomes smaller in scale but obscures cross streets and the bottoms of adjacent buildings and generally reduces the compositional unity of the urban fabric.

The buildings in the area are largely above the existing viaduct and look down on it, with views similar to those shown in Appendix E, Exhibit A-41. Such views are available from publicly accessible portions of the north arcade of Pike Place Market, especially the Joe Desimone Bridge over Western Avenue. Existing

buildings fronting Western Avenue block views of the viaduct from most of the windows of the main arcade. Westerly views down the Pike Street Hillclimb, perpendicular to the viaduct, are very limited except those from the terrace areas below Western Avenue. The limited views result from a combination of the elevation above the waterfront, the blockage of views by the pedestrian overpass above Western Avenue with its stairway structure on the east side of Western Avenue, and the screening provided by buildings and trees. From the terrace areas below Western Avenue, the viaduct dominates the views to the west because of its proximity. The elevation of the terraces also places the viaduct traffic closer to the line of sight toward the waterfront.

Pike Place Market is rated one of the most popular tourist destinations in Seattle (Seattle Convention and Visitors Bureau 2009). Approximately 10 million people per year visit the market, including local residents (Pike Place Market Public Development Authority 2009). This represents a very large potential viewing population. It is likely that Victor Steinbrueck Park is the primary viewing location because of its accessibility and the attractiveness of the panoramic views of Elliott Bay and the downtown skyline. The Pike Street Hillclimb carries high pedestrian volumes. At both locations, viewer sensitivity is likely to be high, with effects relatively higher on the Pike Street Hillclimb because of the location of the existing viaduct as a barrier to views and the necessity of walking under the structure.

Views from within the Pike Place Market buildings may be considered to have high visual quality because all the elements that contribute to the integrity and unity of the historic features are present. The lack of views of vivid elements (such as mountains, water, or the downtown skyline) from many areas does not reduce the visual quality because the historic character is the visual focus. In areas where views to the west are available from market structures, such as the Joe Desimone Bridge, the viaduct is below the line of sight and does not encroach on the view or reduce the visual unity. Views to the south and west from Victor Steinbrueck Park also have vivid mountain and water elements, with the viaduct out of the line of sight. At this location, however, the viaduct obscures the street rhythm and building elevations of the downtown streetscape along Alaskan Way, although the views maintain a high level of visual quality because of the vivid focus provided by the downtown skyline and Mount Rainier.

Views from the Pike Street Hillclimb to the west have low visual quality because the vivid elements of the Olympic Mountains, Puget Sound, and Elliott Bay are almost completely obscured by the viaduct, which is at an elevation that cuts across most views. The viaduct also substantially reduces the integrity and unity of the streetscape.

North of Pike Place Market on both Western and Elliott Avenues in Belltown, the existing viaduct acts as a barrier to the visual continuity between the neighborhoods on each side and likely impedes pedestrian movement along these streets, as indicated in Appendix E, Exhibits A-45 and A-47. Because the travel lanes in this area are side by side and at a diagonal to the streets, the undercrossing is much wider. This results in a longer area subject to a change in visual character, shadows, and noise than elsewhere along the viaduct.

From Bell Street where Elliott Avenue turns to the southeast, the viaduct is below the line of sight of the downtown skyline, but it is an encroaching element that interrupts the unity of the view by obscuring the rhythm of the street pattern and truncating views of the buildings framing the street. The view of the downtown skyline is limited to a narrow corridor by the buildings lining the street, and it consists of a few buildings with relatively undistinguished features that have little vivid or memorable effect. The viaduct is the most prominent feature from this corridor. Views to the north from Western Avenue north of Virginia Street have no vivid features in the distance. From Lenora Street to the north, the viaduct is the dominant feature that encroaches on the linear features of the streetscape, and it interrupts the unity of the view by obscuring the rhythm of the historic street pattern and truncating views of the buildings framing the street to the north.

Pedestrian volumes are not documented for this portion of the Belltown area. Pedestrian counts in September 2001 at Second Avenue and Lenora Street, several blocks away, were about 1,000 during the lunch hour and about 2,800 for the weekday total (SDOT 2001). The Belltown area is one of the fastest-growing neighborhoods in Seattle, with substantial multifamily residential development in the past decade. Retail and restaurant uses are concentrated along First and Second Avenues. There are relatively few destinations for pedestrians on Elliott and Western Avenues. The most sensitive viewer population is likely to be residents in the area north of the viaduct, and most residents are likely to experience the viaduct as a visual barrier. Residents and others to the east can avoid crossing the viaduct by circulating on First Avenue and streets to the east.

Views from Elliott Avenue to the south and Western Avenue to the north near the viaduct have low visual quality because the viaduct encroaches on and reduces the integrity and unity of the linear elements of the streetscape.

4.5.3 Light and Glare

Lighting for the elevated structure between Pike Street and Elliott Avenue is generally below the street level of Victor Steinbrueck Park and the buildings to the east. North of Elliott Avenue, the elevated light source is an additional intrusive element that emphasizes the presence of the structure cutting across the

street grid. It is also a source of direct glare for the upper windows of buildings that would not be directly affected by the lighting for surface streets.

4.6 SR 99/Aurora Corridor

The SR 99/Aurora Corridor visual character unit is defined as the area extending several blocks on either side of the existing SR 99 from just north of the Battery Street Tunnel portal at Denny Way to Aloha Street, as shown in Exhibit 2-3.

Once it emerges from the Battery Street Tunnel, SR 99/Aurora Avenue continues north, and the two traffic lanes in each direction are joined by two-lane on- and off-ramps at Denny Way. These merge into three mainline lanes to the north. This section of semirestricted-access highway has right-turn-only access from adjacent surface streets and a barrier in the center. Standard sidewalks and street trees border the roadway. Development along this corridor includes a variety of motels and other buildings from one to five stories high, predominantly built to the sidewalk line.

The character of the surrounding development is similar in height and bulk and tends to be four to eight stories high. The Bill and Melinda Gates Foundation building that is under construction to the west of the SR 99 corridor is similar in height to newer buildings in the area but much larger in horizontal dimension. The west side of Aurora Avenue is designated as part of the Uptown Urban Center, which extends from Denny Way to Highland Drive. The east side of Aurora Avenue is designated as part of the South Lake Union Urban Center, which extends from Denny Way to Galer Street. The Seattle Mixed zoning allows a wide range of uses to encourage development of the area into a mixed-use neighborhood, and it has height limits of 65 to 85 feet adjacent to Aurora Avenue.

4.6.1 Views From the Roadway

Views from the roadway for vehicle occupants and pedestrians are of a six-lane urban arterial with a center barrier, framed by three- to four-story buildings on both sides, with street trees and sidewalks. Existing views are shown in Appendix E, Exhibits A-53 and A-55 (northbound) and A-57 and A-59 (southbound). The views are generally contained within the roadway corridor by the buildings that frame each side of the corridor. Mature street trees are located adjacent to the sidewalk and provide a consistent tree canopy along this portion of the corridor. The canopy also softens the appearance of the adjacent buildings, which are predominantly built to the sidewalk. The visual character is diverse in terms of building size, design, and scale, but it is relatively unified by the consistent linear features, such as street trees and the roadway. There are, however, few vivid features in the foreground and middle ground.

Northbound views along the orientation of the roadway feature the wooded hillside of Queen Anne Hill to the west (left) and buildings to the east (right). There is a visually prominent roof-mounted product advertising sign at Valley Street that contrasts in shape and color with the buildings and street trees for northbound views from John to Roy Streets. There are brief views of Lake Union (a City-designated significant feature) to the northeast for northbound vehicles as the roadway crosses over the Broad Street/Mercer Street underpasses. As vehicles move past this area, the viewing window is very short. Therefore, Lake Union is unlikely to be noticed, or the view is unlikely to be retained by most viewers in vehicles. The view has a moderate visual quality due to the lack of vivid elements, although the framing of the street by buildings and street trees provides a unity and coherence of composition.

Southbound views are centered on the downtown skyline, a City-designated significant feature, from about Galer Street to near the Battery Street Tunnel portal. One -to four- story buildings frame both sides of the street, with mature trees and sidewalks. South of about Aloha Street, there are views to the west (right) of the upper portion of the Space Needle that are largely screened by street tree foliage in season. Where SR 99 intersects Broad Street, there is a very brief view of the Space Needle. The angle of these views requires the viewer to look away from the orientation of the roadway. Drivers are less likely to turn their gaze from the orientation of the roadway than passengers, except for brief glimpses. However, this portion of the roadway is likely to allow most drivers an opportunity to momentarily divert their attention to the westerly views.

Northbound views after leaving the Battery Street Tunnel have a moderate visual quality. There are no vivid or memorable features in the view. The view has relatively high unity as an urban streetscape, with relatively few encroaching elements. Views southbound on Aurora Avenue include portions of the downtown skyline, a City-designated significant feature. However, the view contains a portion of the skyline with largely mid-rise buildings that are at a distance that makes them smaller features than the buildings lining the roadway. The resulting view lacks elements that are highly vivid or memorable. The overall visual quality is moderate due to the unity of the urban streetscape and the general lack of encroaching elements.

4.6.2 Views Toward the Roadway

For vehicle occupants and pedestrians, views from perpendicular streets are of a standard grade-level urban roadway framed by buildings, street trees, and sidewalks, but with large volumes of fast-moving traffic crossing the field of view. Views for pedestrians on sidewalks on SR 99 contain the same elements as the view for vehicle occupants described in Section 4.6.1, but with fast-moving vehicles in the lanes next to the sidewalk. Pedestrian volumes and viewer

sensitivity along SR 99/Aurora Avenue are very low. There are no pedestrian-oriented retail establishments or other establishments along the corridor to attract pedestrians. The pedestrian environment on the sidewalks adjacent to Aurora Avenue is very uninviting due to the proximity of high-speed traffic with no intervening buffer. Pedestrians likely choose parallel streets with lower traffic volumes whenever possible. Pedestrian volumes along the streets perpendicular to SR 99 are also small due to the mix of predominantly light-industrial and wholesale uses that continue to characterize this neighborhood in transition and provide few attractions for pedestrians. The highway acts as a barrier to pedestrian movement to Seattle Center, located west of SR 99 from Fifth Avenue N. to First Avenue N. and from Denny Way and Broad Street to Mercer Street, which is a major pedestrian destination in the area. The lack of pedestrian crossings, except at Denny Way and the Broad and Mercer Street underpasses, also limits pedestrian circulation and volumes. The west side of Aurora Avenue has more retail development and likely has generally higher pedestrian volumes because of the lodging and other uses oriented to the Seattle Center to the west.

Views from private property in this area are generally from buildings adjacent to the roadway or from taller buildings a block or two from the highway where the intervening buildings are shorter. Views are of a moderately wide urban arterial with large traffic volumes and high speeds. In most cases, the street is likely to be a minor element of the view because viewers would tend to look away from the street view to more interesting views of other buildings or of notable views in the distance where such views are available.

4.6.3 Light and Glare

The lighting in this area is typical of urban arterials. The SR 99 corridor is little different from other downtown arterials in terms of light and glare effects on the surrounding areas.

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Chapter 5 OPERATIONAL EFFECTS, MITIGATION, AND BENEFITS

This chapter describes the visual changes that would result from each of the three project build alternatives, and the extent to which the visual quality effects would be experienced as adverse or beneficial. The differences between the build alternatives in terms of the expected visual effects of their operations are indicated by the ratings of visual quality provided in Attachment A (Visual Analysis Matrix). In the matrix, views from selected viewpoint are rated in terms of their vividness, intactness, and unity. The matrix is useful primarily for comparing the visual quality of the same view between different alternatives. Photo simulations of the views resulting from the various build alternatives are provided in Appendix E. Potential mitigation measures for the potential adverse operational effects of the build alternatives are described in Section 5.5.

5.1 Operational Effects of the Viaduct Closed (No Build Alternative)

Both federal and Washington State environmental regulations require agencies to evaluate a No Build Alternative to provide baseline information about existing conditions in the project area. For this project, the Viaduct Closed (No Build Alternative) is not a viable alternative, because the existing viaduct is vulnerable to earthquakes and structural failure due to ongoing deterioration. Multiple studies of the viaduct's current structural conditions, including its foundations in liquefiable soils, have determined that retrofitting or rebuilding the existing viaduct is not a reasonable alternative (TY Lin 2005). At some point in the future, the roadway will need to be closed.

The Viaduct Closed (No Build Alternative) describes what would happen if the No Build Alternative is implemented. If the existing viaduct is not replaced, it will be closed, but it is unknown when that would happen. However, it is highly unlikely that the existing structure could still be in use in 2030.

The Viaduct Closed (No Build Alternative) describes the consequences of suddenly losing the function of SR 99 along the central waterfront based on the two scenarios described below. All vehicles that would have used SR 99 would either navigate the Seattle surface streets to their final destination or take S. Royal Brougham Way to I-5 and continue north. The consequences would be short-term and would last until transportation and other agencies could develop and implement a new, permanent solution. The planning and development of the new solution would have its own environmental review.

Two scenarios were evaluated as part of the Viaduct Closed (No Build Alternative):

- Scenario 1 – An unplanned closure of the viaduct for some structural deficiency, weakness, or damage due to a smaller earthquake event.
- Scenario 2 – Catastrophic failure and collapse of the viaduct.

The Viaduct Closed (No Build Alternative) would involve retaining the existing viaduct for an undefined interim period before the eventual unplanned closure described in the two scenarios above. During this interim, the existing visual effects discussed in Chapter 4 would continue. Once the viaduct has been closed or has failed, the views currently experienced by occupants of vehicles on the viaduct would be lost.

5.2 Operational Effects of the Bored Tunnel Alternative

The Bored Tunnel Alternative would remove the existing elevated viaduct structure and replace it with a bored tunnel. A new Alaskan Way surface street would be developed as a separate future project, which is described in Chapter 7 of the Final EIS.

5.2.1 Stadium Area

The Stadium Area visual character unit includes the area around the stadiums from S. Massachusetts Street to S. King Street, as shown in Exhibit 2-3. The Bored Tunnel Alternative would be integrated with the SR 99 improvements to the south that are being constructed as part of the separate S. Holgate Street to S. King Street Viaduct Replacement Project, which will provide a single-level structure passing over S. Atlantic Street and S. Royal Brougham Way and associated ramps. The portal for the bored tunnel would be located within the Alaskan Way right-of-way between S. Royal Brougham Way and S. King Street. Two northbound and two southbound lanes would weave underground to a stacked configuration within the bored tunnel. Staggered portals would be provided for the northbound on-ramp and southbound off-ramp to the east of the main portal. A six-lane surface street would be constructed above the tunnel north of S. King Street. The southbound on-ramp to SR 99 would be built as a surface street that would feed into SR 99 from the reconfigured intersection of Alaskan Way S. and S. Dearborn Street.

North of S. Dearborn Street, the tunnel would descend and pass under Alaskan Way. Just south of S. Washington Street, the tunnel would curve away from the waterfront, travel under Western Avenue, and continue diagonally under Seattle's central business district to First Avenue.

The Bored Tunnel Alternative would also include the reconstruction of a portion of S. King Street and the widening of the East Frontage Road from S. Atlantic Street to S. Royal Brougham Way to accommodate truck turning movements. Railroad Way S. would be replaced by a new one-lane northbound surface roadway between S. Dearborn and S. King Streets, providing access to and from the tunnel operations building and the 505 First Avenue Building.

South of the tunnel portal, there would be two public trails:

- The Port Side Pedestrian/Bike Trail, a pedestrian and bicycle trail on the west side of SR 99, adjacent to the Port of Seattle's Terminal 46.
- The City Side Trail, a pedestrian and bicycle facility on the east side of SR 99, between S. Royal Brougham Way and S. King Street.

The tunnel operations building for the south portal would be located on the block between the existing Railroad Way S. and S. Dearborn Street in a triangular configuration. A vehicle storage area that is incorporated into the building architecturally, would be located on the north side of the building on part of the existing Railroad Way S. right-of-way currently occupied by the viaduct ramps. The tunnel operations building would house electrical and mechanical systems supporting the tunnel, including ventilation equipment, control systems, maintenance shop functions, equipment storage, vehicle storage, and systems support.

Railroad Way S. between First Avenue S. and Alaskan Way S. would be reconfigured from the current two-way general traffic street north of the existing ramps to an open-space corridor emphasizing pedestrian priority that also would accommodate the vehicle access and service needs of the tunnel operations building and the adjacent building to the north. Landscaping, pavement and other elements would be considered to delineate the areas to be shared between pedestrians, bicycles and vehicles.

Views From the Roadway

Occupants of northbound vehicles leaving the single-level aerial structure at S. Royal Brougham Way and transitioning to the tunnel portal or off-ramps are likely to have views of the downtown skyline to the north along the roadway alignment that are similar to those from the existing viaduct, as shown in Appendix E, Exhibits A-1 and A-3.

