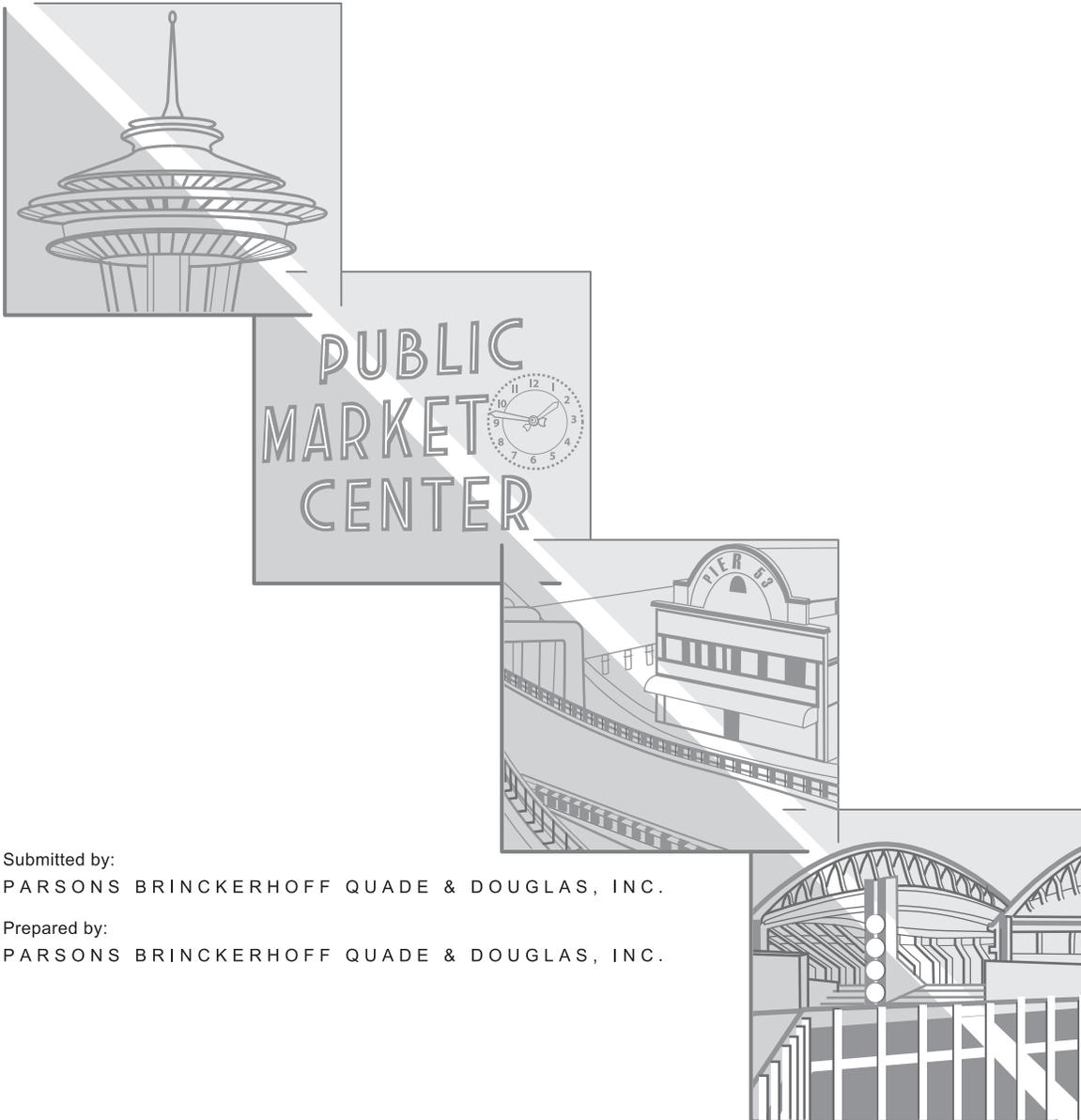


# SR 99: ALASKAN WAY VIADUCT & SEAWALL REPLACEMENT PROJECT

Supplemental Draft Environmental Impact Statement

## APPENDIX K

Relocations Technical Memorandum



Submitted by:  
PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.

Prepared by:  
PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.

JULY 2006



# SR 99: ALASKAN WAY VIADUCT & SEAWALL REPLACEMENT PROJECT

## Supplemental Draft EIS Relocations 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
<b>Chapter 1 Summary .....</b>	<b>1</b>
1.1 Methodology, Studies, and Coordination .....	2
1.2 Affected Environment .....	2
1.3 Alternatives and Options.....	2
1.4 Impacts .....	5
1.4.1 Tunnel Alternative (Preferred Alternative).....	5
1.4.2 Elevated Structure Alternative .....	7
1.5 Mitigation Measures.....	7
1.6 Primary Changes in the Analysis Since the Draft EIS.....	8
<b>Chapter 2 Methodology .....</b>	<b>9</b>
<b>Chapter 3 Studies and Coordination.....</b>	<b>11</b>
<b>Chapter 4 Affected Environment .....</b>	<b>13</b>
<b>Chapter 5 Operational Impacts and Benefits .....</b>	<b>15</b>
5.1 Tunnel Alternative (Preferred Alternative).....	15
5.1.1 South – S. Spokane Street to S. Dearborn Street .....	18
5.1.2 Central – S. Dearborn Street to Battery Street Tunnel .....	19
5.1.3 North Waterfront – Pine Street to Broad Street .....	20
5.1.4 North – Battery Street Tunnel to Comstock Street.....	20
5.1.5 Seawall – S. Washington Street to Broad Street .....	21
5.2 Elevated Structure Alternative .....	21
5.2.1 South – S. Spokane Street to S. Dearborn Street .....	22
5.2.2 Central – S. Dearborn Street to Battery Street Tunnel .....	23
5.2.3 North Waterfront – Pine Street to Broad Street .....	24
5.2.4 North – Battery Street Tunnel to Comstock Street.....	24
5.2.5 Seawall – S. Washington Street to Broad Street .....	24
<b>Chapter 6 Construction Impacts.....</b>	<b>25</b>
6.1 Tunnel Alternative (Preferred Alternative).....	25
6.1.1 Intermediate Plan .....	25
6.1.2 Shorter Plan.....	26
6.2 Elevated Structure Alternative .....	26
6.2.1 Longer Plan .....	26
<b>Chapter 7 Secondary and Cumulative Impacts.....</b>	<b>27</b>
<b>Chapter 8 Operational Mitigation.....</b>	<b>29</b>
<b>Chapter 9 Construction Mitigation .....</b>	<b>31</b>
<b>Chapter 10 Permits and Approvals .....</b>	<b>33</b>
<b>Chapter 11 References .....</b>	<b>35</b>

## LIST OF EXHIBITS

Exhibit 1-1. Tunnel and Elevated Structure Alternatives with Options .....	3
Exhibit 1-2. Options Evaluated with the Tunnel Alignments.....	3
Exhibit 1-3. Parcels Acquired for the Alternatives .....	6
Exhibit 1-4. Buildings Acquired for the Alternatives .....	7
Exhibit 5-1. Parcels Acquired for the Tunnel Alternative.....	16
Exhibit 5-2. Buildings Acquired for the Tunnel Alternative .....	16
Exhibit 5-3. Zoning and Estimated Acquisition Amounts for Parcels Affected by the Tunnel Alternative .....	17
Exhibit 5-4. Parcels Acquired for the Elevated Structure Alternative .....	22
Exhibit 5-5. Zoning and Estimated Acquisition Amounts for Parcels Affected by the Elevated Structure Alternative.....	23

## ATTACHMENTS

ATTACHMENT A	Property Impacts
ATTACHMENT B	Zoning Classifications

## ACRONYMS

AWV	Alaskan Way Viaduct
EIS	Environmental Impact Statement
SR	State Route

**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 Relocations Technical Memorandum describes the property acquisitions, displacements, and relocations that would be required for the proposed Alaskan Way Viaduct (AWV) and Seawall Replacement Project. The Supplemental Draft Environmental Impact Statement (EIS) evaluates two updated Build Alternatives: the Tunnel Alternative (Preferred Alternative) and the Elevated Structure Alternative. The No Build Alternative is also being considered, but it has not changed since the Draft EIS. The project alternatives and options are described in detail in the 2006 Appendix B, Alternatives Description and Construction Methods Technical Memorandum.

In December 2004, the project proponents selected 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 EIS (WSDOT et al. 2004). This technical memorandum and the Supplemental Draft EIS that it supports evaluate the changes to these alternatives.

While this report evaluates potential relocation impacts, related issues concerning land use and economic impacts are described in separate technical reports. Please refer to the 2004 Draft EIS Appendix G, Land Use and Shorelines Technical Memorandum and Appendix P, Economics Technical Memorandum for more information. Also see the 2006 Appendix G, Land Use and Shorelines Technical Memorandum and Appendix P, Economics Technical Memorandum for the Supplemental Draft EIS for updated information on these subjects.

For discussion purposes, the project has been broken into the following sections:

- South – S. Spokane Street to S. Dearborn Street
- Central – S. Dearborn Street to the south portal of the Battery Street Tunnel
- North Waterfront – Pine Street to Broad Street
- North – Battery Street Tunnel to approximately Comstock Street
- Seawall – S. Washington Street to Broad Street

## 1.1 Methodology, Studies, and Coordination

The methodology has changed from that used in the 2004 Draft EIS Appendix K, Relocations Technical Memorandum. The methodology for identifying affected parcels has been revised to note parcels where partial acquisition would occur, as well as parcels where full acquisition would be necessary. The assumption that all parcels would be acquired in full has been dropped. Because of this change in methodology, this report presents new numbers for full and partial acquisitions when identifying parcel impacts.

## 1.2 Affected Environment

The proposed project area remains the same as that described in the Draft EIS, except that it has been extended three blocks farther north. This area includes a mix of residential and commercial land uses.

## 1.3 Alternatives and Options

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. The updated Tunnel and Elevated Structure Alternatives differ slightly in their alignments and options when compared to those presented in the Draft EIS. Some options previously being considered are no longer included in the updated alternatives, and new options have been developed.

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.

In addition to the options, the updated Tunnel Alternative has two potential tunnel alignments:

- stacked tunnel alignment
- side-by-side tunnel alignment

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

Options <sup>1</sup>	Tunnel Alternative	Elevated Structure Alternative
<b>South Section</b>		
Reconfigured Whatcom Railyard	yes	yes
Relocated Whatcom Railyard	yes	yes
<b>Central Section</b>		
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
<b>North Section</b>		
Battery Street Tunnel Curves Widened	yes	no <sup>2</sup>
Battery Street Tunnel Curves Not Widened	yes	yes
Partially Lowered Aurora	yes	yes
Lowered Aurora	yes	no <sup>2</sup>

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

<sup>2</sup> 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.

