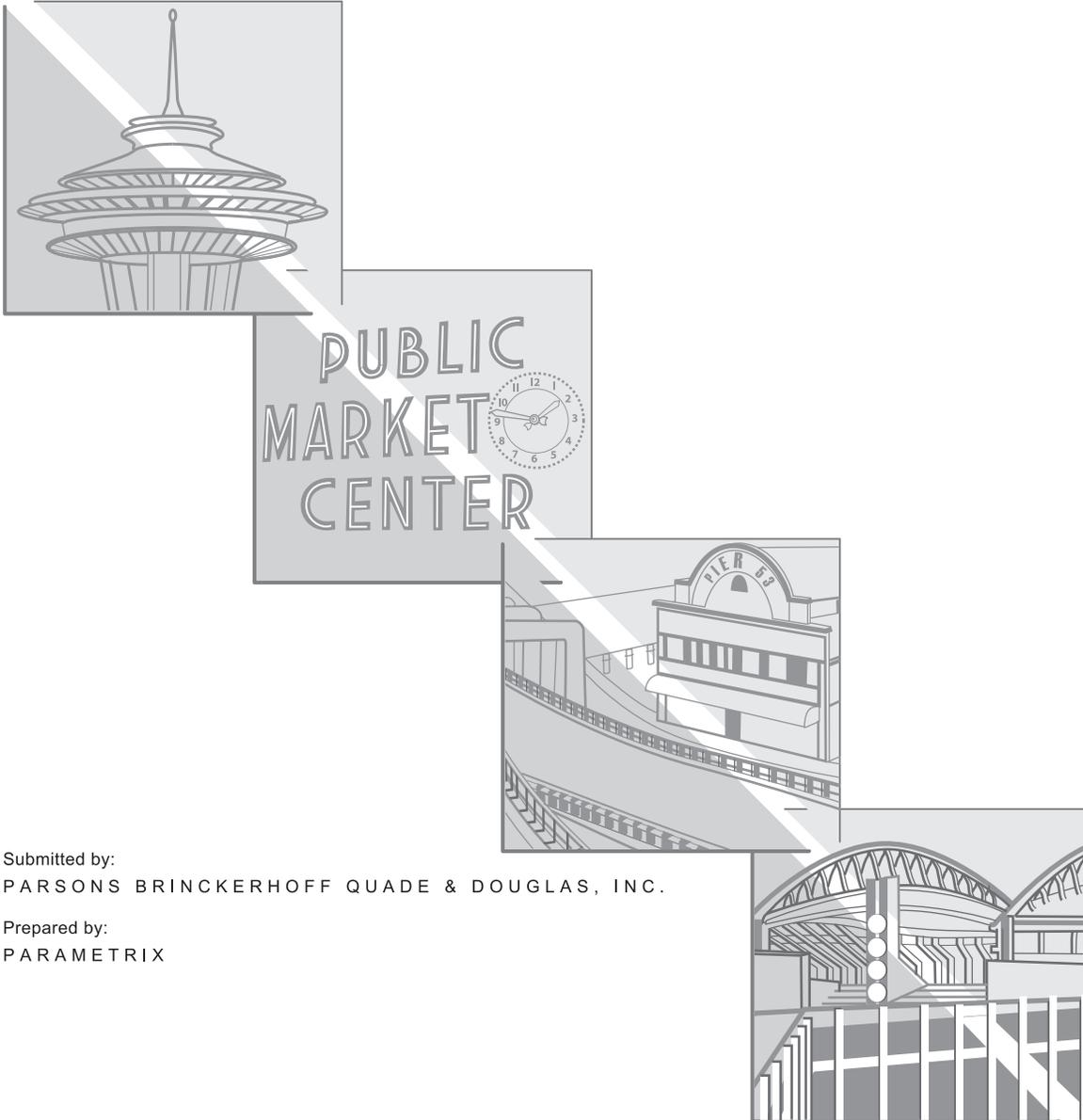


SR 99: ALASKAN WAY VIADUCT & SEAWALL REPLACEMENT PROJECT

Supplemental Draft Environmental Impact Statement

APPENDIX H

Parks and Recreation Technical Memorandum



Submitted by:
PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.

Prepared by:
PARAMETRIX

JULY 2006

SR 99: ALASKAN WAY VIADUCT & SEAWALL REPLACEMENT PROJECT

Supplemental Draft EIS

Parks and Recreation Technical Memorandum

AGREEMENT NO. Y-7888

FHWA-WA-EIS-04-01-DS

Submitted to:

Washington State Department of Transportation

Alaskan Way Viaduct and Seawall Replacement Project Office
999 Third Avenue, Suite 2424
Seattle, WA 98104

The SR 99: Alaskan Way Viaduct & Seawall Replacement Project is a joint effort between the Washington State Department of Transportation (WSDOT), the City of Seattle, and the Federal Highway Administration (FHWA). To conduct this project, WSDOT contracted with:

Parsons Brinckerhoff Quade & Douglas, Inc.

999 Third Avenue, Suite 2200
Seattle, WA 98104

In association with:

BERGER/ABAM Engineers Inc.

BJT Associates

David Evans and Associates, Inc.

Entech Northwest

EnviroIssues, Inc.

Harvey Parker & Associates, Inc.

HDR

Jacobs Civil Inc.

Larson Anthropological Archaeological Services Limited

Mimi Sheridan, AICP

Parametrix

Power Engineers, Inc.

Preston Gates & Ellis LLP

ROMA Design Group

RoseWater Engineering, Inc.

Shannon & Wilson, Inc.

So-Deep, Inc.

Taylor Associates, Inc.

Tom Warne and Associates, LLC

William P. Ott

This Page Intentionally Left Blank

TABLE OF CONTENTS

Preface.....	v
Chapter 1 Summary	1
1.1 Description of the Alternatives	1
1.1.1 Tunnel Alternative (Preferred Alternative).....	2
1.1.2 Elevated Structure Alternative	8
1.2 Project Operational Impacts.....	9
1.3 Project Construction Impacts	10
Chapter 2 Methodology	13
Chapter 3 Studies and Coordination.....	15
Chapter 4 Affected Environment	17
4.1 South – S. Spokane Street to S. Dearborn Street	17
4.2 Central – S. Dearborn Street to Battery Street Tunnel.....	20
4.3 North Waterfront – Pine Street to Broad Street	23
4.4 North – Battery Street Tunnel to Comstock Street.....	25
Chapter 5 Operational Impacts and Benefits	27
5.1 Tunnel Alternative (Preferred Alternative).....	27
5.1.1 South – S. Spokane Street to S. Dearborn Street	27
5.1.2 Central – S. Dearborn Street to Battery Street Tunnel	28
5.1.3 North Waterfront – Pine Street to Broad Street	29
5.1.4 North – Battery Street Tunnel to Comstock Street.....	31
5.1.5 Seawall – S. Washington Street to Broad Street	32
5.2 Elevated Structure Alternative	32
5.2.1 South – S. Spokane Street to S. Dearborn Street	32
5.2.2 Central – S. Dearborn Street to Battery Street Tunnel	33
5.2.3 North Waterfront – Pine Street to Broad Street	34
5.2.4 North – Battery Street Tunnel to Comstock Street.....	35
5.2.5 Seawall – S. Washington Street to Broad Street	35
5.3 Project Benefits.....	35
Chapter 6 Construction Impacts.....	37
6.1 Tunnel Alternative (Preferred Alternative).....	37
6.2 Elevated Structure Alternative	39
Chapter 7 Secondary and Cumulative Impacts.....	41
Chapter 8 Operational Mitigation.....	43
Chapter 9 Construction Mitigation	45
Chapter 10 References	47

LIST OF EXHIBITS

Exhibit 1-1. Tunnel and Elevated Structure Alternatives with Options	2
Exhibit 1-2. Options Evaluated with the Tunnel Alignments.....	3
Exhibit 4-1. Park, Recreation, and Public Access Facilities – AWV Corridor	18
Exhibit 4-2. Park, Recreation, and Public Access Facilities – South and Central	19
Exhibit 4-3. Park, Recreation, and Public Access Facilities – North and Central.....	21

ACRONYMS

AWV	Alaskan Way Viaduct
BNSF	Burlington Northern Santa Fe Railway Company
City	City of Seattle
EIS	Environmental Impact Statement
I-90	Interstate 90
SIG	Seattle International Gateway
SODO	South of Downtown
SR	State Route
WSDOT	Washington State Department of Transportation

This Page Intentionally Left Blank

PREFACE

The technical appendices present the detailed analyses of existing conditions and predicted effects of each alternative. The results of these analyses are summarized and presented in the main text of the Supplemental Draft Environmental Impact Statement (EIS).

The Supplemental Draft EIS appendices are intended to add new information and updated analyses to those provided in the Draft EIS, published in March 2004. Information that has not changed since then is not repeated in these appendices. Therefore, to get a complete understanding of the project area conditions and projected effects, you may wish to refer to the appendices that were published with the Draft EIS. These are included on a CD in the Supplemental Draft EIS. To make it easier to understand where there is new information or analyses, the supplemental appendices present information in the same order as it was presented in the Draft EIS appendices.

The Supplemental Draft EIS and the technical appendices evaluate the effects of three construction plans: the shorter plan, the intermediate plan, and the longer plan. These plans vary in how long SR 99 would be completely closed, in how long the periodic closures may be, and in the total construction duration. For the purposes of the analyses in the technical appendices, two construction plans are evaluated with the Tunnel Alternative and one plan is evaluated with the Elevated Structure Alternative. However, each alternative could be built with any of the three plans. The construction durations and the sequencing would not be the same for a particular construction plan if paired with a different alternative; however, the effects would be within the ranges presented by the analyses.

There are several differences in how the information is presented between the main text of the Supplemental Draft EIS and how it is presented in these appendices. The Supplemental Draft EIS text refers to possible variations within the alternatives as “choices” while these appendices use the term “options.” (For example, Reconfigured Whatcom Railyard versus Relocated Whatcom Railyard is referred to as a design choice in the Supplemental Draft EIS and as an option in the appendices.) In either case, the intent is to describe the various configurations that could be selected and the effects for each design.

One design choice in particular is handled very differently between the Supplemental Draft EIS text and the technical appendices. For the Tunnel Alternative in the central waterfront area, there is a choice between a stacked tunnel alignment and a side-by-side tunnel alignment. In the appendices, to simplify the discussion, these two alignments, as well as the Elevated

Structure Alternative, are each paired with a different set of options throughout the corridor and presented as complete sets that are evaluated separately. The Supplemental Draft EIS text communicates this information differently by describing one Tunnel Alternative and one Elevated Structure Alternative and evaluating the effects of the different design choices (or mix-and-match components) separately. While it may appear that there are three alternatives analyzed in the appendices and two in the Supplemental Draft EIS text, there are in fact only two alternatives. Each alternative has many potential components or design choices that can be made throughout the corridor.