Occupants of southbound vehicles exiting the bored tunnel or using the SR 99 on-ramps would have views to the southwest of the port and industrial facilities. The stacked shipping containers and cranes of the Port of Seattle terminals would continue to be the dominant skyline feature for southbound traffic.

Northbound views for vehicle occupants before entering the tunnel portal would continue to have a very high level of visual quality due to the presence of elements that are vivid and memorable, including views of the downtown skyline, the Olympic Mountains, Puget Sound, and Elliott Bay. The ratings of these views increase only slightly because of the greater unity of the views of foreground buildings that would no longer be truncated by the height of the viaduct (see the Visual Analysis Matrix in Attachment A). For the 20 percent of northbound trips oriented to downtown and using the Alaskan Way surface street, similar visual quality would result, because the same vivid elements would be visible to the west. However, these views would be interrupted and framed by waterfront piers rather than the panoramic views observed from the upper deck of the viaduct. The overall unity of the views would increase because the downtown buildings of the Pioneer Square Historic District and the Commercial Core would be visually integrated rather than truncated by the viaduct.

Southbound views for vehicle occupants after leaving the tunnel would continue to have a moderate to low level of visual quality due to the lack of vivid features. However, views from the elevated bypass roadway over S. Atlantic Street would increase in visual quality due to the absence of the upper deck of the viaduct. For the 20 percent of southbound trips oriented to downtown and using the Alaskan Way surface street, improved visual quality would result because the views would not be constrained by the narrow field of view and the encroachment by structural elements of the viaduct. For these views, the water features visible to the west would be more vivid, although interrupted and framed by waterfront piers. The overall unity of the views would increase substantially because the views of the waterfront piers and downtown buildings of the Pioneer Square Historic District and the Commercial Core would be visually integrated rather than truncated by the viaduct.

Views Toward the Roadway

The majority of the viewing population would consist of attendees at stadium events and persons passing through the area on roadways. The Bored Tunnel Alternative would eliminate the ramps leaving First Avenue S. and traversing the south side of Railroad Way S. to join the existing roadway, as shown in Appendix E, Exhibits A-5, A-9, and A-13.

For baseball fans congregating on First Avenue S. adjacent to Safeco Field, the new single-level configuration of the SR 99 elevated structure would not change the low ratings for visual intactness and unity of street-level views to the west or the skyline features of the port cranes to the west. The view to the north would feature the downtown skyline without the ramps at Railroad Way S., which would be a somewhat more integrated street corridor than the current view.

The view for attendees at baseball games from the outdoor viewing areas on the west side of the ball field at the 300 level or attendees of football games on the Sky Deck level of Qwest Field would continue to have unobstructed westerly foreground views of the Terminal 46 buildings, stacked containers, cranes, and distant views of the wooded hills of the Kitsap Peninsula and the more distant peaks of the Olympic Mountains. Viewers looking northwest and north would see the transition from the single-level overpass to the tunnel portal. In views to the north, the downtown skyline would be the primary feature. The absence of the ramps at Railroad Way S. would result in a more integrated street corridor in the middle ground. The tunnel operations building, which would be located between SR 99 and Railroad Way S. north of S. Dearborn Street, would be similar in height and bulk to other buildings in the immediate vicinity. It would be substantially shorter than the eight-story building recently constructed on the north side of Railroad Way S., as shown in Appendix E, Exhibits A-5, A-9, and A-13.

The westerly view for attendees of football games or other persons leasing the space on the Sky Deck level on the west side of the stadium would be substantially altered by the elimination of the existing viaduct, allowing line-of-sight views across Terminal 46 to Elliott Bay and distant views of the wooded hills of the Kitsap Peninsula and the peaks of the Olympic Mountains. The corridors, lounges, and lofts of the Club Level of the stadium are lower than the Sky Deck but are generally higher than the existing buildings between First Avenue S. and Occidental Avenue S. The westerly view down Railroad Way S. would be opened up by the removal of the existing Railroad Way ramps. However, this view corridor toward Elliott Bay would be partially obscured by the tunnel operations building and ventilation stacks.

The viewing population on First Avenue S. immediately south of Railroad Way S. would experience a northerly view on First Avenue S. that is unobscured by the existing on-ramps on each side or by the northbound ramp that passes over the street, as shown in Appendix E, Exhibit A-5. Viewers would experience First Avenue S. as a continuous street corridor lined by buildings on each side, with a greater visual unity and higher visual quality. The Flatiron Building at First Avenue, which is a City-designated landmark, would enjoy a context similar to that which existed when it was constructed near the turn of the twentieth century, as indicated in Appendix E, Exhibits A-5 and A-13.

Initially, the west side of First Avenue would be open, except for the tunnel operations building. In the future, however, unused portions of the project area could become available for redevelopment. Future redevelopment on the west side of First Avenue S. may result in construction of new buildings that meet the City's current height limit, zoning requirements, and goals in the Livable South

Downtown study (Seattle DPD 2009b). Such redevelopment would provide a transition between nearby industrial uses to the south, the Pioneer Square neighborhood to the north, and the stadium and entertainment uses. It would also improve the pedestrian experience along First Avenue S.

The new tunnel operations building would be closely integrated with the landscape. The proposed height of the building (approximately 65 feet, with ventilation stacks extending up to 30 feet above the roof) would obstruct views of the waterfront near Pier 48 but would not obstruct distant views of the wooded hills of the Kitsap Peninsula and the peaks of the Olympic Mountains. The enclosed vehicle storage element would narrow the Railroad Way S. corridor by about 40 percent. The narrower corridor and the proposed roadway for vehicle access to the tunnel operations building and the building to the north would include areas shared between pedestrians, bicycles, and vehicles. The building and streetscape elements taken together would reduce the function of the street as provided for in the recommendations of the City's Livable South Downtown study for Railroad Way S., which provides for a visual and pedestrian corridor connecting Colman Dock and the stadiums (Seattle DPD 2009b). The vehicle storage element would frame about 60 percent of the length of the corridor between the Alaskan Way surface street and First Avenue S. with a blank façade with garage doors, and it would not provide pedestrian interest or pedestrian-supported uses.

The tunnel operations building is designed to house mechanical and ventilation systems; therefore, it does not incorporate all the elements provided for in Seattle's DRGDD (Seattle DCLU 2005). Such elements include an architectural composition that reflects the urban pattern, such as windows and other features that characterize office or residential buildings (DRGDD A-1). The building largely features blank walls with ground-level windows above viewing height and garage doors along Railroad Way S. It does not reflect the architectural composition and patterns of buildings to the north in the historic district and does not avoid blank walls (DRGDD C-3); promote pedestrian interaction (DRGDD C-1); or positively contribute to pedestrian comfort, safety, and orientation (DRGDD C-2 and C-4). The proposal to fully enclose the fan room in a glass box would lend visual prominence, providing a landmark and visual interest related to building function for adjacent pedestrians. This element responds to policies to provide a distinctive, attractive, and memorable "sense of place" (DRGDD D-3). The Stadium Design District (SMC 23.74.010) also has requirements for a "pedestrian environment," including specific façade requirements, such as a minimum façade height of 25 feet and façade setback requirements, as well as requirements for landscaping blank façades (SMC 23.50.038). Landscaping to soften blank façades would be provided only along the Alaskan Way frontage. Street trees would be provided on the Alaskan

Way S. and S. Dearborn Street frontages, but their use is precluded by garage doors on Railroad Way S.

The visual quality of views up First Avenue S. from south of Railroad Way S. toward the downtown skyline to the north would improve substantially after the removal of the existing ramps, which would restore the visual continuity of the street corridor, as indicated by the 75 percent rating increase compared to existing conditions (see the Visual Analysis Matrix in Attachment A). The downtown Seattle skyline would continue to be a vivid element, and the view encroachment of the existing ramps would be eliminated. The unity of the view would increase substantially with the full elevation of buildings and other elements of the streetscape fully visible, including the historic Flatiron Building.

The visual quality of views down Railroad Way S. toward Qwest Field to the southeast would improve substantially after the removal of the viaduct, which would restore the visual continuity of the street corridor, as indicated by the 140 percent rating increase compared to existing conditions (see the Visual Analysis Matrix in Attachment A). Elimination of the viaduct ramps as an encroaching feature on Railroad Way S. would substantially increase the integrity and unity of the corridor.

The views available to the public from the upper levels of Safeco Field and Qwest Field would retain a high level of visual quality due to the continued presence of vivid elements, including views of the downtown skyline, the Olympic Mountains, Puget Sound, and Elliott Bay. The elimination of the viaduct and the First Avenue S. ramps would improve the intactness and unity of foreground views of First Avenue S. and Railroad Way S.

Light and Glare

The lighting in this portion of the corridor would be on the at-grade portion of the roadway connecting to the tunnel portal and on surface streets. The lighting would be similar to existing conditions. Overall, there would be little or no change in glare effects on the surrounding areas.

5.2.2 Pioneer Square Historic District

The Pioneer Square Historic District visual character unit encompasses most of the historic district from approximately S. Dearborn Street to Columbia Street, as shown in Exhibit 2-3.

Views From the Roadway

Views for vehicle occupants traveling in the new bored tunnel would consist of the interior of the tunnel. The visual interest of the panoramic views from the existing viaduct would not be available to through traffic. The loss of panoramic

views would affect primarily the northbound daytime users of the existing viaduct, which are about one-third of the approximately 110,000 vehicles per day on this section of the viaduct.

Views from the Alaskan Way surface street would continue to be available to vehicle occupants making trips without using the tunnel. These would include trips to and from downtown that previously would have used the midtown Columbia and Seneca Street ramps, as well as local downtown trips. The views that formerly would have been seen from the viaduct would be viewed from a lower elevation and would be less panoramic. Views to the west from Alaskan Way would be available only between waterfront piers. In terms of vividness, integrity, and unity, the quality of the views from the surface street would be similar to that of the westerly views of Elliott Bay and the Olympic Mountains from the existing viaduct. The easterly views of downtown would be much more integrated, because entire building frontages would be visible, rather than truncated upper floors. The open space within the surface street corridor is also likely to incorporate elements with much greater intactness because of the greater integrity of elements of the built environment without the encroaching elements of the viaduct. The incorporation of such elements within the surface street corridor would result in greater unity due to greater visual coherence and compositional harmony of the elements of the streetscape, the open space, and the framing buildings.

With the Bored Tunnel Alternative, some trips that currently use the viaduct to access downtown and other locations farther northwest would instead use the Alaskan Way surface street. The trips traveling through downtown on Alaskan Way would total about 20,000 vehicles per day. The time spent traveling through the corridor would likely be a little longer than that spent on the existing viaduct because of slower speeds and at-grade intersections. Traffic and pedestrians on the streets perpendicular to Alaskan Way also would enjoy unobstructed westerly views without the encroaching element of the viaduct.

The northbound views along the Alaskan Way surface street would have roughly the same visual quality as the views under existing conditions; although from a lower elevation. Alaskan Way would still afford views of the downtown skyline, the Olympic Mountains, Puget Sound, and Elliott Bay. The overall unity of the views would increase, because the downtown buildings of the Pioneer Square Historic District and the Commercial Core would be visually integrated rather than truncated by the viaduct. Southbound views along Alaskan Way would have higher visual quality due to a much more open field of view. The rows of columns and elevated viaduct and roadway decks would be gone.

Views Toward the Roadway

With the Bored Tunnel Alternative, the absence of the existing viaduct would transform the relationship between the Pioneer Square Historic District and the waterfront. All views down streets in the historic district that are perpendicular to the existing viaduct would have greater unity of composition resulting from the lack of an elevated structure at the end of the view, as shown for Yesler Way in Appendix E, Exhibit A-28. The views would be framed by buildings primarily of the same period with similar materials and architectural style, together with complementary elements of the streetscape, including sidewalks, street trees, and the roadway itself, without the encroaching visual barrier at the end of the street and the contrast in line, color, and materials provided by the viaduct.

Viewer populations in the Pioneer Square Historic District are likely to continue to be sizable; this area is expected to attract individuals (tourists, art gallery patrons, stadium event visitors, etc.) who are more sensitive to the visual context of this historic area. After the completion of the bored tunnel and the demolition of the existing viaduct, the increased visual appeal of areas fronting on and near Alaskan Way is likely to result in a mix of uses that are more oriented to tourists, shoppers, and restaurant patrons, as discussed in the Final EIS, Chapter 7, Cumulative Effects Analysis. Changes in land use resulting from the Bored Tunnel Alternative are also discussed in Appendix G, Land Use Discipline Report.

Views from private property, including views available to employees and residents in buildings that face the existing viaduct and views from buildings along the perpendicular street corridors, would be similar to the views described in the first paragraph. Views from buildings on the east side of the right-of-way would have unobstructed foreground views of the waterfront; middle ground views of Elliott Bay, Puget Sound, West Seattle, Alki Point, and Magnolia; and background views of the Kitsap Peninsula hills and the Olympic Mountains. Buildings on the perpendicular streets to the east would enjoy framed views down the streets.

Removal of the existing viaduct would provide substantial support to policies in the *Pioneer Square Neighborhood Plan* (City of Seattle 1998a) for weaving the east-west streets to the waterfront into the fabric of the community by improving pedestrian connections, emphasizing view connections to the waterfront, and restoring the Washington Street Boat Landing as the centerpiece of the south waterfront. The overall enhancement of the integrity and unity of views of landforms may be considered consistent with the City's SEPA policy of protecting views and enhancing the public enjoyment of the Olympic Mountains, Puget Sound, and Elliott Bay. Built environment features include the downtown skyline from City-designated viewing areas and historic landmarks such as the pergola.

The visual quality of views from within the Pioneer Square Historic District west of First Avenue S. would improve substantially with the removal of the viaduct, which would restore the visual continuity of the street corridor, as indicated by the 90 percent rating increase compared to existing conditions (see the Visual Analysis Matrix in Attachment A). The removal of the viaduct would eliminate a dominant encroaching element that is also at variance with the historic character of the area and would substantially increase the integrity and unity of the streetscape.

Light and Glare

The lighting associated with the existing viaduct would be replaced by lighting typical of an urban arterial. The removal of above-grade lighting for the viaduct would better match the character of the historic district and would reduce glare effects on the upper levels of buildings adjacent to the viaduct.

5.2.3 Central Waterfront

The Central Waterfront visual character unit extends along the waterfront west of the existing SR 99 from S. King Street to approximately Pine Street, as shown in Exhibit 2-3.

Views From the Roadway

Views for vehicle occupants traveling in the new bored tunnel would consist of the interior of the bored tunnel. Views for vehicle occupants traveling on the Alaskan Way surface street would be similar to those discussed for the Pioneer Square Historic District in Section 5.2.2. The potential visual effects of the development of a new Alaskan Way surface street and promenade are discussed in the Final EIS, Chapter 7, Cumulative Effects Analysis.

Views Toward the Roadway

The removal of the existing viaduct would help to visually integrate the waterfront with downtown. Views from the waterfront would clearly include the structure of the adjacent Commercial Core, which consists of blocks of buildings defined by street corridors. These easterly views would no longer be obstructed by an immense roadway structure with homogenous features. The structure and design unity of the city would be clearly readable, as shown in Appendix E, Exhibits A-21 and A-24. In the absence of the existing viaduct, the buildings would not be visually truncated; they would clearly have a base, middle, and top. The three- to six-story buildings that frame the Alaskan Way surface street would provide a coherent set of urban elements, starting with the elements of the streetscape, such as the roadway, sidewalks, street trees, and vegetation, and continuing with the full frontage of buildings, with the background tiers of buildings farther to the east. There would be a consistent transition up the street,

without an abrupt line of shadow or structure cutting across the street corridor. The entire corridor would be open to the sky. The more distant elements of the downtown skyline would be the dominant and vivid elements of the view, rather than a view dominated by an elevated roadway structure cutting across the scene. The visual continuity of downtown would extend to the waterfront.

Viewer populations and the general level of activity along the waterfront are likely to increase because of the improved visual quality of the setting. The removal of the existing viaduct is also expected to provide substantial support to the *Downtown Urban Center Neighborhood Plan* policies for integrating the waterfront with downtown (City of Seattle 1999). The overall enhancement of the integrity and unity of views of landforms may be considered consistent with the City's SEPA policy of protecting views and enhancing the public enjoyment of such features. These features include the Olympic Mountains, water forms including Puget Sound and Elliott Bay, and human-made features such as the downtown skyline from City-designated viewing areas such as Waterfront Park and Pier 57, as well as the Alaskan Way surface street, which is a designated scenic view route.

Views to the west from the central waterfront would improve substantially, as indicated by the rating increase of about 70 percent compared to existing conditions (see the Visual Analysis Matrix in Attachment A). The removal of the viaduct would eliminate a dominant encroaching element and substantially increase the integrity and unity of the views of the buildings fronting Alaskan Way and the street corridors extending into downtown.

Light and Glare

The lighting associated with the existing viaduct would be replaced by lighting typical of an urban arterial. The removal of above-grade lighting for the viaduct would reduce glare effects on the upper levels of buildings.