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
<b>Preferred Stacked Tunnel Alignment</b>	Reconfigured Whatcom Railyard	Stacked Tunnel Steinbrueck Park Walkway SR 99 Under Elliott and Western	Battery Street Tunnel Improvements Partially Lowered Aurora
<b>Optional Side-by-Side Tunnel Alignment</b>	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 main features of the Tunnel and Elevated Structure Alternatives within each geographic section of the project area are summarized below.

In the south, two options are being considered for both the Tunnel and Elevated Structure Alternatives where State Route (SR) 99 crosses the Whatcom Railyard's lead track:

- The Reconfigured Whatcom Railyard (preferred) would keep 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.
- The Relocated Whatcom Railyard would place SR 99 at-grade adjacent to E. Marginal Way and relocate the tracks to the east.

The updated Tunnel Alternative has two potential tunnel alignments:

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

In the central section, two options are being considered for the Tunnel Alternative at Elliott and Western Avenues:

- SR 99 passing Under Elliott and Western Avenues (preferred)
- SR 99 extending Over Elliott and Western Avenues

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 appendix. In the central section, the Elevated Structure Alternative would be wider than the Rebuild Alternative evaluated in the Draft EIS, but not quite as wide as the Aerial Alternative. The Elevated Structure Alternative does not include the option to go under Elliott and Western Avenues.

The alternatives in the Draft EIS only considered a fire and life safety upgrade of the Battery Street Tunnel. The updated Tunnel and Elevated Structure Alternatives include increasing the vertical clearance to 16.5 feet throughout the Battery Street Tunnel. The Tunnel Alternative also includes an option to widen the north and south portals of the Battery Street Tunnel.

The revised project alignment now includes an extension of the northern limit of the project. The north area of the project now extends to about Comstock Street, about 0.8 mile north of the Battery Street Tunnel. With the Partially Lowered Aurora Option (part of the preferred alignment, but also paired with the Elevated Structure Alternative), 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.

The Lowered Aurora Option was included in the Draft EIS Aerial Alternative. This option has been revised 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 also be widened more than was considered in the Draft EIS and would cross over SR 99 on a new bridge structure.

Two construction plans are evaluated 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 also assumes periods where either the northbound or southbound lanes would be 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 42 months (3.5 years). In 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.

Only one construction plan is evaluated for the Elevated Structure Alternative:

- The longer plan would keep two lanes on SR 99 open in each direction except when SR 99 would be closed to all traffic for 3 months. The construction would last approximately 10 years.

## 1.4 Impacts

### 1.4.1 Tunnel Alternative (Preferred Alternative)

Under the Tunnel Alternative, up to 74 parcels could be affected by the roadway design. The preferred stacked tunnel alignment would involve the full acquisition of 29 parcels and partial acquisition of 18 parcels (Exhibit 1-3). Fourteen buildings on these parcels would need to be acquired (Exhibit 1-4). The optional side-by-side tunnel alignment with the Lowered Aurora Option

would include the full acquisition of 58 parcels and partial acquisition of 16 parcels. Twenty-nine buildings would be acquired with the optional side-by-side tunnel alignment. Most of the potential new parcel acquisitions are associated with the Partially Lowered Aurora or Lowered Aurora improvements north of the Battery Street Tunnel. Commercial, retail, and industrial businesses may be displaced under this alternative. One residential apartment building could be displaced in the north project area, and encroachment impacts may occur near two other residential buildings.

The total area needed for land acquisition for the preferred stacked tunnel alignment would be approximately 29 acres and for the optional side-by-side tunnel alignment would be approximately 42 acres. Several parcels throughout the project area also would be used for construction staging areas and other activities. Of the 47 parcels acquired, as many as 21 could be used for construction-related activities such as staging and lay-down area. Attachment A of this document indicates the property impacts for the alternatives.

**Exhibit 1-3. Parcels Acquired for the Alternatives**

	Section			Total
	South	Central	North	
<b>Tunnel Alternative – Preferred Stacked Tunnel Alignment</b>				
Number of Partial Acquisitions	8	2	8	18
Number of Full Acquisitions	4	11	14	29
<i>Total Properties Acquired</i>	12	13	22	47
<b>Tunnel Alternative – Optional Side-by-Side Tunnel Alignment</b>				
Number of Partial Acquisitions	9	2	5	16
Number of Full Acquisitions	7	14	37	58
<i>Total Properties Acquired</i>	16	16	42	74
<b>Elevated Structure Alternative</b>				
Number of Partial Acquisitions	8 (9) <sup>1</sup>	3	8	19 (20) <sup>1</sup>
Number of Full Acquisitions	4 (7) <sup>1</sup>	10	14	28 (31) <sup>1</sup>
<i>Total Properties Acquired</i>	12 (16) <sup>1</sup>	13	22	47 (51) <sup>1</sup>

<sup>1</sup> The total number of parcels required for the Relocated Whatcom Railyard Option is shown in parentheses.

## Exhibit 1-4. Buildings Acquired for the Alternatives

	Section			Total
	South	Central	North	
<b>Tunnel Alternative</b>				
Preferred Stacked Tunnel Alignment	3	5	6	14
Optional Side-by-Side Tunnel Alignment	6	6	17	29
<b>Elevated Structure Alternative</b>	3 (6) <sup>1</sup>	4	6	13 (16) <sup>1</sup>

<sup>1</sup> The total number of parcels required for the Relocated Whatcom Railyard Option is shown in parentheses.

### 1.4.2 Elevated Structure Alternative

Under the Elevated Structure Alternative, 47 to 51 parcels and 13 to 16 buildings could be affected (see Exhibits 1-3 and 1-4). The Elevated Structure Alternative would include full acquisition of 28 parcels and partial land acquisition from 19 parcels with the Reconfigured Whatcom Railyard in the south. With the Relocated Whatcom Railyard, the Elevated Structure Alternative would include full acquisition of 31 parcels and partial land acquisition from 20 parcels. The total area to be potentially acquired from affected parcels would be approximately 30 acres with the Reconfigured Whatcom Railyard and approximately 36 acres with the Relocated Whatcom Railyard. The highest number of affected parcels would be in the area north of the Battery Street Tunnel in association with the lowering of Aurora Avenue N. Like the Tunnel Alternative, this alternative would also affect commercial, retail, and industrial businesses. One potential residential displacement in the north, as described for the Tunnel Alternative, would also occur under the Elevated Structure Alternative.

Of the 47 to 51 parcels affected by the Elevated Structure Alternative, as many as 12 would be used for construction-related activities such as staging and lay-down areas.

## 1.5 Mitigation Measures

Operational mitigation would be the same as described for the Draft EIS. Potential construction mitigation measures have been expanded, as discussed in Chapter 9. The 2004 Draft EIS Appendix K included the following:

“Right-of-way acquisition and potential relocations will occur prior to construction stages. Property owners on adjacent parcels will be given advance notice of relocation or demolition activities that may occur during construction. Temporary access will be provided to local parcels during construction activities. Property acquisitions will

be compensated under measures identified in [2004 Draft EIS Appendix K] Section 8.2.1 above.”

Additionally, construction mitigation for parking could include:

- Purchasing, leasing, or constructing additional parking in the Pioneer Square and central waterfront areas to reduce effects to businesses.
- Providing parking south or north of downtown and providing shuttles for both construction workers and visitors to downtown.

Construction activities, especially along the central waterfront, would interfere with access to businesses and properties adjacent to the project on either side of the right-of-way. A primary goal of construction planning is to maintain adequate access to all businesses so they can continue to operate. As construction phasing and staging is refined in the coming months, it may be determined that it is neither reasonable nor feasible to maintain access to some businesses. If adequate access cannot be maintained, impacts to affected businesses will be mitigated under policies to be identified in the project’s Business Mitigation Plan. If the provisions of the Uniform Relocation Act are met, then relocation assistance would be provided.

These and other measures will be reviewed and a business mitigation plan and a relocation plan will be developed for affected properties in the project area.

## 1.6 Primary Changes in the Analysis Since the Draft EIS

Primary changes between analysis in the Draft EIS and that provided in the Supplemental Draft EIS are highlighted below:

- The identification of partial property acquisitions has resulted in changes to the number of affected parcels, and therefore, the potential number of businesses affected has also changed.
- Design changes for Aurora Avenue N. have resulted in the identification of more specific impacts in that part of the project area. Additional design information has also influenced the determination of impacts in the Supplemental Draft EIS. The combination of additional project design information and the differentiation between full and partial acquisition has resulted in changes in land areas affected between the Draft EIS and the Supplemental Draft EIS.
- The Draft EIS did not account for specific impacts to Terminal 46, because its large size affected the estimated impact analysis. Analysis for the Supplemental Draft EIS includes partial land acquisitions that would occur at Terminal 46 within calculations of land areas to be acquired.

---

## Chapter 2 METHODOLOGY

A new methodology has been used in the Supplemental Draft EIS to describe potential impacts to parcels within the project area. Information presented in the Relocations section of the Draft EIS was determined by reviewing impacts to parcels resulting from the proposed alternative alignments. In that document, it was assumed that where an alignment required taking all or part of an adjacent parcel, the entire parcel would be acquired. This approach provided a broad, worst-case analysis for comparing potential impacts associated with the alignments and various options of the five Build Alternatives being considered at that time. For the Supplemental Draft EIS, the approach to determining relocations has been refined to better distinguish between the need to acquire all or part of an adjacent parcel.

Therefore, the Supplemental Draft EIS analysis presents parcel impacts in terms of both full acquisition (where an entire parcel would be acquired) and partial acquisition (where only a portion of the parcel's overall land area would be acquired) for the two alternatives and options being considered for each alignment. Where partial acquisition would occur, an estimate of the potential amount of area to be acquired was identified. This estimate is used to provide an indication of the magnitude of impact that would occur from partial acquisition. Tables in the text have been modified to indicate the total area acquired from parcels by adding the entire parcel area for full acquisitions and the estimated land areas for partial acquisitions. This approach provides a more specific indication of the potential impact related to parcels. It has also been used to confirm that partial acquisition of affected parcels would not require displacement of existing buildings on these properties.

Since the number of affected parcels in this report includes both partial and full acquisitions, they can no longer be directly compared to parcel numbers in the Draft EIS, where only full acquisitions were assumed. Therefore, parcel numbers discussed in the text and tables of this report should be viewed as new totals not previously provided in the Draft EIS.