The organization of the analysis of the alternatives is also a little different between the main body of the Supplemental Draft EIS and the appendices. In the Supplemental Draft EIS text, we identify two alternatives: a Tunnel Alternative and an Elevated Structure Alternative. The Supplemental Draft EIS text compares these alternatives directly by comparing effects (for example, the effects of both alternatives on water quality are presented together). The appendices present the effects of each alternative separately (for example, all of the effects of the Tunnel Alternative are presented first, followed by all of the effects of the Elevated Structure Alternative). The substance of both discussions is the same. The organization of the Supplemental Draft EIS technical appendices mirrors that of the Draft EIS appendices, allowing you to more easily find comparable information in the Draft EIS appendices.

Chapter 1 SUMMARY

This technical memorandum analyzes impacts on park and recreation facilities and public art within the Alaskan Way Viaduct (AWV) and Seawall Replacement Project area. In general, park facilities within the potential construction or operational impact area are those within three to five blocks of existing or proposed facilities. Recreational facilities include those on private land in which the public has a proprietary interest, such as an access easement or other access rights. An additional analysis of facilities subject to federal regulations for Section 4(f) resources is included in a separate technical memorandum (see the 2006 Appendix N, Section 4(f) Evaluation).

1.1 Description of the Alternatives

In December 2004, the lead agencies narrowed the five alternatives down to two—Tunnel and Rebuild. They identified the Tunnel Alternative as the Preferred Alternative and carried the Rebuild Alternative forward for analysis as well. Since that time, engineering and design has been updated and refined for the Tunnel and Rebuild Alternatives. Due to the magnitude of the changes in the design of the Rebuild Alternative, it has been renamed the Elevated Structure Alternative. The Elevated Structure Alternative combines elements of the Aerial and Rebuild Alternatives that were evaluated in the Draft Environmental Impact Statement (EIS) (WSDOT et al. 2004). This technical memorandum and the Supplemental Draft EIS that it supports evaluate the changes to these alternatives.

Each alternative has many potential components or choices that can be made throughout the corridor which are referred to as “options” in this report. The options are project features that are intended to provide some choices that can be mixed and matched with the proposed Build Alternatives. Exhibit 1-1 shows the options that have been evaluated with the Tunnel and Elevated Structure Alternatives. For ease of presentation and analysis, each alternative is described with a specific set of options in this report.

Exhibit 1-1. Tunnel and Elevated Structure Alternatives with Options

Options ¹	Tunnel Alternative	Elevated Structure Alternative
South Section		
Reconfigured Whatcom Railyard	yes	yes
Relocated Whatcom Railyard	yes	yes
Central Section		
Steinbrueck Park Lid	yes	no
Steinbrueck Park Walkway	yes	no
SR 99 Over Elliott and Western Avenues	yes	yes
SR 99 Under Elliott and Western Avenues	yes	no
North Section		
Battery Street Tunnel Curves Widened	yes	no ²
Battery Street Tunnel Curves Not Widened	yes	yes
Partially Lowered Aurora	yes	yes
Lowered Aurora	yes	no ²

¹ These mix-and-match features are referred to as “choices” in the Supplemental Draft EIS text.

² These options could be included with the Elevated Structure Alternative; however, they were not evaluated with this alternative in the technical appendices. See the Preface (page v) for an explanation of differences in the combinations of alternatives and mix-and-match features (choices or options) evaluated in the Supplemental Draft EIS and the technical appendices.

1.1.1 Tunnel Alternative (Preferred Alternative)

The updated Tunnel Alternative has two potential tunnel alignments:

- stacked tunnel alignment (preferred)
- side-by-side tunnel alignment

For ease in evaluating project effects, this technical memorandum evaluates the two alignments with a specific set of the mix-and-match options available for the Tunnel Alternative. The components of each tunnel alignment are shown below in Exhibit 1-2.

Exhibit 1-2. Options Evaluated with the Tunnel Alignments

	South	Central	North
Preferred Stacked Tunnel Alignment	Reconfigured Whatcom Railyard	Stacked Tunnel Steinbrueck Park Walkway SR 99 Under Elliott and Western	Battery Street Tunnel Improvements Partially Lowered Aurora
Optional Side-by-Side Tunnel Alignment	Relocated Whatcom Railyard	Side-by-Side Tunnel Steinbrueck Park Lid SR 99 Over Elliott and Western	Battery Street Tunnel Improvements with Curves Widened Lowered Aurora

The following subsections describe the main features of the Tunnel Alternative within each geographic section of the project area.

South – S. Spokane Street to S. Dearborn Street

In the Draft EIS, the Tunnel Alternative included SR 99 on its existing alignment south of S. Atlantic Street. The current stacked and side-by-side tunnel alignments could be paired with either of two options in the south:

- Reconfigured Whatcom Railyard
- Relocated Whatcom Railyard

The Reconfigured Whatcom Railyard is paired with the preferred alignment. It would retain the existing SR 99 in its current alignment between the Burlington Northern Santa Fe Railway Company (BNSF) Seattle International Gateway (SIG) Railyard on the east and the Whatcom Railyard to the west. A short bridge would carry SR 99 over the new tail track and connection between the railyards. Reconfiguration of the Whatcom Railyard would provide a track connection to the north to connect with the tail track, which would then be shared by both the BNSF SIG and Whatcom Railyards. SR 99 would cross over this track on a short bridge about 500 feet long. The bridge would begin to climb from existing grade near S. Walker Street and would end near S. Atlantic Street.

The Relocated Whatcom Railyard Option would shift SR 99 to the west into the site of the existing Whatcom Railyard and shift the railyard to the east to occupy the existing highway right-of-way next to the BNSF SIG Railyard, avoiding the need for bridging over the tail track. The new SR 99 would be at-grade and would meet current geometric standards for lane and shoulder width, and it would therefore be somewhat wider than at present. This configuration would allow the Whatcom Railyard and tail track to be located

on the east side of SR 99, and a crossing over the railroad tracks would not be required.

The proposed South of Downtown (SODO) Ramps (S. Atlantic Street and S. Royal Brougham Way) are similar to the At-Grade SR 99 with Elevated Ramps Option presented in the Draft EIS for the Tunnel Alternative.

South of S. Atlantic Street, SR 99 would continue as a six-lane at-grade highway to a tunnel portal just south of S. Dearborn Street.

Central – S. Dearborn Street to Battery Street Tunnel

The stacked tunnel alignment would transition from a side-by-side configuration to a double-level configuration between Railroad Way S. and S. Main Street. It would vary from 75 to 83 feet wide and 70 feet deep. The alignment would extend the seawall about 42 feet farther into Elliott Bay in the Colman Curve area beyond the existing seawall. The sidewalk would cantilever an additional 7.5 feet beyond the seawall. Colman Curve is the area between S. Washington Street and the Colman Dock Ferry Terminal. The stacked tunnel alignment would transition from a stacked double-level configuration to a side-by-side configuration between Seneca Street and Union Street and would continue to the north in the same configuration as the side-by-side tunnel alignment.

The side-by-side tunnel alignment would proceed north from the south portal with three lanes in each of two tunnel sections adjacent to each other. The tunnel would be 122 feet wide and 60 feet deep. The alignment between S. Washington Street and Colman Dock would extend about 53 feet into Elliott Bay.

North of Union Street, the top of the tunnel would extend above existing grade as it starts the climb to the Battery Street Tunnel. In the Draft EIS, a short lid was proposed over the tunnel from Union Street extending to Pine Street. The current Tunnel Alternative considers two options for extending the lid to the north, discussed in more detail under the Alaskan Way Surface Street section below.

The Draft EIS Tunnel Alternative included a side-by-side aerial structure connecting from Pike Street to the Battery Street Tunnel. There are now two options for SR 99 in this section:

- Under Elliott and Western Avenues
- Over Elliott and Western Avenues

Both options incorporate an on-ramp southbound from Elliott Avenue and an off-ramp northbound to Western Avenue. With the Under Elliott and Western Option, which is part of the preferred alignment, SR 99 would enter a cut section, with Elliott and Western Avenues on bridges above it. Rebuilt ramps would be provided at Elliott and Western Avenues. This option would require modification to lower the Battery Street Tunnel portal.

With the Over Elliott and Western Avenues Option, SR 99 would pass over Elliott and Western Avenues on an aerial structure prior to entering the Battery Street Tunnel in a configuration similar to the existing viaduct. The ramps would be rebuilt at Elliott and Western Avenues, similar to the existing ramps.

Ferry Holding Area and Ferry Access

The ferry holding area on the Port of Seattle's Terminal 46 or under the viaduct that was considered in the Draft EIS is no longer part of either the Tunnel or Elevated Structure Alternatives. The updated Tunnel Alternative includes ferry holding on the east side of SR 99. The access to the Colman Dock Ferry Terminal would be from Alaskan Way at Yesler Way.

Alaskan Way Surface Street

The surface street in the central waterfront area would be located above the tunnel in the Tunnel Alternative. The 180-foot right-of-way could accommodate transportation, pedestrian, and open space facilities. A variety of concepts have been developed for future surface street facilities. The following major elements are included in the current proposal:

- Providing two travel lanes in each direction between Broad Street and Columbia Street. A third southbound travel lane would be added at Columbia Street, continuing south to S. Dearborn Street. Three northbound travel lanes would be provided from S. Dearborn Street to S. Main Street. Between Main Street and Yesler Way, four lanes would be provided, with the center two providing left-turn access to the Colman Dock Ferry Terminal at Yesler Way. A center turn lane would be added from Pike Street to Broad Street with waterfront streetcar stops.
- Widening the waterfront promenade from the current 20 feet to approximately 70 feet.
- Providing a 20-foot-wide sidewalk and landscape area on the east side of the surface street.

- Providing a 4- to 5-foot-wide bicycle lane on each side of the street.
- Providing on-street parking on both sides of the street.
- Providing a double track for the streetcar that extends from Main Street north to Clay Street. The streetcar lane would be shared with vehicular traffic. In the Draft EIS, a single track in a separate corridor was proposed along the Alaskan Way surface street.

The options for the surface street would be similar for both the stacked and side-by-side tunnel alignments.

The top of the tunnel would begin to extend above existing grade at Union Street and is proposed to continue with a lid that is about 16 feet higher than the waterfront promenade at Pike Street and about 36 feet higher at Pine Street. The lid above the tunnel would be flat and then extend in steps to the waterfront. A triangular parcel currently used for parking is proposed to be used as a park and would provide a distance of about 100 feet for stepping down from the lid to the waterfront at Pine Street.

At Pine Street, a portion of the grade change is proposed to be accommodated by stepping the surface street. Access across the street would be provided by a system of stairs that may be located at each side of the street as well as in the median. The details of the design may change, but the access across the surface street is likely to provide direct access to the Seattle Aquarium and waterfront. Individuals with mobility impairments who may be challenged by change in grade or stairs would be accommodated by a ramp system across the triangle park or a route extending to the south where the lid is at grade with existing surface streets.

North of Pine Street, two lid options are proposed:

- Steinbrueck Park Walkway
- Steinbrueck Park Lid

The Steinbrueck Park Walkway is part of the preferred alignment. From Pike Street, a full-width lid would extend to Pine Street. North of Pine Street, the structure would be a 20-foot-wide pedestrian walkway for about 430 feet up to the north end of Steinbrueck Park. The walkway would be east of and elevated above the level of the SR 99 roadway.