5.2.4 Commercial Core

The Commercial Core visual character unit includes the area east of the existing viaduct from approximately Columbia Street to the Pike Place Market area at Union Street and the Belltown area at Stewart Street, as shown in Exhibit 2-3.

Views From the Roadway

Views for vehicle occupants traveling in the new bored tunnel would consist of the interior of the bored tunnel. The visual interest of the panoramic views from the existing viaduct would not be available. Views for vehicle occupants traveling on the Alaskan Way surface street would be similar to those discussed for the Pioneer Square Historic District in Section 5.2.2. The potential visual effects of the development of a new Alaskan Way surface street and promenade are discussed in the Final EIS, Chapter 7, Cumulative Effects Analysis.

Views Toward the Roadway

The Bored Tunnel Alternative would eliminate the existing viaduct structure, which would transform the relationship of the Commercial Core to the waterfront in a manner similar to the transformation in the Pioneer Square Historic District, as described in Section 5.2.2. Views from the waterfront would clearly include the structure of the adjacent Commercial Core, which consists of blocks of buildings defined by street corridors. These easterly views would no longer be obstructed by an immense roadway structure with homogenous features. The structure and design unity of the city would be clearly readable. Views to the west from downtown streets would feature unobstructed scenes that include a variety of human-made and natural features, as shown for University Street in Appendix E, Exhibit A-31. Depending on the street, the composition of the view would include a range of elements. Most of the views would have a great deal of compositional unity provided by elements that frame the streetscape, such as buildings, sidewalks, and street trees. These elements would also provide an orientation to the elements at the end of the unobstructed corridor.

The ends of these view corridors generally incorporate views of elements designated in the Seattle environmental code (SMC 25.05.675.P) as specific significant human-made and natural features, including the Olympic Mountains and major bodies of water such as Puget Sound and Elliott Bay. These view corridors would provide a coherent transition from the close views of human elements to the natural elements in the distance. Even with the diversity of the views, there would be a general unity in the visual patterns. The elimination of the existing viaduct would free the corridors of the substantial encroaching element that currently cuts across them.

Viewer populations in the Commercial Core are likely to respond positively to the increased visual coherence of the waterfront while frequenting open spaces or establishments such as restaurants that are oriented to the unobstructed views provided.

The changes in the visual environment along the waterfront would provide substantial support for the *Downtown Urban Center Neighborhood Plan* policies for public development (City of Seattle 1999). These policies guide development to make a positive contribution to the downtown physical environment by enhancing the relationship of downtown to its spectacular setting of water, hills, and mountains; preserving important public views; ensuring light and air at the street level; and establishing a high-quality, pedestrian-oriented street environment.

The overall enhancement of the integrity and unity of views of landforms may be considered consistent with the City's SEPA policy of protecting views and enhancing the public enjoyment of such features. These features include the

Olympic Mountains, water forms including Puget Sound and Elliott Bay, and human-made features such as the downtown skyline from City-designated viewing areas such as Waterfront Park and Pier 57, as well as the Alaskan Way surface street, which is a designated scenic view route.

The visual quality of westerly views from the Commercial Core would improve substantially, as indicated by the rating increase of about 80 percent compared to existing conditions (see the Visual Analysis Matrix in Attachment A). The removal of the viaduct would eliminate a dominant encroaching element and substantially increase the views of vivid elements such as water bodies, as well as the integrity and unity of the views of the piers along Alaskan Way and the street corridors extending to the west.

Light and Glare

The lighting associated with the existing viaduct would be replaced by lighting typical of an urban arterial. The removal of above-grade lighting for the viaduct would reduce glare effects on the upper levels of buildings.

5.2.5 Pike Place Market and Belltown

The Pike Place Market visual character unit extends from Union Street to Virginia Street and is bounded on the west by the Alaskan Way corridor, as shown in Exhibit 2-3. This area is larger than the area encompassed by the Pike Place Market national and local historic districts. The Belltown visual character unit wraps around the northeast corner of the Pike Place Market visual character unit and extends from approximately Stewart Street to Denny Way (Exhibit 2-3).

Views From the Roadway

Views for vehicle occupants traveling in the new bored tunnel would consist of the interior of the tunnel. Views for vehicle occupants traveling on the Alaskan Way surface street would be similar to those discussed for other sections of the roadway (see the discussion of the Pioneer Square Historic District in Section 5.2.2). The potential visual effects of development of a new Alaskan Way surface street and promenade and the potential visual effects of development of the new Elliott/Western Connector are discussed in the Final EIS, Chapter 7, Cumulative Effects Analysis.

Views Toward the Roadway

The Bored Tunnel Alternative would eliminate the existing elevated viaduct. The view from perpendicular streets such as Pike and Pine Streets would no longer include an elevated structure, and its absence would increase the compositional unity of the view. Pike Street would be framed by streetscape elements such as buildings, sidewalks, and street trees. The vertical complexity of the corridor

would not be obscured by the elevated structure. The view of the waterfront to the west would not be obscured by the viaduct and would feature the Seattle Aquarium and Elliott Bay in the middle ground, with Puget Sound and the hills of the Kitsap Peninsula in the background.

Westerly views would include the new Alaskan Way surface street and the Elliott/Western Connector. Viewers from the western edge of the Pike Place Market and Victor Steinbrueck Park would see the surface roadway, with downtown buildings fronting the new roadway on one side and the waterfront piers on the other, as shown in Appendix E, Exhibit A-42. This would provide a diverse yet coherent composition of urban forms. The potential visual effects of the new Elliott/Western Connector are discussed in the Final EIS, Chapter 7, Cumulative Effects Analysis.

The absence of the elevated viaduct structure at Elliott and Western Avenues would result in a downtown urban streetscape with greater compositional unity due to the removal of the visual barrier and dead space created by the existing structure, as shown in Appendix E, Exhibits A-46 and A-48. The elimination of this visual barrier would allow the reestablishment of normal urban blocks with future development of buildings and other streetscape elements, such as sidewalks and street trees. Elliott Avenue is a scenic route designated for protection by the City's SEPA policy. Improving the visual quality of the view may be considered consistent with the City's SEPA policy of view protection.

Views from Victor Steinbrueck Park would have higher visual quality compared to existing conditions, as indicated in the Visual Analysis Matrix (Attachment A). This improvement in visual quality would be primarily due to the greater unity of building elevations of the downtown streetscape along Alaskan Way, because the existing viaduct is below the line of sight to vivid elements such as the downtown skyline, water bodies, and Mount Rainier. This park is a specific viewing site designated by the City's SEPA ordinance from which views of landforms, including the Olympic Mountains, of water forms including Puget Sound and Elliott Bay, and of human-made features such as the downtown skyline are protected. The improvement in the unity and vividness of views from this location may be considered consistent with the City's SEPA policy of protecting views and enhancing the public enjoyment of such features.

The visual quality of westerly views from the Pike Street Hillclimb would be substantially increased because the elimination of the viaduct would reveal the vivid elements of the Olympic Mountains, Puget Sound, and Elliott Bay, which are currently almost completely obscured by the viaduct. The elimination of the viaduct also would restore the integrity and unity of the urban streetscape.

North of Pike Place Market, the visual quality of views along both Western and Elliott Avenues in Belltown would be substantially improved by the removal of the elevated viaduct, as indicated by the increase in ratings compared to existing conditions (see the Visual Analysis Matrix in Attachment A). The improved visual quality would be primarily due to the removal of the viaduct as a substantial barrier to the visual continuity, resulting in greater streetscape unity.

Light and Glare

The lighting associated with the existing viaduct would be replaced by lighting typical of an urban arterial. The removal of above-grade lighting for the viaduct would reduce glare effects on the upper levels of buildings.

5.2.6 SR 99/Aurora Corridor

The SR 99/Aurora Corridor visual character unit is the area extending several blocks on either side of the existing SR 99 from Denny Way to Aloha Street, as shown in Exhibit 2-3.

With the Bored Tunnel Alternative, the portal would be about a block west of SR 99 at the alignment of Sixth Avenue N. and would connect with the existing SR 99 alignment near Mercer Street. Aurora Avenue would be an at-grade roadway between Denny Way and Harrison Street, with signalized intersections at Denny Way, John Street, Thomas Street, and Harrison Street. The Mercer Street underpass would be widened to a two-way, six-lane section. Broad Street would be closed between Taylor Avenue N. and Ninth Avenue N. Sixth Avenue N. would be reoriented in a curve between Harrison Street and the intersection with Mercer Street with a signalized intersection at Republican Street providing access to a southbound on-ramp.

Views From the Roadway

Vehicle occupants traveling northbound on SR 99 after emerging from the bored tunnel would see the roadway curve to the left and pass under the on- and off-ramps connecting to the surface roadway to the south. In addition, the off-ramp to Republican Street would be visible on the right. The northbound lanes would be below the existing ground level until near Mercer Street. After traversing a smooth curve, the roadway would connect with the existing SR 99 north of Mercer Street. For most vehicle occupants, the views would be perceived much the same as the views on the existing highway. The small section of curves to connect to the existing alignment would be traversed very quickly, generally in about 10 seconds. The visual experience north of Mercer Street would be essentially the same as at present, since the roadway configuration would not change.

Southbound vehicle occupants would experience a visual environment similar to existing conditions at a distance; the roadway would continue on the same

alignment as the existing roadway, with the downtown skyline as the most prominent feature. As vehicles approach Mercer Street, the split in the roadway would become apparent. The two right lanes would curve slightly to the west to enter the tunnel portal, and the center lanes would curve to the east in an elevated structure that passes over the northbound lanes and becomes the Aurora Avenue surface street, as shown in Appendix E, Exhibits A-58 and A-60. The most prominent visual feature would be the center lanes that rise to cross over the northbound lanes. As the through lanes curve to the west toward the tunnel portal, they would descend to the level of the portal. In that area, the on-ramp from Sixth Avenue N. would merge from the right. The most substantial change in character in the curved section of the roadway would be the replacement of the urban buildings next to the road with retaining walls and landscaping. In addition, the “glass box” enclosing the axial fans would be a vivid feature marking the transition to the tunnel. The overall visual experience from the southbound lanes would be typical of an urban freeway, although it would be different from the alignment and urban character of the existing surface highway. The curve of the highway to the west would provide vehicle occupants with a very brief glimpse of the Space Needle.

The Aurora Avenue surface street between Denny Way and Harrison Street would consist of a typical six-lane urban street within an urban streetscape bounded by buildings on both sides. The street would have a greater unity of composition resulting from buildings that frame the street and elements such as street trees and improved street lighting, as generally illustrated in Appendix E, Exhibits A-54 and A-56.

The visual quality of the views for both northbound and southbound traffic on SR 99 travelling along Aurora Avenue north of the tunnel portals would vary little from existing conditions. Except for the brief transition of an S-curve over a distance of about two city blocks, the character of the roadway would essentially be the same. The experience of local traffic traversing the reconfigured three-block section of Aurora Avenue from Denny Way to Harrison Street is discussed below.

Views Toward the Roadway

SR 99 would continue to have semirestricted access north of Mercer Street with a barrier in the center. Views from the perpendicular streets would continue to be those of a standard grade-level urban roadway, but with large volumes of fast-moving traffic. The area north of the tunnel portal would likely continue to have very low levels of pedestrian activity because of the noise from and sense of exposure to the adjacent traffic.

Between Harrison Street and Denny Way, Aurora Avenue would be integrated with the grid structure of the surrounding neighborhood, with John, Thomas, and Harrison Streets crossing over the SR 99 tunnel. The neighborhood would no longer be divided by the existing high-speed highway, and vehicle and pedestrian circulation would be enhanced. However, these improvements would not substantially change the visual quality of the street, either for views from or toward the roadway. Aurora Avenue would continue to be a six-lane urban arterial, but without the below-grade portion that currently approaches the portal of the Battery Street Tunnel. The major visual difference would be the addition of wider sidewalks, street trees, and a planted median and crosswalks at intersections. The slower speed of traffic and the periodic queuing of cars at intersections would reduce the sense of hazard for pedestrians. The combined effects of these elements would be an environment much more conducive to pedestrian activity. The increased pedestrian activity, as opposed to vehicle use, would also add to the human scale of the area.

The tunnel operations building at the north portal would be located on the east side of Sixth Avenue N., between Thomas and Harrison Streets. The building would be similar in bulk to the existing buildings in the vicinity, as shown in Appendix E, Exhibits A-58 and A-60. At approximately 60 feet in height with ventilation stacks extending up to 35 feet above the roof, the tunnel operations building would be somewhat shorter than the 85-foot zoning height limit because the zoning height limit excludes the stacks.

The tunnel operations building is designed to house tunnel-related functions (ventilation fans and stacks, mechanical and electrical equipment, and operations and maintenance facilities). There would be a renewed level of pedestrian activity and pedestrian-oriented uses resulting from the conversion of Aurora Avenue to an urban arterial between Harrison Street and Denny Way. The building frontages on Sixth Avenue N. and Thomas Street do not incorporate all of the elements contained in Seattle's *Design Review: Guidelines for Multifamily and Commercial Buildings* (DRGMC) (Seattle DPD 2007). The guidelines identify elements to be avoided, including expansive blank walls, extensive use of metal or glass siding, and extremely large or small windows (DRGMC C-1). The design review guidelines also provide for incorporating human-proportioned architectural features and site design elements into the ground level that are clearly oriented to human activity (DRGMC C-2) or providing building entries and other attractive features that contribute to the creation of lively, pedestrian-oriented open space (DRGMC D-1). The proposed building features primarily bland walls with narrow bands of windows that are for the most part above viewing height, reflecting the mechanical functions inside the building. Street trees provided along the sidewalk on Sixth Avenue N. and landscaping adjacent

to the building would not increase pedestrian comfort and interest (DRGMC D-1). The proposal to fully enclose the fan room in a glass box adjacent to the sidewalk will provide visual interest related to building function for adjacent pedestrians. Overall, the tunnel operations building may be a relatively neutral feature, but it would not tend to encourage human activity on the street (DRGMC A-4).

The proposed surface parking lot for WSDOT maintenance vehicles at Aurora Avenue and Thomas Street would not contribute to a pedestrian-oriented environment. A proposed planting area with small trees and shrubs would screen the lot somewhat. The lot is designated as a potential future development opportunity if other parking facilities are developed. In that case, a private building that meets the City's design guidelines would contribute to pedestrian activity on the adjacent streets.

With the Bored Tunnel Alternative, Mercer Street would remain in an underpass below SR 99, but it would be widened from Dexter Avenue N. to Fifth Avenue N. to provide three lanes of traffic in each direction. The widening of Mercer Street would not be perceived as a substantial change in the visual environment. Under existing conditions, most viewers on either side look over the top of the undercrossing to the surface environment in the vicinity. There are few buildings framing the existing undercrossing. Vehicle occupants and pedestrians using the undercrossing would note a wider street bounded by vertical retaining walls, similar to the existing undercrossing. The provision of wider pedestrian sidewalks would improve the visual experience for pedestrians transiting this part of the corridor, compared to the existing narrow walkways, but they would still likely perceive the environment as noisy with low visual quality.

The greatest improvement in views would be for the section of Aurora Avenue that is converted into an urban arterial between Denny Way and Harrison Street. In this area, both pedestrians on sidewalks and vehicle occupants traversing this section of street would experience improvements in view integrity and unity relating to the street grade, sidewalks, and street trees, as well as slower traffic speed. This area would experience a slight improvement in visual quality compared to existing conditions, as indicated by the ratings in Attachment A (Visual Analysis Matrix).

Light and Glare

The lighting of SR 99 north of the tunnel portal would continue to be typical of an urban arterial. There would be little or no change from existing conditions in terms of the character of light and glare.

5.3 Operational Effects of the Cut-and-Cover Tunnel Alternative

The Cut-and-Cover Tunnel Alternative would result in visual effects almost identical to those of the Bored Tunnel Alternative at the south portal and along the central waterfront. It would differ in the connection between Alaskan Way, Pike Street, and the Battery Street Tunnel, and on Aurora Avenue. As with the Bored Tunnel Alternative, the major changes would be beneficial and would result from the elimination of the existing elevated structure along the waterfront and the associated visual impacts, providing opportunities for a variety of visual amenities on the Alaskan Way surface street. The Cut-and-Cover Tunnel Alternative includes additional visual amenities provided by the proposed pedestrian connections or planted lids connecting to Victor Steinbrueck Park.

5.3.1 Stadium Area

The Stadium Area visual character unit includes the area around the stadiums from S. Massachusetts Street to S. King Street, as shown in Exhibit 2-3. The views from the roadway would be almost identical to the views resulting from the Bored Tunnel Alternative described in Section 5.2.1, except for the views of the tunnel maintenance building associated with the cut-and-cover tunnel.