**This Page Intentionally Left Blank**

---

## Chapter 3 STUDIES AND COORDINATION

Information was obtained for this report from the sources described in the 2004 Draft EIS Appendix K, Relocations Technical Memorandum. New alignment configuration drawings were reviewed as shown in the 2006 Supplemental Draft EIS Appendix W, Alternatives and Options Drawings.

Information on current industrial, commercial retail, and residential markets was also obtained from *Seattle Real Estate Market Reviews* (Kidder Matthews 2005).

**This Page Intentionally Left Blank**

---

## Chapter 4 AFFECTED ENVIRONMENT

Land uses along the proposed project corridor remain the same as described in Chapter 4 of the 2004 Draft EIS Appendix K, Relocations Technical Memorandum. The proposed project area has been extended in the north by approximately three blocks from Ward Street to near Comstock Street. Adjacent land uses in this area include a mix of apartments, condominiums, and duplexes on the west side of Aurora Avenue N. and apartments, condominiums, and small business uses on the east.

**This Page Intentionally Left Blank**

---

## Chapter 5 OPERATIONAL IMPACTS AND BENEFITS

Each of the Build Alternatives and options presented below would require acquisition of land from adjacent parcels along the proposed project route. In some instances, the proposed roadway alignment may require full acquisition of a parcel and therefore necessitate relocation or displacement of existing businesses on the affected property. In other cases, the project may result in acquisition of only a portion of a parcel, leaving existing structures unaffected. Access to a parcel may also be affected and, if alternative access cannot be provided, access limitations may necessitate relocation or displacement of existing occupants, which could be either relocation of a property owner or tenant.

The various options can be mixed and matched for each alternative. The Tunnel Alternative, for example, may include the Relocated or Reconfigured Whatcom Railyard, with associated differences in land area affected. The scenarios in this report are provided for comparison purposes, and the actual configuration may vary based on the design options selected. The No Build Alternative identified in the Draft EIS has not changed and continues to be used as a basis for environmental analysis. For evaluation of potential relocations related to the No Build Alternative, please see the 2004 Draft EIS Appendix K, Relocations Technical Memorandum.

Changes affecting the Supplemental Draft EIS design include new configurations for the Whatcom Railyard and potential impacts on Terminal 30, new tunnel widths in the central project area, an option to widen the curves at the north and south portals of the Battery Street Tunnel under the Tunnel Alternative, and options for improvements on Aurora Avenue N. New right-of-way areas and potential construction foundations are also considered under the Elevated Structure Alternative. In addition, the use of improved information has enabled a more specific determination of partial versus full acquisition on affected parcels. This change has changed the estimated potential number of buildings affected from those previously assumed to be acquired.

### 5.1 Tunnel Alternative (Preferred Alternative)

The total number of parcels and land area potentially affected by the Tunnel Alternative has changed since the Draft EIS. The Draft EIS Tunnel Alternative indicated that as many as 20 parcels would be affected and 10 buildings would be affected. As indicated in Chapter 2, the Draft EIS parcel numbers were based on an assumption that all parcels would be acquired in full. Since this assumption is not being carried forward for the Supplemental Draft EIS,

the parcel numbers and acreages from the Draft EIS cannot be directly compared with the current numbers. The new totals for affected parcels under each tunnel alignment are presented in Exhibit 5-1.

**Exhibit 5-1. Parcels Acquired for the Tunnel Alternative**

	Section			Total
	South	Central	North	
<b>Preferred Stacked Tunnel Alignment</b>				
Number of Partial Acquisitions	8	2	8	18
Number of Full Acquisitions	4	11	14	29
<i>Total Properties Acquired</i>	12	13	22	47
<b>Optional Side-by-Side Tunnel Alignment</b>				
Number of Partial Acquisitions	9	2	5	16
Number of Full Acquisitions	7	14	37	58
<i>Total Properties Acquired</i>	16	16	42	74

Another difference between the Draft EIS and the Supplemental Draft EIS also results in changes to parcels and acreages affected in the north project area. Under the Partially Lowered Aurora Option, fewer parcels north of Denny Way would be affected than under the Lowered Aurora Option. Impacts in the north project area are discussed in Section 5.1.4 below.

Under the Tunnel Alternative, the preferred stacked tunnel alignment would require acquisition of property from as many as 47 parcels. The side-by-side tunnel alignment would require acquisition of property from up to 74 parcels. Buildings that could potentially be removed are located on as many as 29 of these parcels (Exhibit 5-2). Twelve commercial/office buildings, 3 retail buildings, 4 warehouse buildings, 2 hotel/motel buildings, 2 church buildings, 1 utility structure, 2 port terminal buildings, 1 restaurant, 1 residential building, and 1 social service building could be affected.

**Exhibit 5-2. Buildings Acquired for the Tunnel Alternative**

	Section			Total
	South	Central	North	
Preferred Stacked Tunnel Alignment	3	5	6	14
Optional Side-by-Side Tunnel Alignment	6	6	17	29

The total area of land potentially acquired by this alternative would be approximately 29 to 42 acres, depending on whether the stacked or side-by-side tunnel alignment is selected. This total includes parcels that would be

needed for ventilation buildings and tunnel support facilities. As many as 9 parcels could be needed for these facilities. Exhibit 5-3 summarizes affected parcels by type of zoning and area acquired for the proposed tunnel alignments. Between 455 and 637 employees could be affected at potential buildings to be removed, depending on the option chosen. The 2006 Appendix P, Economics Technical Memorandum, provides additional information on economic and business impacts.

**Exhibit 5-3. Zoning and Estimated Acquisition Amounts for Parcels Affected by the Tunnel Alternative**

Parcel Zoning Classifications <sup>1</sup>	Total Area Acquired <sup>2</sup>	
	Square Feet	Acres
<b>Preferred Stacked Tunnel Alignment</b>		
C1-65	7,599	0.17
NC3	41,000	0.90
SM	211,966	4.86
DMC	37,914	0.87
DH1 and DH2	480,255	11.00
DMR	45,249	1.03
PMM	35,328	0.80
IC-65	161,875	3.17
IG1/IG2-U85	232,025	5.32
<b>Total</b>	<b>1,253,211</b>	<b>28.60</b>
<b>Optional Side-by-Side Tunnel Alignment</b>		
L3RC	5,000	0.11
C1-65	100,646	2.31
NC3	57,300	1.31
SM	332,962	7.64
DMC	83,809	1.92
DH1 and DH2	480,255	11.02
DMR	51,729	1.18
PMM	49,760	1.14
PSM	8,532	0.19
IC-65	336,275	7.71
IG1/IG2-U85	343,298	7.88
<b>Total</b>	<b>1,849,566</b>	<b>42.40</b>

<sup>1</sup> See Attachment B of this document for zoning classification definitions.

<sup>2</sup> Includes full parcel acquisitions and estimated partial acquisition areas.

As indicated in the Draft EIS, full acquisition of parcels for roadway use may affect the availability of property for other uses. In the south project area, adjacent land uses are primarily commercial and industrial. These uses transition to more retail and office uses as the project corridor moves north. Since the Draft EIS was issued in March 2004, the industrial and office markets have shown improvement as the local economy has strengthened. Vacant industrial space decreased in the first 6 months of 2005, and the close-in industrial market (near the Seattle Central Business District) vacancy rate declined to 4.7 percent. In addition to the improving economy, one cause of the decline in vacancy for industrial land has been the lack of land left to develop and, therefore, no new construction. In addition, the conversion of industrial land to other uses has also created a reduction in the supply of industrial land in the close-in market (Kidder Matthews 2005).

The market for office space also improved during the first half of 2005. The amount of vacant space in the Seattle market decreased by approximately 1.8 million square feet since the end of 2004 (Kidder Matthews 2005). Because of the overall timeframe needed for construction of the proposed project, conditions may not be the same when the project is completed. Generally, however, as indicated in the Draft EIS, conversion of commercial and industrial parcels to roadway use would contribute to a decrease in the supply of these parcels. As the economy improves, demand for commercial and industrial land is expected to increase. While the proposed project would contribute to a loss of these parcels, it is not expected to substantially affect the market, and after completion, it may contribute to some opportunities for new development. Depending on the location, new development could include office and/or industrial space.

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

The proposed project could require land from as many as 12 parcels in the south section. Partial acquisition of land would occur on 8 parcels. Full acquisition of 4 industrial parcels would occur in the south, including displacement of 1 warehouse. This displacement would affect approximately 7 employees. Partial property acquisitions include land needed from Port of Seattle property at Terminals 30 and 46.

Partial acquisition of Terminal 30 land would only occur if the side-by-side tunnel alignment or the Relocated Whatcom Railyard Option is selected. A strip of land along the east side of Terminal 30 property would be needed, over a distance of approximately 2,500 feet. The total area of estimated land acquisition would be approximately 65,300 square feet, including potential displacement of a Metro utility structure near the western end of S. Lander Street. Acquisition of this area would represent approximately 5 percent of

the overall land area on the Terminal 30 parcels and is not expected to result in displacing existing uses there.

Partial acquisition of Terminal 46 land would be needed under all options. A strip of land along the eastern edge of the parcel adjacent to Alaskan Way would be acquired. This would affect the parcel over a distance of approximately 3,100 feet and would result in acquisition of approximately 3 percent of the overall parcel area. This acquisition would cause two buildings on this property to be removed. These are a Coast Guard administrative office building and a museum, and this displacement would affect approximately 45 employees.

#### **Reconfigured Whatcom Railyard**

The Reconfigured Whatcom Railyard would not require relocation of the Whatcom Railyard rail activities. SR 99 would cross over the existing rail tracks near S. Massachusetts Street on a short aerial structure and then continue north at grade under the South of Downtown (SODO) Ramps. Rail activities would continue to operate as they do today after the project is completed.

#### **Option: Relocated Whatcom Railyard**

The Relocated Whatcom Railyard would displace the existing Whatcom Railyard by moving it to the east side of SR 99. A small portion along the east edge of the Terminal 30 property would be converted to roadway use in this location. As with the Reconfigured Whatcom Railyard, the Relocated Whatcom Railyard would not interfere with railway use or activities after the project is complete.

### **5.1.2 Central – S. Dearborn Street to Battery Street Tunnel**

Within the central section of the project area, the Tunnel Alternative could affect up to 16 parcels, and land area potentially acquired would total approximately 11 acres. Principal parcels affected would include office and retail uses, as well as portions of Pier 55, Pier 56, Pier 57, and Colman Dock.

For the preferred stacked tunnel alignment, partial land acquisition would occur on 2 parcels in this area. Full acquisition of land and structures would occur on 11 parcels, including displacement of 2 commercial/office buildings, 1 terminal building, and 1 social service club. For the optional side-by-side tunnel alignment, partial acquisition of property from 2 parcels and full acquisition of 13 parcels would occur. Buildings affected on these parcels would include 1 warehouse building, 3 commercial/office buildings, 1 terminal building, and 1 social service club.