The Steinbrueck Park Lid Option provides a lid that would cover the entire width of the roadway (approximately 150 feet) and would extend to the north end of Victor Steinbrueck Park, approximately 560 feet in length.

The Lenora Street pedestrian bridge currently provides a pedestrian connection to the waterfront. It would be displaced during construction and replaced with a similar structure.

North of Pike Street, the Draft EIS did not propose any changes to bicycle facilities. In the updated Tunnel Alternative, a 4-foot-wide bicycle lane would be located on each side of the Alaskan Way surface street.

North – Battery Street Tunnel to Comstock Street

Battery Street Tunnel Improvements

Both the Tunnel and Elevated Structure Alternatives include fire/life safety improvements and lowering the tunnel floor to provide 16.5 feet of vertical clearance for the entire length of the Battery Street Tunnel. The Tunnel Alternative also includes the option to widen the north and south portals of the Battery Street Tunnel.

Improvements North of the Battery Street Tunnel

The updated alternatives have two potential options for improvements north of the Battery Street Tunnel:

- Partially Lowered Aurora
- Lowered Aurora

With the Partially Lowered Aurora Option, which is part of the preferred alignment, Aurora Avenue N. would be lowered between the north portal of the Battery Street Tunnel and Republican Street with roadway improvements and widening up to Aloha Street. Thomas and Harrison Streets would be reconnected with bridges crossing over Aurora Avenue N, while Mercer Street would cross under Aurora Avenue N. Access to SR 99 would be provided at Denny, Republican, and Roy Streets.

In the Draft EIS, the Lowered Aurora Option was included in the Aerial Alternative. This option has been updated to further widen SR 99 and extend improvements almost to Comstock Street. SR 99 would be lowered below grade with retaining walls on either side, allowing Thomas, Harrison, Republican, and Roy Streets to pass at grade over SR 99. Mercer Street would be widened more than was considered in the Draft EIS and would cross over SR 99 on a new bridge. Ramps would be provided at Denny, Republican, and Roy Street, as described in the 2006 Supplemental Draft EIS Appendix B, Alternatives Description and Construction Methods Technical Memorandum.

Seawall – S. Washington Street to Broad Street

Replacement of the seawall would begin at S. Washington Street and end in the north section at Broad Street. In the Draft EIS, the seawall replacement went all the way to Myrtle Edwards Park (near Bay Street). As in the Draft EIS, the west wall of the tunnel would be the seawall in the central waterfront.

Only soil improvements would occur between S. Jackson Street and S. Washington Street and at Piers 48 and 66.

1.1.2 Elevated Structure Alternative

The AWW project team combined elements of the Aerial and Rebuild Alternatives evaluated in the Draft EIS into the new Elevated Structure Alternative described and evaluated in the Supplemental Draft EIS and this memorandum. The main features of the Elevated Structure Alternative are described within each geographic section of the project area.

South – S. Spokane Street to S. Dearborn Street

Under the Elevated Structure Alternative, the section from S. Spokane Street to S. Dearborn Street is the same as the Tunnel Alternative, including the two options for the Whatcom Railyard.

Central – S. Dearborn Street to Battery Street Tunnel

The single-level, side-by-side aerial structure would begin to transition to a double-level, stacked configuration starting south of S. King Street, completing the transition about halfway between S. Jackson and S. Main Streets. The new structure would be about 20 feet wider than the existing viaduct, similar in configuration, and 6 feet narrower than the Aerial Alternative considered in the Draft EIS.

From Pine Street to the Battery Street Tunnel, the Elevated Structure Alternative is similar to the Draft EIS Rebuild and Aerial Alternatives. The double-level stacked structure would transition to a side-by-side structure as it climbs the hill. The Elliott and Western ramps would be rebuilt and retain their current configuration.

Ferry Holding Area and Ferry Access

The ferry holding area on the Port of Seattle's Terminal 46 or under the viaduct considered in the Draft EIS would be eliminated. The Elevated Structure Alternative includes ferry holding on the east side of SR 99, with SR 99 at-grade in this location. The main access to ferry holding and dock areas would be provided from northbound Alaskan Way at Yesler Way.

Alaskan Way Surface Street

The Alaskan Way surface street in the central waterfront area would be located west of the double-level aerial structure. The surface street with parking and 5-foot-wide bicycle lanes provided on both sides, together with the waterfront streetcar, would be accommodated in a narrower area because of the greater width of the aerial structure. This would result in eliminating

the existing Waterfront Bicycle/Pedestrian Facility south of Pine Street, shifting the roadway and streetcar track to the west, and narrowing the existing waterfront promenade. North of Pine Street, the bicycle/pedestrian facility would be maintained in its present location. At the existing Washington Street Boat Landing, these factors, plus the shift of the aerial structure to the west for a greater curve radius, would result in a 15-foot-wide sidewalk between the curb and the pergola. North of Yesler Way, the existing 20-foot-wide waterfront promenade would be reduced to a 15-foot-wide sidewalk. There may be potential for widening the sidewalk between Yesler Way and Madison Street in the future through the redevelopment of the Colman Dock Ferry Terminal. Between Madison Street and Union Street, the location of the seawall and existing historic piers would preclude widening the sidewalk.

North – Battery Street Tunnel to Comstock Street

The Elevated Structure Alternative includes the same fire/life safety improvements in the Battery Street Tunnel as for the Tunnel Alternative. North of the Battery Street Tunnel, the Elevated Structure Alternative includes the same Partially Lowered Aurora improvements as described under the Tunnel Alternative.

Seawall – S. Washington Street to Broad Street

The seawall would be rebuilt up to Broad Street. In the Draft EIS, seawall replacement went all the way to Myrtle Edwards Park (near Bay Street).

1.2 Project Operational Impacts

The impacts of the permanent facilities proposed by the alternatives would be relatively minor.

The existing Waterfront Bicycle/Pedestrian Facility would be completely displaced in the central waterfront by the Tunnel Alternative and displaced south of Pine Street by the Elevated Structure Alternative. It would be replaced with a combination of bicycle lanes and sidewalks. For the Elevated Structure Alternative, the reduced size of replacement pedestrian facilities would lower their capacity and make them less appealing to some users.

Three park and recreation facilities would be displaced by the Tunnel Alternative: the Washington Street Boat Landing, portions of Alaska Square on Pier 48, and the Waterfront Bicycle/Pedestrian Facility.

The Washington Street Boat Landing currently extends past the outer edge of the seawall into Elliott Bay, at the foot of S. Washington Street. Under both tunnel alignments, the pergola would be relocated above the western edge of

the tunnel. The pergola would be relocated landward from the seawall and would not extend out over the water.

The Elevated Structure Alternative would displace the Washington Street Boat Landing during construction. The pergola would be relocated at the edge of the new seawall, which is about 35 feet beyond the existing seawall, and would overhang the water by approximately 26 feet, just as it does today. The Elevated Structure Alternative would change the context of the boat landing by placing the elevated highway structure in closer proximity, increasing noise impacts and the visual dominance of the aerial structure and likely reducing the appeal of the location for relaxation and other uses. Current construction plans envision this relocation occurring near the end of the construction period, although it could be accelerated. The Elevated Structure Alternative would also displace the Port of Seattle's Alaska Square Park that is located south of S. Washington Street and adjacent to the parking area of Pier 48. The park could be reestablished after construction.

1.3 Project Construction Impacts

The construction impacts of both the Tunnel and Elevated Structure Alternatives would be similar. Differences in impacts relate to the length of construction and the extent of disruption to through traffic. Two construction plans are proposed for the Tunnel Alternative:

- The intermediate plan would close SR 99 to north-south traffic for no less than 18 months and up to 27 months (or longer). The intermediate plan assumes periods where either the northbound or southbound lanes are closed. For the stacked tunnel alignment, the overall construction duration for the intermediate plan would be 8.75 years. The side-by-side tunnel alignment's approximate construction duration would be 8 years.
- The shorter plan would fully close SR 99 to north-south traffic for a minimum of 3.5 years. With the shorter plan, the majority of construction work would occur with the corridor closed, with the exception of the initial utility relocations. The duration of construction with the shorter plan would be approximately 7 years for either tunnel alignment.

One construction plan is being considered for the Elevated Structure Alternative:

- The longer plan for the Elevated Structure Alternative would keep two lanes on SR 99 open in each direction except when SR 99 would be closed to all traffic for 3 months.

General construction impacts to parks, open space, and public access facilities along the AWW Corridor are similar for all construction plans because through traffic on the viaduct is not an essential component of access to local park and recreation resources. Construction impacts include the following:

- Construction would disrupt existing and accustomed patterns of movement. Even with provisions for access across construction sites, the perceived inconvenience would lead many people to avoid the waterfront in favor of other elective park or recreational activities not subject to uncertainty and disruption. This is especially the case during reconstruction of the seawall, which would interrupt access from the east and curtail north-south movement that is central to the waterfront experience, although access across Alaskan Way to the waterfront would be maintained at certain points. The construction of the lowered SR 99 north of the Battery Street Tunnel would substantially curtail east-west movement across that corridor to Seattle Center.
- The long construction period may affect the recovery of the waterfront as a destination for recreation and passive enjoyment, even after completion of the seawall reconstruction. The interrelated private and public facilities along the waterfront may be individually and cumulatively affected.

Proximity impacts from construction (such as noise, vibration, and dust) would make locations close to construction less desirable for passive recreation activities such as walking, picnicking, and viewing the aesthetic amenities of the area.

- The visual character of the construction site may be viewed by many as unappealing and lead them to seek other locations for park and recreation activities. Some people, however, may be attracted to the construction site and make repeated visits to monitor its progress.

Facilities that depend upon admission fees are likely to be especially affected by construction on the waterfront. The following facilities are likely to be affected:

- Tillicum Village at Blake Island State Park
- Seattle Aquarium
- Seattle Center
- Olympic Sculpture Park

Mitigation measures in the *Draft Technical Memorandum on Construction Impact Mitigation Strategic Planning Approaches, 2003*, include:

- Phasing construction in each segment to allow vehicular and pedestrian access.
- Maintaining access for pedestrians, bicyclists, passenger vehicles, and trucks during business hours and during important business seasons.
- Implementing dust and vibration mitigation during business hours.
- Coordinating the timing of temporary facility closures to minimize impacts to business activities, especially those related to seasonal or high-sales periods, to the extent practicable.
- Providing signage, lighting, or other information to indicate that businesses are open.
- Providing public information (e.g., press releases, newsletters) on construction activities and ongoing business activities.

These measures are likely to have some positive effects; however, the elective nature of recreation enjoyment is likely to limit the effectiveness of such measures. There are a variety of alternative activities and sites for recreation enjoyment available. Relatively low levels of inconvenience or proximity impacts are likely to have a greater impact on the choice of these elective activities.

Chapter 2 METHODOLOGY

The methodology used in the assessment of impacts on parks and recreation facilities and resources is the same as described in Chapter 2 of the 2004 Draft EIS Appendix H, Parks and Recreation Technical Memorandum.

This Page Intentionally Left Blank

Chapter 3 STUDIES AND COORDINATION

The identification of park and recreation facilities and resources affected in the project area remains the same as for the 2004 Draft EIS Appendix H, Parks and Recreation Technical Memorandum. The status of existing and proposed facilities was checked with the owner of each facility to ensure an accurate description of current use or current development proposals.