Views From the Roadway

The Cut-and-Cover Tunnel Alternative includes the same at-grade SR 99 facilities south of S. Royal Brougham Way as the Bored Tunnel Alternative, as well as similar facilities leading to the tunnel portal. The only substantial difference between the two tunnel alternatives in this area relates to the tunnel maintenance building with the cut-and-cover tunnel, and the tunnel operations building associated with the bored tunnel. The tunnel maintenance building for the cut-and-cover tunnel would have a somewhat smaller footprint than the bored tunnel operations building. It would be about 20 feet high (or two stories) and would not be readily visible from the roadway. The tunnel maintenance building would be constructed near S. Dearborn Street over the northbound SR 99 roadway. To through traffic entering the tunnel, it would be visible as a small building element above the northbound lanes. It would be out of the line of sight for traffic on the East Frontage Road and East Marginal Way S. (to the west).

Views Toward the Roadway

Views toward the roadway would be almost identical to those resulting from the Bored Tunnel Alternative, described in Section 5.2.1, except for the views of the tunnel maintenance building for the cut-and-cover tunnel.

The tunnel maintenance building would contain an operations room, offices, equipment and vehicle storage, and facilities for minor repairs. It would be about 20 feet (two stories) high. The size of the cut-and-cover tunnel maintenance

building would have fewer effects than the bored tunnel operations building, in relation to the City's Livable South Downtown study provides for a visual corridor connecting Colman Dock and the stadiums (Seattle DPD 2009b) in the south portal area.

If the cut-and-cover tunnel maintenance building is designed purely to serve its purpose of housing offices and equipment, it would not likely incorporate all the elements in the City's DRGDD (Seattle DCLU 2005), including an architectural composition that reflects the urban pattern (DRGDD A-1), ground-level interest (DRGDD C-3), features that promote pedestrian comfort, safety, and orientation and interaction (DRGDD C-1, C-2, and C-4); and provision of a distinctive, attractive, and memorable "sense of place" (DRGDD D-3); as well as similar criteria in the Stadium Design District (SMC 23.74.010).

As with the Bored Tunnel Alternative, the elimination of the elevated viaduct structure with the Cut-and-Cover Tunnel Alternative would result in a change in visual quality to the west, with the unity of street-level views and the skyline features of the Port of Seattle facilities and beyond with Elliott Bay and the mountains. As with the Bored Tunnel Alternative, compared to existing conditions, the Cut-and-Cover Tunnel Alternative would improve the visual quality of northerly views up First Avenue S. by eliminating the visual intrusion of the existing ramp structures, which would restore the visual continuity and unity of the street corridor while retaining vivid views of the downtown skyline.

In the future, unused portions of the project area could become available for redevelopment. Future redevelopment on the west side of First Avenue S. may result in the construction of new buildings that meet the City's current height limit, zoning requirements, and goals in the Livable South Downtown study (Seattle DPD 2009b). Such redevelopment would also improve the pedestrian experience along First Avenue S.

The view for attendees at baseball or football games at both stadiums would be similar to the views resulting from the Bored Tunnel Alternative, with continued westerly foreground views of Terminal 46 buildings and container terminal operations with stacked containers and cranes, and farther in the background, views of the wooded hills of the Kitsap Peninsula and the more distant peaks of the Olympic Mountains. The absence of the ramps at Railroad Way S. would result in a more integrated street corridor in the middle ground.

The similarities in visual quality are reflected in the ratings in the Visual Analysis Matrix (Attachment A).

Light and Glare

The lighting in this portion of the corridor would be virtually identical to that associated with the Bored Tunnel Alternative, as described in Section 5.2.1.

Overall, there would be little or no difference in glare effects on the surrounding areas.

5.3.2 Pioneer Square Historic District

The Pioneer Square Historic District visual character unit encompasses most of the historic district from, approximately S. Dearborn Street to Columbia Street, as shown in Exhibit 2-3.

Views from the roadway, views toward the roadway, and light and glare would be identical to those described for the Bored Tunnel Alternative in Section 5.2.2.

5.3.3 Central Waterfront

The Central Waterfront visual character unit extends along the waterfront west of the existing SR 99 from S. King Street to approximately Pine Street, as shown in Exhibit 2-3.

In terms of light and glare, the effects on views toward and from the roadway would be very similar to those described for the Bored Tunnel Alternative. Exception of the emergency egress structures for the cut-and-cover tunnel, which would be small buildings near the sidewalk. There would be two such structures located at S. King and at Columbia Street. Each structure would be 16 to 20 feet long, 8 to 10 feet wide, and about 10 feet high. The stairway enclosures would be small in scale and would not be a prominent element of the streetscape. Compared to the removal of the existing viaduct structure, these low-profile stairway egresses would not affect visual quality in the areas where they are located.

5.3.4 Commercial Core

The Commercial Core visual character unit includes the area east of the existing viaduct from approximately Columbia Street to the Pike Place Market area at Union Street and the Belltown area at Stewart Street, as shown in Exhibit 2-3.

Views from the roadway, views toward the roadway, and light and glare would be virtually identical to those described for the Bored Tunnel Alternative in Section 5.2.4, with the exception of the three emergency egress structures in this area, which would be one-story rectangular buildings at or near the sidewalk.

5.3.5 Pike Place Market and Belltown

The Pike Place Market visual character unit extends from Union Street to Virginia Street and is bounded on the west by the Alaskan Way corridor (Exhibit 2-3). This area is larger than the area encompassed by the Pike Place Market national and local historic districts. The Belltown visual character unit wraps around the

northeast corner of the Pike Place Market visual character unit and extends from approximately Stewart Street to Denny Way.

The route of the Cut-and-Cover Tunnel Alternative would follow the same alignment as the existing viaduct up the hill between Pike Street and the Battery Street Tunnel. The cut-and-cover tunnel would extend above grade between Union Street and Pike Street. A walkway lid structure would be built above the travel lanes and provide public open space with pedestrian access to Victor Steinbrueck Park.

Views From the Roadway

Views for vehicle occupants traveling in the cut-and-cover tunnel would change from those of the interior of the tunnel to views from the elevated side-by-side roadways with the lid above. The views would continue to be constrained by the lid. Vehicle occupants would have limited views to each side; however, there would be no westerly views of Elliott Bay or the Olympic Mountains because the elevation of the roadway would be lower than the condominiums and hotel west of the roadway alignment. North of Victor Steinbrueck Park, the roadway would be open to the sky, but the roadway elevation below Elliott and Western Avenues would not allow horizontal views beyond the roadway edge.

Views Toward the Roadway

The Cut-and-Cover Tunnel Alternative would eliminate the existing viaduct south of Pine Street, and its absence would increase the compositional unity of the easterly view from the waterfront and the westerly view from the Pike Place Market area. Pike Street, as viewed from either the west or the east, would be framed by streetscape elements such as buildings, sidewalks, and street trees. The vertical complexity of the corridor would no longer be obscured by the existing elevated viaduct structure. North of Pine Street, an elevated structure would climb the hill to the portal of the Battery Street Tunnel, but generally would be approximately 20 feet lower than the existing viaduct.

The views from Alaskan Way near Waterfront Park would be of the pedestrian walkway lid that would slope to the north, as shown in Appendix E, Exhibit A-39. The foreground view north of Pike Street would be of a sloping or stepped public open-space area to the north. The portion extending about 80 feet south of Pine Street would consist of the roughly two-story-high wall of the equipment and ventilation building behind the sidewalk along the east side of the Alaskan Way surface street. This wall would be somewhat obscured by street trees in spring, summer, and early autumn. If it is treated as a building frontage with windows and other building openings, it is more likely to be perceived as part of a typical urban arterial building frontage. If it is a blank concrete wall, it would be more likely to detract from the urban streetscape. The building also would include

ventilation stacks extending approximately 30 feet above the public open-space area on top of the building.

The portion of the new roadway south of Pike Street would be stepped in two approximately equal steps. At Pike Street, the walkway lid would step down because the southbound lanes at that point would be about 10 feet lower. This would allow a two-tier stairway from the Pike Street Hillclimb on the east to the Alaskan Way surface street on the west. It also would allow landscaping at the street and intermediate level to soften the appearance of the structure. The visual character of the sloping lid would be substantially different from that of the viaduct because it would appear to be at-grade rather than elevated, and it would not block or obscure building elevations behind it to the same extent. The integrity and unity of the streetscape would increase due to its appearance as an at-grade feature. Middle ground views would include exposed building façades. The exposed building façades north of Pine Street would be those of parking garages at the edge of the hill. The views of the buildings would have limited visual integration with the character of Pike Place Market to the east farther up the hill.

The view of the waterfront to the west from the Pike Street Hillclimb would no longer be obscured by the viaduct and would feature the Seattle Aquarium and Elliott Bay in the middle ground, with Puget Sound and the hills of the Kitsap Peninsula in the background (all of which are views designated as important by City SEPA policies). These views would increase substantially in visual unity and vividness with the absence of the viaduct.

Views from the western edge of the market and Victor Steinbrueck Park would be of the pedestrian walkway lid with downtown buildings fronting the new roadway on one side and the waterfront piers on the other, as shown in Appendix E, Exhibit A-43. The middle ground would consist of a coherent composition of urban forms associated with the Alaskan Way surface street, with a considerable diversity in building forms, yet a unity of common elements of the urban landscape. The pedestrian lid may increase the compositional harmony of the view by providing a variety of hardscape and landscape forms, as opposed to a highway. It would also provide substantially greater opportunities for observing scenic landforms, including the Olympic Mountains, water forms including Puget Sound and Elliott Bay, and human-made features such as the downtown skyline, and it may be considered consistent with the City's SEPA policy of protecting views and enhancing the public enjoyment of such features.

North of Pike Place Market, the visual quality of views along both Western and Elliott Avenues in Belltown would be substantially improved by the removal of the elevated viaduct and placement of the roadway beneath the urban arterials. The improved visual quality would be primarily due to the elimination of the

viaduct as a substantial encroachment that is a barrier to visual continuity and the resulting increase in streetscape unity. Views along Elliott and Western Avenues would be of an unobstructed linear streetscape, as indicated in Appendix E, Exhibits A-46 and A-49. The absence of the elevated structure would result in greater visual continuity between both sides of SR 99. The length of the new bridge conveying Elliott Avenue over SR 99 would not be a substantial change in visual character when viewed from the north or south.

Views to the east from the new Western Avenue bridge over SR 99 would include the cut-and-cover tunnel portal building above and the area north of Western Avenue. The Battery Street Tunnel south portal building would extend to the south over the approach roadway. The building roof would be at the approximate level of First Avenue. The tunnel portal building would be about 50 feet high. It would be visible from Western Avenue and from Bell Street north because it would be at about the same elevation as the street and 40 to 60 feet from the sidewalk. It would be a relatively minor element in the continuous arterial framed by buildings. It may be perceived as a minor visual intrusion by some, but because of the complexity of the urban density in the area, it would likely be a minor element. Framed views to the southeast from Western Avenue would be available down Bell Street, but the elevation and the building at the end of the street would limit the distant views of water and mountains.

Views to the southwest from the Elliott Avenue bridge along the alignment of Blanchard Street would include the waterfront piers, with middle ground views of the sport stadiums and Port of Seattle container terminals, as well as background views of Mount Rainier. These views would be similar to the westerly views from Victor Steinbrueck Park Views and the views of the Olympic Mountains that are blocked by the upper floors of the Port of Seattle World Trade Center East.

The improvement in the visual quality in this area is indicated by the increase in ratings from existing conditions and the similarity to the ratings for the Bored Tunnel Alternative, as shown in the Visual Analysis Matrix in Attachment A.

5.3.6 SR 99/Aurora Corridor

The SR 99/Aurora Corridor visual character unit extends several blocks on either side of the existing SR 99 from just north of the Battery Street Tunnel portal at Denny Way to Aloha Street, as shown in Exhibit 2-3.

The continuation of SR 99 to the north as Aurora Avenue would be below grade from Denny Way to Republican Street and rise to the existing grade to allow the retention of Aurora Avenue at-grade at Mercer Street, with Mercer Street conveyed below in a widened undercrossing.

Views From the Roadway

The view for vehicle occupants on northbound SR 99 exiting the tunnel would be of a depressed roadway framed by retaining walls on either side. The view would be a substantial change from the existing frontage of street trees and buildings, but it would not be substantially different from expectations of a high-speed corridor through an urban setting. The three-block section of depressed roadway would be traversed in about 20 seconds and would not likely be a memorable element of a trip.

The major existing visual feature for southbound traffic is the view of the downtown skyline. In addition, there are some side views of the Space Needle along the Broad Street corridor diagonal to the line of travel. The views provided in the lowered portion of Aurora Avenue would be the same as the existing views until about Republican Street, where Aurora Avenue would transition to a cut section bounded by concrete retaining walls. There would be little or no visual interest or relief from the point at which the SR 99 passes beneath the first overpass at Harrison Street to the south portal of the Battery Street Tunnel. The weave of the on-ramp at Denny Way, which is proposed to pass over the northbound lanes and merge on the left side of the roadway, would add some visual clutter, but in general it would be above and out of the line of sight of vehicle occupants.

Views Toward the Roadway

With SR 99 depressed below grade, Thomas and Harrison Streets would connect over SR 99. The neighborhood would no longer be divided by the existing high-speed highway, and vehicle and pedestrian circulation would be enhanced. However, these improvements would not substantially change the visual quality of the street, either for views from the roadway or views toward the roadway. The combined effects of these elements would be an environment much more conducive to pedestrian activity on these cross streets. The increased pedestrian activity, as opposed to vehicle use, would also increase the sense of human scale.

The Battery Street Tunnel north portal building would be located over SR 99 on the north side of Denny Way, and it would block pedestrian views of SR 99 to the north. Loss of this view of a high-speed highway in an urban environment is not considered adverse. The building would be one story high with about 70 feet of street frontage. If the tunnel portal building is designed only to serve its purpose to house tunnel-related functions (ventilation fans and stacks and mechanical and electrical equipment), the design would consist of a blank wall and not contribute to pedestrian activity. Such a purely functional building would not likely incorporate all of the elements in the City's DRGMC (Seattle DPD 2007) that are designed to increase pedestrian comfort and interest (DRGMC D-1) and encourage human activity on the street (DRGMC A-4). The ground level is unlikely to incorporate human-proportioned architectural features and site design elements clearly

oriented to human activity (DRGMC C-1 and C-2). With limited building frontage, however, there would be little effect on the streetscape as a whole.

With the Cut-and-Cover Tunnel Alternative, Mercer Street would remain in an underpass below SR 99, but it would be widened from Dexter Avenue N. to Fifth Avenue N. to provide three lanes of traffic in each direction. The widening of Mercer Street is unlikely to be perceived as a substantial change in the visual environment. Most viewers on either side currently look over the top of the undercrossing to the surface environment in the vicinity. There are few buildings framing the existing undercrossing. Vehicle occupants and pedestrians using the undercrossing would note a wider street bounded by vertical retaining walls, similar to the existing undercrossing. The provision of wider pedestrian sidewalks would improve the visual experience for pedestrians traversing this part of the corridor, compared to the existing narrow walkways, but they would still likely perceive the environment as noisy, with low visual quality. Where convenient, pedestrians are likely to choose routes at Harrison and Thomas Streets, where the crossing environment would be more pleasant and protected from adjacent traffic.

This area would experience little change in visual quality compared to existing conditions, as indicated by the ratings in Attachment A (Visual Analysis Matrix).

Light and Glare

Highway lighting in the lowered portion of the corridor is expected to reduce glare impacts on adjacent buildings. The lighting of SR 99 over the new cross streets would continue to be typical of an urban arterial.

5.4 Operational Effects of the Elevated Structure Alternative

The Elevated Structure Alternative consists of a structure quite a bit larger than the existing viaduct; and the new elevated structure would continue to constitute a primary component of the visual environment in the area. The alignment of the Elevated Structure Alternative is almost identical to that of the existing viaduct.

5.4.1 Stadium Area

The Stadium Area visual character unit includes the area around the stadiums from S. Massachusetts Street to S. King Street, as shown in Exhibit 2-3. In the section of roadway between S. Holgate Street and S. Royal Brougham Way, SR 99 would transition from a side-by-side, at-grade roadway to a side-by-side elevated structure, and then to a stacked structure between S. King and S. Jackson Streets. The roadway would continue north as a double-level structure.

Views From the Roadway

Northbound vehicle occupants on the S. Holgate Street to S. King Street portion of the corridor would experience views of the downtown skyline similar to the existing views, as shown in Appendix E, Exhibits A-1 and A-3. From the at-grade roadway to the single-level side-by-side aerial structure and then to the upper level of the elevated structure, northbound vehicle occupants would experience a smooth transition to the higher elevation that would provide views over waterfront structures to Elliott Bay and the Olympic Mountains to the west, similar to those shown in Appendix E, Exhibits A-3. These features have been designated by the City as significant views of natural and artificial features.

The views from the southbound lanes on the lower deck of the elevated structure would be constricted by the upper deck of the structure, with views to the side constricted by the height of the railings on the lower deck and the vertical support elements. The most prominent features of views to the southwest would be of stacked shipping containers and the giant cranes at the Port of Seattle's Terminal 46. Views would be further restricted by existing buildings and street trees as the roadway descends to grade. As with the existing viaduct, southbound views would have a moderate to low level of visual quality due to the lack of vivid features and the size of the elevated structure itself.