As indicated above, the office market has improved and the amount of vacant space has declined recently. The downtown retail market also continues to improve and to show lower vacancy rates in 2005 (Kidder Matthews 2005). The proposed project would contribute to a decrease in available space for these uses where existing office and/or retail space is displaced or converted to roadway use. While changing conditions may make finding suitable replacement space difficult, as the local economy grows, additional retail and office space is being constructed downtown. Therefore, it is expected that the local supply of suitable space would be adequate for relocated businesses.

The project would be constructed in phases, and the timing of potential moves related to right-of-way acquisition would likely follow a phased approach. Thus, all replacement property would not be needed at the same time, and the market would likely only need to support provision of a few properties at one time. This phased demand would be expected to make it easier to find replacement properties when needed. For residential displacements, if suitable space is unavailable at the time of the move, Housing of Last Resort provisions, as identified in the Draft EIS, may be provided. Lead agencies may explore additional mitigation options for businesses if suitable replacement sites cannot be found.

### **5.1.3 North Waterfront – Pine Street to Broad Street**

In the north waterfront area, property acquisitions for the current alignments are limited to acquisitions affecting the Pier 62/63 parcels and are the same for each of the alternatives and options. No property acquisitions were identified in this area for the Tunnel Alternative in the Draft EIS. These impacts are accounted for in the discussion of impacts to the north section under both alternatives.

### **5.1.4 North – Battery Street Tunnel to Comstock Street**

#### **Partially Lowered Aurora**

Under the preferred stacked tunnel alignment, a partial lowering of Aurora Avenue N. between approximately Denny Way and Republican Street would affect up to 22 parcels. Land area to be acquired would equal approximately 9 acres. Partial land acquisition would occur on 8 parcels. Full acquisition would affect 16 parcels. Six buildings would be affected, including 2 hotel/motel buildings, 1 office building, 2 warehouse buildings, and 1 retail building. Other parcels not directly affected by the option could be affected by the proposed roadway configuration changes near the Battery Street Tunnel. The size of the businesses potentially affected in the north varies, with the smallest having 3 employees and the largest having 59 employees.

### Option: Lowered Aurora

Under this option, Aurora Avenue N. would be lowered in a retained cut design from Denny Way to Comstock Street. This option would affect up to 42 parcels in the north project area, with total land acquired equaling approximately 15 acres. This would include the parcels described for the Partially Lowered Aurora Option above, as well as additional parcels to the north. Partial acquisition of land would occur on 5 parcels. Full acquisition of 37 parcels would occur, including 9 vacant parcels, 10 parking lots, 8 commercial/office buildings, 3 piers, 2 churches, 2 hotel/motel buildings, 2 retail buildings, and 1 maintenance yard.

This option would also affect 1 residential building, an 8-unit transitional housing social service building. This is a private facility that provides housing for a variety of persons, including college students and low-income or homeless individuals. It is expected that these are renter-occupied units, and it is not known whether specific minority, low-income, elderly, or disabled persons are present within these units at this time. It is possible that such individuals may be located there now or in the future. Social service impacts are discussed in the 2006 Appendix I, Social Resources Technical Memorandum, and impacts on potentially disadvantaged populations are discussed in the 2006 Appendix J, Environmental Justice Technical Memorandum.

Where displacements occur, the availability of replacement property would be similar to the conditions described for commercial and retail uses earlier in this document. Because of its use, suitable replacement property for the transitional housing facility may not be available within close proximity to its present location. If a suitable location is not available nearby, the search for another site could be expanded to include properties at a greater distance from the current location on which to locate the facility. Social services are discussed in more detail in the 2006 Appendix I, Social Resources Technical Memorandum.

### 5.1.5 Seawall – S. Washington Street to Broad Street

No changes in parcel acquisitions or displacements from those noted in the 2004 Draft EIS Appendix K would occur for seawall construction.

## 5.2 Elevated Structure Alternative

The total number of parcels and land area potentially affected by the Elevated Structure Alternative has changed since the Draft EIS. The Draft EIS indicated that 14 parcels and up to 8 buildings would be affected. The Draft EIS also indicated that 24 acres of land would be acquired for the Rebuild Alternative. As indicated previously, because of the new methodology used to identify full

and partial acquisitions, new numbers for parcel impacts are provided in this document. Table 5-4 identifies full and partial acquisitions for the Elevated Structure Alternative.

The Elevated Structure Alternative would have similar parcel impacts on adjacent land uses as the Tunnel Alternative. Property would need to be acquired to construct the proposed roadway. Under the Elevated Structure Alternative, up to 47 total parcels would be affected with the Reconfigured Whatcom Railyard, and 51 total parcels could be affected with the Relocated Whatcom Railyard Option (Exhibit 5-4). The total area to be potentially acquired from affected parcels would be approximately 30 acres with the Reconfigured Whatcom Railyard and approximately 36 acres with the Relocated Whatcom Railyard. Partial land acquisition would be needed on up to 20 parcels. Full acquisition of as many as 31 parcels would be needed, including 7 vacant parcels, 7 parking lots, 5 commercial/office buildings, 4 pier parcels, 2 hotel/motel buildings, 2 retail buildings, 3 warehouse buildings, 1 loading dock, 1 terminal parcel, and 1 utility structure. Approximately 440 employees could be affected by the Elevated Structure Alternative with the Reconfigured Whatcom Railyard and about 530 with the Relocated Whatcom Railyard Option. The 2006 Appendix P, Economics Technical Memorandum, provides additional information on economic and business impacts. Information for the type of zoning and area acquired by the affected parcels under the Elevated Structure Alternative is summarized in Exhibit 5-5.

**Exhibit 5-4. Parcels Acquired for the Elevated Structure Alternative**

	Section			Total
	South	Central	North	
<b>Elevated Structure Alternative</b>				
Number of Partial Acquisitions	8 (9) <sup>1</sup>	3	8	19 (20) <sup>1</sup>
Number of Full Acquisitions	4 (7) <sup>1</sup>	10	14	28 (31) <sup>1</sup>
<i>Total Properties Acquired</i>	<i>12 (16)<sup>1</sup></i>	<i>13</i>	<i>22</i>	<i>47 (51)<sup>1</sup></i>

<sup>1</sup> The total number of parcels required for the Relocated Whatcom Railyard Option is shown in parentheses.

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

In the south project area, the Elevated Structure Alternative could affect up to 12 parcels, and approximately 10 acres would be acquired with the Reconfigured Whatcom Railyard. Sixteen parcels would be affected and approximately 16 acres would be acquired with the Relocated Whatcom Railyard. Partial land acquisition would occur on up to 9 parcels. Full acquisition of up to 7 parcels would occur, including removal of 1 warehouse building, 1 commercial building, 1 retail building, and 1 utility building. The

estimated number of employees affected by these displacements would be 184 for the Reconfigured Whatcom Railyard and 274 for the Relocated Whatcom Railyard. Acquisition of land for roadway use would decrease commercial and industrial property in the south project area. The availability of suitable replacement properties in all areas of the project corridor for potential relocations under the Elevated Structure Alternative would be affected by the same conditions described for the Tunnel Alternative above in Section 5.1.

**Exhibit 5-5. Zoning and Estimated Acquisition Amounts for Parcels Affected by the Elevated Structure Alternative**

Parcel Zoning Classifications <sup>1</sup>	Total Area Acquired <sup>2</sup>	
	Square Feet	Acres
<b>Elevated Structure Alternative</b>		
C1-65	7,599	1.11
NC3	41,000	0.94
SM	211,966	4.86
DH1/DH2	485,255	11.13
DMR	40,440	0.92
PMM	35,328	0.81
DMC	37,914	0.87
IC-65	161,875	3.71
IG1/IG2-U85	274,025	6.29
<b>Total</b>	<b>1,295,042</b>	<b>29.70</b>
<b>Elevated Structure Alternative with Relocated Whatcom Railyard Option</b>		
Same as above, except for the following:		
IG1/IG2-U85	559,698	12.84
<b>Total</b>	<b>1,580,715</b>	<b>36.28</b>

<sup>1</sup> See Attachment B of this document for zoning classification definitions.

<sup>2</sup> Includes full parcel acquisitions and estimated partial acquisition areas.

<sup>3</sup> Elevated Structure Alternative includes Partially Lowered Aurora improvements in the north.

**5.2.2 Central – S. Dearborn Street to Battery Street Tunnel**

Within the central project area, the Elevated Structure Alternative could affect up to 13 parcels, and approximately 11 acres of land would be acquired from these parcels. Partial land acquisition would be needed on 3 parcels. Full acquisition of up to 10 parcels would occur, including removal of 1 commercial building, 2 office buildings, and 1 warehouse building. These displacements would affect an estimated 147 employees. The 2006 Appendix P, Economics Technical Memorandum, provides additional information on affected businesses in the project area.

### 5.2.3 North Waterfront – Pine Street to Broad Street

In the north waterfront area, property acquisitions for the current alignments are limited to acquisitions affecting the Pier 62/63 parcels and are the same for each of the alternatives and options. These impacts are accounted for in the discussion of impacts in the north section under both alternatives.

### 5.2.4 North – Battery Street Tunnel to Comstock Street

In the north project area, the proposed Elevated Structure Alternative could affect up to 22 parcels, and approximately 9 acres of land would be acquired. Partial land acquisition from 8 parcels would be needed. Full acquisition of 16 parcels would occur, including removal of 2 hotel/motel buildings, 1 office building, 2 warehouse buildings, and 1 retail building. These displacements would affect an estimated 109 employees. As with other areas along the project route, roadway use of acquired parcels would reduce the availability of these sites for other uses.

### 5.2.5 Seawall – S. Washington Street to Broad Street

No changes in parcel acquisitions or displacements from those noted in the 2004 Draft EIS Appendix K would occur for seawall construction.

---

## Chapter 6 CONSTRUCTION IMPACTS

### 6.1 Tunnel Alternative (Preferred Alternative)

Two construction plans have been evaluated for the Tunnel Alternative: a periodic closure of the project corridor (the intermediate plan) and a complete closure of the project corridor (the shorter plan). Both plans would require several years for construction, as discussed below. Several sites along the project route would be used for construction staging areas and may require additional parcel acquisitions and relocations. Of the 47 parcels affected by the preferred stacked tunnel alignment, as many as 21 would be used for construction-related activities such as staging and lay-down areas.

Parcels used for construction activities have been identified in previous tables as also being needed for the proposed project alignments. In some instances, a small portion of a parcel may be needed for the project, and the entire parcel would be acquired and could be used for construction staging. Where possible, some parcels may be leased for construction activities. In other cases, the entire parcel would be acquired for construction staging only. After construction, it is likely that parcels no longer needed for construction activities and not used for roadway purposes would be resold for uses allowed by zoning in place at that time.