This Page Intentionally Left Blank

Chapter 4 AFFECTED ENVIRONMENT

The descriptions of park and recreation facilities discussed in this memorandum are the same as provided in Chapter 4 of the 2004 Draft EIS Appendix H, Parks and Recreation Technical Memorandum, with the exception of updated information on the following facilities. For an overview of the locations of all of the parks, recreation facilities, and public shoreline access points in the AWW Corridor, see Exhibit 4-1. Note that the resource numbers have been updated to be consistent with the 2006 Supplemental Draft EIS Appendix N, Section 4(f) Evaluation, and no longer match the numbering used in the 2004 Draft EIS Appendix H exhibits.

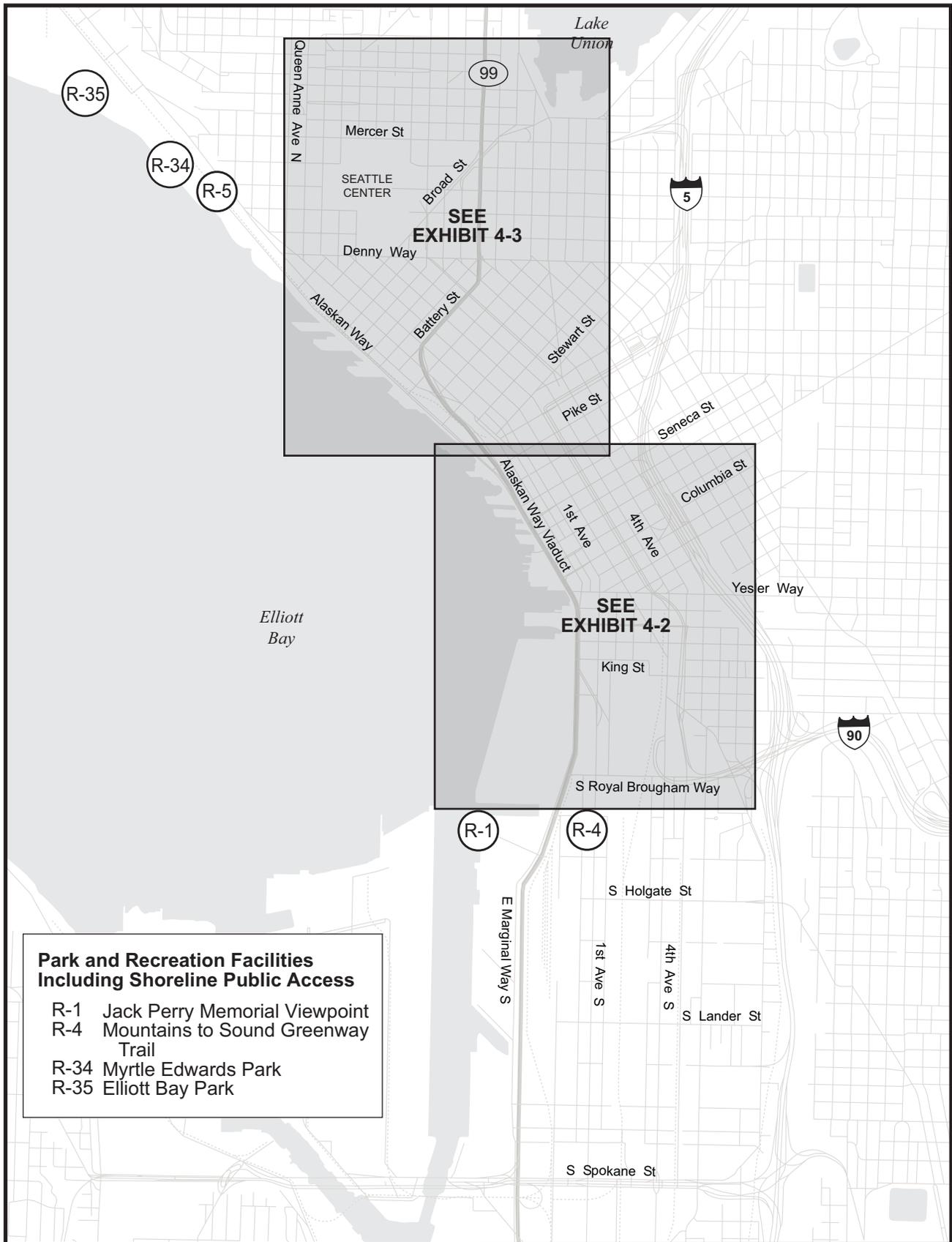
4.1 South – S. Spokane Street to S. Dearborn Street

The locations of the parks, recreation facilities, and public shoreline access points in the south section are shown on Exhibit 4-2.

Waterfront Bicycle/Pedestrian Facility: This multipurpose asphalt pathway extends from S. Royal Brougham Way on the south to Broad Street on the north, where it connects to the Elliott Bay Trail.

The Waterfront Bicycle/Pedestrian Facility is part of the Seattle Urban Trails System designated in the City's Comprehensive Plan. The Urban Trails System is designated to facilitate walking and bicycling as viable transportation choices, provide recreational opportunities, and link major parks and open spaces with Seattle neighborhoods. These trails provide an off-road path or sidewalk (separated from motor vehicles) for pedestrians and bicyclists, as well as off-road trails, special bicycle lanes, and signed routes in the street right-of-way. The City considers the Waterfront Bicycle/Pedestrian Facility primarily a transportation facility rather than a recreational facility.

The Waterfront Bicycle/Pedestrian Facility is planned to connect with the future Mountains to Sound Greenway Trail at S. Atlantic Street. The portion of the Waterfront Bicycle/Pedestrian Facility south of S. King Street is framed by a bermed landscape area containing street trees on both sides of the trail. It is lightly used by pedestrians, except during events in the nearby Safeco Field and Qwest Field. Between S. King and S. Washington Streets, the trail is west of the waterfront streetcar tracks, with a landscape berm separating the trail from the surface street. Between S. Washington Street and Pike Street, the waterfront streetcar is between the trail and the street. In this section, there is a landscaped berm and street trees on the east side adjacent to the viaduct and a wood rail fence on the west side, adjacent to the streetcar tracks.



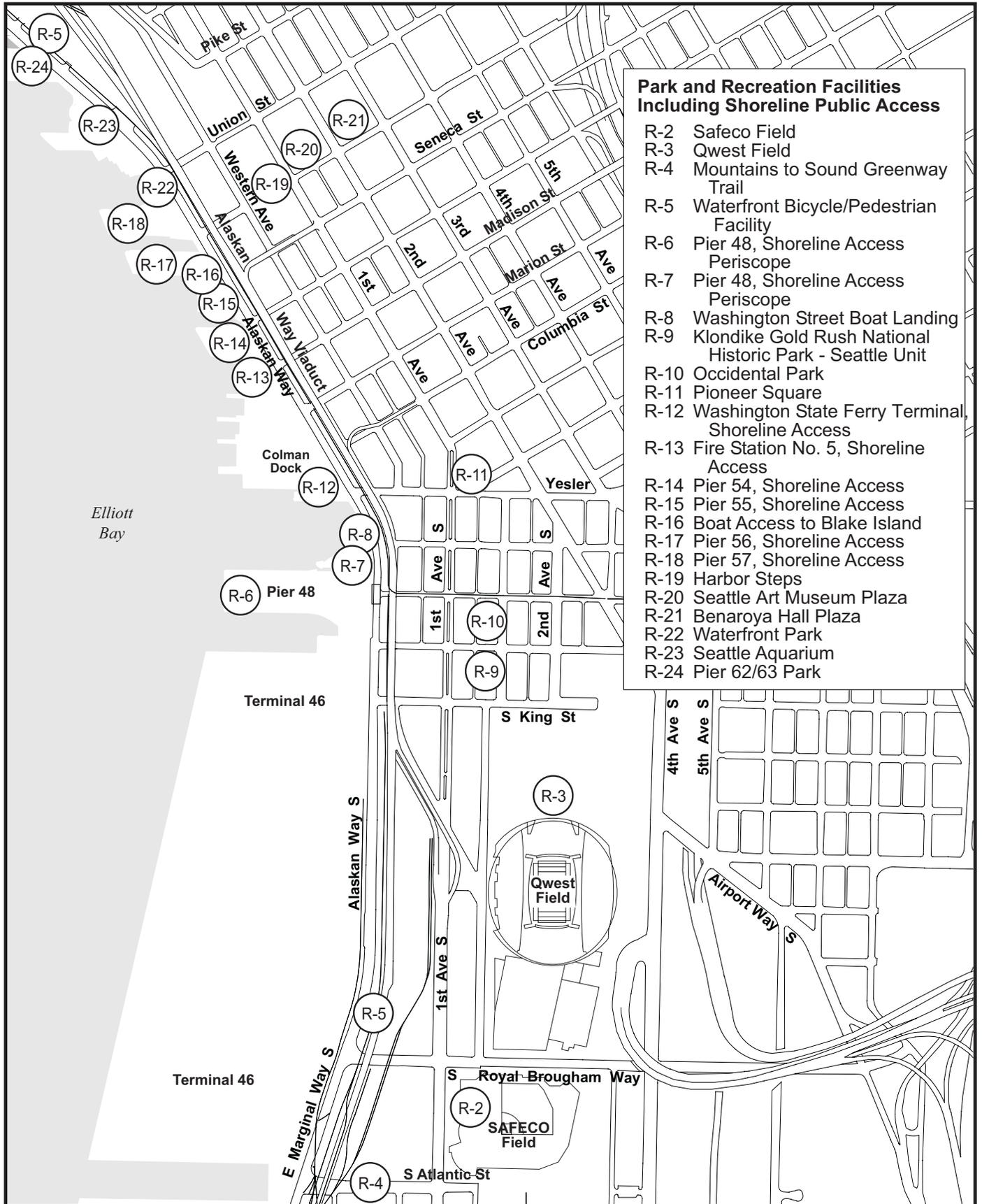
**Park and Recreation Facilities
Including Shoreline Public Access**

- R-1 Jack Perry Memorial Viewpoint
- R-4 Mountains to Sound Greenway Trail
- R-34 Myrtle Edwards Park
- R-35 Elliott Bay Park

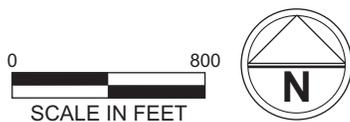
554-1585-025/06(0610) 5/24/06



**Exhibit 4-1
Park, Recreation and Public Access
Facilities AWW Corridor**



554-1585-025/06(0610) 5/23/06



**Exhibit 4-2
Park, Recreation and
Public Access Facilities
South and Central**

This portion of the trail corridor fills with pedestrians during midday, making it unworkable for heavy bicycle use. Commuter bicyclists generally use the vehicular lanes in this area. The asphalt trail carries considerably lower pedestrian volumes than the promenade on the west side of the street. In addition to its transportation function, this section of the multiuse trail probably attracts greater active recreational use by exercise seekers (such as walkers and joggers) than by sightseers given its location farther from the high-interest waterfront and the intervening surface street.