Views Toward the Roadway

The visual context for pedestrians on First Avenue S. and spectators at Qwest Field and Safeco Field would change from existing conditions, primarily because of the elimination of the existing on- and off-ramps from the viaduct to First Avenue S. In their absence would be several blocks of a surface street on First Avenue S. and Railroad Way S. bounded by industrial and commercial buildings. Viewers would experience First Avenue S. as a continuous street corridor lined by buildings on each side, with a greater visual unity and higher visual quality. The Flatiron Building at First Avenue, a City-designated landmark, would enjoy a context similar to that which existed when it was built near the turn of the twentieth century, as indicated in Appendix E, Exhibit A-11.

In the future unused portions of the project area could become available for redevelopment resulting in a wall of new buildings that would be required to meet the City's current height limit, zoning requirements, and design requirements.

The S. Atlantic Street overpass and at-grade SR 99 roadway section approaching S. Royal Brougham Way would not be dominant visual elements for the viewing population, including those at stadium events and travelers on the roadways. The adjacent overpass and at-grade portions of SR 99 would not change the fragmented street-level views to the west or the skyline features of the Port of

Seattle cranes to the west. The view to the north would feature the downtown skyline without the ramps at Railroad Way S., which would be a somewhat more integrated street corridor than the current view, as reflected in the ratings in Attachment A (Visual Analysis Matrix).

The view for attendees at baseball games from the outdoor viewing areas on the west side of Safeco Field at the 300 level or attendees of football games on the Sky Deck level of Qwest Field would continue to have unobstructed westerly foreground views of the Terminal 46 buildings, stacked containers, and cranes and background views of the wooded hills of the Kitsap Peninsula and the more distant peaks of the Olympic Mountains. Viewers looking northwest and north would see the transition from the single-level overpass to the double-level elevated structure. The vivid features of the view, such as the Olympic Mountains and Puget Sound, would be above the level of the structure. The structure would not change the low visual intactness and unity of street-level views of the middle ground features such as the port cranes to the west. The westerly view down the diagonal Railroad Way S. from Qwest Field would be opened up by the removal of the existing ramps on the orientation of the street, which would improve visual quality. The view of the Elevated Structure in the distance would have a number of complex elements, with the north- and southbound lanes staggered at the terminus of the street. These lanes would make the transition to the stacked configuration. The southbound off-ramp also would slope across this viewpoint. The view to the east from Alaskan Way would be of a variety of weaving roadway elements at various elevations and configurations. As viewed from the west, the visual quality of this area would change little compared to existing conditions.

Light and Glare

Lighting in this portion of the corridor is expected to be similar to existing conditions, with little or no change in glare impacts on the surroundings.

5.4.2 Pioneer Square Historic District

The Pioneer Square Historic District visual character unit encompasses most of the historic district from approximately S. Dearborn Street to Columbia Street, as shown in Exhibit 2-3.

Views From the Roadway

Views for northbound vehicle occupants on the new elevated structure would be virtually unchanged from existing conditions. Views to the northwest and west, as indicated for the existing viaduct in Appendix E, Exhibit A-3, would continue to include elements of the waterfront in the foreground, with background views of Puget Sound and the Olympic Mountains. Foreground views of the waterfront

would be available from the far left lane. From the right lanes, the plane of the roadway would cut off most of the foreground view of the waterfront. The solid side barrier on the new structure would further limit views to the west and northwest.

Views to the east would include the buildings in the historic district, most of which are characterized by brick construction. The view, however, would include only the upper floors of the buildings. This truncated view would provide little opportunity to see the unity of the historic buildings or of the district as a whole.

The context of the northbound view from the Elevated Structure Alternative as with the existing viaduct changes slightly at Yesler Way, where the roadway curves to the west about 30 degrees. The roadway orientation places views to the west more within the visual field. The view includes the natural water and landforms of the region to the west. The urban skyline of the Belltown area provides a distinctive view of built features. Overall, the scene has high visual quality as a coherent view of the city in its natural setting.

A similar view continues for about 1,200 feet (about half a minute of driving time at 50 miles per hour) until about Pike Street, where the alignment veers to the northeast and begins to climb toward the Battery Street Tunnel, eliminating the line-of-sight views to the west.

The views from the southbound lanes on the lower deck are restricted by the upper deck and the height of the railings on the lower deck, and they are also interrupted by vertical support columns. The southwesterly views in the Pioneer Square area include stacked containers and docked ships at Terminal 46. The Port of Seattle cranes are the most vivid element in the middle ground of these views, with some views of the West Seattle Bridge in the background. As with the existing viaduct, the southbound views would have a moderate to low level of visual quality due to the lack of vivid features, the encroachment of the viaduct itself on the view, and truncation of natural and human-made features by the structure.

Views Toward the Roadway

The Elevated Structure Alternative would be similar to the existing viaduct in that it would dominate the foreground in views to the west from the five perpendicular streets extending from S. King Street to Yesler Way. With the new elevated structure, the westerly view on Yesler Way at First Avenue is shown in Appendix E, Exhibit A-29. This view is generally representative of the views from the five streets perpendicular to Alaskan Way. Like the existing viaduct, the new elevated structure would contrast in line, materials, scale, and character with the context of this historic area. The horizontal character of the elevated structure would contrast with the generally vertical character of the historic brick

buildings, which are composed of pierced vertical windows separated by narrow piers. In terms of materials and color, the concrete structure would contrast with the red brick that is the predominant building material in the Pioneer Square area. The horizontal levels of the structure would bear no relation to the scale of the horizontal divisions of the buildings into floors at about 12- to 16-foot increments. The greatest contrast in character would be the continued presence of vehicles above grade level in an environment in which all the activities are geared to the street level.

The visual effects of the new elevated structure would typically become greater as one moves closer. The visual effects would be of an increasingly dominant scale that contrasts with the linear rhythm of the street corridor. The Elevated Structure Alternative as with the existing viaduct would cut across the street corridor with its framing elements of building fronts, sidewalks, street trees, and the roadway itself. As one moves closer, the visual barrier of the viaduct is reduced somewhat by the ability to see more clearly under the viaduct to the scene beyond; however, other elements reduce the unity and integrity of the experience of the urban streetscape. Under the structure, views of the open sky above the street would be cut off, street trees eliminated, the temperature drops in the shade, and the high levels of traffic noise reverberate in the space beneath. All of these factors eliminate those elements that generally provide for pedestrian interest and activity.

The Elevated Structure Alternative would be a prominent feature in street-level westerly views from the Alaskan Way surface street toward the historic district, as indicated in Appendix E, Exhibits A-19, A-22, and A-26. The new elevated structure would be substantially wider than the existing viaduct and closer to the west side of Alaskan Way. The west side of the new elevated structure would be about 45 feet west of the existing viaduct at S. Jackson and S. Washington Streets and about 40 feet farther west at Yesler Way. The new structure would also be about 7 feet higher, with a solid barrier at the edge rather than the existing rail. The visual dominance of the foreground views along the waterfront from the west side of Alaskan Way, including the historic pergola of the Washington Street Boat Landing, would be pronounced, as shown in Appendix E, Exhibit A-19. The increased width from the 60 feet for the existing viaduct to about 110 feet for the new elevated structure would result in a greater visual barrier and further discourage pedestrian movement along this route from the historic district to this historic landmark on the waterfront.

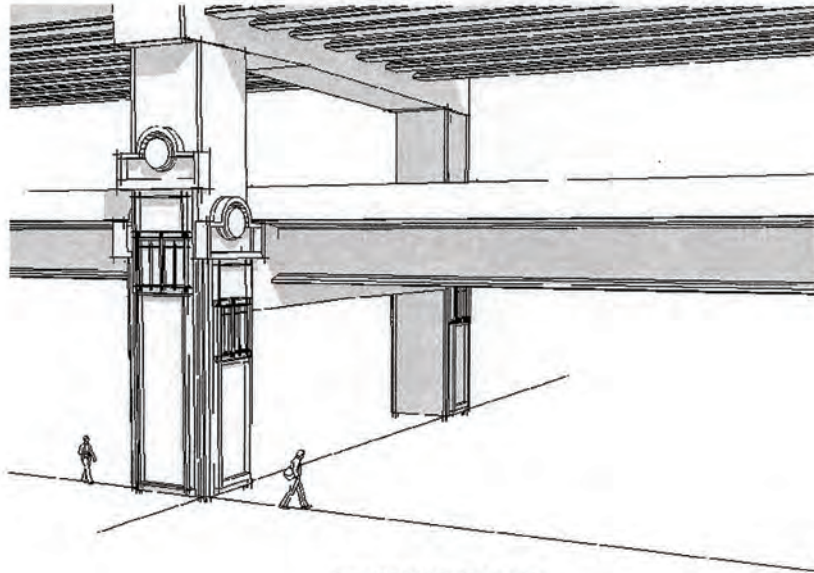
On the east side of the new elevated structure, certain elements would be substantially closer to the historic buildings within the Pioneer Square Historic District. South of S. Main Street, the southbound off-ramp would be about 30 feet closer to adjacent buildings than the existing viaduct. At S. Washington Street, the

wider structure would be marginally closer (about 15 feet), and at Yesler Way, it would be only about 35 feet closer to buildings on its east side. The view adjacent to the buildings on the east side of Alaskan Way is shown in Appendix E, Exhibit A-26.

The greater width and height of the new elevated structure, together with its placement closer to the waterfront and the historic buildings to the east, would greatly reduce opportunities to view the historic character of buildings from either side of the street. In terms of line, scale, and character, the elevated structure would contrast with the older brick buildings, with their pierced vertical windows separated by narrow piers. In terms of materials and color, the concrete structure would contrast with the red brick that is the predominant building material in the Pioneer Square area.

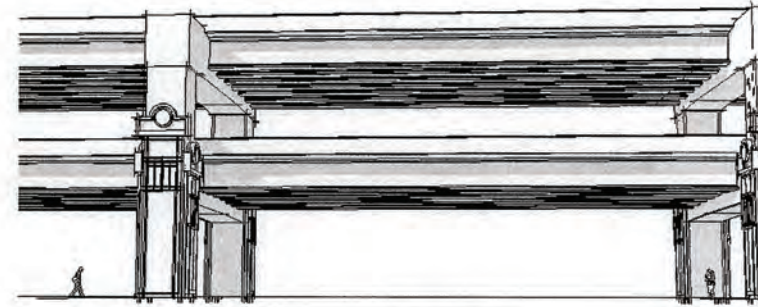
The potential addition of architectural features to the columns in the Pioneer Square area (Exhibit 5-1) would contribute very little to reducing the visual impacts of the Elevated Structure Alternative. The major impacts would be the dominance and intrusion of the structure, which would contrast with the scale and character of the historic buildings and create a visual barrier. The architectural details would have no influence on those impacts. The architectural details on concrete columns would continue to be at variance with the predominant character and scale of the streetscape on perpendicular and parallel streets, which result from buildings with a consistent rhythm of pierced vertical windows separated by narrow piers. The concrete structure would continue contrast with the red brick of the historic buildings in the area in terms of materials and color. Any visual interest provided by architectural elements is likely to be perceived as inconsequential compared to the change in the street corridor due to the cutoff views of the open sky above the street, the absence of framing buildings and street trees, the shade created by the structure, and the high levels of traffic noise reverberating in the space beneath the structure.

Views of the existing viaduct from private property include those available to employees and residents in buildings that face the existing viaduct and from buildings along perpendicular street corridors. Under the Elevated Structure Alternative, the buildings east of First Avenue S. are unlikely to have views of the elevated structure, except down street corridors. Some buildings fronting the west side of First Avenue S. have views of the existing viaduct from rear windows facing west where the intervening buildings facing the Alaskan Way surface street are lower than the viaduct. Views of the new elevated structure from buildings that are not adjacent to the existing viaduct are likely to be similar to the views from the street corridor shown in Appendix E, Exhibit A-29, except that the second- to fourth-floor offices and residences are likely to look directly at the traffic decks of the elevated structure and experience a greater blockage of views.



PERSPECTIVE VIEW

SHOWING EXAMPLE COLUMN FASCIA DETAILS



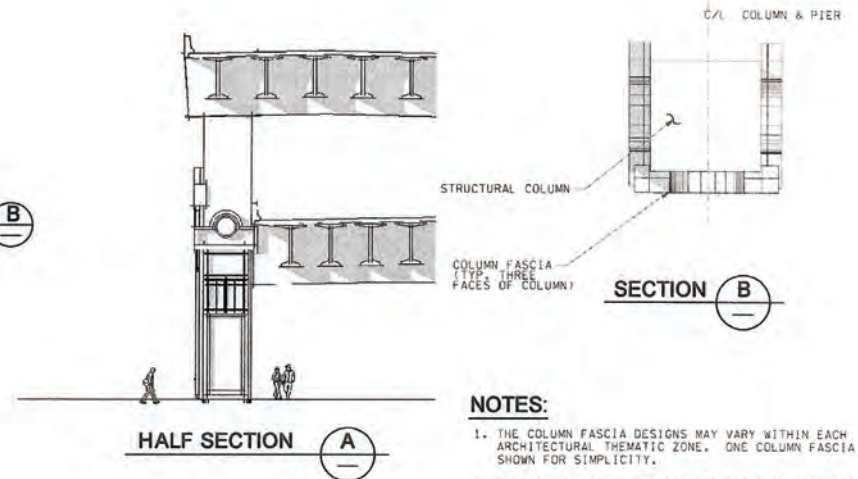
PERSPECTIVE VIEW

SHOWING EXAMPLE COLUMN FASCIA DETAILS



ELEVATION

SHOWING EXAMPLE COLUMN FASCIA DETAILS



HALF SECTION

SECTION B

NOTES:

1. THE COLUMN FASCIA DESIGNS MAY VARY WITHIN EACH ARCHITECTURAL THEMATIC ZONE. ONE COLUMN FASCIA IS SHOWN FOR SIMPLICITY.
2. THE COLUMN FASCIA DESIGNS ARE BASED ON HISTORIC ARCHITECTURAL ELEMENTS WITHIN THE THEMATIC ZONE.

The viewer population in the Pioneer Square Historic District is large and is likely to continue to be among the most sensitive to visual quality. The area has a concentration of small shops, restaurants, and entertainment venues. The visual qualities of the historic area are one of its primary attractions. The lack of vivid elements such as mountains or water does not reduce the visual quality of the area, because the historic character is the visual focus. Like the existing viaduct, the Elevated Structure Alternative would reduce the visual quality of the area west of First Avenue S. to a moderate to low level because of the dominance of the new elevated structure and its encroachment as an element that contrasts with and reduces the unity and integrity of the historic streetscapes.

This area would experience little change in visual quality compared to existing conditions, as indicated by the ratings in Attachment A (Visual Analysis Matrix).

Light and Glare

Lighting in this portion of the corridor is expected to be similar to existing conditions, with little or no change in glare impacts on the surroundings.

5.4.3 Central Waterfront

The Central Waterfront visual character unit extends along the waterfront west of the existing SR 99 from approximately S. Jackson Street where Terminal 46 ends and views of the water are available to approximately Pine Street, as shown in Exhibit 2-3.

Views From the Roadway

For northbound vehicle occupants, the view from the new elevated structure would be similar to the view from the existing viaduct and would include the natural water forms and landforms in the background on the west viewed over the rooflines of the transit sheds on Piers 54 through 59. Foreground views of buildings adjacent to the viaduct on the east tend to be of the roof or a few upper floors. This truncated view lacks compositional harmony and often includes distracting elements such as unscreened mechanical equipment. Northerly views of the urban skyline of Belltown are less vivid than the downtown skyline. Overall, however, the view for northbound vehicle occupants has a vivid focus on the landforms and water forms to the west and moderate compositional harmony that includes a contrast between elements of the human and natural environment.

The views from the southbound lanes on the lower deck of the elevated structure would be constricted by the upper deck and the height of the railings on the lower deck and interrupted by vertical support columns. To the southwest, the foreground views include the Seattle Ferry Terminal parking area and terminal building, the ferry loading headworks, and a truncated view of the upper and roof levels of the transit sheds on Piers 54 through 59. In the middle ground, the

views include the stacked containers and the Port of Seattle cranes on Harbor Island as the most vivid elements. Some views of the West Seattle Bridge in the background are visible. The view for southbound vehicles lacks a vivid focus and has low to moderate unity and compositional harmony.

Views Toward the Roadway

The new elevated structure would be readily observed from the waterfront, extending from S. Jackson Street to the vicinity of Pine Street. At about Union Street, the structure would separate from the Alaskan Way surface street and continue east on a separate right-of-way leading away from the central waterfront to connect with the Battery Street Tunnel.

The waterfront side of the Alaskan Way surface street is characterized by water-oriented structures, including the Seattle Ferry Terminal at Colman Dock and the historic transit sheds of Piers 54, 55, 56, 57, and 59 that evoke the maritime legacy of the waterfront. Although views of the water are obstructed by the Seattle Ferry Terminal, views are available along the waterways between the piers and transit sheds.