#### 6.1.1 Intermediate Plan

Because of the extended period required for construction, businesses on parcels acquired for construction activities would likely be displaced. This would affect employees of businesses and/or residents of these buildings, as noted earlier in Chapter 5. Regardless of the time of closure, relocations would be necessary during construction. Although construction impacts are typically considered temporary displacements, due to the length of time needed for the proposed project construction, this would not be the case for the AWW Project. It is likely that businesses, if displaced, would not return.

Some businesses may not be directly affected; however, the coordinating agencies may explore additional assistance to businesses remaining in place during construction. Periodic closure would lengthen the duration during which construction is taking place because it would be less efficient for construction crews working in the corridor. This would mean that construction impacts would be felt by all land uses in the project area for a longer time than would occur under complete corridor closure.

The duration for construction of the Tunnel Alternative would vary depending on the design. Under the stacked tunnel alignment, SR 99 would be closed to all traffic for 27 months, and construction would last approximately 8.75 years. Under the side-by-side tunnel alignment, SR 99 would be closed to all traffic for 18 months and the construction period would last approximately 8 years. Because of the long construction duration needed for this project, there would be no difference between periodic or complete closure in terms of the potential effect on local buildings and land uses.

### 6.1.2 Shorter Plan

Complete closure of the project corridor would shorten the overall construction period. For either the side-by-side or stacked tunnel alignment, SR 99 would be closed to all traffic for 42 months (3.5 years), and the construction period would take approximately 7 years. The same parcels needed for construction activities discussed above would be acquired whether periodic or complete closure occurs.

## 6.2 Elevated Structure Alternative

### 6.2.1 Longer Plan

Of the 47 parcels affected by the Elevated Structure Alternative, as many as 12 would be used for construction-related activities such as staging and lay-down areas. It is likely that fewer full acquisitions would be needed for the Elevated Structure Alternative than for the Tunnel Alternative. The potential for displacements associated with the need for construction parcels under the Elevated Structure Alternative would be the same as for the Tunnel Alternative. Under the longer plan evaluated with the Elevated Structure Alternative, complete closure of the project corridor would be shorter than under other construction plans. The longer plan would close SR 99 to all traffic for only 3 months. The expected duration of construction under the Elevated Structure Alternative would be approximately 10 years.

---

## Chapter 7 SECONDARY AND CUMULATIVE IMPACTS

Generally, secondary and cumulative impacts would be similar to those described in the Draft EIS. The proposed project would continue to contribute to displacements and relocations that would be associated with other development activities along the project corridor. The project's contribution to the overall need for relocations associated with development projects in the area is not expected to be substantial. Under the new design, however, this contribution would be greater than indicated in the Draft EIS. This is because additional relocations would be needed, particularly in the area along Aurora Avenue N., north of Denny Way. The project's role in contributing to decreases in the amount of industrial, commercial, and/or residential property due to conversion to roadway use would be greater because more parcels would be acquired.

As indicated earlier, since the Draft EIS was issued, the local economy has improved and vacancies in the greater downtown area have decreased for all uses. Therefore, where displacements occur, it is likely that it would be more difficult to obtain replacement space than during less positive economic conditions. If the local economy continues to grow, it would be harder to find suitable replacement properties for potential displacements that would be near their present locations. If the economy declines, it may be easier to relocate displacements; however, the general loss of industrial property in the city might still make this difficult for those uses.

These conditions change frequently, however, and it is not possible to predict conditions several years from now when construction has ended.

**This Page Intentionally Left Blank**

---

## Chapter 8 OPERATIONAL MITIGATION

Operational mitigation measures would be the same as those identified in Chapter 8 of the 2004 Draft EIS Appendix K, Relocations Technical Memorandum.

**This Page Intentionally Left Blank**

---

## Chapter 9 CONSTRUCTION MITIGATION

The general process for providing mitigation for the updated Tunnel (Preferred) or Elevated Structure Alternatives would be the same as outlined in the Draft EIS. Please see Chapter 9 of the 2004 Draft EIS Appendix K, Relocations Technical Memorandum, for a description of that process. Additional mitigation concepts are being considered. As indicated earlier, some businesses in the project area may remain during the construction period. For those businesses, access would be maintained as much as possible. Parking that is lost, especially in the central project area, but in other locations as well, may be replaced nearby if possible. It may be possible to acquire surface lots in some locations to provide temporary, short-term parking of the kind most beneficial to retail businesses in the project area.

As construction staging and phasing is refined in the coming months, it may be determined that it is neither reasonable nor feasible to maintain access to some businesses. Access and parking impacts during construction will be mitigated under policies to be identified in the project's Business Mitigation Plan and Construction Transportation Management Plan. If the provisions of the Uniform Relocation Act are met, then relocation assistance would be provided.

As indicated in the Draft EIS, mitigation measures might include providing businesses assistance in moving, even if the business would not be directly displaced but chose to move due to potential construction impacts. Property owners would receive compensation for parcels acquired for construction and longer-term roadway use. Businesses along the alignment might also be provided with a period in which property owners would be allowed to adjust to construction activities before determining whether they will remain or move. During this period, if a decision were made that construction activities are causing too great an impact to businesses, assistance could be provided.

These and other measures require additional consideration before more formal guidance can be provided regarding mitigation assistance. Therefore, a mitigation plan will be prepared to discuss these measures in more detail. Additional potential mitigation measures related to business impacts are identified in the 2006 Appendix P, Economics Technical Memorandum.

**This Page Intentionally Left Blank**

---

## Chapter 10 PERMITS AND APPROVALS

No changes have been made to the information provided for the Draft EIS. Please see Chapter 10 of the 2004 Draft EIS Appendix K, Relocations Technical Memorandum.

**This Page Intentionally Left Blank**

---

## Chapter 11 REFERENCES

References are the same as those identified in Chapter 11 of the 2004 Draft EIS Appendix K, Relocations Technical Memorandum, with the following additions:

Kidder Matthews. 2005. Seattle Real Estate Market Review, Mid-Year 2005. Industrial, Office, and Retail Market Reviews, GVA Kidder Matthews, Seattle, Washington.