Between Pike and Blanchard Streets, a concrete sidewalk is provided adjacent to the Alaskan Way surface street west of the streetcar tracks with an asphalt trail on the east side of the right-of-way adjacent to apartment buildings, a hotel, and an office building. The waterfront streetcar is located between the sidewalk and the asphalt trail. The asphalt trail extends to Bell Street, where it is routed onto an 18- to 24-foot-wide concrete sidewalk west of the streetcar tracks and BNSF railway that terminates at Clay Street.

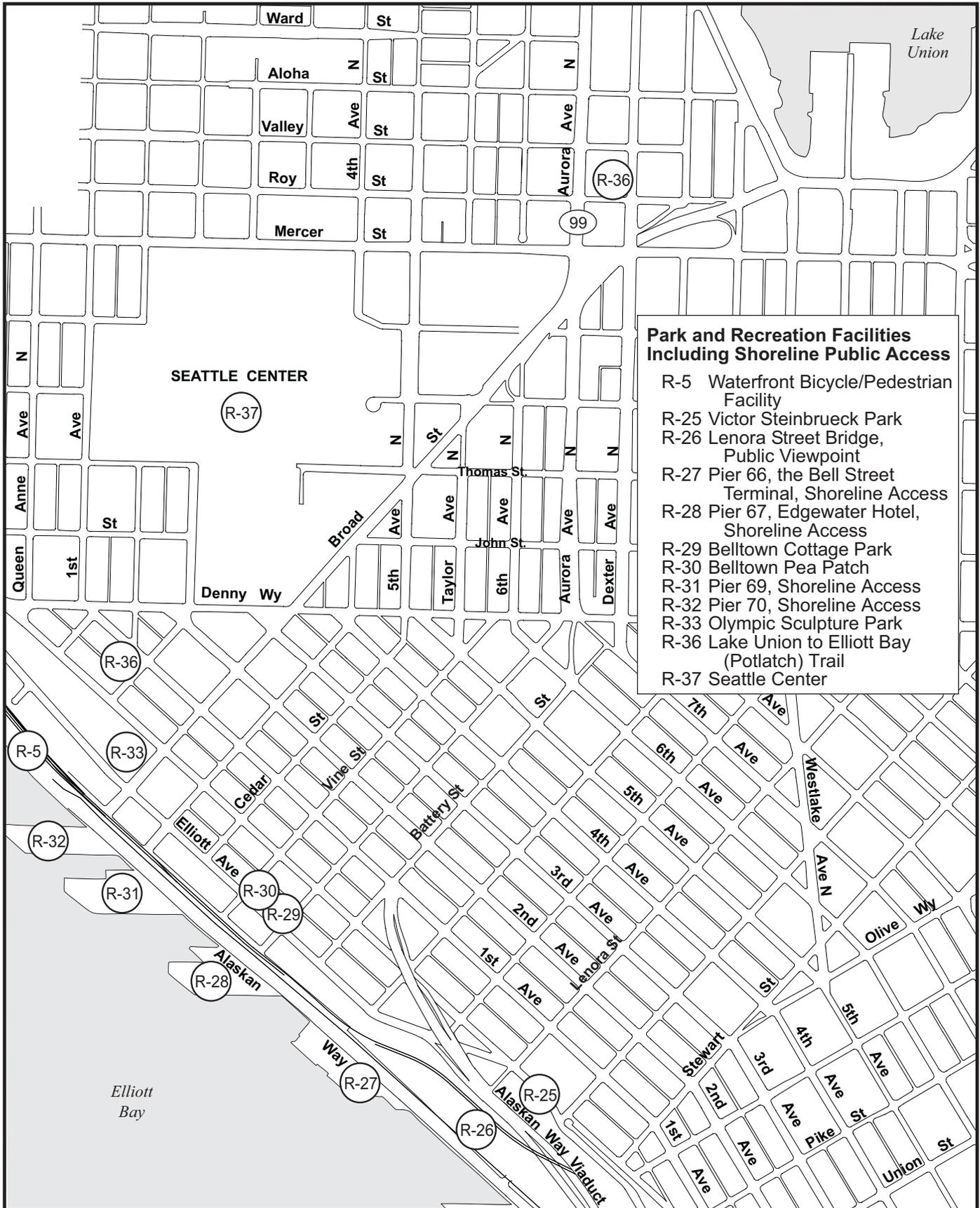
Mountains to Sound Greenway Trail: This trail is part of the Mountains to Sound Greenway, a scenic, historic, and recreation corridor along Interstate 90 (I-90) from near Ellensburg to Seattle (Mountains to Sound Greenway 2003). The proposed trail connection from I-90 to the waterfront is included in \$2.08 million funding in the City of Seattle Pro Parks Levy.¹ The portion to First Avenue has been completed. The portion from First Avenue to the terminus of the existing Waterfront Bicycle/Pedestrian Facility is under construction as part of road improvements and is projected to be completed in September 2006. The trail improvements west of the viaduct consist of an asphalt trail with buffering landscaping (Seattle Department of Transportation 2005).

4.2 Central – S. Dearborn Street to Battery Street Tunnel

The locations of the parks, recreation facilities, and public shoreline access points in the central section are shown on Exhibits 4-2 and 4-3.

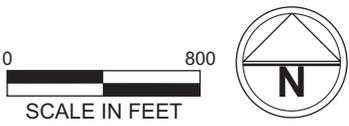
Washington Street Boat Landing: This facility is on public right-of-way at the end of S. Washington Street. The pergola is a City-designated historic structure and is on the National Register of Historic Places. It is also within the City's Pioneer Square Preservation District. The facility provides some seating and views of the water and mountains to the west. The Pioneer Square Neighborhood Plan calls for the rehabilitation and reuse of the Washington Street Boat Landing, either as an entry for the "mosquito fleet" passenger ferries or as part of a new public space (Seattle 1998a).

¹ Seattle City Council Ordinance 120024



- Park and Recreation Facilities
Including Shoreline Public Access**
- R-5 Waterfront Bicycle/Pedestrian Facility
 - R-25 Victor Steinbrueck Park
 - R-26 Lenora Street Bridge, Public Viewpoint
 - R-27 Pier 66, the Bell Street Terminal, Shoreline Access
 - R-28 Pier 67, Edgewater Hotel, Shoreline Access
 - R-29 Belltown Cottage Park
 - R-30 Belltown Pea Patch
 - R-31 Pier 69, Shoreline Access
 - R-32 Pier 70, Shoreline Access
 - R-33 Olympic Sculpture Park
 - R-36 Lake Union to Elliott Bay (Potlatch) Trail
 - R-37 Seattle Center

554-1585-025/06(0610) 5/23/06



**Exhibit 4-3
Park, Recreation, and
Public Access Facilities
North and Central**

Waterfront Park: The City of Seattle Waterfront Park includes property north of Pier 57, including all of Pier 59, a public deck area between the two piers, and the Seattle Aquarium, which encompasses Piers 59 and 60. The deck area between Piers 57 and 59 provides an over-water plaza with shoreline viewing and congregating areas, fishing areas, and seating and picnicking areas. A fountain and a commemorative statue of Christopher Columbus are located in the park. Pedestrian volumes on the Alaskan Way surface street at Union Street adjacent to the park totaled 1,917 pedestrians during the noon hour and 5,856 pedestrians daily in September 2001.

Pier 59 provides public access along a portion of the south and north sides of the structure. The Seattle Aquarium is a fee-entry facility.

The Seattle Parks Department is currently conducting design studies for the waterfront that include redevelopment of the Waterfront Park in conjunction with the Seattle Aquarium and Pier 62/63. These plans would be integrated with plans for aquarium expansion. The general concepts involve possible removal or reconfiguration of the Waterfront Park. Proposed intertidal habitat restoration would range from improving existing riprap to creating a sloping face to the Alaskan Way Seawall to enhancing nearshore beach (Seattle Parks Department 2005a).

Plans and timing for changes to Waterfront Park likely would be contingent on planning efforts to expand the Seattle Aquarium, as described below.

Seattle Aquarium: The Seattle Aquarium is approximately 68,000 square feet and includes portions of Pier 59 and all of Pier 60 to the north. The purpose of the Seattle Aquarium program is “inspiring conservation of our marine environment.” For the full details of the exhibits and programs that the Seattle Aquarium offers, please refer to the Draft EIS Appendix H, Parks and Recreation Technical Memorandum (March 2004).

The City of Seattle and Seattle Aquarium Society have a program to expand the aquarium by 30 percent and to replace the deteriorated Pier 59 pilings, elements of which are currently underway. Key components of the project include replacing over 760 decayed pilings with 270 new steel and concrete piles under Pier 59; replacing and rebuilding the eastern end of Pier 59 (currently the IMAX Omnidome theatre, which is now closed, and a seafood restaurant) with an 18,000-square-foot aquarium expansion, including a new main entrance on Alaskan Way; and a new Window on Washington Waters exhibit, a Puget Sound Great Hall for community events, and new visitor services, including café/catering and gift store. The project begins in 2005 and will open to the public in the spring of 2008 (Seattle Parks Department 2005b).

The Seattle Parks and Recreation Department and the Aquarium Society are in the process of long-term planning that addresses a number of options,

including an expanded new aquarium that could include elements such as replacing the existing Waterfront Park south of Pier 59 and Pier 60 together with a new waterfront park in place of Pier 62/63. Selection of alternatives is scheduled for 2006 or 2007 and will be coordinated with AWW replacement plans (Seattle Parks Department 2005c).

Major factors influencing the success of the Seattle Aquarium in attracting visits include:

- Visibility to the public, supportive land uses, and strong connections to the water, provided by the location on the waterfront.
- Physical accessibility, especially with respect to the proximity of visitor parking. This is an especially important factor for the Seattle Aquarium since it is separated from the Pike Place Market, retail core, and other upland areas by a steep hillside.
- A critical mass of attractions in the area, which is provided by proximity to major pedestrian attractions such as the Pike Place Market and nearby Pioneer Square, as well as the Colman Dock Ferry Terminal and waterfront commercial attractions.
- A strong thematic focus and the depth of visitor experience. The aquarium is a vital facility that provides an involving visitor experience with a solid thematic focus. The Seattle Aquarium, at 68,000 square feet, is smaller than other major aquariums, and this restricts to some degree the extent of the visitor experience. This may be more significant in attracting tourist visitors than local visitors. Other major aquariums typically range in size from the 110,000-square-foot New Orleans Aquarium, the 156,735-square-foot Long Beach Aquarium, and the 210,000-square-foot National Aquarium in Baltimore, to the 322,000-square-foot Monterey Bay Aquarium (ConsultEcon, Inc. 2001).

4.3 North Waterfront – Pine Street to Broad Street

The locations of the parks, recreation facilities, and public shoreline access points in the north waterfront section are shown on Exhibits 4-2 and 4-3.

Pier 62/63 Park: This facility is owned by the Seattle Parks Department and consists of a large unobstructed deck with views of the water, Olympic Mountains, and downtown skyline. From 1991 through 2004, Pier 62/63 Park was used for a series of 18 to 20 concerts during summer evenings. For the 2005 summer season, the concert series was relocated to South Lake Union Park due to structural problems with the pier. Future plans include relocation of some or all of the functions of the Waterfront Park at Pier 57/59 to this area

when the Seattle Aquarium expands to the south of Pier 59. The Pier 62/63 Park is currently accessible to the public.