In terms of uniformity of line and color, the existing viaduct contrasts with the variety and complexity of uses and human activities on the waterfront to the west. The view south from Waterfront Park, as shown in Appendix E, Exhibit A-36, is characterized primarily by the two horizontal traffic decks of the existing viaduct, which continue into the distance until they curve and disappear among the rooflines of buildings.

Under the Elevated Structure Alternative, views to the east from the waterfront would be affected by greater visual intrusion and dominance by the new elevated structure, as compared to the existing viaduct. From S. Jackson Street to Columbia Street within the Pioneer Square Historic District, the new elevated structure would be slightly higher than the existing viaduct and considerably wider and closer to the waterfront. South of Yesler Way, especially in the vicinity of the Washington Street Boat Landing, the new elevated structure would be about half the distance from the waterfront pedestrian promenade as the existing viaduct. This increase in proximity would considerably increase the visual dominance of the new elevated structure, as well as the noise impacts, as illustrated in Exhibits A-22 and A-26. In addition, south of S. Jackson Street, the transition from a side-by-side configuration to a stacked structure would increase its height and result in less visual unity.

The new elevated structure would contrast with and reduce the unity and integrity of the historic district. The historic character is defined by relatively narrow buildings that face Alaskan Way and perpendicular street corridors, features that provide diversity. These buildings generally share a consistent

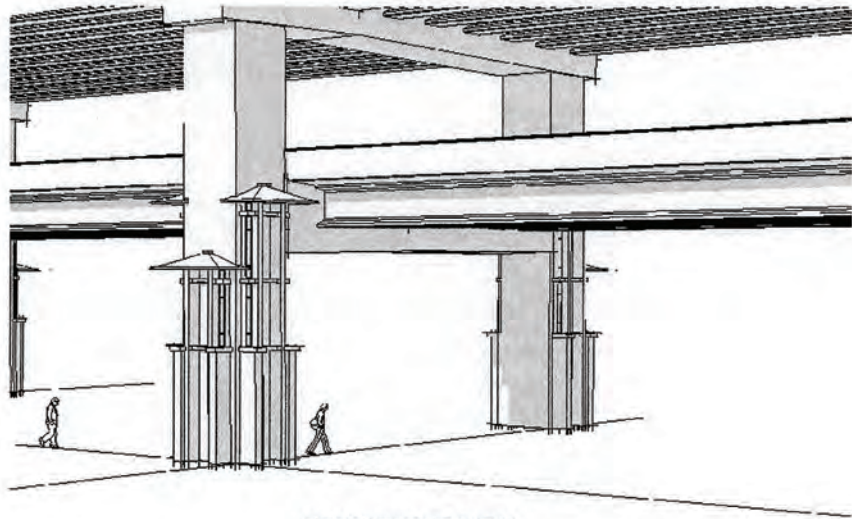
rhythm of pierced windows with narrow piers and red brick materials, as well as supporting elements such as street trees. The elevated structure would be a dominant horizontal concrete structure that would substantially obscure the city block grid structure. The streets as seen from the waterfront on the west are marked primarily by cars and traffic lights, rather than being framed by buildings. The buildings facing Alaskan Way would also be obscured by the new elevated structure, resulting in a clear view of only the building tops. The contrast of the new elevated structure with the historic buildings in terms of form, materials, and color, together with the truncated view of the buildings would result in very low unity, coherence, and low visual quality.

Typical of urban centers, Seattle's downtown area is defined by streets that divide the area into blocks fronted with buildings. North of Columbia Street, the continuous horizontal features of the new elevated structure would interrupt the continuity of views up streets into downtown and obscure the structure of the urban street corridors framed by buildings. The horizontal elements of the elevated structure would block or obscure the lower floors of buildings, resulting in truncated views that contrast with the unity and integrity of the street corridors. Many of the buildings are of older brick construction that dates from the early 1900s, with a modern office building between Madison and Spring Street and a parking lot between Spring and Union Streets. The elevated structure would obscure the lower levels of these buildings and provide a clear view only of the tops.

North of Union Street, the visual impacts of the Elevated Structure Alternative would be similar to those of the existing viaduct, even though the new structure would be wider and farther from the waterfront. The new elevated structure would continue to serve as a barrier between the waterfront and downtown and obscure the patterns of the urban streetscape. North of Pike Street, the lower deck of the existing viaduct begins a transition to a side-by-side configuration. It also moves off the Alaskan Way surface street right-of-way to a separate alignment to the east, which climbs the hill to the Battery Street Tunnel. The transition to a side-by-side configuration is illustrated in Appendix E, Exhibit A-40, the view north from Waterfront Park.

Viewer populations are likely to continue to be sizable, especially in the summer, and are likely to be sensitive to the visual environment because of the largely elective tourist and entertainment activities.

The potential addition of architectural features to the columns in this area, as shown in Exhibit 5-2, would contribute very little to reducing the visual impacts of the Elevated Structure Alternative. The major impacts would be the dominance and intrusion of the structure, which would contrast with the scale



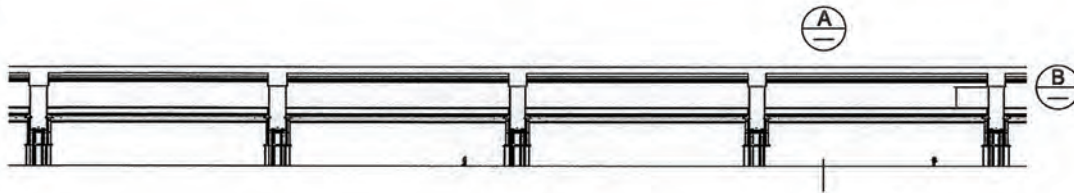
PERSPECTIVE VIEW

VIEWING EXAMPLE COLUMN FASCIA DETAILS



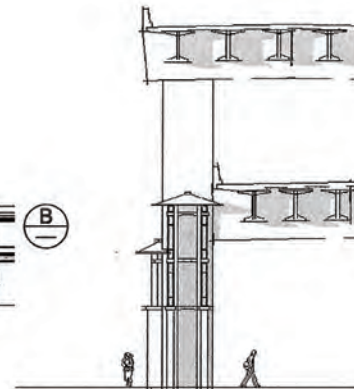
PERSPECTIVE VIEW

VIEWING EXAMPLE COLUMN FASCIA DETAILS

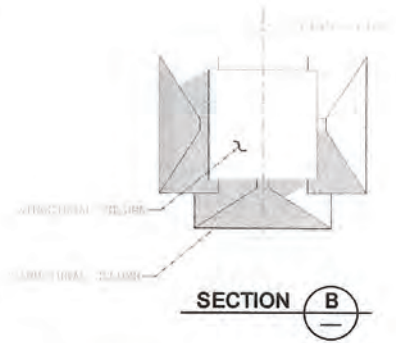


ELEVATION

VIEWING EXAMPLE COLUMN FASCIA DETAILS



HALF SECTION



SECTION B

NOTES:

1. THE COLUMN FASCIA DESIGNS MAY VARY WITHIN EACH ARCHITECTURAL THEMATIC ZONE. ONE COLUMN FASCIA IS SHOWN FOR SIMPLICITY.
2. THE COLUMN FASCIA DESIGNS ARE BASED ON HISTORIC ARCHITECTURAL ELEMENTS WITHIN THE THEMATIC ZONE.

and character of the street pattern and the framing buildings and create a visual barrier. Any visual interest provided by architectural elements is likely to be perceived as inconsequential compared to the change in the street corridor due to the cutoff views of the open sky, the absence of framing buildings and street trees, the shade created by the structure, and the high levels of traffic noise reverberating in the space beneath the structure.

This area would experience little change in visual quality compared to conditions with the existing viaduct, as indicated by the ratings in Attachment A (Visual Analysis Matrix).

Light and Glare

Lighting in this portion of the corridor is expected to be similar to existing conditions, with little or no change in glare impacts on the surroundings.

5.4.4 Commercial Core

The Commercial Core visual character unit includes the area east of the existing viaduct from approximately Columbia Street to the Pike Place Market area at Union Street and the Belltown area at Stewart Street, as shown in Exhibit 2-3.

Views From the Roadway

The views from the roadway in the Commercial Core are the same as those discussed for the Central Waterfront visual character unit in Section 5.4.3, because the Elevated Structure Alternative, like the existing viaduct is between the two visual character units and serves as their boundary.

Views Toward the Roadway

Views of the new elevated structure from the Commercial Core visual character unit are influenced by the distance, topography, character of existing development and the features of the structure. The visual impacts of the elevated structure would be similar to those of the existing viaduct because of its similarity in configuration and size, as illustrated by the view to the west on University Street at First Avenue in Appendix E, Exhibit A-32. The character of the corridors of other streets perpendicular to Alaskan Way are similar to this example, except that University Street does not have building street-walls fronting the north side of the block between Western Avenue and Alaskan Way. Because these streets are more closely framed, they have a slightly less extensive view of the existing viaduct. In all cases, views down the perpendicular streets contain elements of waterfront piers and other structures; the ridge line of West Seattle across Elliott Bay, which includes both housing and wooded greenbelts; and Duwamish Head projecting into Puget Sound. For the most part, the water areas of Elliott Bay are not visible because the angle of the view in this flat area is above the water.

Distant views of the Olympic Mountains are not available from any of these perpendicular streets because of their southwest orientation.

Regardless of the differences between views, the new elevated structure would be visually dominant and would displace visual connections to the waterfront piers and the natural setting. It would cut across the linear orientation of the street and reduce the visual coherence and visual harmony of the street corridors. The encroachment on the fabric of the street corridor would be even greater where ramps are present at Columbia and Seneca Streets. At these locations, the roofing over the corridor, the interruption of the sense of framing by adjacent buildings, and the displacement of street trees would be more apparent, and the noise from traffic on the ramps would encroach further into the street corridor.

Viewer sensitivity for downtown employees engaged in elective activities when using open spaces is likely to be high and is likely to be similar to that of tourists or shoppers. Sensitivity is likely to be higher on designated Green Streets, which include Marion Street from Second Avenue to Alaskan Way, Spring Street from First Avenue to Alaskan Way, and University Street/Harbor Steps from Western Avenue to Alaskan Way.

Views from private property include those available to employees and residents in buildings that face the existing viaduct and from buildings along the perpendicular street corridors. Many high-rise buildings east of First Avenue look down on the existing viaduct through gaps between other buildings. From lower floors at the level of the viaduct, the viaduct is a substantial element of the visual environment. The viaduct becomes an increasingly smaller element of the view from the higher floors. The character of the viaduct as viewed from a substantial distance above is not much different from that of typical urban streets when viewed from above.

Views to the west have some vivid and memorable elements, including those designated by the City as significant features, such as views of Puget Sound and Elliott Bay. The visual quality of these views is reduced in most cases to moderate to low west of First Avenue by the presence of the existing viaduct, which dominates the views down east-west streets as an encroaching element that interrupts and obscures distant features with its horizontal levels. The viaduct also greatly reduces the integrity and unity of elements of the built environment, including the continuity of the streetscape and views of the historic piers along the waterfront.

The potential addition of architectural features to the columns in this area (Exhibit 5-2) would contribute very little to reducing the visual impacts of the Elevated Structure Alternative. The major impacts would be the dominance and intrusion of the structure, which would contrast with the scale and character of

street pattern and the framing buildings and create a visual barrier. Any visual interest provided by architectural elements is likely to be perceived as inconsequential compared to the change in the street corridor due to the cutoff views of the open sky, the absence of framing buildings and street trees, the shade under the elevated structure, and the high levels of traffic noise reverberating in the space beneath the structure.

This area would experience little change in visual quality from existing conditions, as shown by the ratings in Attachment A (Visual Analysis Matrix). The Elevated Structure Alternative would provide little support for the *Downtown Urban Center Neighborhood Plan* (City of Seattle 1999). The plan's policies call for public development to make a positive contribution to the downtown physical environment by enhancing the relationship of downtown to its spectacular setting of water, hills, and mountains; preserving important public views; ensuring light and air at street level; and establishing a high-quality, pedestrian-oriented street environment.

Light and Glare

Lighting in this portion of the corridor is expected to be similar to existing conditions, with little or no change in glare impacts on the surroundings.

5.4.5 Pike Place Market and Belltown

The Pike Place Market visual character unit extends from Union Street to Virginia Street and is bounded on the west by the Alaskan Way corridor (Exhibit 2-3). The Belltown visual character unit wraps around the northeast corner of the Pike Place Market visual character unit and extends from approximately Stewart Street to Denny Way.

Like the alignment of existing viaduct, the Elevated Structure Alternative would leave the alignment of Alaskan Way near Union Street and continue on a separate alignment that climbs the hill west of Pike Place Market and connects to the Battery Street Tunnel.

Views From the Roadway

Views for northbound vehicle occupants on the new elevated structure would be substantially the same to Lenora Street and exactly the same from Lenora Street to the Battery Street Tunnel, as discussed in Section 4.5.

Views Toward the Roadway

Views of the new elevated structure would be available from public streets such as the Pike Street Hillclimb and from open space such as Victor Steinbrueck Park at Western Avenue and Virginia Street. Some views would be available from west-facing windows of Pike Place Market.

Views down the Pike Street Hillclimb below Western Avenue would be dominated by the elevated structure, which would obscure views of features such as the Olympic Mountains, Elliott Bay, and Puget Sound. Views to the west from this area would have low visual quality because the vivid elements of the Olympic Mountains, Puget Sound, and Elliott Bay would be almost completely obscured by the elevated structure, which would be at an elevation that cuts across most views. The existing viaduct also substantially reduces the integrity and unity of the streetscape. Views from the upper elevation of the Pike Street Hillclimb would be less affected, because the viewing areas would mostly be at elevations higher than the elevated structure. Some additional screening would be provided by buildings and trees.

The new elevated structure would not obscure views from above at Victor Steinbrueck Park or Pike Place Market because it would be below the line of sight, as illustrated in Appendix E, Exhibit A-44. Like the existing viaduct, the proposed roadway would be a foreground feature that contributes fast-moving vehicles and the associated noise to the visual and aural context. In the background and middle ground, the roadway would be a linear feature (very similar to the existing viaduct) that would become smaller in scale but would obscure cross streets and the bottoms of adjacent buildings and generally reduce the compositional unity of the urban fabric.

The viewing population from the Pike Place Market area is likely to be highly sensitive to the visual environment because of the elective nature of activities attracted to the area. It is likely that Victor Steinbrueck Park would be the primary viewing location for the elevated structure because of its accessibility and the attractiveness of the panoramic views of Elliott Bay and the downtown skyline.

North of Pike Place Market on both Western and Elliott Avenues in Belltown, the elevated structure would continue to serve as a barrier to visual continuity between the neighborhoods on each side and would likely continue to impede pedestrian movement along these streets, as indicated in Appendix E, Exhibits A-45 and A-50. Because the travel lanes in this area would be side by side and at a diagonal to the streets, the undercrossing would be much wider than the existing structure. This increased scale would result in a longer area of contrasting visual character, shade, and noise than elsewhere along the corridor.

Pedestrians are likely to be the most sensitive viewers in the Belltown area. Retail and restaurant uses, however, are concentrated along First and Second Avenues. There are relatively few destinations for pedestrians on Elliott and Western Avenues. The most sensitive viewer population is likely to consist of residents in the area north of the SR 99 corridor.

This area would experience little change in visual quality compared to existing conditions, as indicated by the ratings in Attachment A (Visual Analysis Matrix). The Elevated Structure Alternative would provide little support for the *Downtown Urban Center Neighborhood Plan* (City of Seattle 1999). The plan's policies call for public development to make a positive contribution to the downtown physical environment by enhancing the relationship of downtown to its spectacular setting of water, hills, and mountains; preserving important public views; ensuring light and air at street level; and establishing a high-quality, pedestrian-oriented street environment.

Light and Glare

Lighting in this portion of the corridor is expected to be similar to existing conditions, with little or no change in glare impacts on the surroundings.

5.4.6 SR 99/Aurora Corridor

The SR 99/Aurora Corridor visual character unit is the area extending several blocks on either side of the existing SR 99 from Denny Way to Aloha Street, as shown in Exhibit 2-3.

Under the Elevated Structure Alternative, the continuation of SR 99 to the north as Aurora Avenue would have the same configuration as that for the Cut-and-Cover Tunnel Alternative. It would have a below-grade configuration from Denny Way to Republican Street that would rise to existing grade to allow the retention of Aurora Avenue at-grade at Mercer Street, with Mercer Street conveyed below in a widened undercrossing. Refer to Section 5.3.6 for a discussion of the visual effects.

5.5 Operational Mitigation

The Seattle Design Commission is expected to review and provide input on the design features of buildings and features such as retaining walls, railings, and light standards on above-grade elements of all alternatives to be incorporated into the design guidelines that will be developed for the project.