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**

**ATTACHMENT A**

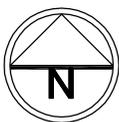
---

**Property Impacts**

**This Page Intentionally Left Blank**

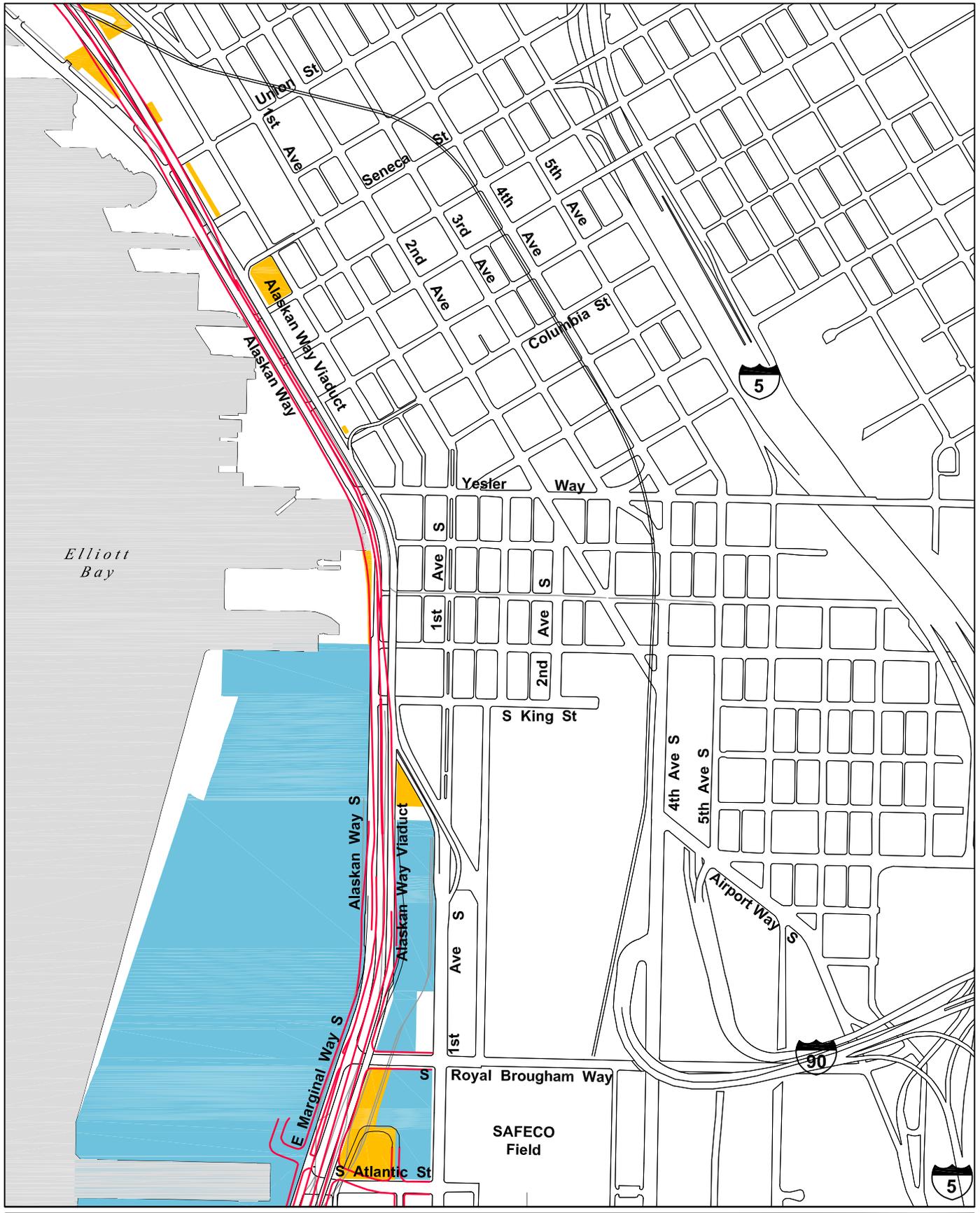


DATE: 06/08/06 1:50pm FILE: K1585030PAET11-PI-A1

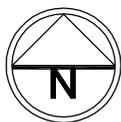


- Proposed Alignment
- Partial Acquisition
- Full Acquisition

## Exhibit A-1 Stacked Tunnel Property Impacts - South

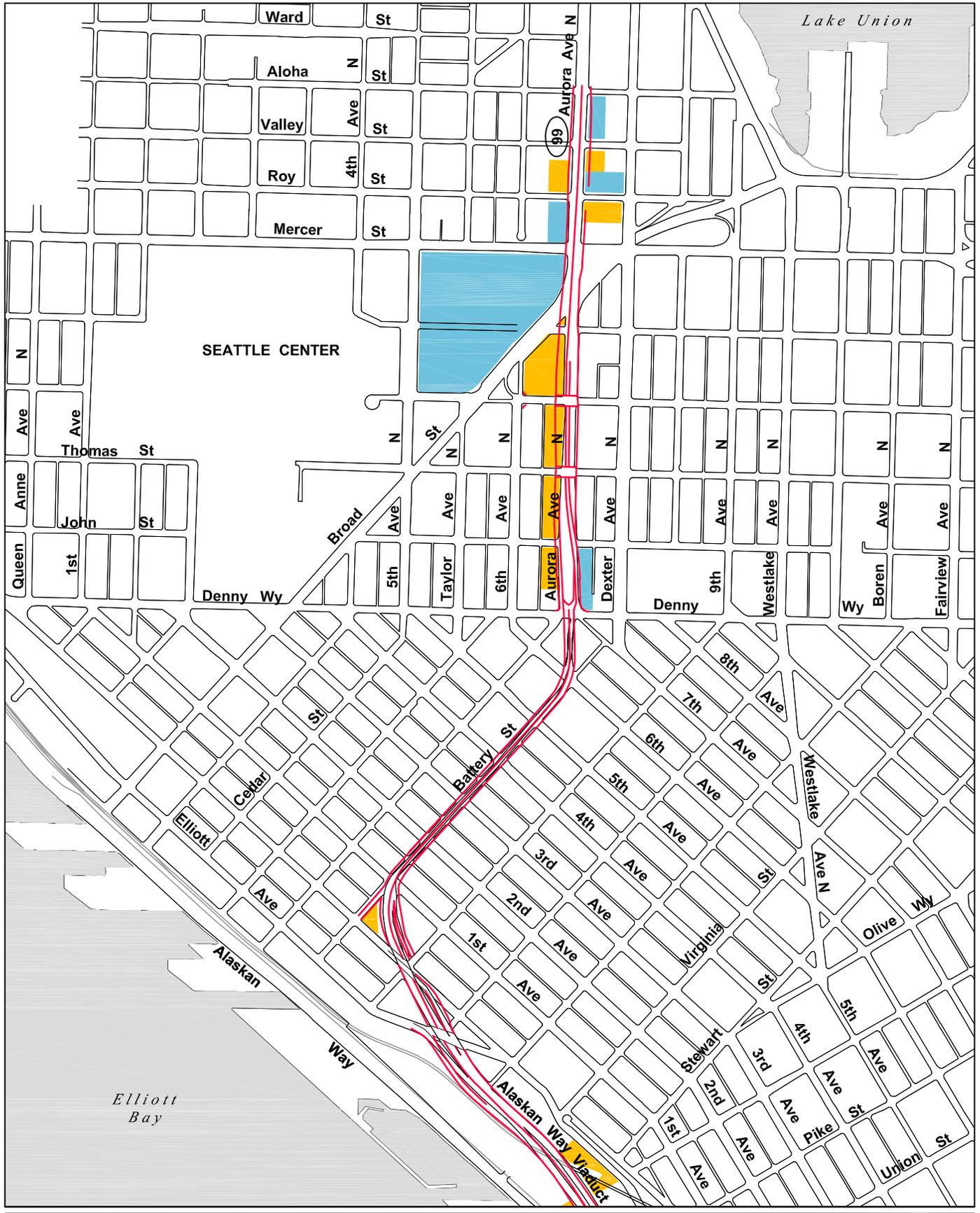


DATE: 06/08/06 1:49pm FILE: K1585030PAET11-PI-A2

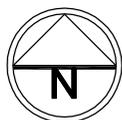


- Proposed Alignment
- Partial Acquisition
- Full Acquisition

**Exhibit A-2  
Stacked Tunnel  
Property Impacts - Central**

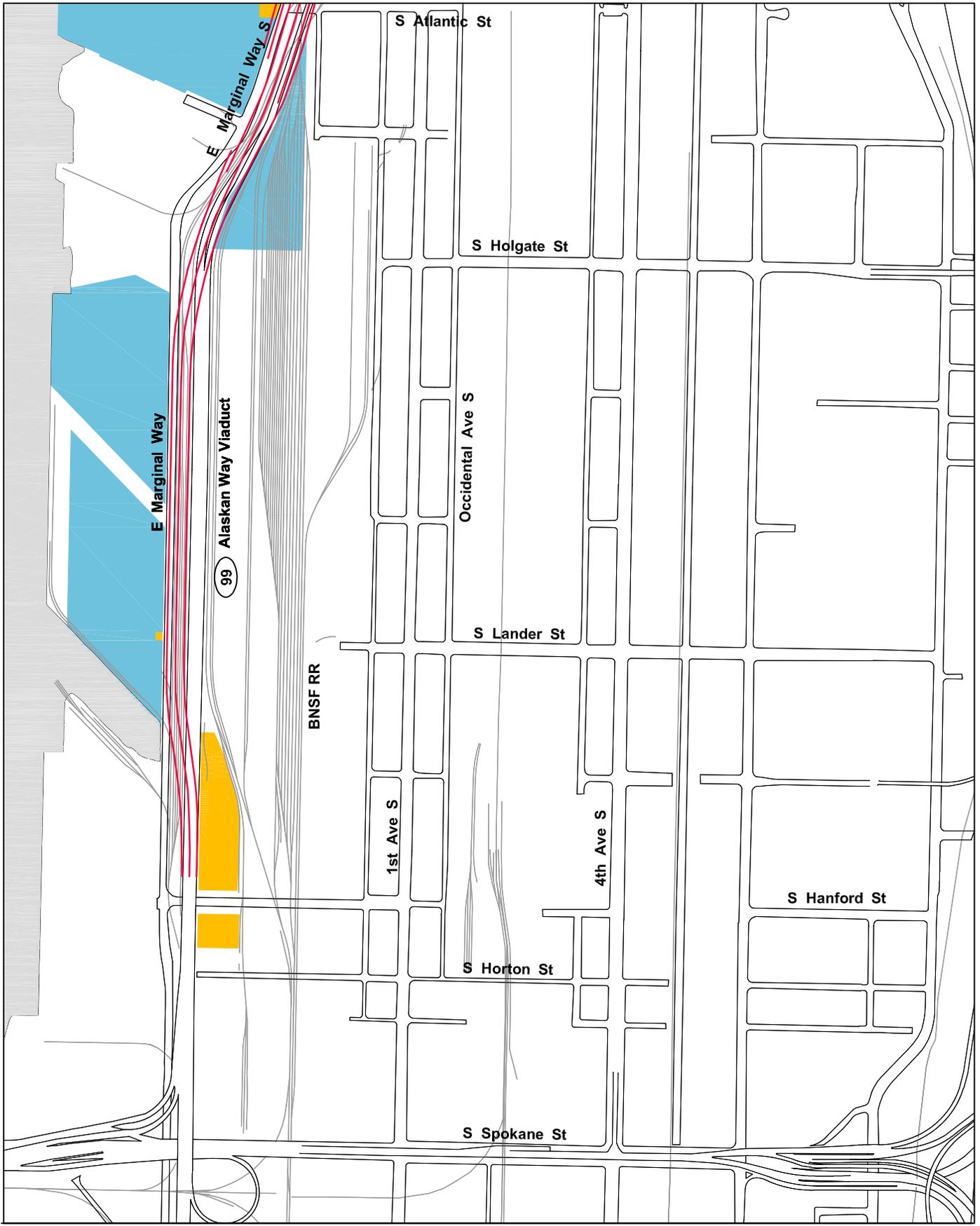


DATE: 06/08/06 1:49pm FILE: K1585030PAET11-PI-A3

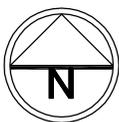


- Proposed Alignment
- Partial Acquisition
- Full Acquisition

**Exhibit A-3  
Stacked Tunnel  
Property Impacts - North**

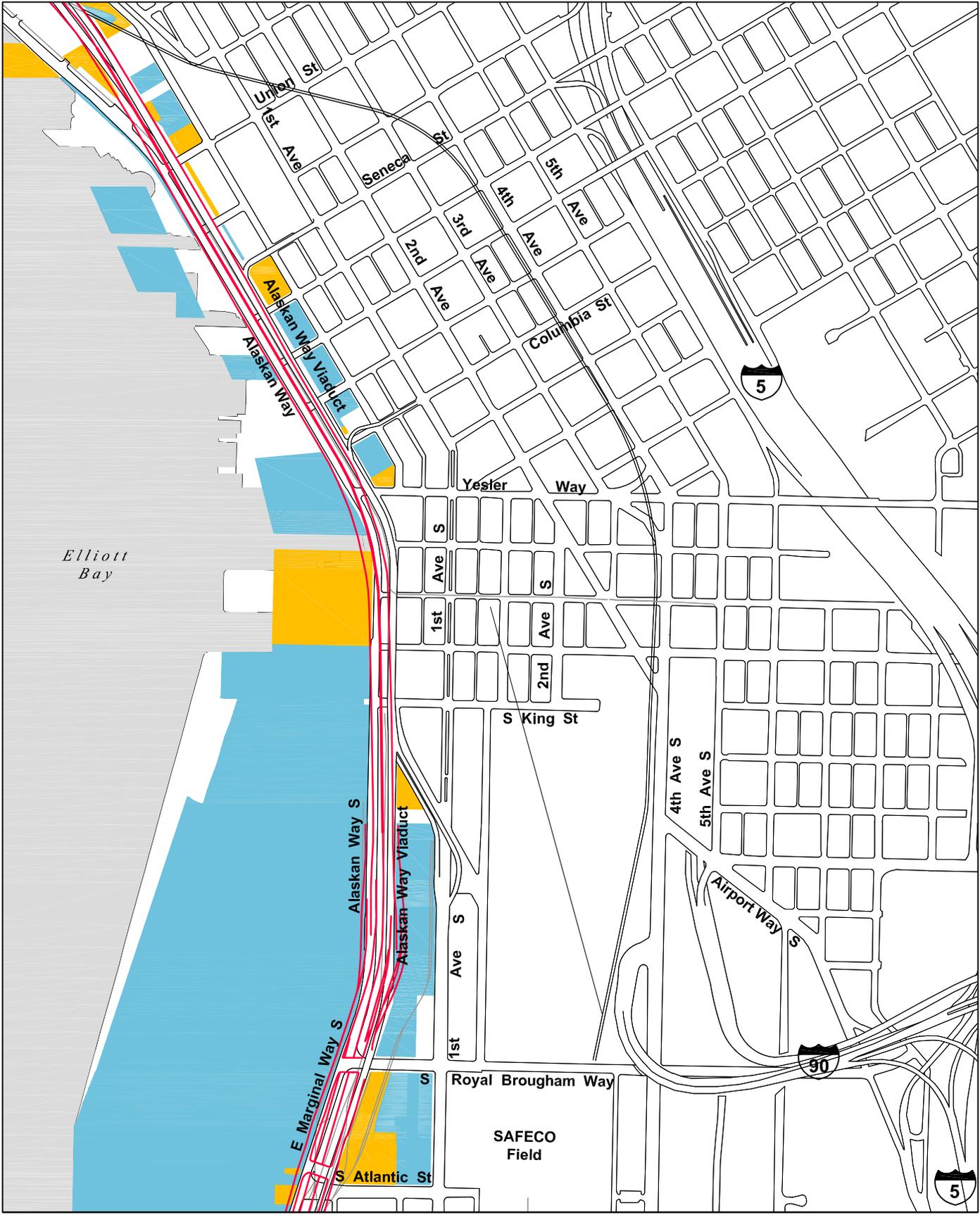


DATE: 06/08/06 1:47pm FILE: K1585030PAET11-PI-A4



- Proposed Alignment
- Partial Acquisition
- Full Acquisition

**Exhibit A-4**  
**Side-By-Side Tunnel**  
**Property Impacts - South**

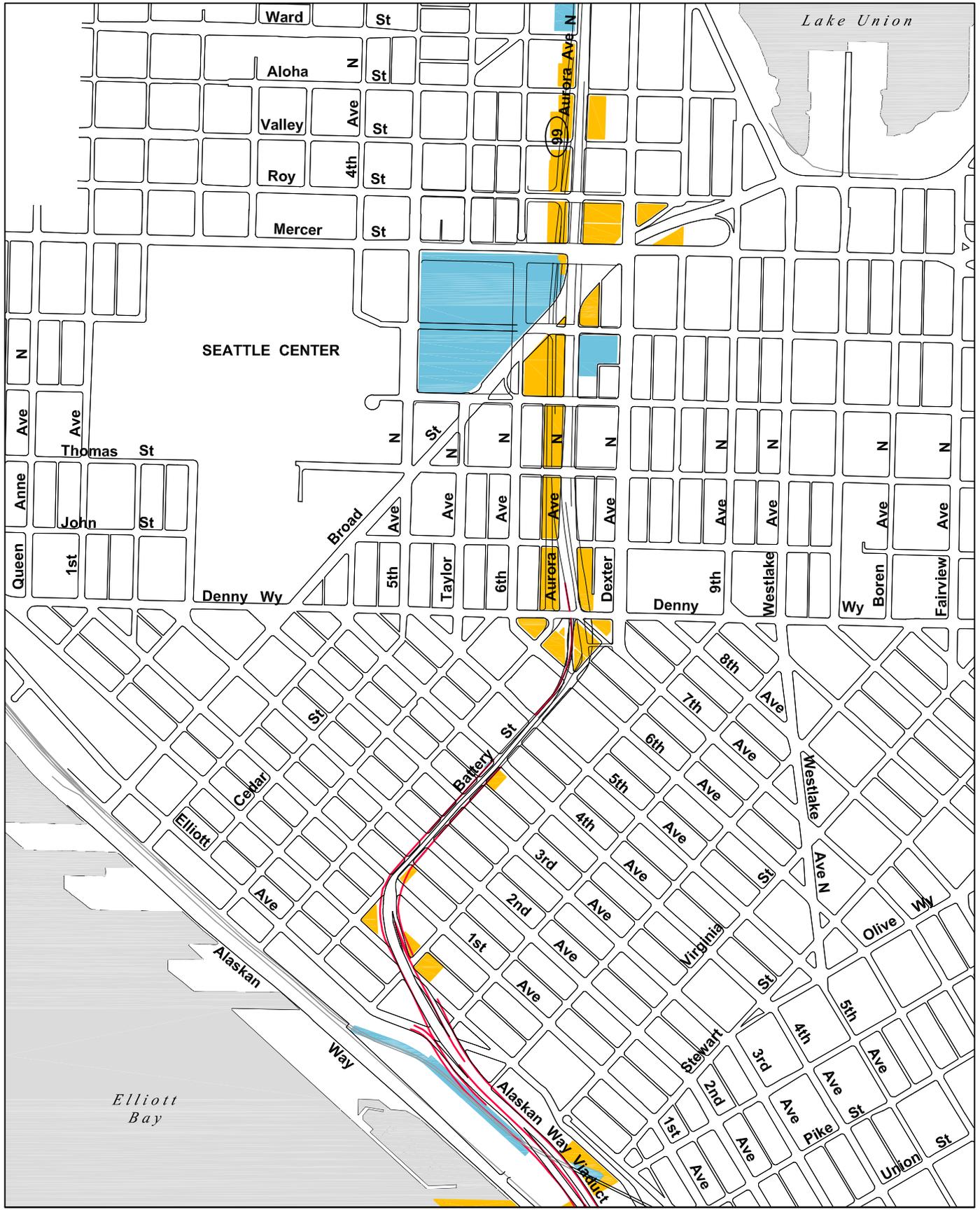


DATE: 06/08/06 1:47pm FILE: K1585030PAET11-PI-A5



- Proposed Alignment
- Partial Acquisition
- Full Acquisition

**Exhibit A-5  
Side-By-Side Tunnel  
Property Impacts - Central**

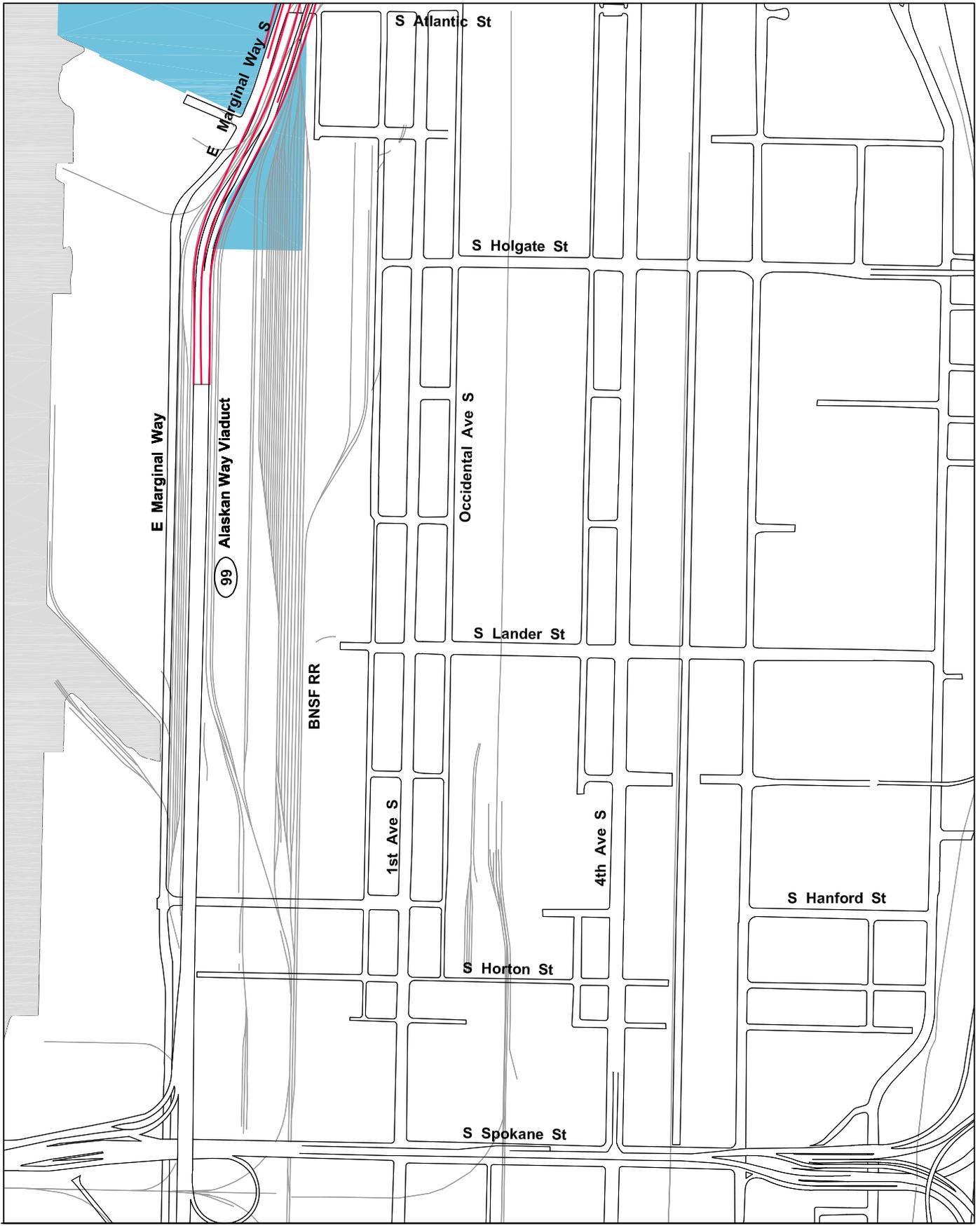


DATE: 06/08/06 1:48pm FILE: K1585030PAET11-PI-A6

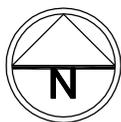


- Proposed Alignment
- Partial Acquisition
- Full Acquisition

**Exhibit A-6**  
**Side-By-Side Tunnel**  
**Property Impacts - North**

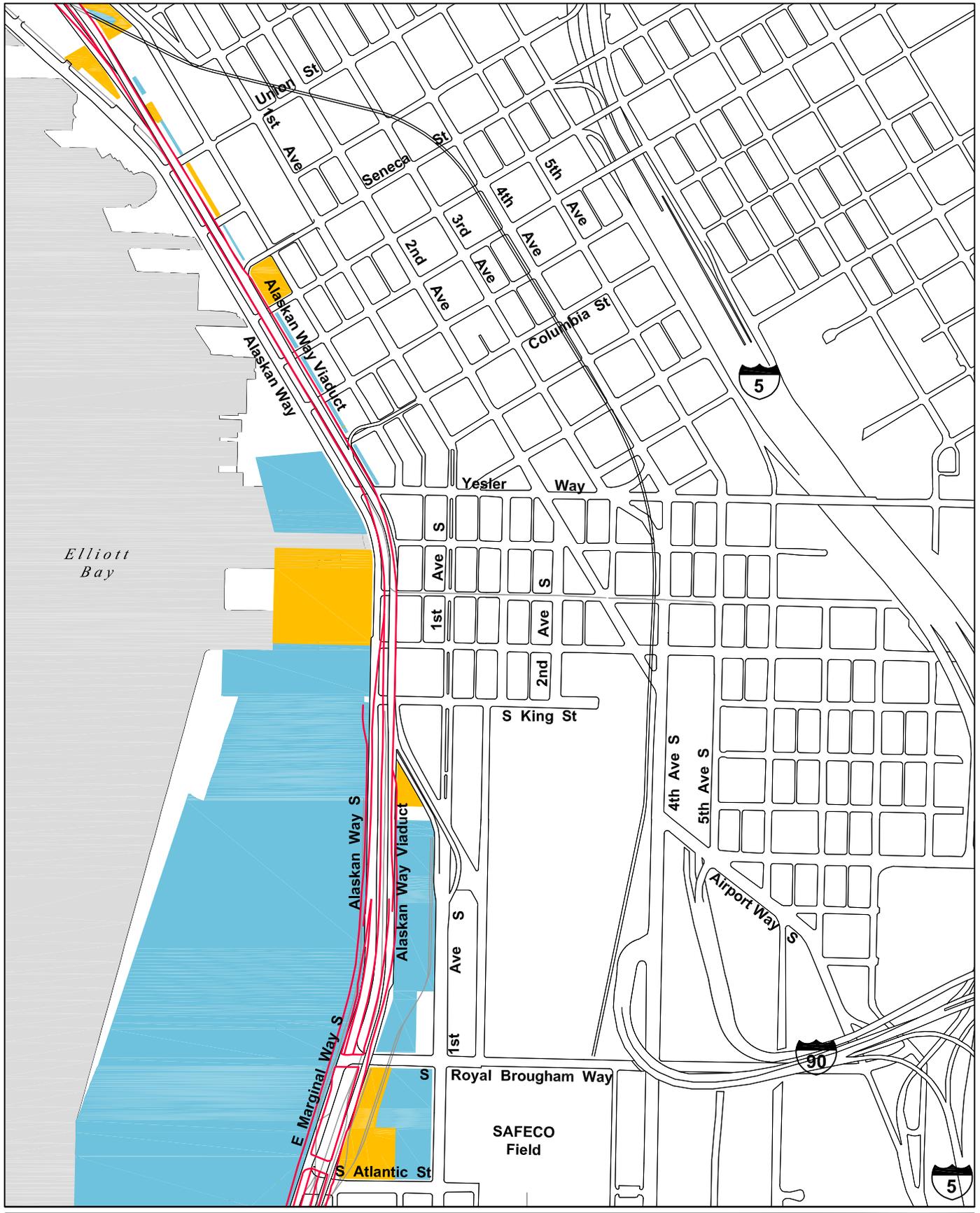


DATE: 06/08/06 1:44pm FILE: K1585030PAET11-PI-A7

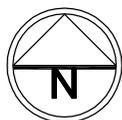


- Proposed Alignment
- Partial Acquisition
- Full Acquisition

**Exhibit A-7  
Elevated Structure  
Property Impacts - South**

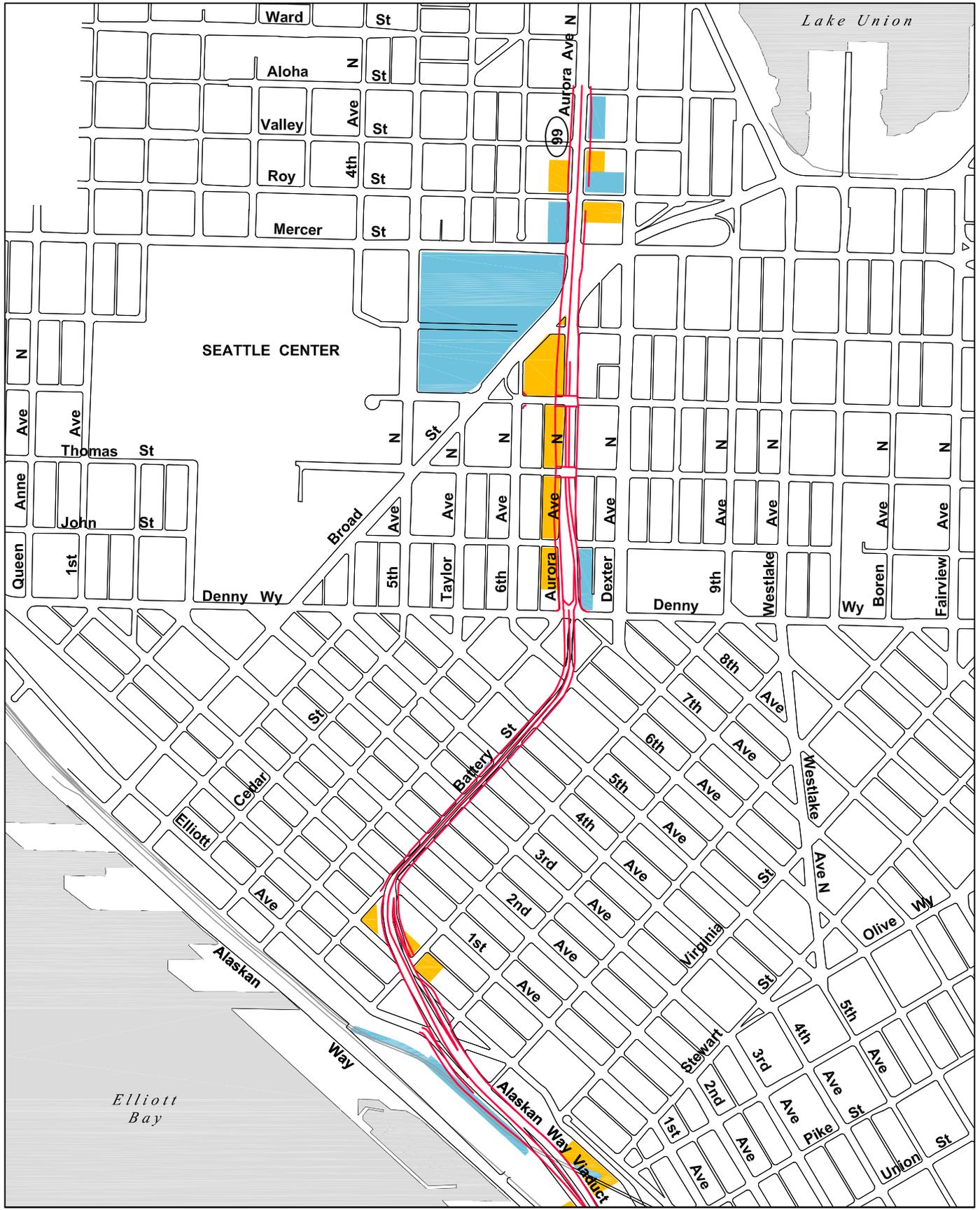


DATE: 06/08/06 1:45pm FILE: K1585030PAET11-PI-A8

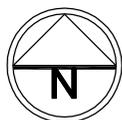


- Proposed Alignment
- Partial Acquisition
- Full Acquisition