Concepts presented by the Seattle Parks Department to the Seattle City Council on June 24, 2005, are integrated with plans for SR 99 and include the following (Seattle Parks Department 2005a):

- The Aqua Link alternative features a north-south pedestrian connection along the water's edge around the aquarium, alleviating sidewalk congestion and providing the maximum circulation to the water. It places the aquarium in a setting of public spaces. It also includes a long, publicly accessible beach.
- The Connector alternative emphasizes linking the Pike Place Market and downtown to the waterfront through a set of elevated ramps and crossings with a variety of uses on the perimeter. Aquarium expansion would be primarily to the south, allowing for open space and an entry on the north. It includes a pedestrian bridge to link the lid and the water, a transparent pavilion for everyday activities and special events, and a footbridge connecting the aquarium to a small Pier 63 deck.
- The Multipurpose Pier alternative relocates Pier 62/63 to the south for better integration with the open space on the north side of the aquarium. The new pier would include provision for a temporary cover, so events could be staged in the spring and fall. It would be accessed by an at-grade crossing at Pine Street.
- The Improvement of Existing Park Spaces alternative would identify improvements that could be made to Waterfront Park to enhance the marine habitat beneath and overall improvements that would make the park more attractive. Pier 62/63 would be maintained, and improvements would be identified which could be made to the structure to enhance the marine habitat beneath and to make the park more user friendly.
- The No Action alternative would maintain existing conditions. No action would be taken to maintain, improve, or rebuild Waterfront Park and Pier 62/63. Continued deterioration would necessitate removal of Pier 62/63 in the long run.

The Parks Department and project proponents are also exploring use of Pier 62/63 for construction staging, which would delay reopening until after completion of the project if incorporated into the proposal (Graves 2005 personal communication).

Olympic Sculpture Park: This planned facility is located between the Alaskan Way surface street and Western Avenue and is bounded by Broad Street on the south and Bay Street on the north. It is currently under construction. The site encompasses approximately four city blocks. The adjacent Alaskan Way right-of-way is designated a "Park Boulevard" and is designed to integrate with the park (Seattle 2005). Current plans include elevating portions of the site above Elliott Avenue and the Alaskan Way surface street to accommodate pedestrian overcrossings in a "Z" configuration for the main pathway through the park. A number of different landscape and sculpture theme areas will be connected by internal trails, and a pavilion is planned to provide space for all-weather activities. Numerous viewpoints, seating areas, and passive use areas will be provided. The Olympic Sculpture Park is being developed by the Seattle Art Museum in partnership with the City of Seattle and will be open to the public free of charge during normal hours.² Construction of the facility began in 2005. It is currently projected to open in mid-2006 (Seattle Art Museum 2005).

4.4 North – Battery Street Tunnel to Comstock Street

The locations of the parks, recreation facilities, and public shoreline access points in the north section are shown on Exhibit 4-3.

Lake Union to Elliott Bay Trail: This planned trail is designed to link South Lake Union to Elliott Bay, using both public and private sidewalks and other corridors. It is being developed with funds from the Pro Parks 2000 levy approved by Seattle voters in November 2000. It would connect South Lake Union Park to the Seattle Center, and the Olympic Sculpture Park to Myrtle Edwards Park. It would also provide nonmotorized transportation links to the Waterfront Bicycle/Pedestrian Facility, Westlake Trail, and the Burke-Gilman Trail. The trail alignments are anticipated to be developed in conjunction with the City's South Lake Union plans and the Alaskan Way Viaduct and Seawall Replacement Project.

Seattle Center: This 74-acre site, owned by the City of Seattle, hosts a variety of cultural and recreational facilities as well as trade shows, job fairs, and public and private meetings. It is roughly bounded by Broad Street, Fifth Avenue N., Mercer Street, First Avenue N., and Denny Way. It was initially the site of the 1927 Civic Complex and was expanded for the 1962 World's Fair. The Seattle Center has open space around a centrally located international fountain, smaller lawn and plaza areas, a skateboard park, McCaw Hall, exhibition and meeting halls, the multiuse Center House, and two sports arenas. The Sculpture Garden in the area generally between the

² City of Seattle Ordinance No. 120681

Space Needle and Broad Street contains four large public art works. Seattle Center hosts a number of private and nonprofit facilities, including the Space Needle, the Experience Music Project, the Seattle Children's Museum, the Northwest Craft Center, Pacific Northwest Ballet, and the Pacific Science Center. The nonsport use of the Seattle School District's Memorial Stadium is coordinated with Seattle Center activities. Key Arena is home to the Seattle Supersonics professional basketball team and hosts many large events with attendance of up to 15,000 persons. The Space Needle attracts approximately 4.2 million tourist visits per year. The Seattle Center is the site of various cultural activities and festivals, the largest of which (the Northwest Folklife Festival and Bumbershoot) each attract about 220,000 people over the 3-day Memorial Day and Labor Day weekends.

Chapter 5 OPERATIONAL IMPACTS AND BENEFITS

Operational impacts and benefits are those that occur over the long term as the facility is in operation. The following sections present discussions of different types of operational impacts and benefits for each alternative and option. Short-term impacts from construction of the alternatives are discussed in Chapter 6. Mitigation measures for the identified operational impacts are discussed in Chapter 8.

5.1 Tunnel Alternative (Preferred Alternative)

The Tunnel Alternative would affect parks and recreation resources the same way as the Tunnel Alternative evaluated in the Draft EIS. Many of the effects relate to opportunities to use the surface area above the tunnel for a variety of enhanced open space and recreational opportunities. The change in the context would allow elements of the park and recreation system to be woven more closely into the fabric of Seattle's downtown neighborhoods rather than being separated by the existing aerial structure.

In the central waterfront area, current conceptual plans include four lanes for traffic, together with medians/turn lanes, bicycle lanes, and parking. This would occupy a width of about 80 feet, a little more than 40 percent of the 180-foot-wide right-of-way. The 40-foot-wide corridor provided for the waterfront streetcar would occupy about 20 percent of the right-of-way. Considerable flexibility is available to arrange these elements in various configurations.

A description of impacts and benefits to specific park and recreation facilities is provided below. The description within each geographical section first addresses facilities west of the corridor, then facilities to the east. Facilities are addressed from the south to the north.

5.1.1 South – S. Spokane Street to S. Dearborn Street

The Tunnel Alternative analyzed in the Draft EIS is similar to both the stacked and side-by-side tunnel alignments between S. Atlantic Street and S. Royal Brougham Way. SR 99 would be at-grade with full-access elevated ramps for the local streets to cross the highway and elevated streets parallel to SR 99 to connect the elevated ramps. Differences in the current design that result in changes in effects, as compared to the Draft EIS discussion, include the following.

Waterfront Bicycle/Pedestrian Facility: The Draft EIS Tunnel Alternative proposed to replace the current multipurpose asphalt pathway on the east side of the surface street with a combination of facilities, including bicycle lanes on the Alaskan Way surface street and a bicycle/pedestrian trail to the west of the surface street starting at Dearborn Street and continuing south beneath the elevated structures carrying S. Atlantic Street and S. Royal Brougham Way.

In the updated Tunnel Alternative (both alignments), the separate pedestrian/bicycle trail would still begin at Dearborn Street, and continue south separated from the roadway by a barrier, instead of the landscape strip described in the Draft EIS. The trail would continue south to about 300 feet north of S. Royal Brougham Way, where it would be routed under the elevated structure carrying S. Atlantic Street and S. Royal Brougham Way and continue at-grade adjacent to SR 99 to S. Massachusetts Street. The experience of bicyclists and pedestrians on the trail west of the surface street would be affected by the lack of setbacks from the vehicle lanes and landscape buffers provided by the existing trail. Compared with the existing multipurpose trail or the route in the Draft EIS adjacent to the surface street, this route has few visual amenities, such as landscaping, and little or no opportunities for enjoyment of scenery during exercise-related activities, such as walking, bicycling, and skating. The proposed route would have considerable noise levels, especially where noise would reverberate from the elevated structure carrying S. Atlantic Street and S. Royal Brougham Way.

Mountains to Sound Greenway Trail: The trail currently is planned to use the sidewalk on the north side of S. Atlantic Street between Fourth Avenue and the Alaskan Way surface street to connect with the existing Waterfront Bicycle/Pedestrian Facility on the east side of the Alaskan Way surface street. The relocated Waterfront Bicycle/Pedestrian Facility would be at-grade on the west side of SR 99. The Greenway Trail would use the sidewalks and crosswalks on the S. Atlantic Street overcrossing and would continue on the sidewalk of the elevated structure until the ramps rejoin grade and can rejoin the new Waterfront Bicycle/Pedestrian Facility about 500 feet to the south at E. Marginal Way or about a half mile to the north at the Alaskan Way surface street.

5.1.2 Central – S. Dearborn Street to Battery Street Tunnel

The removal of the existing viaduct would improve the integration of existing park and recreation uses along the waterfront and increase opportunities for developing open space along the waterfront in the same manner as the Tunnel Alternative discussed in the Draft EIS.

Neither the Over Elliott and Western Avenues Option nor the Under Elliott and Western Avenues Option would affect park and recreation facilities.

The following parks and recreation facilities in the central section may be affected by the project.

Pier 48 Alaska Square: This facility would be partially displaced by either tunnel alignment. The westerly portion of the park could be reestablished after construction and could provide some recreation value in conjunction with the relocated Washington Street Boat Landing.

Washington Street Boat Landing: The stacked tunnel alignment would project out into Elliott Bay about 42 feet from the existing seawall. After construction is complete, the pergola would be relocated over the tunnel at the edge of the water, approximately 15 feet west of its current site. It would remain at the foot of S. Washington Street and would not hang over the water. The side-by-side tunnel alignment would project about 53 feet to the west from the edge of the existing seawall, and the pergola would be relocated approximately 27 feet west of its current site. The context of the pergola would depend on the configuration of the surface street constructed over the tunnel. With a wider promenade along the waterfront and the absence of the existing viaduct, the area is likely to be more inviting for pedestrian circulation down S. Washington Street from the Pioneer Square Historic District. Overall, the additional area provided would allow a setting that could encourage seating areas and passive enjoyment of the waterfront separated from the traffic on the Alaskan Way surface street.

5.1.3 North Waterfront – Pine Street to Broad Street

The effects of the updated Tunnel Alternative would be different from the effects of the Tunnel Alternative discussed in the Draft EIS for the following parks and recreation facilities in the north waterfront.

Waterfront Promenade: This pedestrian sidewalk on the west side of the Alaskan Way surface street would be unchanged by either of the tunnel alignments. The Tunnel Alternative evaluated in the Draft EIS reduced the width of the promenade near the tunnel portal to the surface street near Pier 62/63. That impact would be eliminated by the current alignments.