5.5.1 Tunnel Alternatives

The bored tunnel and cut-and-cover tunnel may be considered mitigation through the avoidance of above-grade or at-grade transportation facilities with their associated visual characteristics. In addition, a variety of visual amenities could be incorporated into a linear transportation project such as the Bored Tunnel or Cut-and-Cover Tunnel Alternatives. Visual resource enhancement and mitigation for this project may be coordinated so that they are consistent with the City's waterfront planning process.

Mitigation for the effects of the Bored Tunnel and Cut-and-Cover Tunnel Alternatives may include enhancement of beneficial effects as well as mitigation for adverse effects. Opportunities for visual quality enhancement include the development of standards for the project that include visual, design, architectural, signage, and lighting parameters to create a consistent visual palette close to the character of the surrounding streetscape.

The design guidelines could include the following elements:

- A design theme for structural elements such as portals.
- Softening of the appearance of roadway areas through the use of landscape materials and street trees and the placement of trees such that they do not block view corridors.
- Signage within the corridor and adjacent to the corridor that ensures both readability for drivers and harmony with the surrounding landscape.
- Use of street lighting supports and fixtures in appropriate portions of the corridor, including the potential for recessed or shielded lighting that minimizes the effects on adjacent uses. The hue of the lighting also could be coordinated as appropriate for the surrounding streets.
- For surface elements, use of sidewalk, median, and crosswalk treatments that provide visual unity and reinforce way-finding by clearly demarcating pedestrian routes and continuing the same treatments into the area on either side of the corridor.
- Use of appropriate scale, massing, and character of structures to complement the context and qualities of adjacent neighborhoods.

Mitigation would be similar for the potential visual effects of the tunnel operations buildings at the north and south portals for the Bored Tunnel Alternative. The effects of blank walls at the pedestrian level can be mitigated by providing landscaping and screening or incorporating art or graphics at the street level. These mitigation measures could reduce the starkness of wall treatments. Similar treatments could be used for the smaller tunnel maintenance buildings in the north and south for the Cut-and-Cover Tunnel Alternative.

Additional mitigation could include pedestrian-oriented uses at the ground level and the incorporation of building features that would meet the applicable Seattle Design Review Guidelines (Seattle DCLU 2005). Such elements include an architectural composition that reflects the urban pattern, including windows and other features similar to other office or residential buildings in the area (DRGDD A-1 and DRGMC C-1). The design could also incorporate ground-level features to avoid blank walls (DRGDD C-3); promote pedestrian interaction (DRGDD C-1 and DRGMC A-4); scale façades and building entries to promote

pedestrian comfort, safety, and orientation (DRGDD C-2, DRGDD C-4, and DRGMC C-2); and provide a distinctive, attractive, and memorable sense of place (DRGDD D-3 and DRGMC D-1). An additional strategy to achieve this goal could involve setting the tunnel buildings away from the street, with an intervening parcel that would be sold to private developers. This would relieve WSDOT of the need to maintain ground-level tenants and construct building features that are not directly related to mechanical functions.

5.5.2 Elevated Structure Alternative

There would likely be some Seattle Design Commission input on architectural features that could be incorporated into concrete columns, retaining walls, etc. Other opportunities for visual quality enhancement include project-specific design standards that cover signage and lighting parameters to create a consistent visual palette close to the character of the surrounding streetscape.

5.6 Operational Benefits

5.6.1 Tunnel Alternatives

Implementation of the Bored Tunnel Alternative or the Cut-and-Cover Tunnel Alternative would benefit the visual environment by removing the existing viaduct. The elimination of the viaduct would help substantially in visually integrating the waterfront with downtown.

Views from the waterfront would clearly include the structure of the adjacent Pioneer Square Historic District and Commercial Core, which consists of blocks of buildings defined by street corridors. These easterly views would no longer be obstructed by an immense roadway structure with homogenous features. The structure and design unity of the city would be clearly readable, as indicated in Appendix E, Exhibit A-21. In the absence of the existing viaduct, the buildings would clearly have a base, middle, and a top. The three- to six-story buildings that frame the Alaskan Way surface street would provide a coherent set of urban elements, starting with the elements of the streetscape, such as the roadway, sidewalks, street trees, and vegetation, and continuing with the full frontage of buildings, with the background tiers of buildings farther to the east. The buildings would not be visually truncated. There would be a consistent transition up the street, without an abrupt boundary of shadow or structure cutting across the street corridor. The entire corridor would be open to the sky. The dominant and vivid elements of the view would be the more distant elements of the downtown skyline, rather than an elevated roadway structure cutting across the scene. The visual continuity of downtown would extend to the waterfront. Viewer populations and the general level of activity along the waterfront are likely to be greater because of the improved visual quality of the setting. In the

absence of the viaduct, additional sidewalk, landscaping, and open space would further improve the visual environment on Alaskan Way.

The Bored Tunnel and Cut-and-Cover Tunnel Alternatives would replace lighting associated with the existing viaduct that is considerably higher than ground level with street light supports typical of an urban arterial. The removal of street lights on the upper level of the viaduct would result in less glare, resulting in a visual environment more consistent with the character of the Pioneer Square Historic District.

Removal of the existing viaduct would benefit the visual environment in the area and the uses in buildings immediately east of the viaduct that are currently affected by noise and other proximity effects. The building frontage likely would be devoted to more street-level, outdoor-oriented uses, which would contribute to the visual interest of the area as a whole. Some buildings and undeveloped parcels adjacent to Alaskan Way may be redeveloped into pedestrian-oriented spaces, providing landscaping, seating, and commercial activities such as outdoor cafés.

The portion of Aurora Avenue between Harrison Street and Denny Way would be connected with the neighborhood street system. Features such as an at-grade roadway with pedestrian crossings, wider sidewalks, and street trees, along with the absence of high-speed highway traffic would result in a more pedestrian-friendly environment.

The improvements in visual quality resulting from the elimination of the viaduct would vary by viewpoint but include an increase in the vividness of some views with water, landform, and human-built elements that are currently screened or obscured by the existing viaduct; the elimination of the viaduct as an encroaching element that is at variance with the patterns of building frontages and streetscapes; and an increase in the unity of assemblages of urban buildings organized around the structure of urban streets and blocks. In the case of the Alaskan Way right-of-way, the elimination of the viaduct would also create urban open space, which allows patterns of vegetation and use that may provide visual relief or an assemblage of complementary spaces and activities.

5.6.2 Elevated Structure Alternative

Few, if any, improvements to the visual environment would result from the Elevated Structure Alternative. Given the greater bulk and height of the structure relative to the existing viaduct, there would be no visual quality benefits.

Chapter 6 CONSTRUCTION EFFECTS AND MITIGATION

6.1 Construction Effects

6.1.1 Construction Effects Common to All Alternatives

The total duration of construction for the Bored Tunnel Alternative and the Cut-and-Cover Tunnel Alternative would be approximately 5.4 and 8.75 years, respectively. The duration of construction for the Elevated Structure Alternative would be about 10 years. The effects of construction on visual quality would be temporary and related to a variety of elements common to construction activities, including staging areas, closed roadway sections, detours, heavy equipment, scaffolding, cranes, and temporary storage of materials. Refer to Appendix B, Alternatives Description and Construction Methods Discipline Report, for more detailed information regarding construction methods, timing, and staging areas. The visual effects of construction would generally not change the overall regional views. Where distant views of water features and mountains are present, they likely would remain visible.

6.1.2 Construction Effects Specific to Each Alternative

Staging Areas

The proposed construction staging areas are largely considered to be the same for all three build alternatives. For greater detail on the activities likely to occur at each staging area, see Appendix B, Alternatives Description and Construction Methods Discipline Report.

The visual effects of staging areas for the bored tunnel and cut and cover tunnel and road construction would result from a variety of equipment and materials storage. The most prominent elements would likely be large construction equipment necessary to build the open-trench portion of the tunnel and to place or extract the tunnel-boring machine. Other types of equipment that would be visually prominent could include cranes and gantries to move precast tunnel lining segments. Others would be the hoppers and conveyor systems for the disposal of excavation spoils, which could include installations bridging city streets. Conveyors passing over East Marginal Way S. to Terminal 46 to the barging facility would become part of the scene for the duration of the bored tunnel drive.

The Washington-Oregon Shippers Cooperative Association (WOSCA) site, which lies to the west of First Avenue S. between S. Royal Brougham Way and S. King Street, is one of the major staging areas for the build alternatives.

Visual impacts of construction relate to the perception of a disrupted environment with a variety of construction activities, equipment, and stored materials as compared with the elements of a normal urban streetscape. The construction areas and staging areas would lack the visual cohesion of an urban streetscape and would have low levels of visual quality, compared to the street scenes prior to construction and the expected character after construction.

Bored Tunnel Alternative

The proposal for the bored tunnel includes noise walls around the immediate vicinity of the both the south and north portals. At the south portal, noise walls 10 feet high or higher would be constructed on the northern and eastern portions of the staging and construction area between S. King Street and S. Royal Brougham Way on First Avenue S. Walls south of this point would be less than 10 feet tall and would extend around the remainder of the staging and construction area.

At the north portal, noise walls 16 feet high would be constructed on the north side of Thomas Street from the west side of the Sixth Avenue N. right-of-way to the alley midway between Sixth Avenue N. and Aurora Avenue. These walls would extend north along the west side of the Sixth Avenue N. right-of-way for about 150 feet and along the west side of the alley for about 500 feet.

For views from the road, the walls at the south portal would be on the east side of the at-grade portions of the southbound detour route and would cut off views of First Avenue S. to the east and other elements of the urban streetscape. The presence of blank walls along this portion of the route is likely to be perceived as a featureless and negative element of the view. Vehicles using this detour, would pass quickly through this area and would be involved in complex driving maneuvers as they travel through several sharp curves. For these reasons, the walls would not likely be a major element of the visual environment of drivers. Passengers would perceive this detour corridor as an area of low visual interest sandwiched between a construction staging area and blank walls, but it would be a very short portion of the overall trip.

The noise walls at the north portal would not be apparent in views from the road on the existing SR 99 route throughout construction because it is west of and isolated from the existing alignment, which would be used until the tunnel construction is completed. The portions of the noise walls along Sixth Avenue N. and the alley would not be readily visible to most pedestrians or occupants of vehicles on the local streets. The portion of the wall along Thomas Street at the edge of the sidewalk would be a visual intrusion in an otherwise typical urban streetscape. The 16-foot-height of the walls would dominate the visual environment from the sidewalk next to the wall. The walls would be less

intrusive for views from a greater distance, including those for pedestrians on the opposite side of the street.

These noise walls would screen views of construction equipment for pedestrians and vehicle occupants from sidewalks and travel lanes adjacent to the walls, respectively. They would screen equipment below the height of the walls and would reduce the extent to which the construction area lacks visual cohesion. Although the presence of a wall introduces an element with visual unity, it also lacks visual interest, unless the wall surface incorporates graphics or other features that provide visual interest.

Construction of the underground portions of the bored tunnel would have no visual effects because the activities would occur below grade or at the portals. As mentioned above, the staging areas would have temporary visual impacts. An additional feature related to the bored tunnel would be a temporary electrical substation needed to power the tunnel boring machine located on the WOSCA site. The footprint for the substation would be approximately 75 by 125 feet, and the structure is expected to be no more than two stories high.

Viaduct Removal

During the demolition of the existing viaduct for the Bored Tunnel Alternative, there would be a variety of active construction sites along the corridor at any one time, with an associated mix of equipment and stored materials. The normal streetscapes would be disrupted by fencing, equipment, vehicles, and construction activity. The most prominent elements would likely be cranes and other equipment of varying heights that may protrude above the existing structure. Views down the viaduct corridor would be interrupted by construction equipment and materials, such as vehicles and fencing.

During viaduct demolition and removal, vehicle and pedestrian detours would be in place for specific intervals. Pedestrians and drivers would encounter surface streets obstructed by temporary signs and other traffic control devices.

Decommissioning of the Battery Street Tunnel

The proposal with the Bored Tunnel Alternative to fill the existing Battery Street Tunnel would result in visual effects to the extent that vehicles and equipment conveying and placing fill would be present in the corridor. Pedestrians and drivers would encounter surface streets with temporary construction-related signs and traffic control barriers and devices.

Cut-and-Cover Tunnel Alternative

The construction of the Cut-and-Cover Tunnel Alternative would involve a large open cut along the central waterfront that would be open in stages. Portions of the waterfront would be closed to vehicles while the cut is open. Temporary

pedestrian bridges would maintain access to the waterfront piers during construction. Views from the piers on the west side of the corridor would include a variety of equipment, vehicles, and construction activity. In addition, the staging areas would have visual impacts.

Views from viewpoints east of the existing viaduct would largely be confined to street corridors and would be changed little by construction in the first 3 years of construction. The viaduct would then be demolished.

Viaduct Removal

During the demolition of the existing viaduct for the Cut-and-Cover Tunnel Alternative, there would be a variety of active construction sites along the corridor at any one time, with an associated mix of equipment and stored materials. The normal streetscapes would be disrupted by fencing, equipment, vehicles, and construction activity. The most prominent elements would likely be cranes and other equipment of varying heights that may protrude above the existing structure. Views down the viaduct corridor would be interrupted by construction equipment and materials, such as vehicles and fencing.

During viaduct demolition and removal, vehicle and pedestrian detours would be in place for specific intervals. Pedestrians and drivers would encounter surface streets obstructed by temporary signs and other traffic control devices.

Elevated Structure Alternative

The Elevated Structure Alternative would be built in sections, with traffic maintained on portions of the old and new structures. The impacts of construction are likely to be similar to those indicated for the Cut-and-Cover Tunnel Alternative, except that reconstruction of the seawall would take place in conjunction with construction of the elevated structure. Seawall construction would require the closure of some lanes on the Alaskan Way surface street and would prevent pedestrian movement along portions of the waterfront. The area of construction at any one time would be limited, and affected portions of the waterfront would be open to the public relatively soon after installation of reconstruction of the seawall. In addition, the staging areas would have visual impacts.

The Broad Street detour is proposed during construction of the Elevated Structure Alternative. A temporary aerial structure would be constructed in the Broad Street right-of-way starting at Western Avenue; the structure would extend to the west over Elliott Avenue, the BNSF railroad tracks, and Alaskan Way. This structure would have temporary visual impacts on the Olympic Sculpture Park and other adjacent properties, as indicated in Appendix E, Exhibit A-52. This aerial structure would be approximately 30 to 35 feet high. Views of the

waterfront and Mount Rainier to the south may be somewhat obscured for pedestrians and others using the Olympic Sculpture Park.

6.2 Construction Mitigation

The most effective construction mitigation for all the build alternatives is to restore the construction corridor in areas where construction has been completed in intermediate stages rather than waiting until the completion of the entire project.

Local visual interest could be added to the construction sites by creating viewing areas with project-related information for pedestrians. WSDOT will design and place construction screens or barriers to limit the visibility of work areas that would intrude on adjacent activities (such as pedestrians or those gathering for sports events). The construction barriers could incorporate pedestrian-oriented murals or other displays of graphic interest. The displays could be integrated with public notification of detours, areas to be closed, and the general public access plan. The designated view locations could be designed to allow visibility of key construction activities or locations that may be of interest. This would limit visual disruptions while allowing views of construction at key locations. WSDOT will direct temporary lighting for construction sites away from nearby residences and businesses. Detours for vehicles and pedestrians could include common graphic themes for way-finding displays.

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Chapter 7 TOLLING

A range of tolling proposals was considered and analyzed. The considerations included using low, medium, or high tolls; varying the toll by time of day; applying a peak-only toll; tolling the tunnel segment only; or tolling the tunnel and the SR 99 corridor, by charging drivers who use the corridor to get to or through downtown Seattle from points north and south of the build alternatives. The analysis did not assume that transit or carpools would pay a toll.

Tolling is not expected to have any differential effects on visual resources in the study area. Tolls would be collected electronically, so the project would not include structures such as toll booths. The tolling operations would occur within developed areas, with no increase in effects on the viewshed.

A major potential effect of tolling at any rate level or location is the diversion of traffic to other routes. People who do not want to pay the toll would choose to travel on a more congested route to save money. Tolling estimates, derived from the traffic modeling analysis, provided the percentage of drivers who would choose alternate routes. Much of the diverted traffic would use the closest alternate routes to SR 99: Alaskan Way or First Avenue/First Avenue S.

The traffic could divert traffic to other streets. Additional vehicles on a street may be regarded as a change in visual character for specific arterials, particularly the portion of First Avenue S. that passes through the Pioneer Square Historic District between Yesler Way and S. King Street, which has a planted median and other features that contributes to the pedestrian oriented character of the area. Additional traffic in this area may be regarded by residents and business customers as a change in the character of this area. However, for most urban arterials in the downtown area, tolling is not expected to increase traffic on alternate routes in ways that would change the existing visual environment.