**Exhibit A-8  
Elevated Structure  
Property Impacts - Central**



DATE: 06/08/06 1:46pm FILE: K1585030PAET11-PI-A9



- Proposed Alignment
- Partial Acquisition
- Full Acquisition

**Exhibit A-9**  
**Elevated Structure**  
**Property Impacts - North**

**This Page Intentionally Left Blank**

**ATTACHMENT B**

---

**Zoning Classifications**

**This Page Intentionally Left Blank**

## ATTACHMENT B: ZONING CLASSIFICATIONS

The following zones, as described in the Seattle Land Use Code (Title 23 of the Seattle Municipal Code), are located along the project corridor:

**IG1/U85 – General Industrial 1 (height limit 85 feet):** Protects marine and rail-related industrial areas from an inappropriate level of unrelated retail and commercial uses by limiting these uses to a density or size limit lower than that allowed for industrial uses.

**IG2/U85 – General Industrial 2 (height limit 85 feet):** Allows for a broad range of uses where the industrial function of an area is less established than in IG1 zones, and where additional commercial activity could improve employment opportunities and the physical condition of the area without conflicting with industrial activity.

**IC-65 – Industrial Commercial (height limit 65 feet):** Intended to promote development of businesses that incorporate a mix of industrial and commercial activities, such as light manufacturing and research and development facilities, while also allowing a wide range of other employment activities.

**PSM – Pioneer Square Mixed:** Provides for less intensive uses than surrounding zoning in keeping with the historic designation of the Pioneer Square District.

**DH1 – Downtown Harborfront 1:** Applies Urban Harborfront Shoreline Environment designation to waterfront lots and adjacent harborfront area within the boundaries of downtown.

**DH2 – Downtown Harborfront 2:** Provides for commercial activities in support of shoreline goals and related office, commercial, and residential uses, where the intended scale of development is moderate and an orientation toward the water exists, to provide a transition in scale and character between the waterfront and downtown.