Waterfront Bicycle/Pedestrian Facility: Like the Draft EIS Tunnel Alternative, the updated Tunnel Alternative would remove the bicycle/pedestrian pathway currently located on the east side of the surface street. Bicyclists would travel in 4- to 5-foot-wide lanes at street level, separated from traffic with striping, and pedestrians would use sidewalks on the east side of the corridor, and the waterfront promenade described above.

Pike Street Hillclimb: The character of this corridor of stairs, terraces, and landscaping between Western Avenue and the Alaskan Way surface street would experience a change if the existing viaduct were removed. Users of the Pike Street Hillclimb would experience more extensive views of Elliott Bay and lower noise levels.

Both of the tunnel alignments would begin rising between University and Union Streets as SR 99 travels north. The street level for northbound Alaskan Way would be about 16 feet higher than existing grade, which would change the configuration of this pedestrian link to the waterfront. A series of stairs and ramps would be provided to maintain this pedestrian corridor.

The potential development of a public park or open space in the triangular parcel at the foot of Pike Street also would enhance the area as a gathering place. The direct visual access toward the waterfront, together with the reduction of the noise and shadow impacts of the existing viaduct, is likely to strengthen the relationship to the Pike Place Market and the waterfront and benefit other uses in the immediate vicinity, such as the Seattle Aquarium.

Seattle Aquarium: The Seattle Aquarium fronts directly on the Alaskan Way surface street with a new main entrance at Pier 59. Impacts of both tunnel alignments on the aquarium are generally the same as discussed in the Draft EIS for the Tunnel Alternative, with the exception of the beneficial effects of the lid or walkway options that would provide pedestrian connections from the Pike Place Market to Victor Steinbrueck Park. These connections, together with greater visual access down the Pike Street Hillclimb, are likely to increase the ease of movement to the waterfront and aquarium. Stepping of the surface lanes of the Alaskan Way surface street with stairways and ramps for pedestrians is not likely to negatively affect the movement of people across Alaskan Way and is not likely to affect attendance at the aquarium.

Victor Steinbrueck Park: Users of this facility, located on Western Avenue at Virginia Street adjacent to the Pike Street Public Market, would benefit from either of the two lid options that would provide a pedestrian connection between the Victor Steinbrueck Park at the Pike Place Market and the central waterfront.

The Steinbrueck Park Walkway (paired with the preferred alignment) would extend as a full cover over the roadway to about Pine Street. It would then extend as a 20-foot-wide pedestrian walkway west of and above the road surface. With the Steinbrueck Park Walkway, the noise levels at Steinbrueck Park would remain about the same as current levels.

The Steinbrueck Park Lid Option would continue as an extension of the lid over the tunnel from where it begins to protrude above the current ground surface between Union and Pike Streets to the north end of Victor Steinbrueck

Park. The width of the lid is approximately 150 feet and would provide a connection to the waterfront and opportunities for a variety of landscaping and open space options. The lid would greatly enhance the physical circulation between the open space and recreation facilities on the waterfront and Steinbrueck Park. With the Steinbrueck Park Lid, Steinbrueck Park would experience a decrease from the current high noise levels of SR 99.

Both the lid and walkway, in conjunction with the sloping triangle park area between Pike and Pine Streets and the Waterfront Park, Seattle Aquarium at Pier 59, and redevelopment of the Pier 62/63 Park, have the potential to create a system of open spaces along the entire waterfront. These open spaces would link to the overlook at Steinbrueck Park and enhance connections between the waterfront and the Pike Place Market.

Pier 62/63 Park: This Seattle Park would have been affected by the Tunnel Alternative in the Draft EIS, which would place a tunnel portal near the midpoint of the pier. The elimination of that feature eliminates the effects on parking, pick up/drop off, and other local maneuvers and leaves the park in its present status. Noise levels are likely to be similar to existing conditions with the Steinbrueck Park Walkway and would be reduced with the Steinbrueck Park Lid. The use of the facility for a variety of purposes, including concerts, would be little affected by the current tunnel options.

All other public access and park facilities would be little affected by the current tunnel options. The potential effects of higher traffic volumes on the Alaskan Way surface street discussed in the Draft EIS would be avoided.

5.1.4 North – Battery Street Tunnel to Comstock Street

The proposal to upgrade the Battery Street Tunnel and place Aurora Avenue N. (SR 99) below grade in a retained cut is similar to the Lowered Aurora Option described for the Draft EIS Aerial Alternative and referenced in the Draft EIS discussion for the Tunnel Alternative. With the updated Tunnel Alternative, the floor of the tunnel would be lowered to provide a vertical clearance of 16.5 feet.

North of the Battery Street Tunnel, the preferred stacked tunnel alignment would enhance pedestrian and bicycle travel with the Partially Lowered Aurora Option, which would lower SR 99 approximately 45 feet below the existing road surface to allow Thomas and Harrison Streets to bridge over the top. Mercer Street would cross beneath SR 99 as it does today, but it would be widened and reconfigured to a two-way street with an 18-foot-wide shared-use path at sidewalk level on the north side of the road and a sidewalk on the south side.

The optional side-by-side tunnel alignment would include the Lowered Aurora Option, which would provide new bridges crossing over SR 99 at Thomas, Harrison, Republican, Roy, and Mercer Streets. As in the Partially Lowered Aurora Option, Mercer Street would include a pedestrian/bicycle path on the north side of the road and a sidewalk on the south side.

Seattle Center: The Partially Lowered Aurora or Lowered Aurora Option north of the Battery Street Tunnel would affect the Seattle Center by changing the traffic circulation system related to SR 99/Aurora Avenue N. and the operation of streets that cross SR 99. Closing the Broad Street Underpass and widening Mercer Street to accommodate two-way traffic would affect the total number of lanes crossing SR 99 on the major east-west connection to I-5 and change the circulation of local traffic accessing Seattle Center.

5.1.5 Seawall – S. Washington Street to Broad Street

The proposal for reconstructing the seawall at S. Jackson Street (with soil improvements) and replacement of the seawall from S. Washington to Broad Street is the same as discussed for the Tunnel Alternative in the Draft EIS.

5.2 Elevated Structure Alternative

The Elevated Structure Alternative includes rebuilding the viaduct in place with dimensions similar to the Aerial Alternative discussed in the Draft EIS. As compared to the Aerial Alternative, the following changes in impacts would result from the Elevated Structure Alternative.

5.2.1 South – S. Spokane Street to S. Dearborn Street

The current proposal is a surface roadway that extends from S. Spokane Street to approximately S. Dearborn Street. The Draft EIS Aerial Alternative incorporated a double-level aerial structure that began south of S. Holgate Street. Differences in impacts between the two include the following.

Waterfront Bicycle/Pedestrian Facility: The Elevated Structure Alternative incorporates a modified trail location as compared to the Draft EIS Aerial Alternative, which included a multipurpose asphalt pathway from S. King Street to S. Atlantic Street west of the aerial structure. The current proposal would provide a separate multipurpose trail in a similar configuration to the updated Tunnel Alternative. It would be located west of the new roadway from S. Dearborn Street, then would be routed under the southbound off-ramp and continue adjacent to SR 99 under the elevated structure that carries the ramps serving S. Royal Brougham Way and S. Atlantic Street. The route has few visual amenities, such as landscaping, and little or no opportunities for enjoyment of scenery. The proposed route would have considerable noise

levels, especially where noise would reverberate from the elevated structure carrying S. Atlantic Street and S. Royal Brougham Way.

Mountains to Sound Greenway Trail: In the SODO Ramps area, the trail under the Elevated Structure Alternative would be similar to the trail under the updated Tunnel Alternative. Pedestrians would use the sidewalks and crosswalks on the S. Atlantic Street overcrossing and continue until they reach the Alaskan Way surface street. Alternatively, trail users could use the sidewalks and bicycle lanes on First Avenue to cross under the elevated structure and cross the surface street at S. King Street. Both routes would have less visual interest than the existing multipurpose trail.

5.2.2 Central – S. Dearborn Street to Battery Street Tunnel

The Elevated Structure Alternative would transition from a side-by-side to a double-level aerial structure between S. King Street and S. Main Street. This alignment would be more likely to compromise or preclude the future development of a vibrant waterfront park somewhere between S. Washington and S. King Streets called for in the Pioneer Square Neighborhood Plan and Seattle Parks and Recreation Plan (Seattle 1998a).

Waterfront Promenade: The promenade would be decreased in width from its current 20 feet to about 15 feet due to the widening of the aerial structure and the location of all surface travel lanes to the west of the new structure. The previous Aerial Alternative accommodated northbound lanes under the aerial structure where parking is currently provided under the existing viaduct and provided additional space for widening the waterfront sidewalk. The decrease in width would result in less pedestrian capacity and fewer opportunities for pedestrians to enjoy the waterfront from the walkway. Crowding on the sidewalk is likely to decrease opportunities for recreation activities such as walking, congregating, and resting to enjoy the scenery. The loss of the existing multipurpose trail would further add to congestion, as discussed below.

Waterfront Bicycle/Pedestrian Facility: The existing multipurpose asphalt pathway west of the existing viaduct would be displaced as with the Aerial Alternative evaluated in the Draft EIS. It would be replaced with a combination of 5-foot-wide bicycle lanes on both sides of Alaskan Way. On the west side, the sidewalk (waterfront promenade) would be 15 feet wide rather than the 70-foot-wide promenade proposed for the Tunnel Alternative. The potential for establishing continuous sidewalks on the east side would be limited by the location of the edge of the aerial structure about 12 feet farther to the east.

The proposed bicycle lanes may improve the mobility of commuter bicyclists by providing a continuous system and may improve safety and reduce conflicts with vehicles and pedestrians. The experience for recreational bicyclists and pedestrians would be substantially degraded by the lack of a separate trail and by the decrease in the width and amenities of sidewalks. A sidewalk on the east side of the aerial structure would have few of the amenities of the existing multipurpose trail. The shadows, enclosed environment, distance from waterfront views, and view interruption by columns all would likely lead to much lower pedestrian use. Overall pedestrian use of the waterfront would be further constrained by the narrower waterfront promenade discussed above.

Washington Street Boat Landing: The pergola located at the edge of the Alaskan Way right-of-way at the foot of S. Washington Street would be removed during reconstruction of the seawall. The pergola structure would be relocated approximately 35 feet farther west of the existing seawall and would be supported by pilings. It would overhang the water by its approximate width of 26 feet, just as it does today.

The Elevated Structure Alternative's elevated mainline structure would be considerably closer to the pergola than the existing viaduct. The Elevated Structure Alternative would differ from the Draft EIS Rebuild Alternative in placing the aerial structure closer to the pergola and narrowing the sidewalk. The current proposal would have higher proximity impacts such as noise and greater visual domination from the wider aerial structure being located farther to the west.

Pier 48, Alaska Square: The relocation of the seawall and sidewalk to the west would displace a portion of this facility. The Rebuild Alternative in the Draft EIS had no effects on this facility. The Aerial Alternative in the Draft EIS displaced the facility with the ferry access road proposed from the Pier 48 uplands to Colman Dock.

All other impacts of the Elevated Structure Alternative on park and recreation facilities and opportunities in this area are similar to those of the Aerial Alternative in the Draft EIS, including effects on Colman Dock Ferry Terminal public access facilities; Fire Station No. 5 viewing area; Piers 45, 55, 56, and 57 public access areas; the Waterfront Park; the Seattle Aquarium; and park, recreation, and open space facilities east of the corridor.