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ATTACHMENT A

Visual Analysis Matrix

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Exhibit A-1. Visual Analysis Matrix

| Viewpoint Location | | Roadway Northbound at S. Dearborn Street | Roadway Northbound at S. Dearborn Street | Roadway Northbound at S. Dearborn Street | Roadway Northbound at S. Dearborn Street | First Avenue S. South of Railroad Way S. | First Avenue S. South of Railroad Way S. | First Avenue S. South of Railroad Way S. | First Avenue S. South of Railroad Way S. | Alaskan Way S. at Railroad Way S. | Alaskan Way S. at Railroad Way S. | Alaskan Way S. at Railroad Way S. |
|-----------------------------|----------------|--|--|--|--|--|--|--|--|-----------------------------------|-----------------------------------|-----------------------------------|
| Alternative | | Existing | Bored Tunnel | Cut-and-Cover Tunnel | Elevated Structure | Existing | Bored Tunnel | Cut-and-Cover Tunnel | Elevated Structure | Existing | Bored Tunnel | Cut-and-Cover Tunnel |
| Photo Simulation | | A-1, A-3 | A-2, A-3 | A-2, A-3 | A-1, A-3 | A-4 | A-5 | A-5 | A-5 | A-10 | A-11 | A-12 |
| Visual Character Unit | | Stadium Area | Stadium Area | Stadium Area | Stadium Area | Stadium/Pioneer Square | Stadium/Pioneer Square | Stadium/Pioneer Square | Stadium/Pioneer Square | Stadium/Pioneer Square | Stadium/Pioneer Square | Stadium/Pioneer Square |
| View Orientation | | North & Northwest | North & Northwest | North & Northwest | North & Northwest | North | North | North | North | Southeast | Southeast | Southeast |
| View Distance | Foreground | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 100 feet | 100 feet | 100 feet | 100 feet | 300 feet | 300 feet | 300 feet |
| | Middle ground | 3,000 feet | 3,000 feet | 3,000 feet | 3,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet |
| | Background | 2-60 miles | 2-60 miles | 2-60 miles | 2-60 miles | 2 miles | 2 miles | 2 miles | 2 miles | 1/2 mile | 1/2 mile | 1/2 mile |
| Viewer Position | Inferior | | | | | X | | | | X | | |
| | Level | | X | X | X | | X | X | X | | X | X |
| | Superior | X | | | | | | | | | | |
| Vividness | Landforms | 9 | 8 | 8 | 8 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | Water forms | 9 | 6 | 6 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Vegetation | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 1 | 3 | 3 |
| | Human-made | 9 | 9 | 9 | 9 | 4 | 7 | 7 | 7 | 4 | 7 | 7 |
| | Average | 7.25 | 6.25 | 6.25 | 6.5 | 2 | 3 | 3 | 3 | 1.75 | 3 | 3 |
| Intactness | Development | 9 | 9 | 9 | 9 | 5 | 7 | 7 | 7 | 2 | 7 | 7 |
| | Encroachment | 7 | 9 | 9 | 7 | 3 | 8 | 8 | 8 | 1 | 6 | 6 |
| | Average | 8 | 9 | 9 | 8 | 4 | 7.5 | 7.5 | 7.5 | 1.5 | 6.5 | 6.5 |
| Unity | Overall | 7 | 8 | 8 | 8 | 4 | 7 | 7 | 7 | 4 | 8 | 8 |
| Total Visual Quality | | 7.4 | 7.8 | 7.8 | 7.5 | 3.3 | 5.8 | 5.8 | 5.8 | 2.4 | 5.8 | 5.8 |

| Visual Quality Assessment Rating Scale | | | | | | | |
|--|-----------------|---------|-----------------|------------------------------|-----------------|-------------------------|-----------------|
| Vividness | | Unity | | Intactness Human Environment | | Intactness Encroachment | |
| 10 | Very High | 10 | Very High | 10 | Very High | 10 | Very High |
| 9 | High | 9 | High | 9 | High | 9 | High |
| 7, 8 | Moderately High | 7, 8 | Moderately High | 7, 8 | Moderately High | 7, 8 | Moderately High |
| 4, 5, 6 | Average | 4, 5, 6 | Average | 4, 5, 6 | Average | 4, 5, 6 | Average |
| 2, 3 | Moderately Low | 2, 3 | Moderately Low | 2, 3 | Moderately Low | 2, 3 | Moderately Low |
| 1 | Low | 1 | Low | 1 | Low | 1 | Low |
| 0 | Very Low | 0 | Very Low | 0 | Very Low | 0 | Very Low |

Exhibit A-1. Visual Analysis Matrix

| Viewpoint Location | | Alaskan Way S. at Railroad Way S. | Yesler Way at First Avenue | Yesler Way at First Avenue | Yesler Way at First Avenue | Yesler Way at First Avenue | University Street at First Avenue | University Street at First Avenue | University Street at First Avenue | University Street at First Avenue | Alaskan Way at Union Street | Alaskan Way at Union Street |
|-----------------------------|----------------|-----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------|-----------------------------|
| Alternative | | Elevated Structure | Existing | Bored Tunnel | Cut-and-Cover Tunnel | Elevated Structure | Existing | Bored Tunnel | Cut-and-Cover Tunnel | Existing | Existing | Bored Tunnel |
| Photo Simulation | | A-13 | A-22 | A-23 | A-23 | A-24 | A-25 | A-26 | A-26 | A-27 | A-28 | A-29 |
| Visual Character Unit | | Stadium/Pioneer Square | Pioneer Square Historic District | Pioneer Square Historic District | Pioneer Square Historic District | Pioneer Square Historic District | Commercial Core | Commercial Core | Commercial Core | Commercial Core | Central Waterfront | Central Waterfront |
| View Orientation | | Southeast | West | West | West | West | West | West | West | West | South | South |
| View Distance | Foreground | 300 feet | 300 feet | 300 feet | 300 feet | 300 feet | 500 feet | 500 feet | 500 feet | 500 feet | 500 feet | 500 feet |
| | Middle ground | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet |
| | Background | 1/2 mile | 2-5 miles | 2-5 miles | 2-5 miles | 2-5 miles | 2-30 miles | 2-30 miles | 2-30 miles | 2-30 miles | 2-3 miles | 2-3 miles |
| Viewer Position | Inferior Level | X | X | | | X | | | | | X | |
| | Superior | | | X | X | | X | X | X | X | | X |
| | | | | | | | | | | | | |
| Vividness | Landforms | 2 | 4 | 8 | 8 | 4 | 6 | 8 | 8 | 6 | 6 | 9 |
| | Water forms | 0 | 4 | 7 | 7 | 4 | 7 | 9 | 9 | 7 | 7 | 8 |
| | Vegetation | 1 | 4 | 5 | 5 | 4 | 4 | 6 | 6 | 4 | 4 | 6 |
| | Human-made | 4 | 7 | 8 | 8 | 7 | 6 | 8 | 8 | 6 | 4 | 8 |
| | Average | 1.75 | 4.75 | 7 | 7 | 4.75 | 5.75 | 7.75 | 7.75 | 5.75 | 5.25 | 7.75 |
| Intactness | Development | 2 | 3 | 7 | 7 | 3 | 4 | 7 | 7 | 4 | 5 | 7 |
| | Encroachment | 1 | 3 | 8 | 8 | 3 | 2 | 8 | 8 | 2 | 2 | 8 |
| | Average | 1.5 | 3 | 7.5 | 7.5 | 3 | 3 | 7.5 | 7.5 | 3 | 3.5 | 7.5 |
| Unity | Overall | 4 | 4 | 8 | 8 | 4 | 4 | 8 | 8 | 4 | 5 | 8 |
| Total Visual Quality | | 2.4 | 3.9 | 7.5 | 7.5 | 3.9 | 4.3 | 7.8 | 7.8 | 4.3 | 4.6 | 7.8 |

| Visual Quality Assessment Rating Scale | | | | | | | |
|--|-----------------|---------|-----------------|------------------------------|-----------------|-------------------------|-----------------|
| Vividness | | Unity | | Intactness Human Environment | | Intactness Encroachment | |
| 10 | Very High | 10 | Very High | 10 | Very High | 10 | Very High |
| 9 | High | 9 | High | 9 | High | 9 | High |
| 7, 8 | Moderately High | 7, 8 | Moderately High | 7, 8 | Moderately High | 7, 8 | Moderately High |
| 4, 5, 6 | Average | 4, 5, 6 | Average | 4, 5, 6 | Average | 4, 5, 6 | Average |
| 2, 3 | Moderately Low | 2, 3 | Moderately Low | 2, 3 | Moderately Low | 2, 3 | Moderately Low |
| 1 | Low | 1 | Low | 1 | Low | 1 | Low |
| 0 | Very Low | 0 | Very Low | 0 | Very Low | 0 | Very Low |

Exhibit A-1. Visual Analysis Matrix

| Viewpoint Location | | Alaskan Way at Union Street | Alaskan Way at Union Street | Alaskan Way at Union Street | Alaskan Way at Union Street | Alaskan Way at Union Street | Alaskan Way at Union Street | Victor Steinbrueck Park | Victor Steinbrueck Park | Victor Steinbrueck Park | Victor Steinbrueck Park | Elliott Avenue at Bell Street |
|-----------------------------|----------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------------|
| Alternative | | Cut-and-Cover Tunnel | Elevated Structure | Existing | Bored Tunnel | Cut-and-Cover Tunnel | Elevated Structure | Existing | Bored Tunnel | Cut-and-Cover Tunnel | Elevated Structure | Existing |
| Photo Simulation | | A-29 | A-30 | A-31 | A-32 | A-33 | A-34 | A-35 | A-36 | A-37 | A-38 | A-39 |
| Visual Character Unit | | Central Waterfront | Central Waterfront | Central Waterfront | Central Waterfront | Central Waterfront | Central Waterfront | Pike Place Market | Pike Place Market | Pike Place Market | Pike Place Market | Belltown |
| View Orientation | | South | South | North | North | North | North | South | South | South | South | North |
| View Distance | Foreground | 500 feet | 500 feet | 500 feet | 500 feet | 500 feet | 500 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 300 feet |
| | Middle ground | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 3,000 feet | 3,000 feet | 3,000 feet | 3,000 feet | 1,000 feet |
| | Background | 2-3 miles | 2-3 miles | 2,500 feet | 2,500 feet | 2,500 feet | 2,500 feet | 2-60 miles | 2-60 miles | 2-60 miles | 2-60 miles | 1/2 mile |
| Viewer Position | Inferior | | X | X | | | X | | | | | X |
| | Level | X | | | X | X | | | | | | |
| | Superior | | | | | | | X | X | X | X | |
| Vividness | Landforms | 9 | 6 | 6 | 7 | 7 | 6 | 6 | 6 | 6 | 6 | 2 |
| | Water forms | 8 | 7 | 0 | 0 | 0 | 0 | 8 | 8 | 8 | 8 | 0 |
| | Vegetation | 6 | 4 | 3 | 5 | 7 | 3 | 2 | 4 | 6 | 2 | 1 |
| | Human-made | 8 | 4 | 3 | 4 | 5 | 3 | 6 | 6 | 6 | 6 | 4 |
| | Average | 7.75 | 5.25 | 3 | 4 | 4.75 | 3 | 5.5 | 6 | 6.5 | 5.5 | 1.75 |
| Intactness | Development | 7 | 5 | 4 | 7 | 7 | 4 | 5 | 7 | 7 | 5 | 2 |
| | Encroachment | 8 | 2 | 3 | 6 | 6 | 3 | 3 | 6 | 6 | 3 | 1 |
| | Average | 7.5 | 3.5 | 3.5 | 6.5 | 6.5 | 3.5 | 4 | 6.5 | 6.5 | 4 | 1.5 |
| Unity | Overall | 8 | 5 | 4 | 7 | 7 | 4 | 4 | 7 | 7 | 4 | 4 |
| Total Visual Quality | | 7.8 | 4.6 | 3.5 | 5.8 | 6.1 | 3.5 | 4.5 | 6.5 | 6.7 | 4.5 | 2.4 |

| Visual Quality Assessment Rating Scale | | | | | | | |
|--|-----------------|---------|-----------------|------------------------------|-----------------|-------------------------|-----------------|
| Vividness | | Unity | | Intactness Human Environment | | Intactness Encroachment | |
| 10 | Very High | 10 | Very High | 10 | Very High | 10 | Very High |
| 9 | High | 9 | High | 9 | High | 9 | High |
| 7, 8 | Moderately High | 7, 8 | Moderately High | 7, 8 | Moderately High | 7, 8 | Moderately High |
| 4, 5, 6 | Average | 4, 5, 6 | Average | 4, 5, 6 | Average | 4, 5, 6 | Average |
| 2, 3 | Moderately Low | 2, 3 | Moderately Low | 2, 3 | Moderately Low | 2, 3 | Moderately Low |
| 1 | Low | 1 | Low | 1 | Low | 1 | Low |
| 0 | Very Low | 0 | Very Low | 0 | Very Low | 0 | Very Low |

Exhibit A-1. Visual Analysis Matrix

| Viewpoint Location | | Elliott Avenue at Bell Street | Elliott Avenue at Bell Street | Elliott Avenue at Bell Street | Aurora Avenue at Denny Way | Aurora Avenue at Denny Way | Aurora Avenue at Denny Way | Aurora Avenue at Denny Way | Aurora Avenue at Mercer Street | Aurora Avenue at Mercer Street | Aurora Avenue at Mercer Street | Aurora Avenue at Mercer Street |
|-----------------------------|----------------|-------------------------------|-------------------------------|-------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Alternative | | Bored Tunnel | Cut-and-Cover Tunnel | Elevated Structure | Existing | Bored Tunnel | Cut-and-Cover Tunnel | Elevated Structure | Existing | Bored Tunnel | Cut-and-Cover Tunnel | Elevated Structure |
| Photo Simulation | | A-40 | A-4 | A-39 | A-45 | A-46 | A-45 | A-45 | A-49 | A-50 | A-49 | A-49 |
| Visual Character Unit | | Belltown | Belltown | Belltown | SR 99/ Aurora Corridor | SR 99/ Aurora Corridor | SR 99/ Aurora Corridor | SR 99/ Aurora Corridor | SR 99/ Aurora Corridor | SR 99/ Aurora Corridor | SR 99/ Aurora Corridor | SR 99/ Aurora Corridor |
| View Orientation | | North | North | North | North | North | North | North | South | South | South | South |
| View Distance | Foreground | 300 feet | 300 feet | 300 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet | 1,000 feet |
| | Middle ground | 1,000 feet | 1,000 feet | 1,000 feet | 3,000 feet | 3,000 feet | 3,000 feet | 3,000 feet | 3,000 feet | 3,000 feet | 3,000 feet | 3,000 feet |
| | Background | 1/2 mile | 1/2 mile | 1/2 mile | 2 miles | 2 miles | 2 miles | 2 miles | 2 miles | 2 miles | 2 miles | 2 miles |
| Viewer Position | Inferior | | | X | | | | | | | | |
| | Level | X | X | | | X | X | X | | X | X | X |
| | Superior | | | | X | | | | X | | | |
| Vividness | Landforms | 2 | 2 | 2 | 6 | 6 | 6 | 6 | 2 | 2 | 2 | 2 |
| | Water forms | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Vegetation | 3 | 3 | 1 | 4 | 5 | 2 | 2 | 3 | 3 | 2 | 2 |
| | Human-made | 7 | 7 | 4 | 5 | 6 | 5 | 5 | 6 | 6 | 6 | 6 |
| | Average | 3 | 3 | 1.75 | 3.75 | 4.25 | 3.25 | 3.25 | 3.25 | 2.75 | 2.75 | 2.5 |
| Intactness | Development | 7 | 7 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | Encroachment | 6 | 6 | 1 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | Average | 6.5 | 6.5 | 1.5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Unity | Overall | 8 | 8 | 4 | 6 | 7 | 7 | 7 | 6 | 6 | 6 | 6 |
| Total Visual Quality | | 5.8 | 5.8 | 2.4 | 4.9 | 5.4 | 5.1 | 5.1 | 4.6 | 4.6 | 4.5 | 4.5 |

| Visual Quality Assessment Rating Scale | | | | | | | |
|--|-----------------|---------|-----------------|------------------------------|-----------------|-------------------------|-----------------|
| Vividness | | Unity | | Intactness Human Environment | | Intactness Encroachment | |
| 10 | Very High | 10 | Very High | 10 | Very High | 10 | Very High |
| 9 | High | 9 | High | 9 | High | 9 | High |
| 7, 8 | Moderately High | 7, 8 | Moderately High | 7, 8 | Moderately High | 7, 8 | Moderately High |
| 4, 5, 6 | Average | 4, 5, 6 | Average | 4, 5, 6 | Average | 4, 5, 6 | Average |
| 2, 3 | Moderately Low | 2, 3 | Moderately Low | 2, 3 | Moderately Low | 2, 3 | Moderately Low |
| 1 | Low | 1 | Low | 1 | Low | 1 | Low |
| 0 | Very Low | 0 | Very Low | 0 | Very Low | 0 | Very Low |