**PMM – Pike Market Mixed:** Provides for less intensive uses than surrounding zoning in keeping with the Pike Market Historic District designation.

**DMC – Downtown Mixed Commercial:** Provides for commercial development characterized by lower-scale office, retail, and commercial uses related to activity in the office and retail cores, mixed with housing and associated residential services.

**DMR – Downtown Mixed Residential:** Provides a mixed community where housing and associated services and amenities predominate, with the intent that office, retail, and other commercial uses are compatibly integrated with the predominant residential characters at low to moderate densities.

**NC3 – Neighborhood Commercial 3:** Intended to create a pedestrian-oriented shopping district to serve both the surrounding neighborhood and larger community or citywide clientele with a range of retail businesses, as well as office and business support services.

**C1-65 – Commercial 1 (height limit 65 feet):** Provides for automobile-oriented, primarily retail-service commercial uses, serving surrounding neighborhoods and the larger community clientele with a wide range of commercial services, including retail, offices, business support services, and residential uses.

**C2 – Commercial 2:** Provides for an automobile-oriented, primarily non-retail commercial area, serving a citywide function with a wide range of commercial services and employment opportunities in small to large businesses, including offices, business support services, light manufacturing, and warehouse uses; allows residential only as a conditional use.

**L3RC – Low Rise 3 Residential/Commercial:** Provides moderate-scale multifamily housing opportunities and allows limited commercial activity where it will reinforce or improve the function of adjacent commercial areas and/or accessory parking will help relieve spillover parking in residential areas.

**SM – Seattle Mixed:** New designation for parcels formerly zoned as Seattle Cascade Mixed (SCM), which allows residential, commercial, and manufacturing uses and is intended to support biotechnology uses, research, and development laboratories.