5.2.3 North Waterfront – Pine Street to Broad Street

Impacts of the Elevated Structure Alternative north of Pine Street are likely to be very similar to those of the Aerial Alternative in the Draft EIS because the SR 99 route would leave the Alaskan Way right-of-way at about Pine Street and continue to the north on a separate right-of-way to connect with the

Battery Street Tunnel. The effects of replacement of the seawall would be the same as described for the Aerial Alternative in the Draft EIS.

5.2.4 North – Battery Street Tunnel to Comstock Street

The proposal to upgrade the Battery Street Tunnel and place Aurora Avenue N. (SR 99) below grade in a retained cut with either the Partially Lowered Aurora Option with improvements to Aloha Street or the Lowered Aurora Option with improvements to Comstock Street would be similar to the Lowered Aurora Option discussed for the Draft EIS Aerial Alternative and would not result in effects on parks or recreation facilities different from those described in the Draft EIS. Effects from the Partially Lowered Aurora Option on both the Seattle Center and pedestrian/bicycle facilities north of the Battery Street Tunnel would be the same as for the Tunnel Alternative discussed above.

5.2.5 Seawall – S. Washington Street to Broad Street

The proposal for reconstructing the seawall from S. Jackson Street to Broad Street is the same as discussed for the Aerial Alternative in the Draft EIS.

5.3 Project Benefits

The project benefits discussed in the Draft EIS would have resulted from the opportunities associated with the Tunnel Alternative that would allow the reconfiguration of open space, parks, and other recreational uses along the Alaskan Way right-of-way. Both the stacked and side-by-side tunnel alignments for the updated Tunnel Alternative would provide the same long-term opportunities, as well as providing the additional benefits of enhanced connections between the waterfront and Steinbrueck Park with the Steinbrueck Park Lid or the Steinbrueck Park Walkway.

This Page Intentionally Left Blank

Chapter 6 CONSTRUCTION IMPACTS

The discussion of construction impacts is based on conceptual plans for construction staging and construction duration. Generally, the construction times referenced are at the 90-percent confidence level. The exact construction methods cannot be ensured because contractors have a degree of latitude in construction methods and scheduling within the contract specifications and the conditions of approval of the project.

For both alternatives, the following construction impact now differs from what appeared in the Draft EIS:

Pier 48, Periscope Viewpoint and Alaska Square: The AWV Project includes building a temporary over-water bridge between Pier 48 and Colman Dock (this area is between S. Washington Street and Yesler Way). The Colman Dock Ferry Terminal access bridge would be needed for either alternative during construction to maintain access and egress for ferry operations. Once AWV construction is completed, this over-water bridge would be removed.

6.1 Tunnel Alternative (Preferred Alternative)

The Draft EIS estimate for the duration of tunnel construction varied from 10 to 11 years (including preliminary utility relocation), depending on the alternative. The current estimates for the duration of tunnel construction with the intermediate plan or shorter plan range from 7 to 8.75 years.

The changes that would allow more through traffic to use the existing viaduct during construction or the closure of the corridor to through traffic would make no difference to use of park and recreation facilities that are dependent on local access.

As indicated in the Draft EIS, the most important factors during tunnel construction are the length of time construction affects access to the waterfront, noise and other proximity impacts, and public perception that the waterfront is an unfriendly environment for recreation. Because other elective recreation activities are available and other waterfront locations are available on Puget Sound, people may simply shift to other activities and other locations. The discussion of construction impacts in Chapter 6 of the 2004 Draft EIS Appendix H, Parks and Recreation Technical Memorandum, is generally applicable to the tunnel alignments currently being evaluated.

The major difference between the Draft EIS estimates and the current proposal is in construction sequencing that allows retaining one-way traffic on the existing viaduct for a longer period. Total closure of the aerial structure would be limited to 18 months.

Construction impacts on park and recreation facilities are not likely to change substantially because of differences in routing of traffic under either the intermediate or longer construction plans. Through traffic is not likely to be important for uses on the waterfront. Park and recreation facilities depend on direct surface street access by pedestrians and surface street access to parking facilities by vehicles.

The construction impacts on general patterns of use and on specific facilities for the current proposal are likely to be the same as those discussed in the Draft EIS.

- Construction would disrupt existing patterns of movement. Even with provisions for access across construction sites, the perceived inconvenience would lead many people to avoid the waterfront in favor of other park and recreation activities. This is especially the case during reconstruction of the seawall, which would interrupt access from the east as well as curtail north-south movement along the waterfront. The construction of the lowered SR 99 north of the Battery Street Tunnel would substantially curtail east-west movement across that corridor to Seattle Center.
- The most substantial impacts are likely to be for traffic on the Alaskan Way surface street. Circulation to destinations along the corridor and convenient parking would be reduced. The perception that the area is more difficult to access is likely to lead to the choice of other recreation opportunities by persons that otherwise might be attracted to the waterfront.
- Pedestrians would be able to move around construction areas, but the overall perception of construction disruption is likely to lead to a substantial number of potential users choosing other activities or sites.
- The length of the construction period may affect the recovery of the waterfront as a destination for recreation and passive enjoyment of public access under either alternative. The interrelated private and public activities along the waterfront may be individually and cumulatively affected.

Facilities that depend upon admission fees are likely to be especially affected by construction on the waterfront. Facilities likely to be affected include:

- Tillicum Village at Blake Island State Park. This facility, operated as a concession, is completely fee-supported. Private ferry service to the island is offered from Pier 56 and also provides the primary means of access for use of other facilities on the island. Reduced public use of the waterfront area may affect attendance at Tillicum Village and its revenue stream.

- The Seattle Aquarium is primarily funded by admissions and funding. If attendance at the facility drops during construction, programs of the aquarium may not continue at the same level. Existing plans to upgrade the facility may be affected. The animals in the Seattle Aquarium collection may be affected by construction impacts. Stress from noise can disrupt basic lifecycle functions, such as feeding and breeding, and that may affect the aquarium's revenue stream.
- The summer concert series has been temporarily moved to Gasworks Park after being relocated due to deteriorated conditions at Pier 62/63.
- Seattle Center is host to numerous recreational, cultural, and professional sports venues that depend upon admission fees and are likely to be affected by restrictions on east-west circulation during the construction of the lowered SR 99 corridor.

6.2 Elevated Structure Alternative

The effects of the Elevated Structure Alternative would be more similar to the impacts discussed in Chapter 6 of the 2004 Draft EIS Appendix H for the Rebuild Alternative, rather than the Aerial Alternative, because the latter included construction of temporary aerial structures that would have added shadow and noise impacts to park and public access facilities along the waterfront.

The current estimated construction period for the Elevated Structure Alternative is 10 years as compared with the Draft EIS estimate of 9 years (including preliminary utility relocation).

The same pattern of construction impacts on waterfront uses and on Seattle Center described for the Tunnel Alternative is likely from the Elevated Structure Alternative.

Olympic Sculpture Park: Under the Elevated Structure Alternative, the Olympic Sculpture Park would experience proximity impacts from increased traffic on the Broad Street Detour along the southerly boundary of the park. The elevated roadway between Elliott Avenue and the Alaskan Way surface street would add substantial visual intrusion, shadows, and noise to the southerly portion of the park. The 2004 Draft EIS Appendix H assessed impacts during the 8 years the detour was projected to be under construction or in use. Under the Elevated Structure Alternative, the Broad Street Detour would be in use for 4.25 years as compared with the estimated 8 years discussed in the Draft EIS.

This Page Intentionally Left Blank

Chapter 7 SECONDARY AND CUMULATIVE IMPACTS

The Alaskan Way Viaduct and Seawall Replacement Project must consider the long-term cumulative effects, or those impacts that are additive effects of the project, when combined with other reasonably foreseeable developments or actions in the future. The cumulative effects must be identified in an effort to try to avoid or minimize their possible effects and incorporate mitigation and project planning where needed.

Both the Tunnel (Preferred) and the Elevated Structure Alternatives are comparable in terms of likely secondary and cumulative effects, and those discussed in the Draft EIS apply to the updated Tunnel and Elevated Structure Alternatives described in this Supplemental Draft EIS.

This Page Intentionally Left Blank

Chapter 8 OPERATIONAL MITIGATION

The same opportunities for mitigation of operational and construction impacts identified for the alternatives addressed in the Draft EIS apply to the current alternatives.

This Page Intentionally Left Blank

Chapter 9 CONSTRUCTION MITIGATION

Conceptual mitigation strategies in the Draft EIS were common to all Build Alternatives, with additional discussion of specific mitigation needs that would arise from different alternatives. The range of mitigation measures for the current alternatives would be the same as those identified in the Draft EIS.

This Page Intentionally Left Blank

Chapter 10 REFERENCES

- ConsultEcon, Inc. 2001. Market and operating potential of the new Pacific Northwest Aquarium. Prepared for the Seattle Aquarium Society, Seattle, Washington.
- Graves, D. 2005. Personal communication of August 15, 2005. David Graves, Seattle Parks Department, Seattle, Washington.
- Seattle. 2005. Seattle City Council, News Release, April 11, 2005, <http://www.seattle.gov/council/newsdetail.asp?ID=5093&Dept=28>. Accessed January 10, 2006.
- Seattle Art Museum. 2005. Seattle Art Museum, Olympic Sculpture Park website. Available at: <http://www.seattle.gov/transportation/sr519.htm>. Accessed January 10, 2006
- Seattle, City of. 1998a. City of Seattle, Pioneer Square Neighborhood Plan.
- Seattle Department of Transportation. 2005. Seattle Department of Transportation, Projects website, SR 519 Intermodal Access Project (Surface Street Improvements). Available at: [http://www.iamsamcampaign.org/index.php?p=Olympic Sculpture Park &s=](http://www.iamsamcampaign.org/index.php?p=Olympic_Sculpture_Park&s=). Accessed July 24, 2005.
- Seattle Parks Department. 2005a. Seattle Parks Department, website Pier 62-63 Piling Replacement and Central Waterfront Park Planning Process <http://www.seattle.gov/parks/maintenance/Pier62-63/default.htm>. Accessed July 24, 2005.
- Seattle Parks Department. 2005b. Seattle Parks Department website, Seattle Aquarium, New Currents, Project Update <http://www.seattleaquarium.org/images/about/projectinformation.pdf>. Accessed January 10, 2005.
- Seattle Parks Department. 2005c. City of Seattle website Seattle Design Commission August 4, 2005 Review Pier 62/63 and Waterfront Park Feasibility Study <http://www.seattle.gov/dpd/citydesign/projectreview/sdc/PDF/Minutes2005-08-04.pdf>. Accessed January 10, 2006.
- WSDOT (Washington State Department of Transportation), City of Seattle, and U.S. Department of Transportation, Federal Highway Administration. 2004. SR 99: Alaskan Way Viaduct & Seawall Replacement Project Draft Environmental Impact Statement. Washington State Department of Transportation, Urban Corridors Office, Seattle, Washington.

This Page Intentionally Left Blank